Googling While Expecting: Internet Use by Israeli Women during Pregnancy

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ABSTRACT

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<u>Googling While Expecting: Internet Use By Israeli Women During Pregnancy</u> (269 pp.)

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More and more pregnant women in industrialized countries are turning to the internet as their primary source of information about pregnancy (Romano, 2007). This study explores the use of the internet by Israeli pregnant women. Guided by the Uses and Gratifications Perspective as the theoretical framework, this study employs a qualitative approach, using semi-structured in-depth interviews with 50 Israeli pregnant women. The interviews serve as a basis for obtaining a deeper understanding of Israeli women's online needs, communicative practices, and perceived challenges associated with internet use during pregnancy.

The findings of this study indicate perceived advantages and challenges of using the internet for pregnancy-related purposes. This study underscores the prominence of various informational needs fulfilled by the internet and sheds light on pregnancy related issues motivating Israeli pregnant women to go online. These issues include: information on prenatal tests, information on fetal development, information related to the physical symptoms involved with pregnancy, information about nutrition during pregnancy, and information focused on health care providers' recommendations. Additionally, the findings of this study illuminate the significant role of online pregnancy support forums as a venue for obtaining emotional and social support for Israeli pregnant women.

As for the role of internet within doctor-patient interaction, this study does not simply celebrate internet use as an empowering activity for patients; the study also calls attention to possible negative implications of this practice for doctor-patient interaction and emphasizes the complexity of communicating internet use during interactions with health care providers.

This dissertation contributes to Uses and Gratifications research in the context of internet use, research on doctor-patient interaction in light of the internet, and research on online health information seeking. In addition to its theoretical implications, this study offers practical suggestions for health care providers, website content writers, and Israeli pregnant women who utilize the internet for pregnancy-related purposes.

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CHAPTER ONE: INTRODUCTION

Statement of the Problem

The internet serves as a significant resource for lay people regarding health issues (Nettleton, Burrows & O'Malley, 2005). Research shows that, in recent years, the internet has become a popular medium for seeking information in general, and health-related information in particular (Seidman, 2006). Shuyler and Knight (2003) asserted that "the internet has revolutionized the way patients access health care information, learn more about their conditions, and make health care decisions" (p. 24).

Within this trend of individuals utilizing the internet for health-related purposes, more and more pregnant women in industrialized countries are turning to the internet as their primary source of information about pregnancy (Romano, 2007). But why? The simple answer might be "because it's there," but that doesn't answer such questions as: *What* types of information and support are they looking for? *What* pregnancy-related information is available and what is lacking on the web? *How* can we describe the communication in which pregnant women engage online? And, *How* can we address pregnant women's needs in terms of online use?

I believe that understanding pregnant women's online needs and communicative practices can have practical implications for better addressing those needs. As Sonnenberg (1997) pointed out, "More studies are needed to define what information patients are seeking online, what they find, and how it affects their health care" (p.151).

Therefore, I believe that the exploration of internet use within the context of pregnancy can be beneficial and applicable to many women because it will help to answer questions about how the internet is used within the context of pregnancy.

Despite the growing popularity of the internet for health purposes, there is still not enough data about the ways in which patients actually utilize the internet or about patients' behavior in regard to online health information seeking (Shuyler & Knight, 2003). Echoing this sentiment, Cullen (2006) explained that the availability of health information on the internet is a paradigm shift influencing the entire culture of health care. More specifically, she asserted that the internet creates a situation in which health consumers might now have more up-to date information than their health care providers and that individuals might delay medical consultations by attempting to self-diagnose and self-treat based on online health information. Moreover, she pointed out that individuals might contest their physician's recommendations with both valid and invalid information from online sources. Brown and Walsh-Childers (2002) explained that, because of the popularity of the internet for health–related purposes, the internet will have "tremendous implications for individual health and probably for health policy as well" (p. 455). Brown and Walsh-Childers also pointed out that it is challenging to estimate the implications of internet use for health purposes because we know relatively little about how individuals actually use online health information and resources, regardless of the quality those sources or the utility of the medium.

Statistical data suggest that 60-80% of all worldwide internet users have used the internet to obtain health-related information (Powell, Darvell & Gray, 2003).

In the United States "about 6 million Americans go online in search for health information on an average day" (Lorence & Greenberg, 2006, p.134). Fox and Rainie (2002) estimated that "more people go online for medical advice on any given day than actually visit health professionals" (p. 4). According to the Pew Internet and American Life Project, 80% of American internet users have utilized the internet for searches of health-related information (Fox & Fallows, 2003). Eriksson-Backa (2003) pointed out that "among people aged 15-24 years up to 75% have been proved to be 'health seekers'" (p. 94).

Estimates are that the number of internet users seeking health information online in the United States doubled from 54 million in 1998 to 117 million in 2005 (Hedy, Dube, & Anthony, 2007). The growing popularity of the internet as a resource for health information and support can be partially attributed to five characteristics of the internet: convenience of use, cost, breadth and variety of information, anonymity, and ease of use. First, the internet allows people "the convenience of being able to search quickly for information at any time" (Bansil, Keenan, Zlot & Gilliand, 2006, p. 1). The notion of "any time" contributes in a significant way to convenience of use because the internet is accessible 24 hours a day, seven days a week (Eriksson-Backa, 2003). Individuals can go online any time, from home, work, or any other location that has an internet connection. Moreover, health-related information that was inaccessible in the past through medical libraries is now easily accessible through the click of a mouse: "The internet created an avalanche of easily accessible information…Breaking the space and time barriers of traditional information-seeking processes, the internet offers widespread dissemination,

high volume and currency available worldwide, at the price of a local telephone call"
(Cline & Haynes, 2001, p. 675).

Second, the internet might be an appealing resource for obtaining health
information because it is relatively low-cost. When individuals have access to the
internet, it costs them less to obtain health information from the web than going to a
health care provider and paying for the office visit. As Bundorf, Wagner, Singer and
Baker (2006) explained,

Individuals facing a higher price to obtain information from a health care provider
are more likely to turn to the internet for health information. The uninsured with a
chronic condition are more likely than the privately insured with a chronic
condition to use the internet to search for information. (p. 831)

Third, the internet provides "a wide array of information" (Rice, 2006, p.8). Users
are able to browse different types of health-related materials ranging from academic
sources and peer reviewed journals to personal blogs where people share their
experiences.

Fourth, the internet allows individuals to search for health information in a
relatively anonymous manner. Brashers, Goldsmith, and Hsieh (2002) stated that the
"World Wide Web allows people to seek health information from the privacy and
comfort of their homes" (p. 260). Also, Cline and Haynes (2001) explained that "relative
to face-to-face interaction, interactive health communication offers potential anonymity.
Consumers can access information on sensitive topics, and the stigmatized can interact
without the predictable disconfirmation of face-to-face interaction" (p. 676, see also

Bansil et al., 2006). For example, Romano's (2007) qualitative study of Dutch women who were pregnant or trying to conceive revealed that women who relied on the internet for pregnancy information did so mainly due to its anonymity.

Fifth, the internet is considered to be a resource which is relatively easy to use and to navigate. Johnson and Kaye (2003) explained that the development of easy to navigate web browsers led to a subsequent explosion in the number of online users who are posting and browsing online documents (p. 305). Davis (1989) defined perceived ease of use as "the degree to which a person believes that using a particular system would be free of effort" (p. 320). Xie (2003) explained that there are several factors used to determine ease of use. These include the learnability of the system, the speed of user task performance, the rates of errors performed by the user, and subjective user satisfaction from the system. (The measurement of these factors combined together allows for the measurement of perceived ease of use from the user's perspective.)

The advantages of the internet can make it an appealing resource for the public in obtaining health-related information in many contexts and for a variety of health conditions. King and Moreggi (1998) explained that, because the internet is often used for health information seeking and coping, research needs to be conducted on the various health contexts in which this information is sought.

Many studies have examined online health information seeking among ill individuals (see Dutta-Bergman, 2006 for a review). Eastin and Guinsler (2006) stated that "much of the research on health information seeking focuses on motivations and needs of individuals with chronic diseases, such as cancer, diabetes and AIDS" (p. 494).

However, individuals utilize the internet not only when they are ill but also when they are healthy and dealing with conditions such as pregnancy. Spink, Yang, Jansen, and Nykanen (2004) analyzed a sample of 10,000 health-related web search engine queries and found that pregnancy and obstetrics-related topics were among the top five health-related inquiries on the internet. Romano's (2007) survey of U.S. women who gave birth in 2005 revealed that more than three-fourths of childbearing women turned to the internet for information about pregnancy.

Despite a large amount of literature on women's increasing use of the internet for health information, investigation of women's online practices and needs is limited. Specifically, Lagan, Sinclair and Kernohan (2006) stressed that most of the published research fails to examine pregnant women as an independent group but, rather, includes them only as a subset of the population in general surveys on women's use of the internet. Also, they state that the majority of literature on this topic is of poor quality, not rigorous enough, and lacking in evidence regarding the risks and benefits of utilizing the internet as a source of information and support during pregnancy.

Generally, the internet is portrayed in the literature as a vibrant resource for health information because of the vast number of websites available to the public (Cline, 2001; Rice, 2006). This medium, though, also presents users with challenges and obstacles. Although the internet provides a convenient resource for finding health information regarding pregnancy, online health information seeking might not always be a positive experience for users and might not always yield a desirable outcome. The challenges with finding health information on the internet stem from the vast amount of online

information available to users, complicated by the fact that this information is variable in terms of its merit. As Tegren (2007) pointed out,

> The internet offers a mixture of health related material, produced for very different reasons and by different agents such as big drugs companies, small health firms, lay people, patients, support or activist groups, medical professionals authorities, professional pressure groups or governmental authorities. (p. 143)

Consequently, health information, including pregnancy-related content, on the internet is diverse in its purpose, quality, and reliability. The variety of sources that produce online health-related information, combined with the chaotic nature of the internet caused by the lack of gate keepers to verify the quality and reliability of the diverse content, leave it to internet users to determine the usability of content found on the internet and to distinguish between reliable and unreliable information. Gustafson, Hawkins, McTavish, and Pingree (2008) articulated this problem by saying that:

> Although almost any good content one can imagine can already be found somewhere on the internet, finding those good things can be very difficult amid the near chaos of unedited information, self promoting, and disguised commercial sites; claims unsupported by science; and uncontrolled chat rooms. (p. 241)

Wurman (2001) echoed this sentiment when she stated that "misinformation on the internet can be transmitted just as easily as right information" (p. 13). Therefore, it is very likely that pregnant women who utilize the internet might find online information misleading, confusing, or contradictory. In addition to the variable information on the internet, it is important to note that some internet websites use technical terminology

which might be inaccessible to lay individuals, leading to increased uncertainty (Brashers, Goldsmith, & Hsieh, 2002). Additionally, the enormous amount of information on the internet can be overwhelming in itself (Mullner, 2002).

In light of this review, it is important to explore women's online information seeking and internet consumption during pregnancy. This investigation could shed more light on the challenges and the benefits of online use within the context of pregnancy. As a result this research could provide recommendations and guidance for health care providers and internet content writers to better address pregnant women's informational and support needs.

<center>Rationale for Conducting the Study in Israel</center>

Although the problems that my research aims to address are as world-wide as the web, this study will focus on internet use during pregnancy in Israel. First, I obtained access to a women's health care center in Haifa, Israel. This health care center agreed to help me recruit participants for my study and allowed for a greater likelihood of participant involvement than local clinics. Second, Israel is an especially intriguing case study for exploring internet use by pregnant women because Israel employs cutting-age technology and practices of prenatal testing that are very popular.

The goal of prenatal care is to prevent the complication of pregnancy and to ensure the well-being of the pregnant woman and her fetus (Dragonas & Chistodoulou, 1998). Prenatal diagnosis during pregnancy includes examining the fetus in the early stages of development inside the womb through the use of amniocentesis, ultrasound, and viral or blood analysis (Terrell, 2007). Data show that more than half of U.S. pregnancies

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undergo some form of prenatal screening, such as an ultrasound scan (Press & Browner, 1997). In Israel, these numbers are even higher. Gofin, Adler and Palti's (2004) survey of 1,100 Israeli pregnant women who gave birth in March 2000 showed that nearly all of the women had an ultrasound scan during pregnancy.

98% of Jewish women and 95% of Arab women had an ultrasound scan, and 30% in both population groups reported having seven or more ultrasounds during pregnancy. The researchers concluded that ultrasound scans during pregnancy are nearly universally performed among Israeli pregnant women. Indeed, the Israeli Ministry of Health (2007) recommendations for prenatal tests during a healthy (as opposed to high risk) pregnancy can be divided into five categories:

A) Recommended genetic tests, based on ethnicity, for the woman and her spouse, before or after conception;

B) Routine pregnancy screening, performed during routine doctor's visits, usually once a month throughout the whole duration of the pregnancy;

C) Prenatal tests performed during the first trimester;

D) Prenatal tests performed during the second trimester; and,

E) Prenatal tests performed during the third trimester.

The above categories, as displayed in Appendix A, include a relatively high number of tests designed to monitor pregnant women's conditions during the pregnancy or for detecting fetal abnormalities and genetic diseases.

Mishori-Dery, Carmi, and Shoham-Vardi (2007) pointed out that prenatal care in Israel is primarily provided by gynecologists and mother-and-child (MCH) care nurses in

community clinics. Further, the authors asserted that several prenatal tests are routinely

offered to pregnant women and costs are covered either by Israel's National Health

Insurance program or by health management organizations. These routine tests include

second and third trimester ultrasound screening scans, second trimester maternal serum

screening (the so-called "triple test"), carrier genetic testing for Tay-Sachs disease, and

amniocentesis for women whose risk of having a child with neural tube defect,

chromosomal abnormality or a molecularly defined genetic disease is above 1:380

(Mishori-Dery et al., 2007, p. 243).

Additionally, the authors explained that the rates of prenatal tests among Israeli

Jewish women are relatively high. The authors presented results of a national survey

conducted in 2007 in Israel that suggested,

> The rates of maternal serum screening, Tay-Sachs disease, and amniocentesis (at
>
> age 35 and older) among Jewish women were around 60%, 63%, and 50%,
>
> respectively. The uptake of ultrasound scans was very high and reached more than
>
> 95% of pregnant women. (p. 243)

In an attempt to provide a rationale for the number of prenatal tests employed in Israel,

Weiss (2002) stated that Israelis "are the most enthusiastic about new prenatal

diagnostics, and the first to spend money on them. Every test is immediately put into use,

with the result that the number of administrated prenatal tests increases threefold each

year" (p. 3). Weiss explained that extensive prenatal testing and Israel's rapid and

elevated use of such tests is due to Israeli parents' desire to assure a healthy baby. It is

important to note that, because Israel has universal health insurance plans funded by the

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government, most prenatal screenings recommended to pregnant women are included in the prenatal care "basket of services" stipulated by the Israeli National Health Insurance law (Gofin, Adler & Palti, 2004). Zlotogora (2002) pointed out that, "in Israel, invasive prenatal diagnosis is offered free of charge to all citizens, either because of age (women older than 35 years at the beginning of the pregnancy) or because of an increased risk as determined after genetic counseling" (p. 1102).

Remennick (2006), who interviewed Israeli women to explore their perspectives and attitudes toward prenatal genetic testing, asserted that twenty years ago most genetic and prenatal tests in Israel were offered to couples with known genetic risks, but this pattern has changed. Today a significant part of genetic testing and prenatal screening is elective and chosen by many Israeli couples as a routine procedure. As Remennick put it, "In Israel, the prevalence of elective testing has tripled every five years since 1992, and by the early 2000s this practice has become common for a broad low-risk population" (p. 24). Remennick explained that there are two driving forces behind the increasing numbers of various prenatal tests among healthy low-risk Israeli women. The first force is the "nascent defensive mindset of Israeli physicians, aware of the upsurge in malpractice lawsuits that is especially prominent in obstetrics" (p. 26). The increased number of lawsuits seems to have triggered more prenatal tests and screening as an attempt to avoid malpractice claims.

The second force is related to the financial profit making of hospitals and medical clinics, both public and private, and of commercial providers of reproductive services that enhance public demand through active advertising campaigns for prenatal testing (p. 28).

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Prenatal tests seem to have become an inseparable part of reproduction in Israel. It is important to note that the notion of reproduction among Jewish Israelis needs to be understood in relation to the unique context of Israel's historical background and culture.

Kahn's (2000) ethnographic research explored unmarried Israeli women's use of artificial insemination to get pregnant and sheds light on the unique context of Israeli's attitude toward reproduction. Kahn asserted that, for Israeli Jews, the imperative to reproduce has deep political and historical roots. More specifically, she asserted that one reason for this phenomenon is that Israelis perceive a demographic threat by Palestinians and, therefore, feel a need to counter balance the demography by producing soldiers to defend the state of Israel. Yuval-Davis (1987) also contributed to the explanation of the Israeli context in regard to reproduction by stating that "the emotional needs of people in a permanent war society, where husbands and sons might get killed at any moment…probably play a more central role than anything else" in the decision to bear children (p. 85).

A further pressure for reproducing healthy children might stem from the unique historical context of the Holocaust. Some Israelis believe that there is a need to procreate in order to "replace" the six million Jews who were murdered in the Holocaust. In addition, and maybe because of this unique historical and cultural context, many Israelis cherish family values and are "very child centered" (Kahn, 2000, p. 3).

Israel's tendency to invest resources in prenatal testing is spreading gradually to other western countries, such as the Unites States. The manner in which Israeli pregnant women use the internet regarding their pregnancy and prenatal tests might provide insight

into online health information seeking and support needs of pregnant women in other

nation-states. Garcia, Timmermans and Leeuwen (2008) explained that the purpose of

prenatal testing and screening is to provide pregnant women with information "in order to

enhance their reproductive choice" (p. 753). Prenatal testing during pregnancy can

amplify pregnant women's informational needs to understand the meaning and

implications of these procedures, and of the options available to them when dealing with

prenatal tests.

Another compelling reason to conduct the study in Israel is because Israel

experiences relatively high rates of internet usage. In 2006, 45.8 percent of Israelis were

internet users (Fisher & Bendas-Jacob, 2006). Data show that internet use in Israel is

rapidly expanding. It is estimated that 64 percent of the adult population and 55 percent

of the adolescent population have an internet connection at home (Mesch, 2003). A

national survey (Ram & Haber, 2008) conducted in December 2007 by the Israeli market

research company "Teleseker," which periodically surveys internet use within the Jewish

Israeli population, revealed that there are about 4 million Israeli internet users. This

survey indicated that the percentage of internet users within the Israeli Jewish population

over the age of 13 comprises 74% of the general population. These data suggest that more

than two thirds of the Israeli Jewish population is connected and utilizes the internet.

Lastly, as a native Israeli, I am able to conduct this research and interview

participants in my native tongue. Also, as a female, who was born, raised, and resides in

Israel, I feel that I possess a shared cultural understanding with my participants which

allows me to communicate with them in a manner that promotes open conversation and, thus, can elicit rich information.

In this chapter I explained the rationale for conducting research on internet use during pregnancy in light of the growing use of this resource for pregnancy-related information. Also, I have highlighted the importance and practical implications of this research. I provided justifications for conducting this study among Israeli pregnant women. I have organized this dissertation to answer the research questions posed in this research statement. Chapter Two contains a review of relevant literature and presents my three research questions. In Chapter Three I describe the proposed research design and the theoretical framework that guided the research questions of this study. Chapter Four provides an analysis of interview data organized around the three research questions. Chapter Five contains a discussion of the research findings, along with theoretical implications and practical implications of these findings for pregnant women, health care providers, and website content writers. That final chapter also discusses the limitations of this study and directions for future research.

CHAPTER TWO: REVIEW OF LITERATURE

In this Chapter, I examine literature relevant to this research project and offer research questions to guide my study. I begin with research on informational needs during pregnancy and the context of prenatal testing. Second, I review literature on online health information seeking behavior, the notion of uncertainty management, and doctor-patient communication in light of the internet. Third, I examine literature on supportive communication, more specifically on emotional support and informational support. Finally, I review existing research on online support groups. Collectively, these lines of work provide a basis for my research questions in this study.

The growth in the use of personal computers and the internet has brought many individuals to incorporate internet use into their daily life activities (Bass, Ruzek, Gordon & Fleisher, 2006). The internet in our contemporary era has dramatically influenced the manner in which individuals work, learn, play, shop, seek advice, conduct research, and communicate with one another (Leung & Lee, 2005). The internet affects many aspects of everyday life, including the health care context. As Barnes et al. (2003) asserted,

> More health information is available today than ever before, and health
> information seekers can obtain support and advice from millions of online peers
> and professionals worldwide at any time of day. The internet allows these
> information seekers to assess their health risks, consider prevention options,
> decide on treatment regimens, fill a prescription, manage a chronic condition and
> consult a health care professional without leaving their home. (p. 72)

The estimates are that well online health information seekers make up approximately 60% of the individuals searching for health information online (Cain, Mittman, Sarasohn-Kahn, & Wayne, 2000, p. 9). More specifically, the authors explained that individuals who engage in online information seeking when they are well utilize the internet for "episodic searching for information about short-term acute illnesses, pregnancy, prevention, anti-aging, and health care providers" (p. 12). The authors further emphasized that, in general, online health consumers are not all the same. They claimed that sick and well individuals search for "different types of information, at different rates of frequency, and with different levels of urgency" (p.17).

Internet use in the health context is comprised of various activities. These include searching for health information, interaction with health care providers and other patients, and seeking support. Kalichman, Benotsch, Weinhardt and colleagues (2003) described health-related activities performed online as including, but not being limited to, searching for illness information, learning about medications and their interactions, researching health care options, such as providers and hospitals, and seeking online medical support group.

<center>Informational Needs during Pregnancy</center>

Pregnancy in western cultures is an observable process coming under scientific monitoring and scrutiny (Young, 1995). The experience of pregnancy in our contemporary era not only reflects the subjective feelings and sensations of the pregnant woman carrying the fetus inside her, but involves medical experts who take a substantial part in this process by providing medical assessment and monitoring the pregnancy.

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It was not until well into the twentieth century that the notion of a medically monitored

pregnancy evolved, even among obstetricians (Barker, 1998). As the author pointed out,

"medical prenatal care did not exist at the turn of the century. By 1900 50% of all women

in the U.S. had physician-attended births, but only women experiencing severe

complications saw their physician prior to the onset of labor" (Barker, 1998, p. 1068).

During the twentieth century, biomedical prenatal care began and, consequently,

provided ways of reducing infant and maternal mortality rates.

Although pregnancy is generally seen as a natural phenomenon and is not

considered to be an illness or disease, it is a condition that has become highly scrutinized

by the medical system and, therefore, includes physical exams, medical monitoring, and

prenatal tests (Crum, 2000). Consequently, for many women, pregnancy represents their

first substantial contact with physicians and hospitals.

In addition to extensive encounters with the health care system, pregnancy

constitutes a period of significant life change requiring major psychological adjustments

to the anxiety, tension, and stress often associated with pregnancy (Dragonas &

Chistodoulou, 1998; Elsenbruch et al., 2007). Moreover, the time of pregnancy is

comprised of a constant tension between feelings of joy and excitement about the baby

and future parenthood and emotions of vulnerability and fear resulting from

psychological and physiological changes of the body coupled with uncertainties, fears,

and concerns related to the pregnancy and its outcome. As Sjöström, Langius-Eklöf, and

Hjertberg (2004) pointed out, "pregnancy is both biologically and psychologically a

fruitful as well as vulnerable period" (p. 1112).

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Heper, Cohen, Beiteman, and Eaton (1968), who asked 129 pregnant women to rate various categories of pregnancy-related stress and concerns in order to identify the most prominent one, found worries about the health condition of the unborn fetus to be among the top three categories of pregnancy-related concerns. The other two were fears about a mentally disturbed or uncontrollable child and the possible injury of the baby during birth. As for fear regarding the health of the fetus, it is important to note that, "approximately 2-4 percent of pregnancies will be affected by a fetal abnormality, with a potential for detection at the routine scan" (Lalor, Devane & Begley 2007, p. 80).

As suggested in the literature, one of the most common fears and uncertainties associated with pregnancy is concerned with the well-being of the baby (Hanna-Leena & Lauri, 1999). Hanna-Leena and Lauri (1999) explained that pregnant women are often worried that the baby might be born disabled or ill. Other pregnant women fear that the baby might die and not survive the pregnancy (Tipping, 1981). Another common pregnancy-related fear, according to Jones (1990), is related to pregnant women's concern that they might do something that will damage the unborn fetus during the pregnancy, such as maintaining a diet that could harm the fetus while developing in the womb or taking certain medications that could cause birth defects.

Due to the prevalence of pregnancy-related fears, concerns, and uncertainties, pregnancy can be perceived as a condition that signals the need to acquire more knowledge (Aaronson, Mural, & Pfoutz 1988). Singh, Newburn, Smith, and Wiggins (2002) utilized a questionnaire to survey first time mothers about their informational

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needs during pregnancy. This sample of women represented the childbearing population

of England in terms of ethnicity, age and location.

The results suggested that one of the reasons for informational needs during pregnancy is

to acquire the ability to cope with the unknown. More specifically, they found that 70%

of the respondents said that they wanted "a great deal" of information because they

wanted "to know as much as possible" (p. 55).

Another type of informational need found to be important for women during

pregnancy is related to nutrition. Szwajcer, Hiddink, Maas and Koelen (2008) surveyed

422 Dutch women about their nutrition-related information seeking behaviors using face-

to-face questionnaires. They found that women are more interested and worried about

food and nutrition while pregnant. Also, their findings suggest that pregnant women are

generally more willing to change their nutrition, especially in cases of first time

pregnancies. Furthermore, the authors pointed out that the internet was the most favorable

source of information about nutrition during pregnancy; 33% of respondents said that

they utilized the internet to obtain nutrition-related information, while 23% turned to

midwives and 12% used books.

Pregnancy-related information is also significant in making informed health-

related decisions. As Harrison, Kushner, Benzies and Remple (2003) pointed out,

"Increased involvement in decisions about their health care has been a goal for many

women, including during pregnancy and childbirth" (p. 109). Lambert and Loiselle

(2007) explained that individual preferences for medical decision making could be seen

on a continuum ranging from the wish to understand health care providers' decisions

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about care to requests for active participation in and final decision making control over medical care. Moreover, the authors asserted that individuals who prefer to actively participate in the process of medical decision making with their health care provider are usually more active in their search of health information. Therefore, health information is helpful for medical decision making in the sense that it assists individuals in evaluating different treatment options and reducing uncertainty about possible health care alternatives (Lambert & Loiselle, 2007). Levy (1999), who explored processes of decision making by women during pregnancy, argued that pregnant women need information to make informed choices in terms of their pregnancy. Some of these choices include decisions about whether to undergo prenatal screening tests for fetal abnormality and which types of prenatal tests to choose from among the available options. Prenatal testing also can provide valuable information about whether to continue or terminate the pregnancy due to the fetus' defects or abnormalities. Barabara Katz Rothman (1978) described this situation as the "tentative pregnancy." Katz Rothman, who studied women's experiences with prenatal diagnosis, compellingly argued that, because of prenatal testing, pregnant women wait in a limbo she called a "tentative pregnancy" because women who carry a fetus cannot be sure whether they are "mothers" or "carriers of a defective fetus" (p. 7). Moreover, Katz Rothman pointed out that even the advanced technology of fetus testing cannot ensure a perfectly healthy baby, or what she called a "blue ribbon baby" (p. 7). Clearly, the information given to the pregnant woman based on the prenatal tests can be a source of anxiety.

Remennick (2006) interviewed Israeli women to explore their perspectives and attitudes toward prenatal testing. She asserted that prenatal testing "casts a shadow on the whole experience of pregnancy, causing many women anxiety and stress" (p. 22). Remennick explained that, when a pregnancy is constantly being examined for normality or defectiveness, the fetus itself becomes a tentative fetus. By that she meant that it is not clear whether the pregnancy will end with the birth of a healthy fetus or in abortion due to the detection of the fetus' abnormalities.

Knowledge about pregnancy-related issues, including prenatal testing, can be obtained from various sources of information including health care providers, family and friends, books, mass media and the internet. Thus, my first research question is:

(1) What needs and motives do pregnant women have when they go online during pregnancy?

One of the basic needs that can be fulfilled by utilizing the internet is the need for health information.

Health Information Seeking Behavior

Health information seeking is a common practice among individuals because information is necessary to make sense of different health situations, their implications, and available options. As Talosig-Garcia and Davis (2005) stated, "information plays a key role in helping patients understand their disease process, and enabling them to make informed medical decisions" (p. 53). While pregnancy is not considered to be a "disease" from a medical perspective but, rather, a natural process, it is still a physical situation that affects women's health and therefore requires health-related information.

Health information seeking is the practice in which individuals look for information related to their health condition in order to better understand their situation and to be able to make informed decisions regarding their health care. Turk-Charles, Meyrowitz and Gatz (1997) explained that "information seeking is the process through which a patient actively learns about his or her disease and treatment, and plays a pivotal role in how individuals successful manage their own health care" (p. 85). Case (2007) described information seeking as a "conscious effort to acquire information in response to a need or gap in knowledge" (p. 5). The term "information seeking" is considered to be part of larger practice called "information behavior." Wilson (2000) defined information behavior as "the totality of human behavior in relation to sources and channels of information including both active and passive information seeking, and information use" (p. 49). Brenda Dervin (1992) identified individual's information seeking in everyday life as a part of her conception of human "sense making." Dervin's basic assumption is that human beings have the constant need to "make sense" of the world and this need results in information seeking. Dervin (1983) explained that "the individual, in her time and place needs to make sense…she needs to inform herself constantly. Her head is filled with questions. These questions can be seen as her 'information needs' (p. 170).

In general, Dervin (1992) defined information as a "construction" rather than a "thing." The perception of information as a construction derives from the process in which individuals utilize external information with their own internal information and perceptions in order to make sense of their surroundings and social reality. Through this process, individuals create or construct information as dynamic and individual.

It is clear that individuals are constantly exposed to information through different channels and sources. However, passive exposure to this information might not be enough to allow them to understanding certain life experiences, conditions, and situations, and, therefore, individuals might engage in information seeking behavior regarding topics about which they would like to know more. Johnson (1997) asserted that "information seeking can be defined simply as the purposive acquisition of information from selected information carriers" (p. 26). Johnson further explained that "information carriers are the primary repositories of information available to individuals within their information fields" (p. 26).

Niederdeppe et al. (2007), in their definition of information seeking within the health context, put an emphasis on the active role of the seeker. They explain that information is constituted of,

> active efforts to obtain specific information outside of the normal patterns of exposure to mediated and interpersonal sources. This definition includes any nonroutine media use or interpersonal conversation about a specific topic and thus includes behaviors such as viewing a special program about a health-related treatment, using a search engine to find information about a particular health topic on the internet, and/or posing specific health-related questions to a friend, family member, or medical practitioner outside the normal flow of conversation. (p. 155)

The practice of information seeking is seen as the direct outcome of information need.

Case (2007) defined information need as a "recognition that your knowledge is inadequate to satisfy a goal that you have" (p. 5). This definition emphasizes the notion

of insufficient information that needs to be addressed to increase existing knowledge. Atkin (1973) defined information need as "a function of extrinsic uncertainty produced by a perceived discrepancy between the individuals' current level of certainty about important environmental objects and a criterion state that he seeks to achieve" (p. 206). By "environmental objects," Atkins referred to ideas, people, things, and events that are deemed to be important for an individual.

Further, he explained that individuals engage in a constant comparison of their current levels of knowledge against goals that they wish to obtain. This process results in motivation to seek information when there is a sense of uncertainty.

Another definition that refers to the notion of uncertainty reduction is Tardy and Hale's (1998). They defined the notion of health information seeking as "verbal and nonverbal messages ascertained via everyday interaction, either purposeful or serendipitous, by members in a self-defined network, that serve not only to reduce uncertainty regarding health status, but also to construct a social and personal (cognitive) sense of health" (p. 338). The authors explained that this notion of health information seeking is "embedded in everyday conversation or 'talk'" (p. 338).

This definition well encapsulates the notion of health information seeking within the interpersonal context. However, it is important to stress that interpersonal communication might not be the only manner in which individuals engage in health seeking behavior to obtain information and support related to health. Other resources, such as books, magazines, television, radio and the internet, can be used for obtaining

health-related information in addition to interpersonal interactions (Salo, Perez, Lavery, & Malankar, 2004).

Health information seeking behavior is usually triggered by informational needs. Tang and Lee (2006), who explored motivations for internet use for health information in Singapore utilizing focus groups, found three types of personal needs. These three types of needs were curiosity, health management, and a sense of control.
Curiosity was explained as the need to know about a certain issue. Health management was explained as the knowledge necessary to maintain a healthy lifestyle, cope with an illness, self diagnose an existing medical condition, or better understand a medical diagnosis or a treatment. The third type of need, a sense of control, was explained as the need for knowing in order to reduce uncertainty which can lead to distress. All these types of personal needs indicated that information seeking was perceived by participants as a way to deal with uncertainty regarding a health condition (pp. 116-117).

As we can see from the aforementioned research findings, one of the functions of health information seeking is to help individuals reduce their feelings of uncertainty regarding health status. Most definitions of health information seeking agree that this practice occurs when a given circumstances create an undesired level of uncertainty. This sense of uncertainty prompts individuals to engage in active efforts to acquire additional information (Tang & Lee, 2007).

Uncertainty Management

The basic idea behind the notion of uncertainty management is that individuals have a drive to reduce uncertainty in order to make the world more predictable. I am

using the notion of uncertainty management not as a theoretical framework to guide my study but, rather, as a concept that explains the human need for information in certain situations. The assumption of information seeking can be rooted in theories of "uncertainty reduction" (Case et al., 2005). There are many life situations (including pregnancy) that put individuals in a state of uncertainty about various things. Therefore, there is a human tendency to reduce this uncertainty in order to have a better sense of what to expect.

Babrow (2001) asserted that "uncertainty exists when details of situations are ambiguous, complex, unpredictable, or probabilistic when information is unavailable or inconsistent; and when people feel insecure in their own state of knowledge or the state of knowledge in general" (p. 477). He explained that responses to uncertainty are shaped by appraisals and emotional reactions to the experience. Dillard and Carson (2005) stated that an uncertainty management perspective rests on three assumptions:

> First, individuals appraise uncertainty for the meaning it holds for them. Thus, certainty is desirable if the outcome is favorable, but uncertainty may be preferred if the outcome is unfavorable. Second, appraisals of uncertainty are associated with emotional responses. Lastly, appraisals and emotions prompt various behaviors. (p. 60)

This explanation suggests that conditions of certainty and uncertainty result in emotional responses that then lead to different types of behavior.

According to Babrow (2001), there are three types of emotional responses to experiencing uncertainty. First, negative emotional responses signal a disturbing

appraisal when uncertainty is viewed as a danger or threat. Second, a positive emotional response results when uncertainty is framed as beneficial. This can happen when people feel hope or optimism. The third option for emotional response is a neutral response, such as indifference. Also, there could be a situation where there is a combined emotional response in which both positive and negative responses occur simultaneously. Regardless of the emotional response, Babrow (2001) stated that "information can be used to manipulate uncertainty in a desired direction" (p. 482).

Accordingly, individuals often search for information to add knowledge they lack, or they might search for information to confirm or disconfirm their current state of beliefs (Heyman, Henrikson, & Maughan, 1998).

Although there are three types of emotional response, uncertainty is typically associated with feelings of anxiety (Shiloh, Ben-Sinai, & Keinan, 1999). Therefore, acquiring information is seen as desirable, not only because of its instrumental value, but also its emotional value. In this way, information for uncertainty reduction helps not just in making decisions, but also for guarding against emotional stress (Shiloh et al., 1999). Johnson (1997), who explored information seeking by cancer patients, explained that information can be viewed as "the number (and perhaps the kind) of messages needed to overcome uncertainty" (p. 22). Johnson asserted that the extent to which information helps in overcoming uncertainty defines the relevancy of this information. According to this view, information is valuable if it assists in overcoming uncertainly.

Eastin and Guinsler (2006), who examined the relationships among health anxiety, online health information seeking, and health care utilization decisions, reported

that individuals with even moderate levels of anxiety look for higher amounts of health information than individuals with low levels of anxiety. Additionally, they found that frequent online seekers tended to make more medical appointments based on the information they found on the internet. This finding indicates that there are connections among the amount of online health information seeking, the emotional state, and the health perception of the seeker. Additional factors that contribute to the tendency to seek health information might be related to the demographic characteristics of the seeker.

Women's Health Information Seeking

Health information seeking can be triggered by numerous factors, including the individual's communication and interpersonal skills, his/her desire to participate in the decision making process, his/her cognitive function, and his/her level of emotional distress (Ramanadhan & Viswanath, 2006). Demographic characteristics also play a role in the tendency for health information seeking. For example, Johnson (1997) explained that "there is a high level of interest in health related matters among women" and that women are more likely to be active health information seekers than men (p. 42). Shade (2004) reinforced this statement by explaining that popular web activities for women include looking for health or medical information, exploring job information, playing games online, and searching for religious or spiritual information. Further, he stated that "more women than men seek out health related information on the internet, particularly information related to a specific illness, material related to symptoms, or after visiting a doctor" (p. 62).

The notion of women as health information seekers is supported by recent research findings suggesting women tend to go online for health information more than men do (Lemire, Pare, Sicotte & Harvey 2008). Crandall, Zitzelberger, Rosenberg and Winner (2001) and Lagan et al. (2006) both stated that there is a growing body of literature on women's increasing use of the internet for health information seeking. One of the explanations for this tendency, according to the authors, is related to the traditional role of women as mothers and care-givers for their family. Within this role, women usually regard themselves as responsible for the well being of their family members and, therefore, become more active in searching for information about personal health.

Cain, Mittman, Sarasohn-Kahn, and Wayne (2000) supported this explanation with data from the California Health Care Foundation. They found that women are a key demographic group for online health seeking because they control 80% of household spending and make most health care decisions. Additionally, women control 60% of all health care dollars and purchase 75% of over the counter drugs. The authors concluded that women make up 54% of the individuals actively seeking health information online, are the primary health care decision makers in most households, and are most often the caregivers for ill family members. Moreover, Cain et al. (2000) stated that, according to their research findings, the "average online health care consumer is female, perceives herself as less healthy, and is between 40 and 49 years of age" (p. 29).

Online Health Information Seeking

Research shows that growing numbers of internet users are utilizing the internet for purposes of health information seeking (Lorence, Park, & Fox, 2006). Although e-mail has long been the most popular online activity, the second most popular activity remains information seeking (Haythornthwaite & Wellman 2002). Haythornthwaite and Wellman pointed out that longtime internet users and new users rank information seeking as their number one or two reason for being online (p. 19). According to the Pew Internet and American Life Project (Fox & Fallows, 2003), 80% of American internet users have utilized the internet to search for health-related information.

There is a plethora of research investigating online health information seeking practices among individuals within different health contexts. For example, Escoffery, Miner, Adame and Butler (2005), who explored internet use for health information among 743 college students at an American university, found that 542 students (72.9%) reported getting health information from the internet for themselves. Additional findings suggest that approximately 15% of the students used the internet to seek health information in the past day or week. The researchers found that the most frequent technique used to find health information on the internet was that of search engines (72.9%).

This high rate of use is also reflected in O'Connor and Johanson's (2000) exploration of use of the web for medical information by a gastroenterology clinic population. The researchers used questionnaires that 924 patients filled out during visits to two gastroenterology clinics in North Carolina.

They found that 462 (50%) of the patients had access to the internet. Of those with internet access, 235 (51%) reported having obtained medical information from the internet within the previous year. O'Connor and Johanson's findings suggested that patients sought online information about many topics including general disease, (195, 31%); treatment options, (146, 23%); medications, (114, 18%); diet and nutrition, (87, 14%), and alternative medicine, (64, 10%). Moreover, the authors point out that most patients obtained medical information via internet search engines such as Yahoo! (31%) and Infoseek (15%).

The findings of another online health information seeking survey (Neelapala et al., 2008) conducted among 484 gynecology outpatients in England regarding the use of internet for health information found even higher rates of use. Neelapala et al. found that 74% of patients sought health information about their health condition before visiting the clinic. Further, 26.8% of patients reported to use the internet for obtaining health after they were seen in the clinic to obtain more information about their medical problem. The most common reason these individuals gave for going online for health information was to find information about their current condition (50%), while the second common reason was to reduce anxiety (26%).

Online health information seeking serves not only to obtain information for personal health purposes, but is also used for obtaining health information for family members. For instance, Bernhardt and Felter (2004) conducted a study of online pediatric information seeking among twenty mothers of young children in a Southeastern city in the United States through focus groups. They reported that most participants sought

information on the internet during pregnancy and that nearly all sought online

information after their child was born. Mothers went online primarily to diagnose or treat

pediatric conditions and to seek advice on parenting and development. The authors found

that mothers were particularly interested in websites that presented information on fetal

development with content that was individually customized to their delivery due date or

stage of pregnancy. Moreover, participants also reported that they sought social support

on the internet from other pregnant women or mothers, especially during their first

pregnancy. The most common reasons that participants reported for going online

following childbirth included a wish to learn more about diagnosing and treating specific

pediatric health conditions, and for seeking advice and support on parenting issues and

child development. The authors concluded that pre-natal and post-natal women can be

high information seekers and that these time periods offer important opportunities for

reaching mothers and mothers-to-be with essential online pediatric health information.

Search engines such as Google, Yahoo! and the like are probably the most

common tools for obtaining online health and medical information (Gaudinat, Ruch,

Joubert & Uziel, 2006). Spink et al. (2002) found that health related searches increased

from 1997-2001. They reported that the Google search engine was used 6.75 million

times per day to search for health issues. Goldner (2006) stated that the majority of

internet users who seek online health information look for a specific disease, treatment,

or medicine. Also, he argued that the percentage of individuals in the U.S. looking for

disease specific information on the internet ranges between 60% to 85% (Cullen, 2006).

Most internet users begin their search for health information at a search engine website or within a general portal. Cullen (2006) pointed out that survey findings show consistent patterns of searching health information from 2001 to 2004. During that period, over 50% of searches utilized a general search engine, 25% used health portals and 12%-17% used the health subsection of a general internet portal such as Yahoo or MSN.

<div align="center">Doctor-Patient Communication in Light of the Internet</div>

The use of the internet in general, and the practice of online health information seeking in particular, is influencing doctor-patient interactions. Communication between patients and health care providers is a fundamental component within the practice of medicine and the provision of health care. Ong, Haes, Hoos and Lammes (1995) explained that the main goal of communication between a patient and a physician during a medical encounter is the exchange of information. More specifically, they pointed out that the exchange of information consists of information giving and information seeking to fulfill both physicians and patients' needs.

As the authors stressed,

> From a medical point of view, doctors need information to establish the right diagnosis and treatment plan. From the patient's point of view, two needs have to be met when visiting the doctor: 'the need to know and understand' (to know what is the matter, where the pain comes from) and the need to know and be understood (to know that the doctor accepts him and takes him seriously). In order

to fulfill doctor's and patients' needs, both alternate between information giving

and information seeking. (p. 904)

The role of the patient in making medical decisions has traditionally been seen as

a passive one, with physicians playing the dominant role within the medical encounter

(Niederdeppe et al., 2007). More recently, academic, social and institutional forces have

begun shifting this approach to one where patients are expected to take a more active role

in conducting health care decisions, a transition aided by the increasing public

availability of vast range of medical information and resources.

The accessibility to a wide variety of health information available from various

sources, including the internet, is accompanied by a trend towards consumerism within

the health care context. Potter and McKinlay (2005) explained that the substitution of the

term "health care provider" for "doctor" and the term "consumer" for "patient" represents

a shift to a greater commercialization of medicine. Further, the authors asserted that,

when medicine becomes a commodity, the patient has much more power than in the

paternalistic model of medicine. In the paternalistic model, which was popular in the

middle of the 20th century, the relationship between the doctor and the patient was

analogous to a parent-child relationship.

For that relationship, the doctor fulfilled the role of the parental figure; he or she had

authority and power over the patient because he or she was concerned for the patient's

best interests.

The trend toward consumerism embodies a tendency to perceive health care as a

commodity and an inclination to fulfill and protect consumers' rights in an environment

of increased expectations about the quality of health care (Buetow, Jutel & Hoare, 2009).

Potter and McKinlay (2005) pointed out that medical consumerism grew during the

1970s as the paternalistic model evolved into a consumer model. In the new model

physicians' decisions and actions were influenced more by the wishes of the patient.

Buetow et al. (2009) argued that the shift in doctor-patient relationships is toward a more

"modern, democratic, and equal modes of participation in information exchange and

decision making" (Buetow et al., 2009, p. 98). The authors explained that, within this

shift, the "modern patient" is usually inclined to exercise more control over health care

decisions and is disposed to critically evaluate and influence health care delivery

services. As Neelapala et al. (2008) stated, "patients today are more informed, demanding

and proactive about their own health care" (p. 300).

The fact that patients today tend to be more proactive and acquire more

knowledge influences the power balance between patients and physicians. In the past,

physicians served as central gatekeepers in providing health care information to patients.

This is no longer the case because individuals can access vast amount of health

information on the internet. As Gerber and Eiser (2001) explained,

> one of the newest sources of knowledge for patients comes from visiting health-
>
> related web sites. The greatest impact on medical decision-making may come
>
> from this increase in knowledge prior to the clinical encounter. Until recently, in
>
> the clinical visit the physician had the sole responsibility for medical knowledge,
>
> whereas the patient was only accountable for his or her own preferences. Now, by
>
> more easily obtaining medical information prior to seeing the doctors, patients

potentially have a different position in the decision-making process, possessing

both preferences and knowledge prior to any physician contact. (p. 15)

Patients coming to physician visits informed with online health information and

prepared for the medical encounter is not merely a theoretical concept, but a reality. Hess,

Nelson, Kreps and Croyle (2005) pointed out that most physicians already experience the

effects of patients bringing information found on the internet to office visits. Often

patients use this information as a basis for requesting medical procedures, medications,

and tests (p. 2619). Echoing this sentiment, Pemberton and Goldblatt (1998) stated that

"doctors are more and more often encountering patients who have done their research

into the disease they have, or think they have" (p. 594).

Goldsmith (2000), who perceives this practice as empowering, explained that

patients' practice of using online health information as a basis for interaction with

physicians will not completely eliminate the disparity in knowledge between patients and

physicians. Internet use will enable patients to conduct their dialogue with health care

providers with a higher level of knowledge and give patients more leverage to influence

the care they receive. Powell, Grace, and Lovato (2003) agreed that the internet is

changing the balance of knowledge between health care professionals and the public

because it is improving the public's access to information on alternative approaches to

health care, health care performance data, and consumer rights. Moreover, Powell, Grace,

and Lovato (2003) explained that many patients bring internet printouts of information

related to their health condition to their medical appointments.

Wald, Dube, and Anthony (2007) argued that "Web savvy patients" navigate the

internet to find health and medical information and, further, that this practice impacts

physician-patient communication and changes the dynamic of their relationship. More

specifically, Wald et al. (2007) argued that internet use for health purposes alters existing

models of physician-patient relationships and creates a triangulation of physician-web-

patient. Thus, the internet plays a role within physician-patient communication. The

information it provides often is used as a basis for discussion and questions during the

medical encounter. Patients often use it for conducting online research prior to the

medical encounter. These aforementioned online practices are demonstrated in research

findings.

Rice (2006), who summarized results from the Pew surveys researching health

information seeking behavior, reported that "41% of health seekers who got internet

information prior to a doctor visit discussed this information with their doctor" (p. 11).

Iverson, Howard and Penney (2008), who explored the impact of internet use on health-

related behaviors among 89 patients at three primary care osteopathic medical clinics in

Michigan, reported that internet use for health-related purposes promoted more active

engagement during physician visits. The active engagement of patients who use the

internet was demonstrated in an increased tendency of patients (66%) to ask questions

during the medical encounter.

Another survey, which was conducted among 203 American patients seen at a

family medicine practice in the Spring of 2004, revealed that 50 percent of respondents

discussed the information they found on the internet with their health care providers

(Liszka, Steyer, & Hueston, 2006). Schwartz, Roe, Northrup, and Meza (2006) conducted a survey on internet use for health information from October 2002 through March 2003 among 1289 adult patients recruited from waiting rooms of primary care clinics in metropolitan Detroit. They found that of the 1289 participants, 844 (65%) reported having access to the internet and 622 (48%) utilized the internet to seek health information for themselves or for family members. Patients most frequently sought disease-specific information. When patients were asked whether they discuss the health information they found online with their physician, 46 (7.6%) participants reported they did so at "almost every visit," 318 participants (52.6%) reported "sometimes," and 176 participants (29.1%) indicated "never." When asked whether the physician had ever recommended an internet source for health information, 72 participants (8.9%) answered "yes" and 615 (76%) said "no."

Schwartz, Roe, Northrup, and Meza (2006) also surveyed physicians at these clinics. They pointed out that, generally, physicians underestimated the proportion of their patients using the internet. The majority of physicians (81%) estimated that less than half of their patients used the internet for health information, while data showed that the actual number was 74%. When physicians were asked how many of their patients incorporate health information found on the internet during doctor's visits, 13.6% of physicians said "at least one patient per day," while 36.4% said "at least one patient per week." In terms of physician's attitudes toward online health information seeking, the researchers reported that most physicians (88%) believed that their patients understood

online health information obtained online and 63% claimed that they suggested the use of specific health-related websites to their patients.

Additional support for the prevalence of online health information seeking was found in Murray, Lo, and Pollack's (2003) study. They conducted a telephone survey of online health information seeking. They used a nationally representative sample of the American public. The survey was carried out between March 2000 and March 2001 on a household probability sample from the 48 contiguous states. The results of their survey suggest that, of the 3209 respondents, 31% had sought health information on the Internet in the past year. Data also suggested that patients who were confident about their ability to critically appraise Web sites (i.e., distinguish between good and poor health-related content) were more likely to want the physician to do something specific. Likewise, individuals who used the Internet frequently for finding health information were more likely to want the physician to take a specific action than those who seldom used it. Taking online information to the physician was perceived as beneficial by most participants because they felt more in control (83%), and more confident (78%) during the consultation. Only six percent of respondents said that they have experienced negative feelings, such as embarrassment, as a result of taking information to their physician.

Crooks (2006) also suggested that online information seeking is related to interactions with physicians. Crooks' study explored internet use of Canadian women living with Fibromyalgia Syndrome (FMS), a chronic illness that often affects women. This study was conducted through 55 in-depth interviews.

The results indicated that women who used the internet often took more control in their interactions with physicians. For example, many women utilized the health information found online to prepare for appointments with physicians. The women who actively searched for health information on the internet and participated in support groups used this information to prepare notes, set an agenda and maximize the face-to-face time with the physician. Interestingly, Crooks found that FMS support groups were used as a site of information dissemination. The groups allowed personal stories and information to be gathered and shared online. Crooks explained that some women were mentioned to put more effort into researching issues related to FMS to support their decision that their FMS pain made meeting with a physician was necessary. Crooks pointed out that the use of internet regarding this chronic illness by her participants became way to exert more control during the interaction with the physician. Crooks stated that this sense of control is achieved when women came to the meeting with the physician as prepared as possible. As these women were more prepared, they could be more involved and actively engaged in the discussion and had better ability to make informed decisions in regard to the physician's advice or suggestions.

Interestingly, despite the growing trend of patients using online health information when interacting with physicians, physicians seem less willing to refer patients to health internet websites. Rice and Katz (2006) stated, "what is more interesting is the discrepancy between the low physician referral rate of specific websites and the high patient demand for specific referrals" (p. 152). This demand was illustrated

in Salo et al.'s (2004) study which found that 59% of hospital patients who use the internet said that they would like to have web links provided by their physician. This discrepancy between patients' wish for website referrals and the lack of referral from physicians led Rice and Katz (2006) to conclude that there is a little information in the literature concerning physicians referring their patients to specific websites.

Diaz, Sciamanna, Evangelou and Stamp (2005) proposed that physicians rarely refer patients to specific websites because physicians usually see the internet as unreliable. To support this explanation the authors presented survey results that indicated that most health care providers (79.1%) had cautioned patients about the reliability of online health information. Diaz et al. (2005) then surveyed 330 primary care patients about the role of the internet within their physician-patient interaction. They found that the majority of patients (62%) expected their physician to recommend relevant internet websites (p. 684).

Haslam (2006) indicated that the gap between patient expectations and physician actions can result from a need to learn "how to deal with such requests and use information technology appropriately" because this is "rapidly becoming a necessary consultation skill" (p. 231). Haslam (2006) argued that patients' expectation to get website recommendations from physicians is understandable in light of the plethora of online health information that requires professional guidance.

In light of the above review on the various functions of the internet as an important and prevalent tool for fulfilling needs of health information, and the use of

online health information during medical encounters with physicians, my second main research question is:

(2) What kinds of health information do pregnant women seek online? Online health information seeking is not the only activity that individuals engage in while utilizing the internet for health-related purposes. Another aspect of online activities that is being researched extensively is the use of internet for online support groups (Orgad, 2005).

Supportive Communication: Emotional Support and Informational Support

The phenomenon of online support has been explored in various studies across different contexts, such as coping with cancer (Sharf, 1997), HIV/AIDS (Reeves, 2000) and Alzheimer disease (King & Moreggi, 1998). Online support groups exist to accommodate not only conditions of illness and disease but also life situations like pregnancy. The internet provides an interface for online support groups and forums for pregnant women (Valaitis & Sword, 2005). This interface enables pregnant women to share information and allows them to obtain support without needing to travel to a specific physical location. Additional advantages of online support stem from the available range of topics and issues in online communities and the relatively low cost for participating in these interactions. Maheu et al. (2001) concluded that "the internet is also providing a low cost and convenient vehicle for peer support. Internet users are forming virtual communities that focus on a range of issues and common problems" (p. 37). The main function of online support group is to provide supportive communication to participants and help them to cope with life situations.

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The notion of social support through communicative practices has many definitions and explanations. According to Albrecht and Adelman (1987), social support refers to "verbal and nonverbal communication between recipients and providers that reduces uncertainty about the situation, the self, the other, or the relationship, and functions to enhance a perception of personal control in one's life experience" (p. 19). This definition conceptualizes the notion of social support as a communication process and, therefore, emphasizes its transactional nature and the interaction which is embedded within this process.

Tolsdorf (1976) defined social support as "any action or behavior that functions to assist the focal person in meeting his personal goals or in dealing with the demands of any particular situation" (p. 410). Pilisuk and Parks (1986) defined social support as: "the sum of the social, emotional, and instrumental exchanges with which an individual is involved having the subjective consequence that the individual sees him or herself as an object of continuing value in the eyes of significant others" (p. 17).

Albrecht and Adelman (1987) explained that both the support giver and the support recipient experience a transactional influence because, "when one person communicates a supportive message to another, the behavior can affect persons' feelings and cognitions, the state of relationships and future message exchange sequences" (p. 20). Burleson and MacGeorge (2002) defined supportive communication as "verbal and nonverbal behavior produced with the intention of providing assistance to others perceived as needing that aid" (p. 374). They explained that the central reason for supportive communication is pragmatic. They reported that "over the past 30 years, a

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massive body of literature findings has accumulated documenting the positive effects of supportive interactions and social relationships on the health and well-being of individuals" (p. 375).

The nature of supportive communication for individuals who are coping with a health condition can be divided into two main types: emotional support and informational support. Emotional support, in general, functions to enhance our well-being, relieves distress, and helps improve the quality of life (Burleson, 2004). Moreover, Burleson explained that emotional support assists people in managing everyday hurts and disappointments and therefore serves as a substantial help and comfort. The literature provides more than one definition for the term "emotional support", each of which indicates how emotional support is connected to well-being. For example, Uchino (2004) explained that emotional support refers to the provision of advice or guidance related to a specific situation in one's life. Ye (2006) defined emotional support as "verbal or non-verbal expression of caring and concern. Emotionally supportive messages usually include esteem-enhancing remarks or empathic messages that reflect and understanding of others' distressed state" (p. 4). Based on these definitions, emotional support can be explained as any form of human interaction that aims to provide support and improve the well being and emotional state of another person.

The second form of support is informational support. Wright (2002) explained that informational support can help people who are experiencing health problems to feel more in control of the situation. It can help them to be informed and, therefore, able to make better decisions about managing their illness. An example of informational support

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can be found in Suzuki and Beale's (2006) study of webpages of adolescents with cancer. They found that adolescent cancer patients report better capacity for empathy and a wish to help other cancer patients in comparison to adolescents without a homepage. The aspiration to help other cancer patients was evident in the adolescents' attempts to share cancer information through their websites. Many of the teen's homepages contained statistical data, definitions, and advice about cancer and included links to relevant external internet websites. Moreover, some information was based on personal experience and had relevance to adolescent issues, such as the importance of preserving fertility and social coping with teasing.

  As we can see from this example, the internet is a significant and valuable domain for emotional and informational support for individuals dealing with various health challenges and conditions in the form of online support groups.

<p style="text-align:center;">*Online Support Groups*</p>

LaCoursiere (2001) defined online social support as:

> the cognitive, perceptual, and transactional process of initiating, participating in, and developing electronic interactions or means of electronic interactions to seek beneficial outcomes in health care status, perceived health, or psychosocial processing ability. It incorporates all components of traditional social support, with the addition of entities, meanings, and nuances present in a virtual setting, and unique to computer-mediated communication. (p. 66)

Eysenbach and Till (2001) explained that internet communities provide a way for a group of peers to communicate with each other.

The definition of internet community is broad and includes discussion boards on websites, mailing lists, chat rooms, or newsgroups. In terms of the various functions of support groups, Cline and Haynes (2001) stated that "online groups provide social support, information, shared experience, and behavioral models. Also, the group can empower participants by fulfilling the functions of community" (p. 673). Moreover, they explained that, because demographic characteristics and physical differences are hidden, a sense of "groupness" can develop more easily online than it can off-line. Preece (1998) described the advantage of patients getting computer-mediated social support as the ability to communicate with people who experience similar situations and conditions and who, therefore, understand their needs and challenges. Preece asserted that "physicians know the facts, but patients who share the same experience can empathize with others' conditions and feelings" (p. 33). Echoing this sentiment, Potts and Wyatt (2002) explained that online support groups enable internet users to read other individuals' illness narratives and coping experiences. These types of texts are not evidence-based medical information, but they can provide people with accounts of personal experience and fulfill needs for reassurance.

Barak, Boniel-Nissim and Suler (2008) explained that online support groups began to emerge during the 1990s and have since grown into "a mass social phenomenon that is estimated to number hundreds of thousands such groups worldwide" (p. 1867). There are many forms and formats of online support groups and internet communities, such as chat rooms, forums, and e-mail lists which provide support for their members (Barak, Boniel-Nissim & Suler, 2008). Further, the authors explain that the range of

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topics and issues covered by online support groups is very wide and includes "every distress topic possible" (p. 1868), from chronic illnesses to coping with child rearing, and from various disabilities and life situations to coping with addictions and divorce.

Support groups on the internet are a growing trend. Sullivan (2003) stressed that the number of support groups has increased significantly over the past several years. Further, he explained that online support groups provide new opportunities for individuals with internet access to communicate with others who share similar problems and concerns, and also to communicate with health care professionals.

The growing popularity of online support groups is due to their unique characteristics that allow for convenient participant use. Ginosar (2005) asserted that the increasing number of internet cancer support groups is due to their flexibility of time, their anonymity, and the convenience of staying at home (p. 3). Furthermore, the significant advantages of online support groups stem from the fact that geographic distance is not a barrier for participation. Internet users living in remote areas can receive support from similar others without having to attend face to face group meetings. Also, due to the mediated nature of the internet, the content posted on the support group website is potentially anonymous and free from physical cues of the users' age, race, and attractiveness (Scott, 1999).

Sullivan (2003) asserted that, since online group members are able to communicate in an anonymous manner with one another, they might feel more comfortable to express negative emotions or to discuss sensitive issues without fear of rejection. Thus, the anonymity enabled in online groups makes it a much easier

environment for communication. Barak, Boniel-Nissim and Suler (2008) named the phenomenon in which people discuss and express things they ordinarily would not express in a face-to-face situation the "online disinhibition effect." According to this effect, the online anonymous environment makes people feel less inhibited and more free to express themselves openly (p. 1870).

An additional advantage discussed by Wright (2000) is that on-line support groups allow internet users to have a larger network of supportive individuals. Elaborating on the advantage of having a large group of individuals participating in online support groups, Buchanan and Coulson (2007) explained that, although online support group bring together individuals experiencing similar situations, they also provide a more "heterogeneous mix of individuals offering diverse perspectives, experiences, opinions and sources of information than might otherwise be the case" (p. 264). In addition to the advantage of getting support from a relatively diverse group of people, the authors also claimed that the number of participants within the online support groups can be unlimited because there are no space or capacity limitations.

Pitts (2004), who explored internet homepages of women with breast cancer, emphasized that a virtual environment can create more options for participants. She asserted that the complexity of what we might call "cyber agency" stems from the fact that "corporeal bodies are absent in cyberspace, and thus individuals are left to represent the body through words, images, codes and symbols" (p. 34). Moreover, she stated that "these characteristics of cyberspace interaction may lead to greater freedom to perform our identity" (p. 34). Despite the potential of greater freedom in performing identity

within online interactions, it is clear that this interaction is not separated fully from the "real life identity" of participants. Wellman and Gaulia (2001) asserted that online interactions are not estranged from user's offline baggage and identities such as their gender, age, cultural milieu, socio-economic status, and offline relationships with others because users bring their offline identities and background into the online interactions.

An additional advantage of online support groups is their use as "weak tie" networks, as networks of people who communicate frequently but are not necessarily interpersonally close (Wright & Bell, 2003). The ties created through online support groups might function in a manner that resembles what Granovetter (1973) defined as a weak tie network. Albrecht and Adelman (1987) defined strong ties as "close interpersonal relationships with one's primary group of friends/kin" (p. 61) and in opposition weak ties, which are defined as "either direct links to individuals outside of one's primary group or indirect link through others to outside contacts" (p .61). Further, Adelman, Parks, and Albrecht (1987) elaborated on the definition of weak ties by explaining that weak ties are limited dyadic interpersonal relationships across three dimensions: their internal dyadic features, their relationship to other sectors of individual's social networks, and their physical and temporal context.

The internal dyadic feature of a weak tie is manifested through mutual interdependence and the extent of intimacy within the dyad. Weak ties usually display lower levels of interdependence and intimacy than strong ties. The second dimension of a weak tie concerns its network features. The authors stated that people who have weak ties are less likely to be familiar with each other than individual with strong ties (p. 131).

The third dimension refers to contextual features of the tie. Adelman, Parks, and Albrecht (1987) asserted that weak ties generally "exist within a restricted temporal context" (p. 132). This means that, because the relationship is initiated and maintained for a specific context, it is understood to exist only temporarily. Thus, people using weak ties often do not share an expectation of returning to the interaction after the issue was resolved, but in strong ties, there is an expectation that the relationship will continue beyond a specific context and point in time. The advantage of interacting through weak ties is that they can connect to a new social circle that might not overlap with the ones we already know. Connection with new social circles can provide information, advice and resources that we might not get from individuals with whom we share strong ties.

Another benefit of weak ties lies within the sheer number of weak ties an individual might have. Close ties are usually more limited. As Adelman, Parks, and Albrecht (1987) asserted, "while the number of close relationships one has is typically rather small, the number of weak ties is often extremely large" (p. 133). Weak ties can provide a greater access to information resources "by virtue of their greater number alone" (p. 133). Lastly, Parks, and Albrecht (1987) pointed out that it might by easier for an individual to consult with someone who is not as close because the information exchange is less likely to affect the relationship. This advantage can be especially important in regard to sensitive issues, such as health issues, that might influence the nature of relationships.

An additional benefit of online support groups stems from the fact that one does not have to participate actively in group discussions. One can instead engage more

passively with the content of the conversations and the information posted online. Finfgeld (2002) stated that online support groups enable individuals to lurk (i.e., observe without participating) until they feel comfortable enough with the group to actively participate and communicate with other group members (p. 249).

In addition to the apparent advantages of online support groups, computer mediated communication also carries significant disadvantages. The literature identifies several potential problems with online support including the lack of non-verbal cues, fleeting participants, and a lack of physical contact between group members that, together, can foster communicative experiences that might be perceived as impersonal or incomplete (Caplan & Turner, 2007, p. 985). Wright (2000) stated that computer-mediated environments present new challenges because of the complexity of online social support and the special characteristics of this type of communication. These special characteristics include the lack of nonverbal cues and the option to participate in a relatively anonymous manner. He explained that the solution to these challenges is the ability of participants in computer-mediated communication to create perceptions of each other based on textual information and through the creative use of emoticons (textual cues) to express nonverbal information and feelings.

Despite these disadvantages, research shows that online support groups provide a beneficial means for supportive communication among individuals. There is evidence (Ginosar, 2005; Winefield, 2006; Wright, 2000, 2002) that participants in online support groups benefit from obtaining a "listening ear, encouragement, information exchange and support" (Wald, Dube, & Anthony, 2007, p. 220). Braithwaite (1999), who compared

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social support provided online to face-to-face, concluded that computer-mediated support groups provided their members with comparable dimensions of social support. Wright (2000) explained that online support groups have become popular research domains in the communication discipline due to the growing number of these groups and their reported impact on the lives of participants. Finfgeld (2002) explained that participants' interactions tend to vary depending on the composition and purposes of the group. Some participants use online interactions for self disclosure and personal growth, while others utilize the online forum for "fun" and relief.

Online support groups are a widespread and significant means to help individuals with various challenges cope with their life situations.
Most of the research in this domain focuses on support groups for adults with various illnesses (Braithwaite et al., 1999; Ginosar, 2005; Sharf, 1997; Winefield, 2006; Wright, 2000, 2002). Because online discussion forums and support groups are common not only for specific diseases, but also for pregnant women as mean of support and coping (Valaitis & Sword, 2005), my next research question is:

(3) What kinds of support do pregnant women seek online, and what are the

communication strategies they engage in to obtain online support?

In this sense, I am interested in exploring the use of online support groups during pregnancy. I would like to know to what extent pregnant women use online support groups and, if they do, what functions online support groups fulfill for them.

Although the internet is generally portrayed in the literature as a potentially beneficial resource for health information and support, it is also a medium that can present health information seekers, including pregnant women, various challenges.

<div align="center">Challenges of Online Health Information Seeking</div>

The internet provides its users an "extremely rich source of information that is available to anyone with access to computer that is linked to a network" (Hardy, 1999, p. 821). Because of the enormous amount of information provided by the internet, one of the central concerns regarding the practice of seeking medical and health information is related to the quality of health information retrieved by internet users (Bernhardt et al., 2002; Childs, 2004; Dutta-Bergman, 2006; Morahan-Martin, 2004).

Many health professionals are concerned about the quality of information internet users find online because good health information on the web is competing with inaccurate information and even scams.

The diverse quality of online health information makes it hard to differentiate between good and poor information (Morahan-Martin, 2004). Hirji (2004) argued that, because the vast amount of information on the internet is unrated and unregulated, the need to determine the accuracy and relevance of the materials falls on the user. Moreover, the user often lacks expertise and experience in making these sorts of judgments.

The main concern related to internet users' evaluations of online health information is that the actual quality and reliability of the content on the internet does not always correlate with user perceptions of this information. Yet, Walji, Sagaram, Meric-Bernstam, and Johnsom (2005) stated that, "in spite of growing concern about quality and

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accuracy of online health information, there is mounting evidence that online information affects consumer's behavior" (p. 686).

The quality of internet-based medical information is variable since websites are not subjected to a process of quality assurance, peer review, or other standards for their content. As Lewis (2006) argued, "health information on the web is characterized by blurred boundaries between medical and advertising advice" (p. 527). Bernhardt et al. (2002) asserted that many internet users might not trust online health information because it might contain inaccurate or misleading information. Moreover, they emphasized that, because online health information is often related to the effort to promote services and products, the credibility of the information presented is affected, and, therefore, consumers cannot always trust online information. Kim et al. (1999) summarized the issue of quality assessment of online information by saying that the vast amount of health information on the internet makes it difficult to discern which sources are accurate or appropriate for users.

Much research has aimed at exploring the quality of information on the internet regarding different health conditions. Ansani et al. (2005) examined the quality of arthritis information and found that the information quality of websites varied widely. In general, websites with the suffix of "gov" or "edu" were better quality than commercial websites. Groot et al. (2001), who investigated the quality of online medical information related to ankle sprain, found the websites in their sample were generally of poor quality in terms of credibility and accuracy. Smart and Burling (2001) explored the quality of medical information on radiological procedures and concluded that only a few websites

provided the range of information a patient needed before arriving for a medical

radiology procedure. Black and Penson (2006), who examined 39 internet websites with

content related to prostate cancer, reported that most websites were not up to date. Also,

references to medical data were given only in five websites out of the 39 explored. The

authors concluded that websites sponsored by universities, governments and non-profit

organizations were superior to websites sponsored by commercial companies, hospitals

and private physicians.

In terms of trust levels, data from a survey conducted in the U.S. showed that 29%

of internet users had a high level of trust in the health information that they found online

(Morahan-Martin & Anderson, 2000). Fifty nine percent had a fair amount of trust, and

12% said that they had little trust in the sources they found. In contrast, consumers

reported high levels of trust in websites sponsored by health organizations that were

recognized and enjoyed positive reputation such as the National Cancer Institute.

Contrariwise, Bates, Romina, Ahmed, and Hopson (2006) examined the effect of source

credibility on consumers' perceptions of the quality of health information on the internet.

They concluded that so-called high-credibility sources of health information on the

internet were not perceived as more credible by consumers when these sources were

compared to sources that were less credible.

Clearly, the internet, with its endless amount of content and browsing

possibilities, is likely to create a challenge of information overload. Internet users might

feel overwhelmed and confused by the amount of health information found on the web

(Dickerson, 2006). Information overload is not a new idea, and, as such, was mentioned

in the literature before the proliferation of the internet. Rogers (1986) defined information overload as the "state of an individual or system in which excessive communication inputs cannot be processed, leading to breakdown" (p. 181). This breakdown can be understood as the result of trying to process so much information that it exceeds our capacity. Another definition of information overload is provided by Beaudoin (2008). He defined information overload as "the condition by which a person cannot process all communication and informational inputs, which results in ineffectiveness or terminated information processing" (p. 552). Case (2007; see also Graber, 1984), asserted that newspapers and television contain much more information than media users are able to digest. For example, he claimed that only one third of the stories in a newspaper get readers' attention, while the other two-thirds are ignored by the public. Likewise, Garber (1984) explained that, "the brevity of information-heavy presentation, and the lack of stopping points to allow reflection and internalization of the story make it almost impossible for average viewers [of television] to process more than a fraction of this overload of information" (p.107).

Information overload on the internet might be even more challenging for users than traditional mass media sources. Simply put, the enormous volume of information and materials found on the World-Wide-Web and manner in which individuals navigate and read electronic texts on the internet create even more potential for information overload. Vitanza (1998) explained that internet pages are different from traditional texts because they use "hypertext." The term "hypertext" means extended text, which is text that is extended from being located in one file to being placed in many files by the use of

links. Nelson (1982) asserted that hypertext requires non-sequential writing because it is text that "branches and allows choices to the readers, best read at an interactive screen" (p. 2). Vitanza (1998) asserted that the nature of reading online texts is not the same as the practice of reading "traditional" essays, books and articles. When individuals read electronic texts with links, they might not read all the words on the screen in a linear and hierarchal way but, rather, "click" themselves to another page or website by using the links within the text.

Carter (2003) explained that the practice of reading electronic texts on the internet is characterized by navigating within the text, selecting certain parts of the text, skipping and jumping to different parts, and displaying the electronic document on the screen in different ways. This non-linear reading on the internet can expose readers to many "snapshots" of information that allow them to quickly skim many documents of various kinds, and, therefore, might enhance information overload.

Despite challenges that online information seeking poses for users, studies have documented the prevalent use of the internet during pregnancy (Lagan, Sinclair & Kernohan, 2006; Romano, 2007).
As Romano (2007) asserted, "the internet is a fixture in childbirth preparation today, and its influence is unlikely to diminish in the future" (p. 19).

In conclusion, I believe that the exploration of internet use by pregnant women, incorporating both informational and support needs, and investigating the implications of these online activities will be beneficial and important to health care providers who are involved in the process of providing information. This exploration might also provide

guidance to women who utilize the internet throughout their pregnancy. Through

knowing pregnant women's informational needs and online practices, including those

related to prenatal testing, health care providers might be able to direct pregnant women

to quality and helpful sources of information and provide better guidance for online use.

Also, the findings of this study can serve creators and content writers of internet websites

aimed toward pregnant women.

In addition, this study will be beneficial to pregnant women who utilize the

internet during their pregnancy because it will provide a better understanding of their

needs for and the implications of internet use during the experience of pregnancy and,

thus, can help to better address those needs by providing some practical

recommendations about the nature and characteristics of online resources aimed at

pregnant women. The next chapter provides an explanation of the theoretical framework

and the methodological approach taken in this study.

CHAPTER THREE: THEORETICAL FRAMEWORK AND RESEARCH DESIGN

This chapter of the dissertation describes the theoretical framework and the methodological approach taken in this study.

The Uses and Gratification Perspective as a Theoretical Framework

Some phenomena suggest broad and widely used theories as helpful starting points. The Uses and Gratifications Perspective (U&G) serves as such a theoretical starting point for my research questions concerning internet use during pregnancy. Johnson and Kaye (2003) asserted that the growing use of the internet has coincided with a renewed interest in the U&G perspective. More specifically, the authors explained that the U&G perspective appears to be well suited to study the internet due to the internet's interactive applications, such as search engines, chat rooms, and instant messaging interfaces. These interactive applications enable users to communicate with other users synchronously and asynchronously and to navigate the web by clicking on different web links.

Levy (1977), who explained the term "Uses and Gratifications," pointed out that the notion of "uses" refers to "individual motivations for media consumption" (p. 5) or the things that individuals expect to obtain from attending mass media. He asserted that the term "gratifications" usually means the "consequences of functions of mass media exposure for individuals" (p. 6). Levy pointed out that U&G studies are concerned with "the social and psychological origins of those individuals needs, wants, and experiences which generate expectations of the mass media and which lead to differential patterns of media use and gratifications" (p. 5). This statement is helpful in clarifying the focus and

aims of U&G research in explaining media users' motives for media use, patterns of use, and the implications of media use. According to this statement, various human needs drive media use in an attempt to gratify these needs.

Uses and Gratifications research is a sub-tradition of media effects research (McQuail, 1994). Most mass media effects research utilizes quantitative, mainly experimental, research designs to investigate the direct influence of exposure to media content on individuals' attitudes and behaviors in an attempt to understand the consequences of media messages (Klapper, 1963). These types of media effects investigations include, for example, the implications of exposure to violent content on television (Gerbner & Gross, 1976). Gerbner and Gross's research on the effects of violent content sought to determine whether viewers who spent more time watching violent content on television possessed images and perceptions about violence more closely related to the reality presented on television rather than to "real world" reality than did viewers who watched less television. In other words, to what extent do heavy television viewers perceive their living reality as more violent than it really is due to exposure to television violence? This effect of distorted reality perception was labeled "the mean world syndrome" (Gerbner, Gross, Morgan, Signorielli & Shanahan, 2002).

Contrary to the dominant media effects tradition's focus on media messages and direct effects, U&G research is primarily concerned with the individual's point of view regarding media use. Rather than looking for linear causal patterns, U&G research aims to explore the motives individuals have for media use and the gratifications they obtain from this use. According to Case (2002; see also Katz, Blumer, & Gurrevitch, 1974;

Rubin, 1994), the U&G approach to research has four characteristics that distinguish it from other approaches to the study of mass media. First, the U&G approach assumes that the media audience plays an active role in selecting sources to attend to, rather than being the passive targets of messages (for an early articulation, see Cantril, Gaudet, & Herzog, 1940). In this sense, media audiences choose media sources from among different options based on their needs and preferences. Second, the U&G approach argues that it is the person who uses the medium, rather than the medium that uses the person. According to this assumption, the user possesses the power to decide whether or not to use the medium and, therefore, controls the amount and nature of exposure to media messages. Third, the U&G approach posits that various media are merely a portion of the range of options individuals have for fulfilling needs. Based on this assumption, human needs could be fulfilled not only through mass media use, but also through other options, such as interpersonal relationships. Fourth, U&G researchers argue that media use can be studied by asking people directly about their interests and motives, rather than being restricted to collecting data surreptitiously and/or inferring motives to observed behavior (Case, 2002). This way of collecting data might assist in providing a more accurate account of people's motives and needs regarding media consumption.

The U&G approach first emerged in the 1940s when media research aimed to explore audiences' media consumption practices, such as listening to the radio (Herzog, 1940, 1944). As McQuail (1984) explained, U&G

> started life in the early 1940s as a fairly simple and straightforward attempt to
>
> learn more about the basis of appeal of popular radio programs and about that

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connection between the attraction to certain kinds of media content and other

features of personality and social circumstances. (p. 177)

In her study, Herzog (1940) used the term "gratifications" to describe the type of

satisfaction radio quiz show listeners reported obtaining. Herzog's study illustrated that

the audience of the radio quiz show liked to listen to this show because listening to the

questions and answers had an educational merit for the listeners and listeners also

enjoyed the competitive nature of this show.

Early U&G studies (Katz & Lazarsfeld; 1955; Merton, 1949) were mostly

descriptive and sought to categorize audience members' responses to media content. The

U&G research was further developed when social and psychological variables related to

media consumption, such as media use for escape, were operationalized in the 1950s and

1960s (Katz & Foulkes, 1962; Ruggiero, 2000). In 1959, Katz called for mass

communication research to focus on what individuals do with the media and less on what

the media do to individuals. He argued that "even the most potent mass media cannot

ordinarily influence an individual who has 'no use' for it in the social and psychological

context in which he lives" (p. 2).

During the 1970s, U&G research attempted to build on Katz's argument and

began to focus on the motivations for media exposure and the gratifications sought from

media exposure (Katz, Blumer, & Gurrevitch, 1974; Katz, Gurevitch, & Haas, 1973).

During these years, U&G studies concerning the use of television were conducted among

viewers in various countries, such as England and Israel. For example, in England,

Greenberg (1974) surveyed 726 London schoolchildren between the ages of nine and

fifteen about their use of television using self-administered questionnaires and essays addressing why the children like to watch television. The findings of this study suggested that there were six main reasons. The first reason was related to habitual viewing. That is, children watched television because this was an activity that they were used to doing often. The second reason was labeled by the researcher as "arousal." Arousal was defined as the wish of the children to get excited by watching the content on television. The third reason was companionship. This need illuminated television's function as akin to a human friend in the sense that it made viewers feel that they were not alone and that they had company. The fourth reason was fulfilling the need for relaxation. The children explained that watching television made them more relaxed by providing a pleasant rest and a means to calm down. The fifth reason was the need to forget. In this sense, television functioned as a means for diversion and escape from everyday problems and concerns related to family, school, and friends. Finally, the last reason for watching television was the need for information and the children's wish to learn about things that they did not learn in school or activities that they have never done before.

Another U&G study was conducted in Israel by Peled and Katz (1974). This study explored uses and gratifications of media use among Israelis during the Yom Kippur war at the end of 1973. The researchers reported that Israeli television functioned as an important source of information during that crisis. In this study, Peled and Katz interviewed a random sample of adults from the Israeli Jewish population in three major Israeli cities: Tel-Aviv, Haifa, and Jerusalem. They found that 53% of interviewees expected television to devote most of its air time to content that addressed the viewers'

need to know and to understand the war situation. Additional needs that were found to be important to Israeli viewers during that time were the need to release tension when dealing with anxiety and uncertainty and the need to feel a sense of national belonging. Indeed, findings suggested that one third of the respondents "wanted television to concentrate on tension release and the promotion of national solidarity" (p. 55). Moreover, in explaining the gratifications that viewers obtained from television, interviewees asserted that they found the reports from the front "helpful" or "very helpful" for satisfying their informational needs.

Because the U&G perspective goes beyond cataloging simple content messages, it "is considered a 'how and why' approach to understanding media use motivation" (Stafford, Stafford & Schkade, 2004, p. 266). In this sense, this perspective attempts to understand how individuals utilize media and their reasons for media consumption. The U&G perspective suggests that individuals turn to specific media channels to fulfill specific cognitive or affective needs (Katz, Blumer, & Gurrevitch, 1974). The U&G perspective, then, seeks to explain why individuals use media and to better understand motivations and needs when individuals select among media channels and content (Katz et al., 1974). Examinations of television and print media (Armstrong & Rubin, 1989; Bantz, 1982; De Bock, 1980; Jacob, 1995; Rubin, 1983) indicate five consistent needs:

1)   Needs for information (which stem from individuals' desires to acquire more knowledge and learn about their social environment to be able to make informed decisions and reduce uncertainty);

2) Needs for entertainment (which stem from individuals' need to be amused and to feel enjoyment);

3) Needs for escape from daily problems, concerns, and challenges (which are attempts to focus on things that are not directly related to personal problems);

4) Needs for habitual passing of time (which can result from boredom or lack of other appealing alternatives of spending the time when individuals are looking for something to do with their time); and,

5) Needs for companionship (which can represent human desires for company and social interactions with other people that can be achieved through using media).

In addition to fulfilling different needs, different media allow different gratifications. The different gratifications that individuals derive from media use can be divided into two main categories (Swanson, 1992). One category is "process gratifications" that result from the experience of media content and are realized during the process of media consumption. Indeok-Song, Larose, Eastin and Lin (2004) explained that "process gratifications" have no direct link to the characteristics of the message itself, but are received by the media consumer from the process itself. For example, surfing the internet to pass the time when one is bored is a practice whose direct gratification stems from the process itself, and not necessarily from the content consumed.

The second category is "content gratifications." Content gratifications are the product of media content. For example, a person might watch a television news broadcast to acquire knowledge about a current event and, thus, be gratified by content that contains this information. In this type of gratification, media consumers derive gratification from the content rather than the process. Indeok-Song et al. (2004) pointed out that content gratifications "are inherently connected to the world outside the media system" (p. 386). This explanation means that, when media users seek information or try to obtain certain types of content, they purposely engage in activities that aim to serve their living reality and help them with daily activities. Such activities might include finding a job, looking for housing, finding an explanation about the side effects of a medication, and the like. Process gratifications, on the other hand, concentrate more on the consumption of the medium and can even "pull the user away from the outside world" (Indeok-Song et al. 2004, p. 386). For example, one might use the internet for a romantic online-relationship and, thus, avoid face-to-face romantic encounters. Another example would be spending many hours in front of the television or watching movies to pass the time instead of hanging out with friends.

Although radio and television were the most commonly studied media from the 1940 to the 1980, Uses and Gratifications studies in the 1990s and in 2000 began to explore various media use and satisfaction in different contexts. These contexts included the consumption of cable television (Jacobs, 1995), video games (Funk & Bunchman, 1996), telephone (O'Keefe & Sulanowski, 1995) and cell phone (Leung & Wei, 2000).

For example, O'Keefe and Sulanowski (1995), examined gratifications individuals seek

from telephone use. They surveyed 597 adult residents of Milwaukee, Kenosha, and

Racine counties in Wisconsin in 1991. Their study identified entertainment (having fun

and passing the time), social interaction (sharing news and events with people, keeping in

touch, and getting advice and support), and instrumental dimensions of the telephone

(getting information, time management) as the biggest motivations for telephone use

among respondents. Also, the authors pointed out that the greater the motives for

entertainment, time management, and social interaction were, the more time people spent

on the phone.

More recently, Leung and Wei (2000) explored the uses and gratifications of

cellular phone usage in Hong Kong. The authors conducted a telephone survey among a

random sample of 834 respondents of 18 years of age or older in 1998. Their study

suggested that cellular phones (a relatively new technology in 1998) enabled users to

maximize freedom through mobility and to achieve immediate accessibility to the fullest

(p. 316). This freedom and accessibility manifested in the ability of cell phone users to

focus on their daily life and work, to keep in touch with family, the aged, and the sick,

and to stay "on the go" without access to a landline. The cell phone enabled users not

only to keep in touch with their family and balance work with personal issues, but also

assisted in managing work-related communication. For example, Leung and Wei (2000)

explained that individuals in business and sales tended to use their cellular phones "to

meet their needs for mobility, immediacy, and instrumentality. They used the wireless

talking device more often on the move than any other circumstances in public transits,

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restaurants, and shopping malls" (p. 316). The authors concluded that wireless cell phone

technology seemed to maximize freedom through mobility. Having a cell phone also

promoted immediate accessibility to the fullest extent for individuals who were interested

in keeping in touch with people while away from a land line phone at home or at work.

Uses and Gratifications Research within the Context of the Internet

In addition to U&G studies focusing on different communication technologies,

the internet has become a vibrant target for U&G research. When the internet was first

introduced to the general public, in the 1990s, scholars stated that the U&G perspective is

applicable for internet research because of the mutability and interactive nature of the

web (December, 1996; Newhagen & Rafaeli, 1996).

Johnson and Kaye (2003) explained that the notions of a user's activities and choices are

central to the concept of uses and gratifications. Therefore, in comparison to other media,

such as television (where audience activity is limited to flipping through channels and

switching the set on and off), internet usage encapsulated more options for interactivity

and allowed users to engage in a variety of activities while online. These activities range

from sending an e-mail or downloading music to purchasing products online or

researching a topic using search engines and online academic databases. The authors

stated that this range of activities implies that internet users are aware of their media

consumption needs and are goal directed in the manner in which they choose to manage

their time and online activities. Because of the variety of online activities and because the

interactive nature of the internet enable users to actively consume content based on their

needs and preferences, the internet is therefore, an environment demanding U&G research.

The call for using the U&G perspective in internet research was repeated a decade later. Stafford et al. (2004) noted that the U&G perspective fits the exploration of the internet well because of the user-directed nature of the internet. Internet users significantly control their exposure to different content and they choose online activities; internet users are not passively consuming messages and online activities given to them. Elaborating on this notion, Kaye and Johnson (2004) argued that the U&G approach is ideally suited to studying the internet because online activities such as browsing websites, sending e-mails, and participating in chat rooms require individuals to be active users. Therefore, "internet use is goal directed and users are aware of the needs they are attempting to satisfy" (Kaye & Johnson, 2004, p. 198).

Review of the literature shows a plethora U&G studies examining different aspects of internet use. For example, Charney and Greenberg's (2002) study explored uses and gratifications of the internet among 168 undergraduate students at Michigan State University. The results of this study indicated that the most frequent activity online was using email (88%), followed by browsing websites (79%), conducting research for school (77%), and playing games (49%). Only 16% of students in this study utilized the internet for online shopping. In terms of gratifications, the study suggested that keeping informed (for example, reading the news online and accessing information of interest) was the dominant gratification sought by students. The second type of gratification

sought was entertainment. In general, students found internet surfing to be fun and useful for passing time, and to see "what is going on" (p. 403).

Another study of internet use guided by the U&G perspective is Johnson and Kaye's (2003) study. They explored internet uses and gratifications within a political context among 442 politically interested internet users during the 2000 presidential election in the Unites States. This study was conducted by utilizing online surveys. They found that the most popular activity was sending e-mail (86.7%), followed by accessing news (83.7%), and surfing the internet to find interesting websites (63.3%). More than half of the respondents (59.3%) reported utilizing online search services. The findings of this study showed four main motivations for obtaining online political information. First, internet users sought guidance, which was explained as the search for political advice and guidance mainly to assist in voting decisions. Second, users sought entertainment, which was explained as the use of political information for relaxation and amusement. Third, users sought convenience, which was explained as the motivation to go online because participants perceived the internet as a more convenient resource of information than other mass media sources. Last, users sought information, which was distinguished from guidance as a more purposeful activity and was defined as the activity of searching out specific political information to keep updated in terms of the political landscape.

Diddi and Larose's (2006) U&G study examined news consumption in an internet environment among 303 college students at a Midwestern university. The findings of this study revealed that internet portals were among the most frequently consulted news sources used by students, second only to the campus newspaper (p. 205). Further, the

researchers found that the internet did not substitute for traditional news sources, such as newspapers and television. Rather, the internet was used as a complementary source of news by students. The most prominent motive for news consumption in this study was found to be the need of surveillance, or the need to get information to know "what is going on" in one's environment.

The internet is not just used for news. A recent study utilizing the U&G perspective within the context of the internet is Raacke and Bonds-Raacke's (2008) study investigating the uses and gratifications of friend-networking internet websites such as MySpace and Facebook. The researchers surveyed 160 American college students from a public Mid-Eastern university. They found that the main motives mentioned by students for using these websites was to keep in touch with old friends (96%), and current friends (91.1%). Additional motives included posting and looking at pictures (57.4%) and making new friends (54.5%). In terms of the gratifications reported in this study, respondents mentioned using the friend-networking websites to be like others (40%) and to "look cool" in the eyes of others (26.7%).

Given that U&G is highly applicable in the context of internet use and consumption, I believe that this theoretical framework will allow me to identify and classify online needs of pregnant women and better understand communicative practices based on women's reports of their needs and gratification. As for asking individuals to identify their needs in terms of internet use, Katz, Blumer, and Gurevitch (1973) asserted that the self-report approach used in U&G investigations is a valid and effective method because respondents are self-aware of their needs and motives for using media and,

therefore, are capable of reporting their needs and the contribution of media to the gratification of their needs.

Methodological Approach

Drawing on the history of how U&G research has been conducted from the 1940s to the present, in this study I utilized qualitative research as the main methodological approach. I chose a qualitative approach to explore internet use during pregnancy because I wanted to gain a deeper understanding of this practice, the experience surrounding internet use, and its implications for pregnant women. Therefore, I believed that a qualitative approach would be more beneficial than a quantitative approach and more suitable for the questions that I wanted to explore.

Qualitative research allows researchers to make sense of phenomena in the world and ascribe meanings to human behavior. Denzin and Lincoln (2005) stressed that the word "qualitative" suggests an emphasis on "the qualities of entities and on processes and meanings that are not experimentally examined or measured (if measured at all) in terms of quantity, amount, intensity, or frequency" (p. 10). In this sense, I was interested in exploring the phenomenon of internet use in terms of its quality and meaning, and not in terms of frequency and intensity.

According to Creswell (2003), the goal of qualitative research is "to understand a particular social situation, event, role, group, or interaction" (p. 198). Creswell explained that this type of inquiry is a process in which the researcher gradually makes sense of a social phenomenon. Creswell asserted that, in qualitative research, the researcher is the primary instrument in data collection, while in quantitative research the researcher

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utilizes different tools for data collection such as surveys and questionnaires. Also, he explained that the data gathered in a qualitative investigation is descriptive and not numerical and, therefore, this data is reported in words. Bogdan and Biklen (1998) explained that qualitative research involves the exploration of people, is descriptive, and is concerned with examining processes and individual's perspectives in an inductive manner. Denzin and Lincoln (2005) argued that qualitative research is a "situated activity that locates the observer in the world" (p. 3). This means that qualitative research consists of the interpretation of human behavior and the study of things in their natural settings. The exploration of human behavior in a natural setting differs substantially from an experimental approach that aims to isolate certain variables in a controlled environment, to measure relationships among variables, and to develop causal explanations to phenomena (De Vaus, 2001).

In contrast to quantitative research, which aims to isolate causes and effects, operationalize theoretical relations, quantify phenomena, and allow generalization of findings, qualitative research does not aspire to fully quantify phenomena and completely generalize research findings to the general population (Flick, 2000).
Rather, qualitative research aspires to understand human experiences and make sense of those experiences by finding answers to "How" questions.

The aim of qualitative research is to gain knowledge of human experience based on collected data. As Rubin and Rubin (1995) stated,

Qualitative research is not about mere counting or providing numeric summaries. Instead the objective is to discover variation, portray shades of meaning, and

examine complexity. The goals of the analysis are to reflect the complexity of

human interaction by portraying it in the words of the interviewees and through

the actual events to make that complexity understandable to others. (p. 202)

Qualitative research involves collection and use of a variety of empirical data, such as

artifacts, interviews, observations, visual texts, and more (Denzin & Lincoln, 2005). For

this study, I chose to conduct interviews with pregnant women who utilize the internet

during their pregnancy.

<p align="center">*Interviews*</p>

To collect data for this study, I used semi-structured, in-depth interviews with

pregnant women who had utilized the internet during their pregnancy (see interview

protocol in Appendix B). Semi-structured, in-depth interviews are one type of qualitative

interview. They are often the sole data source for a qualitative research project in contrast

to unstructured interviews that are often conducted in conjunction with the collection of

observational data. Semi-structured interviews can be used for qualitative research

without complementary data in the form of observations or ethnography. Dicicco-Bloom

and Crabtree (2006) asserted that semi-structured, in-depth interviews are the most

prevalent interviewing format in qualitative research in both individual and group settings

(p. 315). The popularity of this interview format stems from its ability to focus on certain

questions and issues and, at the same time, allow space for additional issues to emerge

during conversation. As Dicicco-Bloom and Crabtree (2006) explained, "semi-structured

interviews are usually organized around a set of predetermined open-ended questions,

with other questions emerging from the dialogue between the interviewer and

<p align="center">74</p>

interviewees" (p. 315). I chose semi-structured interviews because I wanted to ask specific questions about internet use during pregnancy that addressed my research questions, but at the same time, I wanted to allow space for the interviewees to express their thoughts and perspectives on this topic. By using semi-structured interviews, I could keep the interview protocol flexible enough to enable interviewees to "shape the content of the interview" while also focusing on specific research questions (Bogdan & Biklen, 1998, p. 4). This interview format allows for topics that interviewees find important to their experience of internet use during pregnancy that I might not have anticipated as emerging while still accommodating topics related to my research questions.

Taylor and Bogdan (1984) defined the in-depth qualitative interview as a "face to face encounter between the researcher and informants directed toward understanding informants' perspectives on their lives, experiences, or situations as expressed in their own words" (p. 77). This face to face interaction functions as a guided conversation between the researcher and the interviewee. As Warren (2002) explained, "qualitative interviewing is a type of guided conversation in which the researcher carefully listens *so as to hear the meaning of* what in being conveyed" (p. 85, italics in original). Further, he pointed out that "the purpose of most qualitative interviewing is to derive interpretations, not facts or laws, from respondent talk" (p. 83).

Based on this explanation, the main objective of qualitative interviewing is to draw inferences about social phenomenon from the content of the conversation. In-depth qualitative interviews usually seek "deeper information and knowledge than is sought in surveys, informal interviewing, or focus groups" (Johnson, 2002, p. 104). Echoing this

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notion, Benney and Hughes (1970) stated that the interview is the "favored digging tool" to learn about social life. The metaphor of digging implies that this method aims to gather information that is deeper and more comprehensive in nature than data that aims to quantify and generalize at a more surface level.

The purpose of in-depth interviews is not just to obtain answers to questions, nor to test hypotheses but, rather, to understand the experiences of other people and the meanings they make of their experiences (Seidman, 1998). Siedman argued that "interviewing provides access to the context of people's behavior and thereby provides a way for researchers to understand the meaning of that behavior" (p. 4) because interviewing allows the researcher to closely engage with individuals' reflections on and perceptions of their experience. Interviews are beneficial in exploring human behavior and experience because "qualitative interviewing is a way of finding out what others feel and think about their worlds. Through qualitative interviewing you can understand experiences and reconstruct events in which you did not participate" (Rubin & Rubin, 1995, p. 1). Because internet use is usually an activity performed individually, the most beneficial way to understand this experience is to interview users about it and to discover how they perceive this practice. Gay and Airasian (2003) explained that interviews permit researchers to obtain important data they cannot acquire through basic observations. Only through interviewing can the researcher obtain perceptions and interpretations of individuals regarding their personal experience.

The data collection method of interviewing has three central advantages for the researcher. First, the interviewer can control the interview process and effectively clarify

questions to obtain the most relevant and accurate information (Drew, Hardman & Hart, 1996). In this sense, interviewing provides the researcher the ability to modify and clarify questions. This ability is beneficial in comparison to surveys that do not allow any changes in the survey questions after the distribution of the instrument to the participants. Also, because the interview is an interactive conversation between the researcher and the interviewer, there is much more room for control in this process and an opportunity to communicate in a manner that will promote clarity and effectiveness (Johnson, 2002).

Second, the interviewer can use interpersonal communicative skills, such as sensitivity to other people's emotions and empathy, to ease interviewees and make them feel more comfortable within the situation, thus eliciting more open responses (Rubin & Rubin, 1995). This is beneficial because it can provide a better quality data.

Third, the format of open-ended questions can encourage respondents to expand on their personal experiences and offer a wealth of detailed information to the researcher, thus providing the most comprehensive responses possible (Appleton, 1995). For these reasons, the main advantage of in-depth interviews as a research method is the ability to elicit rich and deep information.

Johnson (2002) stated that the deep understanding that can be achieved by using qualitative in-depth interviews goes beyond commonsense explanations and, therefore, allows the researcher to explore contextual boundaries, human experience and perceptions. Rubin and Rubin (1995) explained that the depth and the richness that we seek in qualitative interviews are what Clifford Geertz (1973) called "thick description." Thick description is rooted in the interviewee's firsthand experience and forms the

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materials that researchers gather up, synthesize, and analyze as part of hearing the meaning of data (p. 8). The depth and richness of the information that can be gathered through interviewing is helpful in understanding complexities of human experience. By exploring human experiences through in-depth interviewing, the researcher is able to apprehend the context and meaning of other people's experiences in close details and a sense of "being there" (Taylor & Bogdan, 1984, p. 124).

A further example for using in-depth semi-structured interviewees with pregnant women is provided by Oakley (1981). Over a period of several years, Oakley interviewed 79 British pregnant women about their transition to motherhood. She explained that "the goal of finding out about people through interviewing is best achieved when the relationship of interviewer and interviewee is non-hierarchical" (p. 41). Non-hierarchical interviewing means that the interviewer does not possess power over interviewees, but rather, the interviewee and the interviewer engage in conversation as equals, and the interviewee knows that he, or she, also has control over the direction of the conversation.

In addition to a non-hierarchal relationship, Oakley emphasized the importance of minimal social distance between the interviewee and the researcher. In this sense, Oakley explained that sharing the same gender, socialization, and critical life experience with interviewees can be helpful in minimizing the social distance and eliciting quality information from her participants. Oakely (1981) described her interviewing experience as a process that was beyond instrumental data-gathering; the conversation with the women created intimacy and trust and, therefore, willingness on the part of the interviewees to share their experiences. Oakley pointed out that only two of the eighty-

two women contacted for the research refused to participate in the study, and only one woman voluntarily dropped at the interview stage. All of the other potential participants contacted were cooperative, open, and willing to share their feelings and thoughts. Many even gave the researcher permission to attend their birth. The fact that I am an Israeli woman, a native speaker, and share the same social and cultural background as my participants were all helpful in creating an atmosphere which enabled participants to feel comfortable engaging in an open conversation and sharing experiences related to internet use during pregnancy. Next, I discuss the selection criteria and recruitment of participants in this study.

Participant Selection Criteria

Participants for this study were chosen based on pre-determined selection criteria that were determined in consultation with the director of the Lin clinic who is, himself, an experienced practicing gynecologist. These criteria included Israeli pregnant women who were medically considered to have a normal pregnancy (i.e., not a high risk pregnancy), were having one fetus, and utilized the internet during their pregnancy. No participants were excluded on the basis of demographic characteristics or how far along the women were in their pregnancy. The inclusion criteria were chosen because high-risk pregnancy and pregnancy with more than one fetus could create informational and support needs that are inherently different from the needs of women with one fetus and who anticipate a normal pregnancy. It was important for me to focus on women whose pregnancy represents the most common condition because the findings would then be more applicable to the rest of the population.

After obtaining IRB approval from Ohio University for this research project (see Appendix D), I interviewed 50 Israeli pregnant women in Israel. Interviews took place over a period of three and a half months, from the beginning of August to mid-November 2008). Several qualitative studies in health-related contexts have utilized in-depth interviews with the number of interviewees in these studies ranging from 17 to 38 (Eysenbach & Köhler, 2002; Fielding & Schaff, 2004; Nehls, & Sallmann, 2005; Ridge & Ziebland, 2006; Wahl & Gjengedal, 2002). The number of interviewees was sufficient to achieve recurring themes within the qualitative data, but was also a feasible number of interviews to complete in the time frame.

According to Seidman (1998), two criteria determine how many participants are required in studies that utilize qualitative interviewing as a primary method. The first criterion is sufficiency. This principle holds that there needs to be a sufficient number of participants to reflect the range of participants that make up the population of the study. The second criterion is saturation of information. This principle is based on the point in a study at which the researcher begins to hear the same information from interviewees and does not hear new information (Glaser & Strauss, 1967; Rubin & Rubin, 1995). Hood (2007) explained that a "saturation point" is normally determined by the discovery that additional interviews are yielding so little information that more interviews would be a waste of time (p. 161). Fifty interviewees was a sufficient number to get to the saturation point because this number enabled me to achieve "an overall sense of the meaning of a concept, theme, or process" without collecting too much redundant data (Rubin & Rubin, 1995, p. 73).

Participants were recruited in two ways. The method of participants' recruitment was with the cooperation and assistance of Lin's medical center in Haifa, Israel (see Appendix E for the clinic's IRB approval form). Lin's Women's Health Care Center is a large clinic in Haifa, Israel. This clinic provides prenatal health care to hundreds of pregnant women in this region. The women who come to the clinic represent diverse socio-economic backgrounds and, therefore, Lin serves as an excellent site for recruiting participants. Lin's Women's Health Care Center is a part of a large HMO which provides health care for the HMO's customers in variety of health specializations, including gynecology and obstetrics. The Women's Health Care Clinic operates five days a week with a staff of seven gynecologists, four nurses, two ultrasound technicians, and a prenatal genetic consultant. The Women's Health Care Clinic also serves as an emergency clinic for pregnant women who are members of the HMO but do not belong to the clinic through their routine care. The emergency service includes on duty gynecologists and nurses, fetal monitoring devices, and ultrasound and lab services.

The director of the clinic, who is a practicing gynecologist in the clinic, allocated me office space in the clinic. I used this space to interview the pregnant women who met the selection criteria and agreed to participate in the study. I attended the clinic several days a week at different times of the day during the clinic's operating hours of 9 a.m. to 6 p.m. The nurse practitioners introduced me to pregnant women who met the inclusion criteria, and who had come to the clinic for their appointments. The nurses asked the women if they utilized the internet for pregnancy-related purposes. If the women said that

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they used the internet, the nurses informed them about the study at the clinic and asked if they were interested in participating. Women who agreed to participate were interviewed before or after their appointment, depending on the amount of time they had to wait for the appointment.

Before conducting the interview, I introduced myself and explained the purposes of the study. Then, I went over issues of confidentiality and explained that interviewees would not be identified by name and that the interview materials would remain confidential. Also, I explained that the interview would be recorded using a digital tape recorder to enable transcription of the data into Word. Then, I provided an informed consent form (see Appendix C), which was translated into Hebrew for signature, and asked interviewees if they had any additional questions. After signing the consent form, interviewees were given a short demographic survey to fill out (see Appendix B). Twenty interviewees out of the final pool of 50 were recruited through Lin's health care center.

The second way of recruiting participants was through "snowballing" among friends and acquaintances in Israel. Taylor and Bogdan (1984) explained that "snowballing" is the easiest way to create a pool of interviewees. They asserted that this method of locating participants involves checking with friends, relatives, and personal contacts and having them introduce you to potential participants. I decided to use snowballing as an additional way of recruiting participants for two reasons.

First, the process of obtaining IRB approval from the clinic was lengthy and took more time than expected. I received the clinic IRB approval at the beginning of September but wanted to be able to conduct interviews in August. Second, interviewing

women through friends and acquaintances enabled me to maximize the number of interviews within the given time frame. I was able to conduct interviews during times when the women's health center clinic was closed (night-time, weekends, and holidays). This was especially important in light of the fact that September and October are holiday times in Israel, and therefore, the clinic was closed more often than usual.

The recruitment process through snowballing began upon my arrival in Israel. While in Israel, I contacted many of my friends and acquaintances, explained my study to them, and asked them to provide me with contact information for pregnant women they knew who met the criteria for the study. After obtaining contact information, I called the women, introduced myself and my study, and asked if they would be willing to participate. Upon their approval, we scheduled a date and time to meet for the interview. Using this method, I recruited 30 interviewees out of the final pool of 50.

The women recruited through snowballing represent a wide variety of geographic locations and types of settlements in Israel, ranging from big city residents to small villages and kibbutzim members. The snowball interviews were conducted in a variety of locations, such as women's houses, coffee shops, restaurants, public parks, and workplaces during a lunch break. The length of the interviews in this study ranged between twenty minutes to two hours (M=31.5).

Data Analysis

After interviews were recorded and transcribed, the data were analyzed using thematic analysis. A theme is "a pattern found in the qualitative information that at minimum describes and organizes the possible observation and at maximum interprets aspects of the phenomenon" (Boyatzis, 1998, p. 4). Boyatzis further explained that thematic analysis is a process that allows the qualitative researcher to organize and effectively communicate the findings and interpretations of meaning within the data. More specifically, Boyatzis (1998) stated that "thematic analysis enables scholars, observers, or practitioners to use a wide variety of types of information in a systematic manner that increases their accuracy or sensitivity in understanding and interpreting observations about people, events, situations, and organizations" (p. 5).

Thematic analysis has six stages. First, the researcher reads the interview transcripts to engage with the material and identify emerging themes. Taylor and Bogdan (1984) asserted that this stage includes a search for patterns in the form of "conversation topics, vocabulary, meanings and feeling" expressed by participants (p. 131).

Second, the researcher constructs typologies or classification schemes that can be helpful in identifying themes and developing concepts. A concept is a "word or term that represents an idea important to the research problem" (Rubin & Rubin, 2005, p. 207).

Third, by listing all the themes, concepts, and typologies identified and developed during the initial analysis, and refined and integrated with the concepts, the researcher develops coding categories. Coding in qualitative research is a "systematic way of developing and refining interpretations of the data" (Taylor & Bogdan, 1984, p. 136).

Rubin and Rubin (1995) pointed out that the process of coding involves "systematically labeling concepts, themes, events and topical markers" (p. 207). The method of labeling themes is helpful in examining all the units of the data that refer to the same topic across different interviews. Taylor and Bogdan (1984) explained that the number of coding categories depends on the amount of data.

Fourth, the researcher codes all the data based on the coding scheme and refines the coding scheme and the different categories. The process of refining the different categories means classifying them into distinct conceptual units.

Fifth, the researcher examines what data is left out after he or she sorts all the data into codes to see if that data fits existing categories. If the data cannot be incorporated into an extant category, then a new category is established.

The final stage is interpreting the different themes in the context in which they were collected (Taylor & Bogdan, 1984). In this stage, the researcher interprets the themes and uses them to answer the research questions. As Rubin and Rubin (1995) stated, "the analysis is done when you can put together a theory that answers your research questions and that would be accepted by your interviewees as an accurate depiction of their world and thoughts" (p. 245).

Based on the methodological framework outlined in this chapter, the following procedures were used to analyze the interview data. First, I transcribed the interviews using a digital voice editor and typed the content of the interviews into a Word document. Second, I printed all the transcripts and read through them several times for major themes. After several readings, I began coding the data for major themes and interpreted

to answer my research questions Third, I translated the relevant material from Hebrew to English. The decision to conduct the coding of the interview data in Hebrew stemmed from my wish to respect the voices of my interviewees. Conducting the thematic analysis in Hebrew allowed me to better represent the language choices of my interviewees and enabled me to provide a more authentic account of participants' experiences

I utilized two methods when translating Hebrew words that did not have an exact parallel in English in terms of their meaning. The first method was to use a literal translation of the Hebrew words into English. The second method was to use an English word that I believed captured the same meaning as the Hebrew word.

This chapter was devoted to explaining the theoretical framework and the methodology taken in this study. I explained and advocated for the applicability of the Uses and Gratifications Perspective as a theoretical framework to guide my research questions. Also, I justified the use of qualitative research to answer my research questions and the use of in-depth semi-structured interviews for data collection. This chapter concluded with a description of the methods used in this study for recruiting participants and data analysis. Chapter Four will present the findings of this study based on the analysis of the interview data.

CHAPTER FOUR: RESULTS

In this chapter, I present the results of my study, drawing upon the fifty interviews I conducted with Israeli pregnant women regarding their pregnancy-related internet use. The interview data were analyzed so as to answer the three research questions presented in Chapter Two. I begin by presenting the demographic characteristics of the interviewees.

The Demographic Characteristics of Interviewees

In this section, I provide demographic information regarding my pool of participants. Fifty Israeli pregnant women participated in this study. The mean age of participants was 31. Participant's ages ranged between 26 and 37. Thirty four women were in their 30s, while 16 of the women were in their late 20s. In terms of marital status 47 participants were married, 2 were single, and one woman was divorced.

For 21 women, it was their first pregnancy; for 18 women, it was their second; for 9 women, their third; and for two of the women, it was their fourth pregnancy. The week of pregnancy when interviews were conducted ranged between week 6 to week 40 (M=27.16). Out of the 50 participants, six participants were in their first trimester, 15 were in their second trimester, and 29 were in their third trimester.

All participants were Israeli citizens residing in Israel. In terms of ethnic background and country of origin, 36 women were Ashkenazi (Jews of European origin); six women were Mizrachi (Jews of Spanish, North African, or Asian origin); four women were mixed Ashkenazi and Mizrahi, two women immigrated from Russia, and two women were Arab (one was Muslim and one was Christian).

All of the participants reported having internet connection and access in their home. Forty seven of the women also reported having internet access at work. Most participants had been using the internet for about a decade. The majority of women (29) started to use the internet during the 1990s (three women in 1995, two in 1996, one in 1997, seven in 1999, and 16 in 1998). Nineteen women began using the internet during the 2000s (nine in 2000, four in 2001, three in 2003, one in 2004, two in 2006). Two women could not recall when they started utilizing the internet.

In terms of frequency of use of the internet, almost all of the women (49) reported that they use the internet for general purposes on a daily basis. The remaining woman uses the internet for general purposes only once a week. As for the use of the internet for pregnancy-related activities, 20 women reported that they use the internet every day; two women said that they use the internet five times a week; eight women said that they use the internet once a week; seven women said that they use the internet only when they have a specific need; six women said that they use the internet twice a week; three women said that they use the internet three times a week; two women said that they use the internet twice a month, and two women said that their frequency of use is once a month.

Results of Research Question One

Attention can now be turned to the research questions and the themes and topics emerging from the interview data. The first research question asked:

RQ1: What needs and motives do pregnant women have when they go online during pregnancy?

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This research question focuses on the motives pregnant women have for using the internet for pregnancy-related purposes and on better understanding pregnant women's needs in terms of online use. I also asked about online needs concerning prenatal tests these women had. First, I discuss the motives pregnant women have for going online for pregnancy-related issues and the perceived advantages of the internet as a source of information. Additionally, I discuss the challenges pregnant women reported when they utilize the internet for this purpose. In order to protect the identity and anonymity of my participants, when identifying participants I use numbers instead of real names.

Motives for Pregnancy-Related Internet Use

All pregnant women in this study chose to utilize the internet for pregnancy-related purposes, and the majority of them (39) use the internet more frequently than other sources of information regarding their pregnancy. According to the Uses and Gratifications perspective, which was discussed in detail in Chapter Three, media users actively choose specific media from different options based on their needs and preferences. The interviews revealed that pregnant women turn more frequently to the internet than other sources, such as pregnancy-related books, health-care providers, friends, and family members. When I asked interviewees about the reasons for using the internet during pregnancy, all fifty interviewees said that the main reason for using the internet was to seek pregnancy-related information. Thirteen women said that they also utilize the internet to obtain social and emotional support during the pregnancy, and seven women said that they use it as a way of passing the time during their pregnancy in addition to searching for information.

When asked about motives and reasons for using the internet for pregnancy-related purposes, interviewees revealed five main reasons. First was the availability of the internet. Second, accessibility to pregnancy-related information on the internet was perceived as superior to books in terms of availability and currency. Third, anonymity on the internet was mentioned as an advantage. Fourth, there was a sense of independence and self-sufficiency associated with internet use which is embedded in the fact that women can turn to the internet and do not need to burden a health care provider with every question or concern they have. Fifth, pregnancy-related information obtained via the internet serves to supplement information given to them by a physician. The following discussion pertains to the advantages of using the internet for pregnancy-related purposes with the availability of this medium.

The Internet is Always There When I Need It

The first and second reasons for preferring the internet to obtain pregnancy-related information are because the internet is perceived as more available and more easily accessible than other sources of information. All of the women had internet access at home. The vast majority (47) had internet access at work. As a 38 year old women in her third pregnancy asserted,

> The most available information I have is on the internet. The first thing I do if I want to know something related to my pregnancy is to look for it online. For any type of information. (Interviewee # 1)

This notion of the internet as the first choice for obtaining information was echoed in interviews with a 36 year old woman in her fourth pregnancy, and with a 37 year old woman in her third pregnancy,

> The internet is my number one source of information. All day long I am on the internet looking for stuff…the internet is much more available to me than the doctor…the doctor does not live in my house. (Interviewee # 3)

> The internet is the most available thing to me. Every day, every hour, whatever I want I can look for there. (Interviewee # 4)

A 28 year old woman in her first pregnancy and a 30 year old woman in her first pregnancy expressed a similar sentiment

> The good thing about the internet is its accessibility. Because I do not carry the [pregnancy] book with me everywhere I go. If I am at work, or at somebody else's home and I want to find out something, I can go to the internet. It is always there, even if I am spending the weekend in a hotel and I do not have anybody to answer my questions. (Interviewee # 8)

> The main advantage of the internet for me is that it is available everywhere. If I am at work and I have some free time I can go online and look for things. Even if I am not home I can get internet access everywhere. (Interviewee # 44)

These quotes illustrate the perceived advantage of the internet as the most available and accessible source of information regarding pregnancy throughout the day. The internet is seen as always there when needed, twenty four hours a day, seven days a week, including weekends and holidays. Also, the internet is perceived as accessible from almost every

geographic location that the women find themselves- at work, at home, at other people's houses and even in hotels. In this sense, the internet is more available than pregnancy books, which are usually stored and consumed at home, not carried and used outside of the house. Books, therefore, are seen as less accessible when the women have questions or informational needs about their pregnancy when they are not home. Also, as shown in one of the above quotes, the internet is perceived as a more available source of information than health care providers who are usually seen during office visits. Next, I am going to discuss the second perceived advantage of the internet as a tool that enables quick retrieval of information and as a source of information which is generally more up to date than printed materials such as pregnancy books.

Quicker and More Up To Date:

The Advantages of the Internet in Comparison to a Book

The majority of interviewees (29) reported they possessed books related to pregnancy. The most popular pregnancy-related book among participants in this study is *The Israeli Guide for Pregnancy and Birth* written by Dr. Amos Bar and the journalist Tali Rozin. Twenty interviewees mentioned having this book at home. This 680-page guidebook, written in Hebrew, provides an extensive overview of pregnancy and birth. It includes explanations about prenatal tests, possible complications during pregnancy, different types of births, and hospital policies and procedures that are particularly relevant to Israeli pregnant women. Some interviewees referred to this guidebook as "The book with the wheel" because the book's cover has a cardboard wheel which helps a reader calculate the expected date of delivery. Interestingly, the comprehensive nature of

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this guidebook is often perceived by the women as a drawback rather than as an advantage. They see the book as thick and heavy and, therefore, less comfortable to use than computers. As the following interviewees, a 33 year old woman in her first pregnancy, and a 26 year old woman in her first pregnancy explained,

> When I got pregnant I went to purchase "the book with the wheel." It is very heavy. How could I read it when it is so heavy? For me it is less friendly than the internet both in the physical sense and in the fact that the internet is much more updated. I looked at the book once or twice. It seems to me that every woman who gets pregnant purchases the book and then moves on to use the internet. (Interviewee # 19)

> I have the pregnancy guidebook, the one "with the wheel". It's a big book. I did not read all of it, only about one third of the book. I prefer to use the internet because it is quicker for me to find what I am looking for than look for it inside the book. (Interviewee # 23)

The above quotes show that, the book is heavy and not as user-friendly to hold while reading. By comparison, the internet is a much more convenient source to use for specific information when needed. The practice of sitting in front of the computer screen and typing is seen as easier and as more comfortable than sitting with a heavy book in your lap. Moreover, retrieving desired information via the internet is perceived to be quicker than searching for it inside the book. This preference to use the internet for obtaining pregnancy-related information rather than opening the thick pregnancy book is echoed in

the following interviewees, a 28 year old woman in her first pregnancy and a 29 year old

woman in her first pregnancy,

> I used to have the *Israeli Guide for Pregnancy and Birth*, but I abandoned it pretty
>
> quickly. The internet is much more convenient. I do not look at the book
>
> anymore. (Interviewee # 32)
>
> The internet is much more accessible than a book. In a split second you open it
>
> and you can see everything there. (Interviewee # 10)

These women feel that it takes more time to look for specific information within the book

in comparison to the internet where you can type your query and get immediate results

specific to your question. The women quoted above find it much more convenient to use

the internet than opening books and browsing the index page of the different chapters.

Another perceived advantage of internet use that emerged from the interviews is

embedded in the fact that the internet is much more comprehensive and updated than

books. A 34 year old woman in her third pregnancy and a 37 year old woman in her first

pregnancy stated respectively,

> I have the *Israeli Guide for Pregnancy and Birth*. In comparison to the internet,
>
> this book is kind of old and less up-to date. I used this book on a daily basis for
>
> my first pregnancy, now I use it much less. (Interviewee # 42)
>
> Everything that you can find in books you also have on the internet. The internet
>
> is much more substantial for me than a book because it has lots of articles and
>
> links related to pregnancy. (Interviewee # 24)

One of the reasons women prefer to use the internet over pregnancy books was related to women's perceptions of a book as less current in comparison to the content found on the internet. Four interviewees explained,

> I think that books are nice, but they are limited in terms of their content. In books you can find material that is interesting for you to read, but if you want elaborations, or something beyond the things that are written in the book you cannot find it there. Therefore, I prefer to use the internet. (Interviewee # 12)
>
> I think that pregnancy books today are out of date. It says on the cover "new edition," but the content is old. I prefer to go to the internet. (Interviewee # 1)
>
> I have books about pregnancy, but I prefer the internet. It is much more up to date. (Interviewee # 2)
>
> Pregnancy books in Israel are generally not up to date. The Israeli guide for pregnancy and birth is somewhat old. (Interviewee # 48)

The above quotes show a clear preference for using the internet over books as a source of information about pregnancy. As opposed to books that might be produced and printed over specific periods of time, internet websites are characterized by a more dynamic nature. Websites can be updated and modified more easily and more often than print material. This dynamic nature seems to Israeli pregnant women to better address pregnancy-related issues that are changing over time, such as new prenatal screening tests, new research-based knowledge about possible complications during pregnancy and the like. Because information about pregnancy, as is true of any medical information, is constantly changing and evolving due to advancements in medicine and research, there

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seems to be a consumer demand among Israeli pregnant women that the information they

obtain regarding pregnancy be as updated as possible. Additionally, the richness and vast

amount of information about pregnancy on the internet provides users with a much

broader arena for information consumption. The information on the internet, as opposed

to books and other printed materials, is not seen by Israeli pregnant women as limited in

terms of the number of pages or amount of data, or diversity of authors and sources, and

therefore, is seen by Israeli pregnant women as more comprehensive in nature than a

book.

Collectively, these Israeli pregnant women perceive the internet to be a source of

information about pregnancy that is more up to date and enables quicker retrieval of

information. The internet also has the perceived advantage of anonymity.

The Advantage of Anonymity:

On the Internet You Do Not Have to Disclose Your Pregnancy

Another motive for turning to the internet as a source for information or support

for pregnancy-related issues is that pregnant women do not have to identify themselves to

obtain information or support. Indeed, on the internet, they need not even reveal the fact

that they are pregnant, but if they turned to a health care provider, family member, or

friends, they might have to tell that person about their pregnancy. As the following

interviewees, two 29 year old women and a 30 year old woman, all in their first

pregnancy, explained,

> The first thing I did after seeing the two lines in my home pregnancy test was to
>
> go to the internet to see what I am supposed to do now. It was the beginning of

the pregnancy and I did not want to tell anyone, so I could not ask people [around me], "what do I need to do?" (Interviewee # 16)

I told people about my pregnancy right from the beginning, but I know many girls that are not telling anybody until they are four months pregnant. In order not to explode, they need to [use the] internet so they can share with other people. (Interviewee # 10)

I think that the internet is especially important at the beginning of the pregnancy when you do not tell people that you are pregnant and the anonymity that this medium enables is very convenient. At the beginning of your pregnancy you can feel very alone before you tell everybody. (Interviewee # 40)

These quotes emphasize the perceived advantage of anonymity on the internet, especially during the beginning of the pregnancy when some women choose not to disclose the fact that they are pregnant. Although the reasons for not disclosing the pregnancy did not emerge from the interviews, it is reasonable to assume that because there is a higher risk of a miscarriage in the first trimester, some women choose to share the news of their pregnancy only when they enter their second trimester when the risk of a miscarriage is much lower. The internet provides a helpful source for pregnant women who choose not to disclose their pregnancy during the first trimester because they do not have to expose the fact that they are pregnant to friends and relatives; thus, they are able to obtain information in an anonymous manner.

Additionally, the anonymity on the internet can benefit users when asking embarrassing questions or searching for information that they might feel uncomfortable

sharing with people they know. As the following 33 year old, 26 year old, and 29 year old asserted,

> There are intimate things that are easier to ask about on the internet than asking your doctor. Embarrassing things like intercourse during pregnancy and hemorrhoids. (Interviewee # 5)

> For some of the questions that I have it is helpful to be anonymous. Because they [participants in the online pregnancy forum] do not know me so it makes it easier. (Interviewee # 9)

> It's easier for me to check what I need without having to explain my background and identify myself. (Interviewee # 43)

These quotes highlight the other perceived advantages of the internet as an anonymous medium. It enables users to obtain desired information without the discomfort or shame that can result from the nature of the questions or concerns. This is especially important in cases of questions about sensitive issues such as intercourse during pregnancy. The anonymity on the internet allows pregnant women to browse information, ask questions, and raise sensitive issues without worrying about being judged or being ashamed and without the need to provide an account. This anonymity allows for a perceived safer space where women can communicate and consume information without the need to save face or engage in impression management. Because of the anonymity, this type of communication is also perceived to be much easier and more comfortable. This anonymity can be accompanied with another perceived advantage, that of being independent and self-sufficient.

Internet Use as an Independent Practice:

I Do Not Need to Call My Physician Every Time I Have a Question. I Can Go Online

Because turning to the internet can be done independently, without the need to bother anyone, pregnant women find this source of information helpful when they have a specific question, concern, or need for information that might not justify a call or visit with a health care provider. The internet is perceived as much more accessible and less burdensome to use than visits or calls to healthcare providers. As the following interviewees asserted,

> It is much easier for me that I do not have to call my physician or the nurse every time I have a question. I can look for stuff up on the internet by myself. (Interviewee # 4)

> My initial tendency, like in other issues, is to first go to the internet to get information. If I feel that the information I find on the internet is not satisfactory, of course I will go to consult with a physician. (Interviewee # 15)

> I like the fact that when I need information about pregnancy, I do not have to burden anyone. I can just go to the internet and check. I will not go to the doctor for every small thing. (Interviewee # 6)

The above quotes illustrate that women appreciate a lack of dependence on health care providers when they have specific questions about their pregnancy. Clearly, it is not convenient to contact your physician or nurse every time you have a question or concern. Therefore the internet, given its constant accessibility, provides a means to find information and answers to questions without the hassle of contacting a health care

provider. Pregnant women turn to the internet for pregnancy-related information not just as a substitute for asking a health care provider, but also when they feel that their health care provider, in this case, a physician, did not provide them as much information was needed. This brings forward the fifth advantage perceived by Israeli pregnant women.

Online Information as a Supplement for Information given by the Physician:

I can get what I need from the Internet

Another motive for using the internet for pregnancy-related issues is when women feel that they need elaboration beyond the information they get from their health care provider. As the following interviewees, a 27 year old and two 26 year old women, explained,

> If I see that my physician does not give me as much information as I need and I can get this information via the internet I will do it. (Interviewee # 11)
>
> I need to know and to be knowledgeable. If I do not get sufficient information from my physician I will go to the internet. (Interviewee # 9)
>
> The internet reduces my anxiety level because I know what things mean. My physician does not have the time to sit with me and explain everything in a detailed manner. (Interviewee # 23)

Because of health care system constraints, physicians usually have limited office time (usually 15 minutes) to spend with each patient in the clinic. Within these 15 minutes, the physician is expected to interview the patient, go through her file or test results, sometimes perform a physical exam, and, at the end, provide any needed suggestions for the pregnancy and follow-up. Under these circumstances, it is clear that the physician

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does not have enough time to provide comprehensive and detailed explanations about tests, procedures, physical phenomenon, and possible risks. Therefore, some pregnant women might feel that they need to supplement the information given to them by the physician to be more knowledgeable and to reduce their anxiety level. As the following interviewees explained,

> After I talk with my physician about a specific test result that I have, I will go to
> the internet and try to find more information and background on it… I want to
> know the meaning of the things I am going through. (Interviewee # 15)
> When I need to undergo prenatal tests, I go to the internet to get information about
> the tests, what exactly they test for. The physician does not always have the
> patience to explain things about the procedure and the meaning of the test.
> (Interview # 18)

The internet is perceived to be a source for obtaining information in more depth when the information given by the health care provider is perceived to be insufficient or not detailed enough. The need for depth and elaboration is especially relevant to explanations about prenatal tests that might not be easy to understand. Prenatal tests are mostly based on statistics and probabilities and, therefore, can be challenging to comprehend. While the interviewees quoted above said that they usually go online to look for additional information after their visit with their physician, three of the women said that they usually "conduct research" on the internet before they go to their physician in order to be knowledgeable and able to have a conversation with their health care provider. As the following interviewees, a 29 year old, a 35 year old, and a 33 year old, asserted,

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Whenever I come to my doctor's appointment I like when I have all the information. So first thing I do is to search for the information online so when I am at the doctor's office I will be competent to ask questions and to really know what is going on. (Interviewee # 13)

I am looking at the internet before my doctor's appointments. I like to come prepared to the doctor and tell him what I read. (Interviewee # 38)

Before I go to the physician, I do my homework and read material on the internet so I can be ready for the meeting with the physician. (Interviewee # 19)

The above quotes describe a practice in which women feel that it is beneficial for them to read relevant materials on the internet before their doctor's visit. Doing so allows them to feel more knowledgeable. They believe the quality of their doctor's visit has been improved because they know what kinds of questions to ask the physician, rather than being unprepared. In general, Israeli pregnant women reported two main motives prompting information seeking associated with the clinical visit. One is to supplement the information that was given by the physician. The second motive is to come to the health care provider's office prepared and knowledgeable to feel competent when talking with the provider.

In addition to the perceived advantages of the internet as a source for information about pregnancy, there are also challenges reported by Israeli pregnant women. The interview data revealed three main challenges. First, Israeli pregnant women expressed a challenge of communicating with physicians about online information seeking. Second, Israeli pregnant women saw the reliability of pregnancy information on the internet as

highly variable. Third, Israeli pregnant women experienced an overload of pregnancy-related information on the internet.

Challenges of Using the Internet during Pregnancy:

The Internet vs. the Physician

Despite the fact that the internet is an extremely popular source of information about pregnancy for the women involved in this study, communication between the physician and the interviewees regarding the use of the internet for pregnancy-related information was often perceived by my interviewees as a negative and frustrating experience. Additionally, the interview data show that going online to read information about pregnancy is usually not encouraged by physicians, at least not by the physicians working with the women who participated in this research. Only seven women out of the fifty said that they experienced a positive reaction from their physician when they raised the issue of searching the internet for pregnancy related information. Twelve women talked about receiving a negative reaction, when the internet was mentioned during a visit with their physician. That reaction resulted in their avoiding the issue during subsequent visits with their doctor. The rest of the interviewees said that the issue of internet use had not come up in the conversations they have had with their physicians. Only one interviewee said that her physician mentioned the internet as an optional source of information and recommended she turn to a specific internet website. Usually, when these Israeli pregnant women's physicians recommended additional information, they referred their patients to traditional sources of information such as books about

pregnancy. As two interviewees, a 37 year old in her third pregnancy and a 30 year old in her first pregnancy, stated,

> When I talked to my physician about my doubts whether to do the amniocentesis, he said to me, "go read about in the books." He will not tell you to go to the internet. (Interviewee # 4)

> The doctors never tell me to go to the internet. I think that they are too conservative for that. There is a lot of pregnancy information on the HMO's internet website, but they do not encourage you to read it. (Interviewee # 35)

In the above examples, we can see that Israeli pregnant women think the internet is not seen by physicians as an optimal source for information regarding pregnancy. The physicians are reported to either recommend the use of books or avoid mentioning the internet at all during their conversation with the patient. Some physicians even take a step further and advise their patients not to turn to the internet as a source of information about pregnancy because they think it can be more harmful than beneficial. As the following interviewees, asserted,

> My physician told me not to read about the pregnancy on the internet. He said that it will only promote stress because, on the internet, you can read the most horrible things. His advice did not convince me not to go to the internet. I think that I like every source of information I can benefit from. (Interviewee # 13)

> When I talked with my physicians about diseases and health risks that I read on the internet they said to me, "Well you can find the biggest horror stories on the internet." They are not supportive"…I do not think that I will feel comfortable

saying to the physician, "I read this information in an online forum." If I say that I read this information in a book, it will sound much better. (Interviewee # 16)

In my first pregnancy, they found a problem in the fetus' heart which was not so serious, but I read a lot about it on the internet. My physician told me to stop looking for information about it on the internet. He did not encourage me to read about it and said that too much information is not good. (Interviewee # 44)

These quotes illustrate a perception held by women that physicians believe that information on the internet can negatively affect the patient. Israeli pregnant women, therefore, think that physicians recommend not using the internet as a source of information about pregnancy. In these cases, the interviewees did not find this recommendation compelling; these Israeli pregnant women claimed to be aware of the fact that the internet is much more than a pile of unreliable information and horror stories of all the things that can go wrong. The interviewees believed that one can pick and choose the online content one wishes to consume, and, therefore, believed that reducing this medium to an unreliable source that promotes stress and anxiety is not a convincing attitude. Additionally, as interviewee # 16 explained, the internet seems to "suffer" from an image problem; some physicians perceive its quality to be low. Consequently, women might feel uncomfortable saying to their physician that they read information on the internet and prefer to mention books as their source of information.

Physicians Do Not Like When I Mention the Internet

The perception that physicians have a negative attitude towards the use of the internet for pregnancy-related information seeking became more evident when the

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interviewees said that they often avoid mentioning the fact that they go online to find

pregnancy-related information. Israeli pregnant women felt that revealing their online

information seeking would not serve them well and might harm their communication

with the physician. As the interviewees explained,

> I do not tell my physician that I looked for information on the intent because I do
>
> not want him to feel threatened by the fact that I did my research before I came to
>
> my appointment. I will definitely ask him about things I read on the internet
>
> without saying that I saw it on the internet. I believe that, in general, physicians
>
> do not like it when patients do that [i.e., research pregnancy information seeking
>
> on the internet]. (Interviewee # 4)
>
> I am afraid to raise the issue of the internet with my physicians because, when I
>
> say that I read things on the internet, they usually say, "Oh it's nonsense—do you
>
> think that you know everything?" (Interviewee # 14)
>
> Because my husband is a physician, I am being careful with my physician and I
>
> am not going to confront him with information I read on the internet.
>
> (Interviewee # 42)
>
> I think that physicians do not like when you say that you read things on the
>
> internet because it's like you enter their own territory. (Interviewee # 38)
>
> Physicians do not like when you raise the issue of the internet. When I told my
>
> physician that I read something on the internet, he said to me, "Well, you think
>
> you are a physician now?" I was offended. I switched to another physician.

I am not going to say that I have read things on the internet anymore.

(Interviewee # 28)

These quotes illuminate a tendency on the part of pregnant women. Based on negative

past experiences with physicians when mentioning their practice of reading pregnancy

information on the internet, they believe that it would be better not to mention the internet

when speaking with their physicians. The internet is perceived by the women as

something that could threaten the power status of the physician and, therefore, put the

physician in an uncomfortable position.

Because the internet provides an accessible source for an endless amount of

medical information, including detailed explanations and medical research, the

consumption of this type of information might change the balance of power between the

physician and the patient. Before the internet, patients who did not attend medical schools

did not have ready access to cutting-edge medical literature and had much more difficulty

learning about medical terminology, procedures, and risks on their own. Today, when a

vast amount of medical information is accessible to internet users in the comfort of their

home through the click of a keyboard, patients can be much more knowledgeable and

come to the physician prepared with questions, concerns, and needs for clarifications and

reassurance. Obviously, health information seeking and excessive reading of medical

information on the internet does not make one a physician, but this access to information

can create a different type of communication with the physician. The patient might move

from being a "clueless customer," to becoming more knowledgeable of informational

needs beyond basic medical explanations. The above quotes indicate that Israeli pregnant

women get a negative or dismissive response from physicians when trying to get

professional feedback regarding information obtained via the internet.

The interviewees reported that this negative reaction makes them afraid to raise

this issue again. Therefore, they choose not to talk about the internet during interactions

with their physicians. Clearly, not all physicians are dismissive and unsupportive of using

the internet for pregnancy information; the challenge for pregnant women is that they

cannot really anticipate how a physician will react when this issue is raised. One

interviewee said that, because she does not know whether or not a specific physician is

supportive, she is usually "testing the water" with every physician she encounters during

her pregnancy to see whether the specific physician has positive or negative attitude

toward her using the internet. She said,

> Some physicians encourage the use of the internet, and some don't. I usually see
>
> their initial reaction and then I decide whether to say "I read it on the internet" or
>
> just ask the question without mentioning the internet. If I try once and I see that
>
> the physician is against this practice, I will never mention the word "internet"
>
> again. (Interviewee # 8)

This quote shows the interviewee's perceived uncertainty related to the physician's

reaction. The woman is unsure whether the physician is open or not to discussing her

internet use or if the physician supports this practice. The physician's initial reaction

serves as an indicator for the woman and directs her future conversations with the

physician regarding internet use. In this sense, when a pregnant woman experiences a

positive reaction from her physician regarding internet use, she might feel comfortable

mentioning the internet and her practice of online information seeking. But, when a woman encounters a negative reaction regarding her internet use, she might feel uncomfortable discussing this issue with the physician. Another interviewee, a 30 year old woman in her second pregnancy, believed physicians often do not support of internet use for pregnancy information. She provided a different explanation when she said,

> I think that, in general, physicians do not like the fact that pregnant women search for information on the internet because the internet is not a reliable source and the physician has studied medicine. I will not say that I read something on the internet because I think physicians do not like the internet as a source of information because it is not generally reliable. How can he be sure that I read reliable information on the internet? (Interviewee # 12)

This explanation does not emphasize the internet as potential threat to the status of the physician. Rather, it conveys one of the major challenges of online health information: the variable reliability and quality of the information one finds on the internet. Books and journals undergo editing and quality checks, but the internet is potentially open for anyone who wishes to upload any type of content. On the internet there are few gatekeepers who filter incorrect and unreliable information from correct and good quality information. This facet of the internet results in a constant need for internet users to assess the quality and reliability of the information and a need to try to distinguish between correct and incorrect information.

Variable Reliability of Pregnancy-Related Information on the Internet

Pregnant women who utilize the internet during their pregnancy recognize that the variable reliability of the information on the internet is a major challenge to obtaining good quality information,

> I think that, in general, there is a problem of reliability of the content on the internet. People write their opinion as if it was a fact. If it is an opinion, they should not write it as a fact. It pisses me off and some people might take this information as facts. (Interviewee # 12)
>
> The issue of reliability of the information on the internet bothers me. If I am looking for medical information, I will conduct a more serious search. I will look for websites that contains the word "med" [for medicine] or something like that. It's hard to know if the information you read online is reliable or not, so I have to keep this in mind when I read things on the internet. For example, there is a website I go to and the average weight of the fetus according to the week of pregnancy is never correct there; it is always few hundred grams below the average. It's frustrating. (Interviewee # 16)
>
> When I read something on the internet I cannot know if it is valid. I do not always know who wrote these things. I have to get confirmation from my physician on this information. (Interviewee # 32)
>
> On the internet, there is a lot of information which is irrelevant, stupid, and harmful, and therefore, for me, it's not valid information. If two pregnant women in an online pregnancy forum discuss whether it is ok to sit in a sauna while you

are 14 weeks pregnant and one of them says-"sure honey, enjoy", I do not think

that it can be considered as information. (Interviewee # 20)

At first I used to read everything I found about pregnancy on the internet until I

realized that the internet is a place in which anyone can write anything. So, I

understand that I need to filter what I read. I am not a gullible person and I am

filtering what I read. (Interviewee # 25)

In these quotes, the women convey concerns about the reliability of the information they

read online. These concerns are based on three types of challenges. First, there is a need

to distinguish between fact and personal opinion. This distinction is especially important

to women when they are in need of medical advice, as in the examples regarding the

fetus' weight and the implications of using a sauna during pregnancy. When a medical

question arises, it is important for women to know whether the information and answers

they read are valid and represent medical knowledge based on facts.

A second challenge stems from the fact that there is not always consistency

between the information found on the internet in websites and the information women get

from books or their health care providers. Thus, women can be confused when they are

exposed to online information that differs from the information from sources they

consider as reliable. This lack of consistency can create stress, especially if the

inconsistency is found in an internet website that is believed to be medically reliable and

of good quality.

This kind of inconsistency can create doubts about whether the information given by the

health care provider is indeed correct and can be trusted.

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A third challenge is the need to filter the information based on its source. Pregnant women who seek online information about pregnancy acknowledge that, in addition to internet content written by health care professionals who possess the knowledge and the competency to provide medical guidance and advice, there is content written by lay people (including pregnant women) who are not professional medical authorities. These lay people might, nonetheless, share their opinions, thoughts, and advice about medical issues related to pregnancy. This mixed content leads to a situation in which women are compelled to filter what they read on the internet and make sure they know who the author of the information is so they can determine the extent to which they can trust this information. This filtering is challenged by a perception of information overload.

Too Much Information on the Internet

Another challenge to using the internet for pregnancy-related information is the vast amount of information that one can obtain. Obviously, an enormous amount of content can be beneficial in the sense that it provides choices. But, at the same time, too much information can be overwhelming.

Two of the interviewees used the metaphors of an "ocean" and "drowning" to describe the gigantic amounts of pregnancy-related information available to internet users.

> You have too much information on the internet. You could definitely drown in it.
> I sometimes find myself spending hours and hours on the internet in endless
> amount of information. (Interviewee # 24)

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Personally, I do not think that I am drowning in the information ocean. I know

how to swim in it. But for people who do not know how to swim, it can be a

problem. (Interviewee # 10)

These quotes highlight the perception that internet users who seek information on the

internet should have the competency to deal with the vast amounts of information

available to them. Moreover, they need to know how to distinguish among types of

information they find. The information on the internet in the above quotes is compared to

an ocean and, in order to find your way in the water, one needs to know how to swim.

This means that Israeli pregnant women need to know how to navigate among different

types of information of variable quality and usability; not all information is beneficial and

helpful. Clearly, not all women feel competent conducting pregnancy-related internet

searches and finding what they need. Three of the interviewees said that they often find it

challenging to manage the enormous amount of information on the internet. Two

interviewees, a 34 year old and a 29 year old, described their frustration when searching

the internet and not being able to locate relevant answers because there are too many

results.

If I am searching something on the internet [using a search engine] and I get

millions of websites and 90% percent of the results are not a good fit with what I

am looking for, I get frustrated and leave the search. (Interviewee # 46)

I do not spend enough time searching for the information I need on the internet. I

get frustrated very quickly when I do not find what I want and I give up the

search. (Interviewee # 17)

Based on these quotes, we can see that some internet searches do not yield a desirable result but, instead, lead to frustration. This frustration can prompt the searcher to abandon the search. As discussed above, one of the perceived advantages of the internet is that one can find information quickly. When the task of finding desirable information online takes longer than expected, and when search results do not match exactly what the women are looking for, the women are no longer interested in investing time and effort in the search. They might prefer to quit the search without satisfying their informational needs.

Another interviewee, a 33 year old in her fourth pregnancy, felt frustrated when she could not find good quality information about a specific topic. She was interested in parameters for Down syndrome and performed a search using Google's search engine.

> In one of my tests, they discovered a parameter that can predict Down syndrome, so I wanted to read about it on the internet in a professional, scientific and serious article. And, I could not find anything when I performed a Google search in Hebrew. (Interviewee # 14)

This example shows that, even with the richness and enormous amount of data available on the internet the results of internet searches do not always yield a desirable outcome. Sometimes the search results are not relevant to the search query and sometimes the information yielded by the search engine is not perceived by the user as being of good quality. Therefore, the information is sometimes not helpful in satisfying informational needs.

Another concern raised by interviewees was that the vast amount of information on the internet often contains information about risks and problems during pregnancy. This content can promote stress and anxiety.

> Sometimes I feel that, because there is too much information on the internet, it's not good for me. It makes me worry. So, at some points, I just stop and say to myself "enough." There are too many risks and possible problems that can happen, so I will stop. I try to avoid horror stories on the internet. (Interviewee # 8)

> I use the Google search engine to look for things that are happening to my body, and I want to know if it's normal. And, I usually regret doing that because, in my search results, I get the most horrible things that can happen to you. I always regret it, but I do it. (Interviewee # 13)

> It's stressing me out to read about possible risks on the internet, because there is always the point where you ask yourself "will this happen to me?" It's something that, no matter where I read, I am going to stumble upon these things. If I see these things, I will avoid reading them. (Interviewee # 18)

> There is too much scary information about pregnancy on the internet. It is making me stressed, but I do not avoid looking at the internet. I just try to filter and not get hysterical from everything I read. (Interviewee # 43)

> The internet promotes stress based on how much you dig in to search for stuff. You can stop yourself from doing that. I learned to stop myself because it made

me stressed. It made me aware of problems that I did not think could happen to

me. (Interviewee # 39)

When pregnant women actively search for information about pregnancy on the internet,

they are also exposed to content dealing with possible risks, problems, and complications

of pregnancy. This type of information could cast a shadow over the experience of

reading pregnancy information on the internet because it might generate fears and

worries. Specifically, Israeli pregnant women might concentrate on novel and rare horror

scenarios and pregnancy complications found online. Indeed, some Israeli pregnant

women said that their way of dealing with this content is to stop reading when they

encounter this type of information. Moreover, Israeli pregnant women try to avoid this

content when browsing pregnancy-related materials as much as possible. The reason for

avoiding this type of information is because it triggers worries and fears, and, therefore,

Israeli pregnant women prefer not to read it.

<center>Results of Research Question Two</center>

Having discussed the main motives Israeli pregnant women report for using the

internet for pregnancy-related purposes and their perceptions of the advantages and the

challenges of using this medium, I will discuss the results of the second research

question. The second research question was:

RQ2:   What kinds of health information do pregnant women seek online?

The aim of this research question was to elicit responses on the type of health information

related to pregnancy Israeli women sought when utilizing the internet during pregnancy.

The interview data revealed five types of information sought by Israeli pregnant women

online. First, Israeli pregnant women sought information on prenatal tests, which included three sub-categories: keeping track of their prenatal test schedule; interpretation of prenatal test results; and, information on amniocentesis. The second type of information interviewees reported seeking online concerned the development of the fetus. The third type of information was related to the physical symptoms involved with pregnancy. The fourth type of information involved nutrition during pregnancy. Finally, the fifth type of information focused on gynecologists' recommendations. I will begin this section with the results concerning informational needs and practices regarding prenatal tests.

Internet Use to Fulfill Informational Needs regarding Prenatal Tests

When interviewees were asked to specify the topics and issues related to pregnancy that they most commonly sought on the internet, all of the women, without exception, talked about their need for information about prenatal tests. As discussed in Chapter One, prenatal tests are immensely popular and prevalent in Israel, and are used more than any other country. Most prenatal tests are highly encouraged and funded by the Israeli Ministry of Health and women's HMOs. Due to the popularity and extensive use of prenatal testing, and because of the intense monitoring of pregnancies of Israeli women, the nine months from conception to labor are usually characterized by frequent visits to health clinics for routine tests and scans that are recommended to the women according to their week of pregnancy (see Table of Recommended Prenatal Tests for Israeli pregnant women in Appendix A). The number of prenatal tests, and the fact that some tests need to be performed during a specific time period during the pregnancy,

prompts Israeli pregnant women to keep track of their prenatal testing schedule. Also, it invokes needs to acquire information about these tests.

When interviewees talked about their internet use regarding prenatal tests, they mentioned three types of information they usually seek. The first type of information was related to the schedule of prenatal tests, the second type of information is related to the interpretation of test results (mainly blood test results), and the third type of information is information regarding amniocentesis.

Keeping Track of Prenatal Test Schedule

Due to the relatively high number of prenatal tests performed during pregnancy in Israel (see Appendix A), and the fact that some prenatal tests need to be conducted at a certain time during the pregnancy, Israeli women utilize the internet to keep track of their prenatal testing schedule. As the following interviewees explained,

> I keep track of my prenatal testing schedule using a website that sends you reminders. It's really helpful, because sometimes I do not remember when I have to do a certain test, so I have all this information organized and I find it useful. (Interviewee # 45)

> I use the internet to check when I need to do the prenatal tests. I check the prenatal testing schedule according to the weeks of pregnancy to make sure that I am not missing any test. (Interviewee # 20)

> I use an internet website where you can type in the last day of your period, and then it gives you a list of all the tests you need to do. I think it is important to

know which tests you need to do every week, which prenatal tests are elective, which are more important than others. (Interviewee # 37)

I utilize the internet to calculate when I need to schedule an appointment for each test. There is a nice calculator on one of the websites that you plug in the date your last period, and it gives you a table with dates of the prenatal tests you should do every week. (Interviewee # 10)

I utilize a prenatal tests calculator on the internet which tells me what tests I need to do every week. (Interviewee # 49)

I am using an internet calculator to keep track of the dates for my prenatal tests. You put the date of your last period, and it tells you every week what tests you need to do according to the week of pregnancy. (Interviewee # 28)

These quotes illustrate the importance women ascribe to following the schedule for their prenatal tests and making sure that they do not miss any time window for these tests. The internet is perceived to be a helpful tool because there are websites that contain a prenatal tests calculator function. Using this function, women can plug in the date of their last period and get a time table which directs them to the kinds of prenatal tests they should do every week. Additionally there are websites which provide women reminder e-mails about their prenatal testing schedule. Only three interviewees mentioned a list of prenatal tests given to them by their gynecologists in hard copy at the beginning of the pregnancy as a means of keeping track of this schedule. The online prenatal tests calculators seemed to be popular among interviewees who felt that it was a beneficial way of keeping track of their long list of prenatal tests.

Using the Internet to Interpret Test Results

The second type of information related to prenatal tests frequently mentioned by women was the need for information to interpret prenatal test results. Twenty two interviewees said that, when they get the results of their prenatal tests, usually blood tests, they turn to the internet to explore what the results mean.

> I usually go to websites that allow you to interpret blood test results. Every blood test result that I get, I immediately go online to see what it means. (Interviewee # 47)

> I use the internet to interpret my blood test results, so I do not need to wait for the doctor to explain it to me. (Interviewee # 48)

> Whenever I get my test results, the first thing I do is go to the internet and type the results in Google, or look in Wikipedia to see what it means. Often when you get your tests results, it does not say what it means. You have three English letters, and that's it. I need to understand. (Interviewee # 7)

> When I get the results of my blood test, I want to know what it means. So I go to Google and search the name of the test to read about it. (Interviewee # 8)

> I search the internet to read about prenatal test results. When I get my test results, I want to know what it means before I go to the doctor. (Interviewee # 32)

These women highlight a need to understand and interpret the meaning of their test results. They even use the internet before going to their physician to get an explanation and interpretation of the results. The internet, as a tool for obtaining information about tests results, does not fully substitute for the physician in providing an explanation of the

results. Rather, it serves as a quicker means of getting this information to satisfy this need. Because the internet is available, and because the practice of searching for information about test results is perceived as relatively easy, the women choose not to wait and experience uncertainty about their test results before they see a physician. Instead, the internet enables them to be more self-sufficient and obtain this information more quickly. According to the interviews, the most common reason for searching the internet to interpret test results was the need to know whether the results were within the normal range. One interviewee, a 27 year old, in her second pregnancy explained,

> When I get my test results, I look for information on the internet to see if my
> results are in the norm. (Interviewee # 11)

This tendency of going online to obtain information about prenatal test results was echoed by additional interviewees,

> I usually go online to explore the results of my blood tests. I need to know they
> are falling in the norm and if it's okay. (Interviewee # 13)
>
> I go online to see what my test results mean, especially blood tests, such as sugar
> level and iron level. When you are pregnant, sometimes your blood test results are
> outside the norm, and it can be reasonable because of the pregnancy, but to be
> sure, I go online to read about it and see if it is okay. (Interviewee # 19)
>
> When I get the results of my blood tests from the lab, I check on the internet to
> see what it means if there is a test result that is not in the norm. (Interviewee # 44)

I was searching the internet after each and every blood test I had to

understand what the results mean. It's helping me to decrease my level of anxiety,

because I can find out if my tests results are normal. (Interviewee # 23)

A common goal reported by Israeli pregnant women in searching for information about

blood test results is to make sure that results are in the normal range. Israeli pregnant

women feel that a "normal" result provides reassurance that their pregnancy is

progressing as it should and that there are no concerns with their current medical

condition. This reassurance, as interviewee # 23 explained, is helpful in easing fears and

anxiety about possible medical complications.

The test results can provide Israeli pregnant women with medical evidence that the

pregnancy is healthy and normal, and thereby create a more desirable situation for them.

Using the Internet to Seek Information about Amniocentesis

The third type of information Israeli pregnant women seek online regarding

prenatal tests concerns a specific prenatal test called "amniocentesis." Amniocentesis is a

prenatal test to detect a number of genetic and chromosomal abnormalities in the fetus.

Amniocentesis was first used in 1968. It is a diagnostic procedure in which fluid is drawn

from the amniotic sac surrounding the fetus (Rapp, 1994). According to Robertson

(2008), this test can detect chromosomal disorders such as Down Syndrome, structural

defects such as spina bifida (open spine, where the vertebrae fail to close), anencephaly (a

condition in which the brain is incomplete or missing), and several metabolic disorders.

Amniocentesis is typically conducted in Israel between week 16 and 20 of the

pregnancy for women who have one or more medical indications based on other prenatal

tests, such as the triple screen test and ultrasound screening scans, or if the woman is older than 35. The test itself is performed by inserting a hollow needle through the abdominal wall into the uterus and withdrawing a small amount of fluid from the sac surrounding the fetus (Robertson, 2006). The internet is used by Israeli pregnant women to obtain more information about this test.

> I was searching the web for information on amniocentesis when I tried to understand the risks of this test and what it is. I just Googled the term amniocentesis and read what I found. The internet assisted me in getting a detailed explanation about this test. (Interviewee # 40)

> I read a lot on the internet about amniocentesis. I mainly searched this term using Google. I even entered an online forum where people discussed this test to see what they say. A month before the amniocentesis test I had some contractions and I was really stressed about it because it is a very invasive procedure and it can risk the pregnancy. (Interviewee # 44)

> I was in a lot of stress before my amniocentesis. Because of my age, they recommended that I do the test and I feared this test, so I spent days on the internet reading everything I could about amniocentesis. I wanted to get confirmation about the decision to do the test and read research about it to know the possible risks. I think that reading about it on the internet made me feel more relaxed. (Interviewee # 25)

The aforementioned quotes indicate that the main reason Israeli pregnant women report a need to acquire more information on amniocentesis is to better understand the

risks involved in this procedure. Because amniocentesis is invasive, it poses risks such as infection, injury to the fetus, and even miscarriage (Robertson, 2006). Pregnant women who choose to perform this test know that, in addition to its benefits of detecting fetus abnormalities, the procedure can risk the pregnancy. Women reported seeking information about the possible risks of this procedure to learn more about the implications of this test and to confirm their decision to do the test. While the most common reason given for obtaining information on the internet regarding amniocentesis was associated with the risks, one interviewee, a 29 year old in her second pregnancy, explained that her motivation to get information was the fear of the procedure itself.

> I had to decide whether to perform an amniocentesis. So I read about it on the internet, especially in forums of pregnant women. And it made me realize that this test is not so awful. I feared this procedure, and I corresponded with other pregnant women who had this procedure. I mainly asked them questions about this test. (Interviewee # 30)

Online pregnancy forums provide Israeli pregnant women with the opportunity to correspond with other pregnant women who have had this test and to read other women's experiences of this procedure. This type of information goes beyond mere clinical facts, is based on personal experiences, and usually encapsulates descriptions of physical and emotional sensations. Israeli pregnant women perceived this information as helpful in dealing with the fear of the amniocentesis. When women have the opportunity to be exposed to other women's stories about this test, ask questions, and understand the

experiences of those other women, this information can reduce the amount of uncertainty surrounding this procedure and consequently ease fears and concerns.

After discussing online information regarding prenatal tests that Israeli pregnant women reported to seek on the internet, I will next discuss the second type of pregnancy-related information interviewees reported to seek frequently during pregnancy, information about the development of the fetus in the womb.

Information Seeking about Fetal Development

Almost half of the women interviewed for this study stated that they want to read information on the internet about the manner in which the fetus grows and develops in their womb.

One interviewee, a 31 year old in her second pregnancy, claimed that her wish to read information on the internet is natural, especially considering her condition of being pregnant. She said,

> When you are single, you spend time in online dating websites, when you are a
> mother, you spend your time looking for information about children. When you
> are pregnant, you want to know what is going on with your fetus.
>
> (Interviewee # 21)

This quote conveys what many pregnant women feel when they are pregnant. Israeli pregnant women can see pregnancy as a period of time in which the growing fetus becomes the central issue in their life. This perception directs a lot of their attention and, therefore, invokes informational needs. Twenty three women out of the fifty interviewees

said that they use the internet to read about the development of the fetus inside the womb during their pregnancy.

> I am really interested in reading about what my baby feels inside me. It fascinates me to know how he can hear the sounds and feel my movements when he is inside the womb. (Interviewee # 2)

> Every week I read on the internet about the development of the fetus and the changes in my body. It is interesting to know what I am heading towards. (Interviewee # 6)

> On the internet I am reading about the fetus' development according to the week of the pregnancy because it is nice to know what's happening with the fetus. You do not see this development with your eyes, so it's a good way to connect to it, or at least to know what is going on. (Interviewee # 9)

> I registered to a website that sends me an e-mail every week with updates and pictures about the fetus' development. They tell you how it looks like every week and it's intriguing because, at this point, I do not feel it inside. But when you look at the pictures and read the information, you see that the fetus has eyelashes, hair, fingernails. And that is something I do not feel, but it's so fun to know. (Interviewee # 10)

> The development of the fetus is very interesting for me to read about on the internet. I want to know what's going on in every stage. It is fun to know. (Interviewee # 12)

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I read on the internet about the life of the fetus in the womb. I want to know what

is going on inside. I feel the baby move and it makes me curious to know more

about it. It is inside of me. I carry it for nine months. It is very interesting for me.

(Interviewee # 28)

According to these quotes, women are curious to know how a fetus evolves and grows

inside of their body. The process of pregnancy and fetal development is intriguing for

pregnant women to read about because it is something that is happening inside their

bodies and because they experience it physically. Knowing more about this process

satisfies curiosities about these physical changes and provides explanations for sensations

they feel. Two interviewees stressed that is "fun" for them to read about fetal

development, meaning that they enjoy learning facts about the development of their fetus.

Interestingly, even women who are pregnant for the second or third time and have

already experienced this process said that they are still interested in reading about their

fetus's development. This finding implies that this type of information can serve as a

means of bonding with the unborn fetus and feeling more connected. Moreover, it is

important to remember that fetal development is occurring inside the body and is not seen

to the eye. Therefore, fetal development might not be fully tangible but rather vague.

During the first four months of pregnancy, women normally do not feel fetal movements

and can only acknowledge the development of the fetus through the sight of their

growing belly. During the second and third trimester of the pregnancy, pregnant women

can feel fetal movements, but again, they cannot see the fetus' organs or actual size.

Information about fetal growth serves as a way for women to connect to their unborn

fetus and to understand the processes that take place inside the body, even if they cannot actually see it. Two interviewees, a 30 year old and a 29 year old in their first pregnancy, explained that knowing this type of information gives them a sense of control over their pregnancy,

> I am interested to know about the development of the fetus inside my body. I think that it is interesting for me because when I have more information about it I feel that I as If I have a certain amount of control over this process. I say "as if" because it is clear to me that I am in middle of a process over which I have no control and it gives me a certain sense of security. (Interviewee # 18)
>
> Now, as I am pregnant, I am obsessed with it. I cannot keep track with a conversation if the word fetus is not mentioned in it. I just can't. I am a graduate student and I enjoy my classes very much, but I have no idea what they were talking about in class this past month…I cannot just sit and wait for forty weeks. I want the baby here and now, and I cannot do anything about it. It's very frustrating…the internet gives me a sense of control. My obsession [about the baby] needs to be disassembled somehow. (Interviewee # 16)

These quotes illustrate one of the challenges related to pregnancy. Nature takes it own course. A woman carrying a growing fetus has to be patient and wait for nine months to see the final outcome with very little control over this process. Of course, pregnant women can affect and contribute to this natural process by maintaining a healthy lifestyle, watching their nutrition, pursuing prenatal care, and being careful with medications that can harm the fetus, but they have minimal control over the fetus' development. When a

woman knows about the manner in which the fetus evolves, she might feel much more in control because she knows what to expect and what is happening to her body and her fetus throughout the pregnancy.

The third type of health information interviewees reported seeking online while pregnant is physical symptoms that occur during pregnancy.

Information Seeking about Pregnancy-Related Physical Symptoms

Nineteen women said that they usually use the internet for information about how to deal with physical symptoms related to pregnancy. This theme is divided into two types of pregnancy-related symptoms. First, women might seek ways to alleviate common symptoms such as nausea and heartburn which are physical phenomena considered normal during the course of pregnancy. Because they often cause discomfort for pregnant women, women might try to find solutions on the internet to relive these physical symptoms.

> The internet was helpful in getting information on how to deal with my nausea. I had no idea that ginger can help relieve nausea. I tried to use lemon and many other things I until I found out about ginger from the internet. (Interviewee # 23)
>
> I feel very unwell throughout this pregnancy and it makes me search the internet all the time for solutions to relieve intense nausea and heartburn. I just type these words in Google and read what I find. (Interviewee # 25)

The internet in these cases is used for getting advice about how to alleviate pregnancy-related physical symptoms. Using the internet, women obtain information about different

solutions and recommendations such as eating ginger when they are nauseous and get

various ideas about dealing with pregnancy-related symptoms.

The second type of information that interviewees seek online is about other

physical sensations that women are not sure are normal or common. Therefore, they

might feel a need to go to the internet, obtain information about the sensations, and verify

whether these physical symptoms are ordinary or an indication of medical danger. As the

following interviewees explained,

I was a little bit stressed because I felt cramps and pain, like when I have my

period. I did not know if it's a natural phenomenon because my girlfriends

experienced it only at the end of their pregnancy. So I went to the internet,

because you could find there millions of women. So I did a Google search and

realized that there are many women who experience what I feel throughout their

whole pregnancy and that put me in ease. (Interviewee # 10)

I needed to know what is going on with my body and if what happens to my body

is normal. For example, I had leg cramps and I read on the internet that leg

cramps are common in pregnancy from the second trimester. (Interviewee # 17)

I had edema in my legs and I did not know if it's a common pregnancy

phenomenon, so I typed it in Google and realized that it is prevalent.

(Interviewee # 45)

These quotes demonstrate situations in which women turn to the internet to

confirm that the physical sensations they experience are normal. They report they want to

calm the fear that unusual sensations might be an indication of a problem. Instead of

seeking medical advice or consulting a physician, the women prefer to check their

symptoms on the internet to confirm that other pregnant women share the same

sensations. Another reason given by one of the interviewees, a 26 year old in her first

pregnancy, for searching information about physical symptoms during pregnancy is that,

when you are pregnant for the first time, you do not really know what to expect.

Therefore, it can be difficult to know if what you feel and what happens to your body, is

indeed what you are supposed to feel when you are pregnant,

> This is my first pregnancy. Every little thing makes me worry, so I search
>
> everything on the internet to know if it normal. It calms me down to do it.
>
> (Interviewee # 33)

This woman illustrates that one of the functions of the internet is to provide reassurance

that what you feel is considered to be normal during pregnancy.

This confirmation gives peace of mind and is helpful in dealing with uncertainty. The

information obtained from the internet is utilized to reduce uncertainty, and,

consequently, ease concerns that something might be wrong with the pregnancy.

Information Seeking on Nutrition during Pregnancy

The fourth type of pregnancy-related information interviewees seek on the

internet is about nutrition. Fifteen interviewees said that they use the internet to search for

information on nutrition. This finding is in accordance with the literature on common

fears of pregnant women reviewed in Chapter Two. One of the common fears of women

during pregnancy is that their diet could harm the fetus' development. One interviewee, a

36 year old in her third pregnancy, explained that she searches for information about

nutrition during pregnancy because she did not get this type of information from her physician. The internet fills this knowledge gap for her.

> When it comes to nutrition during pregnancy, this is not something that your physician tells you "eat this and don't eat that". But when you go online you can see what kind of food is good for you and helps to maintain normal weight and iron level. The physician does not lecture me on nutrition. (Interviewee # 2)

The above quote shows that some interviewees felt the need to go to the internet due to a lack of guidance from a physician regarding nutrition. The emphasis in the above quote is on nutritional information that is beneficial for pregnant women and assists in maintaining proper weight and iron levels. However, the majority of women who mentioned searching for information on nutrition said that they were more interested in getting information about food that they should avoid consuming while pregnant because those foods might be harmful to their fetus,

> I search the internet to see if there are recommendations about certain types of food that you should not eat while you are pregnant. I read, for example, that in France they recommend pregnant women to remove the shell of non-pasteurized cheeses before eating them, and, in Israel, they advise pregnant women not to eat pastrami. (Interviewee # 20)

> I am interested to know what I should not eat when I am pregnant. I like to eat sushi, so I turned to the internet to see what are the recommendations regarding sushi during pregnancy. I typed the terms "nutrition" and "pregnancy" in Google

and searched for information about sushi. I am not drinking alcohol, I am not

smoking, and it is important for me to know what not to eat. (Interviewee # 40)

It is important for me to know what I should not eat and the kinds of food I should

be careful with. There are many things that I did not know prior to looking for

information on nutrition on the internet. For example, I did not know that it is not

good to eat sushi when you are pregnant. Also, I found out that there are several

types of fish that I should not eat because of the mercury. (Interviewee # 10)

I am searching the internet to know what I should and should not eat now that I

am pregnant. (Interviewee # 41)

I did not know how many cups of coffee per day I am allowed to drink when I am

pregnant, so I searched the internet to get an answer about it. (Interviewee # 4)

I search for information about nutrition. Few days ago I read in one of the Israeli

websites that you should avoid eating passion flower fruit while you are pregnant

and I really like to eat passion flower fruit. So, I conducted an internet search and

located an article in English that found that eating passion flower fruit increased

uterus activity in mice. (Interviewee # 23)

The above quotes show different examples of nutrition related concerns and queries

pregnant women have. The women report conducting online searches to become more

knowledgeable about food and drinks that are considered to be unsafe during pregnancy.

Because pregnant women are not provided with a list of "dos and don'ts" about nutrition,

and because they do not always have knowledge about the types of food that might be

harmful during pregnancy, seeking information about food and nutrition serves as a way

to assure women that they have sufficient information about nutrition during pregnancy and that they know what types of food they should avoid while pregnant. Interestingly, the interviewees who said that they use the internet for nutrition and food related searches did not mention a specific source of information to which they turn. Nor did they look for a source considered to be a medical authority. Rather, they explained that they usually utilize the Google search engine to get to internet websites and online pregnancy forums that have various recommendations about food safety and nutritional information.

Information Seeking about Gynecologists: Recommendations and Warnings

The fifth type of pregnancy-related information interviewees seek on the internet while they are pregnant informs their selection of a health care provider. Within the universal health insurance system in Israel, every citizen belongs to an HMO of his or her choice and has the option to choose physicians and specialists. In this case, Israeli pregnant women might choose gynecologists from the HMO's physicians list for prenatal tests and routine monitoring. Fourteen interviewees talked about using the internet to locate names of recommended gynecologists or to perform a background check on gynecologists they were considering. More specifically, women utilize Google to conduct a search on the name of a gynecologist that they plan to visit to get recommendations and warnings based on other pregnant women's experiences:

> It's important for me to use the internet to get recommendations on good
> gynecologists or, more important, to get warnings about who not to go.
> (Interviewee # 40)

If I get a recommendation on a gynecologist, I Google the name and read what

other pregnant women write about him/ her in pregnancy online forums. If I read

negative things about this gynecologist, I will not choose him. (Interviewee # 10)

I was looking for recommendations on gynecologists and physicians who are

experts in obstetrics ultrasound. I usually Google the name of the doctor and then

I see what women say about him. I got recommendations on all the gynecologists

I went from the internet. I looked at what was written about them.

(Interviewee # 4)

I wanted to get other women's opinions about the gynecologist that I chose to go

to. I needed to give myself peace of mind that there is no problem with this doctor

or something like that. (Interviewee # 26)

My prenatal care is done by a senior gynecologist whose name I got from an

online pregnancy forum. I saw that many women wrote good recommendations

about him, so I decided to go to him and he was wonderful and even helped me in

the delivery room. (Interviewee # 30)

The internet is used by Israeli pregnant women to obtain information about

gynecologists in two ways. First, when pregnant women need to choose a gynecologist

for prenatal care, they utilize the internet to search for a gynecologist about whom other

women testify as having had good experiences. In online pregnancy forums, women

share their opinions of and experiences with gynecologists while providing the names of

the gynecologists (including geographic location and HMO affiliation) and their

recommendations (or dissatisfactions). They also give a detailed explanation as to why

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they feel this way. Women who log into Israeli pregnancy forums can read these recommendations and base their choice of gynecologist on this information. In this way, pregnant women can have a variety of opinions and can make a much more informed decision regarding their choice of gynecologists.

The second way of using the internet for information about gynecologists is to confirm one's choice after making the decision to go to a certain gynecologist. Two interviewees, a 34 year old in her third pregnancy and a 29 year old in her second pregnancy, mentioned that they performed a Google search on the name of their gynecologist to check for lawsuits filed against the gynecologists they were considering using.

> I used Google to check the gynecologists that I intended to go to for my prenatal tests. Google can give you lots of information. My gynecologist recommended that I go to a certain doctor for the ultrasound screening scan. When I Googled the name of that doctor, the first result was a malpractice lawsuit, so I decided not to go to him for my ultrasound screening scan. (Interviewee # 42)
> I performed a Google search on my gynecologist. I also conducted a search on him in legal databases to make sure that there are no lawsuits against him. (Interviewee # 45)

These quotes illustrate that the Google search engine can be used to perform a background check on a gynecologist. In this way, Israeli pregnant women can explore negative content related to the professional performance of the physician. This type of content can be taken into consideration when choosing a gynecologist. Moreover, this

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kind of information can deter women from choosing a certain healthcare provider.

Another common practice among interviewees was the use of the internet to get recommendations about specialists in the area of prenatal care, mainly ultrasound screening scans and amniocentesis procedures. Some Israeli pregnant women choose to conduct some of the prenatal tests (such as ultrasound screening scans during the second and third trimester and amniocentesis) in private clinics of gynecologists who are considered to be experts in performing tests, even though they are not listed on the HMO physicians list. Women seek recommendations about experts in addition to the gynecologists they see for routine prenatal care,

> The amniocentesis tests that were performed during my first and second pregnancy were done by a certain professor whose name I got from the internet. I read recommendations on the internet about him, and then I asked a friend, and I realized that he is very experienced in performing this test. (Interviewee # 5)

> I wanted other women's opinions about the gynecologists I was going to see for my ultrasound screening scans. I wanted to reassure myself, to confirm the choice, to see that there are no problems with this physician. I Googled his name and I saw that he got good reviews, so I decided to go to him. (Interviewee # 26)

> Before I did the important prenatal tests, the ultrasound screening scans and the nuchal translucency screening test, I did a Google search on the names of a few gynecologists that I was thinking about going for these tests to see what is written about them. (Interviewee # 32)

Women seek recommendations on the internet in their effort to find health care providers who are experts in specific prenatal tests. These tests are complex and interviewees ascribe a great deal of importance to these tests. In the case of amniocentesis, which is an intrusive test that can cause complications and even miscarriage, there is a need for assurance that the physician who performs this procedure is experienced. In the case of ultrasound screening scans, the test itself is easy to perform technically, but the physician performing the scan needs to be experienced in interpreting the ultrasound images and reading those images correctly. Because ultrasound scans in Israel are performed routinely during the pregnancy and used as a diagnostic tool to locate fetal abnormalities during different stages of the pregnancy, women ascribe great importance to a specialists' expertise in interpreting ultrasound screening scans. Israeli pregnant women, therefore, want to ensure that they choose a health care provider who is expert in this area. Clearly, misinterpretation of an ultrasound screening scan or amniocentesis could result in failure to detect fetal abnormalities or risk the fetus. Choosing an expert for these prenatal tests can reduce these risks.

Next, attention is shifted to common practices of online information seeking and website preferences among the women who participated in the study.

Online Information Seeking Practices and Website Preferences

The most popular method for searching for pregnancy-related online information is by typing keywords as search queries in the Google search engine. Thirty six interviewees stated that they used Google to find information about specific issues or as a means to get to pregnancy-related internet websites. The vast majority of interviewees

(44 women) said that they usually perform Google searches in Hebrew; only six women said that they perform Google searches in English in addition to their Hebrew searches. Six interviewees stated that they do not have a preference for a specific pregnancy-related website. The rest of the interviewees said that they are loyal to one or two websites that they use for pregnancy-related purposes. All the preferred internet websites women mentioned visiting are Israeli websites, written in Hebrew, and targeted especially toward pregnant women.

The most popular internet website among interviewees was the Clalit HMO's website (clalit.co.il). Clalit's internet website is a portal that has several functions. First, it allows the HMO's customers to obtain their test results and download these results. Second, this website enables women to browse lists of physicians according to their specialty, geographic location, and appointment availability. Third, the portal employs a variety of online forums in which the HMO's physicians from different areas of specialty, including obstetrics and gynecology, entertain medical questions asked by internet users. Fourth, the portal contains diverse content about general health issues written by the HMO's physicians; Clalit allocates a relatively large content area to articles, tips, and information about pregnancy and birth. Women can find on this website detailed information on prenatal test procedures, a prenatal test schedule calculator, information about nutrition and exercise during pregnancy, and information about types of births and pain management. Additionally, the portal contains a video series called "40 weeks" which describes the different stages of the pregnancy and the development of the fetus in the womb, including tips for the expecting couple. Fifth, the Clalit portal has a service

called "baby mail." This service lets pregnant women register for a weekly e-mail newsletter. This electronic newsletter provides pregnant women with weekly updates about the changes occurring in their body, facts about fetus development, and includes reminders about prenatal tests. Sixteen interviewees said that they visit the Clalit internet website mainly to obtain their prenatal test results, but also to read physicians' answers in the online pregnancy forum. Ten women said that they have subscribed to the "baby mail" newsletter service, and they claimed to read the newsletter every week.

The internet website that is second in popularity among interviewees is entitled "Yoledet" (yoledet.co.il), or "giving birth" in Hebrew. This website is the first result yielded by Google's search engine when one types the word "pregnancy" in Hebrew. "Yoledet" is an Israeli pregnancy portal which was established in 2004 and aims to provide comprehensive information for women before, during, and after their pregnancy. It has an emphasis on the unique aspects of pregnancy in Israel.

The content of the website is applicable to prenatal tests and birth procedures used in Israel; it also specifies welfare and employment rights according to Israeli law. The professional content manger of the website is a senior obstetrician who practices medicine in one of the largest hospitals in Israel. In addition to its diverse content, the website offers three types of online forums. The first type of forum is for social support. There are four different categories of social support forums on this website: a forum for women who are trying to conceive; a forum for women who are undergoing fertility treatment treatments; a forum for women who are currently pregnant; and, a support forum for women who had miscarried. In addition to the social support forums, there are

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four medical forums. These are managed by gynecologists and are designed to answer women's medical questions about pregnancy and birth, ultrasound, fertility, and high risk pregnancy. Other online forums in this portal include forums that seek to provide information about alternative medicine during pregnancy, parenting issues, and tax advice. Fourteen interviewees stated that they frequently use this portal, to obtain information from its diverse content areas and for the online forums.

The third most popular internet website among interviewees is an online pregnancy and birth support forum called "Tapuz" (www.tapuz.co.il/tapuzforum/main/forumpage.asp?id=110). Tapuz is an Israeli portal established in 1996 that centralizes different web applications for internet users to communicate with each other. The applications in Tapuz include online support forums, blogs, chat rooms and a platform that allows users to upload video clips. Eight interviewees said that they often visit the online pregnancy and birth support forum. The Tapuz support forum is a support forum operated with the assistance of three moderators. It is used for sharing thoughts, concerns, questions, updates and even pictures related to pregnancy and births. In order to participate in this online forum, women have to register and choose a nickname. The forum is very active, and every day there are dozens of new correspondence posts and questions.

The fourth most popular internet website that interviewees said they visit frequently is the "Ynet" pregnancy and birth online support forum (www.ynet.co.il/pregforum).Ynet is one of the prominent Israeli news portals. It was established in 2000. In addition to its main function as a news portal, Ynet contains a

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section of online forums on a variety of topics, including a support forum for pregnancy and birth. The pregnancy and birth support forum has three moderators. One of the moderators is a professional doula, which is a name for a trained professional who provides support and encouragement during the childbirth and postpartum period (Berg & Terstad, 2006). A second moderator is a licensed instructor for birthing classes, and a third moderator is a senior participant in this group. This forum is an active virtual community which accommodates dozens of correspondences, questions and discussion issues and provides support to pregnant women on a variety of topics. Seven interviewees said that they often visit this website for both informational and emotional support.

The fifth most popular pregnancy-related internet website among interviewees is an Israeli website called "Doula" (http://www.doula.co.il). "Doula" is an internet portal written in Hebrew. It was established in 2002 and is defined by its creators as a comprehensive source for expecting parents and parents of babies and toddlers. The "Doula" portal is edited by professional Israeli journalists and contains a variety of content areas discussing breastfeeding, birth stories, prenatal tests, birthing classes, baby shopping, and more. The portal also contains a section of online support forums on a variety of topics such as support for new parents, taking care of newborns and premature babies, pregnancy and birth, food and nutrition, and more. Five interviewees said that they visit this portal mainly to obtain information. Attention will now be shifted to differences in internet use between first time pregnant women and women who have previously given birth and have children.

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Differences in Internet Use between Women Who are

Pregnant for the first Time and Women Who Have Children

Perhaps this seems to be expected, but there were apparent differences between women who are pregnant for the first time and women who were pregnant before and already have children at home. These were differences in the amount of time spent browsing the internet and the intensity of internet use for acquiring information. Women who were experiencing pregnancy for the first time were much more eager to spend time on the internet obtaining information about their pregnancy. The following interviewees, who are pregnant for the first time, stated:

> I have a crazy urge to get information about pregnancy right now. This is the main issue that occupies me. I am going toward something. I do not know what it feels like and I need to get information as much as I can so I will know what to expect. (Interviewee # 7)

> I am telling you that the amount of information that you can read about pregnancy on the internet is huge. It's amazing, and I am talking about a healthy pregnancy, not about one with problems. So I browse websites and I read things. I am assuming that, when I will be pregnant for the second time, I will use the internet less than what I am using it now. (Interviewee # 19)

> I do not know what I would do without the internet. It reduces my stress about many things because I know much more, and, because of the information on the internet, things are less vague. (Interviewee # 23)

The need to get as much information as possible about pregnancy stems from the fact that this is an unfamiliar situation for first time pregnant women.

As such, they feel an increased need to fulfill informational needs. This intense desire for information about pregnancy, as shown in the above quotes, does not seem to be common among Israeli pregnant women who are pregnant for the second or third time. These other women might be much more familiar and knowledgeable about being pregnant.

> I have to say that my internet use during my first pregnancy was very extensive. It was much less in my second pregnancy and even less now when I am pregnant for the third time because I have less time and I feel that I know more.
>
> (Interviewee # 5)
>
> During my first pregnancy, my internet use was much more intense. I was much more stressed, and I needed information all the time. I was afraid of the birth, and I was afraid that something was wrong with the baby. In this pregnancy, I trust my body because it has already done something successfully, so I am much more relaxed. Also, I have a baby that keeps me busy. (Interviewee # 6)
>
> During my first pregnancy, it [the internet] was my whole world. Now I am pregnant for the third time, and I can say that I needed much more information when I was pregnant for the first time. Most of my internet browsing now is about preparing the nest. (Interviewee # 29)

Women who already have children explain that they use the internet for pregnancy-related purposes less in comparison to their use during their first pregnancy. One of the reasons illustrated in the above quotes is that women who have already experienced

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pregnancy and given birth are more knowledgeable about this process and, therefore, feel less fear and uncertainty.

The knowledge from past experiences and the decreased sense of fear and uncertainty regarding the pregnancy result in decreased need for online information seeking in comparison to the first pregnancy.

Another prominent reason for decreased internet use by women who are pregnant for the second or third time is lack of time.

> Now, when I pregnant for the second time, I have less time to spend on the internet. I am occupied with my little boy I have at home. (Interviewee # 50)
>
> In my first pregnancy, every little thing that crossed my mind, I would check online. Now I don't do it due to lack of time. In my first pregnancy, my internet use was much more substantial. (Interviewee # 15)
>
> You could always spend hours on the internet looking for information about the fetus development, risks and other stuff, but now I have less time for that. When my son goes to bed, I do not have energy. (Interviewee # 12)

The above quotes illustrate that having little children in the house who require attention and care influences the amount of time pregnant women spend on the internet for pregnancy purposes. The combination of lack of time and previous personal experience of pregnancy and birth seems to understandably reduce the extent and intensity of internet use among pregnant women.

Results of Research Question Three

Having discussed the results regarding the amount of time spent on the internet and the intensity of internet use among women who are pregnant for the first time and women who have children, the discussion will shift to the results of the third research question addressing elements of online support sought on the internet during pregnancy. The third research question was:

RQ3:   What kinds of support do pregnant women seek online, and what are the communication strategies they engage in to obtain online support?

This research question focused on exploring the manner in which pregnant women utilize the internet as a source of support during pregnancy. The two primary types of support emergent from the interview data are informational support and emotional social support. Many interviewees joined pregnancy and birth online support groups. Because interviewees referred to these online support groups as online forums I will retain their term. Online pregnancy forums provide Israeli pregnant women with both informational and emotional/social support. The two most popular online support forums cited by interviewees are the "Ynet" and "Tapuz" forums, mentioned previously. I will begin this discussion by providing an overview of the characteristics of each of the online support forums. Then, I will discuss the manner in which interviewees utilize these support forums.

The "Ynet" online support forum for pregnancy and birth is a vibrant online community which accommodates any pregnant woman who wishes to participate. The online support forum webpage is accessible for reading to any internet user.

There is no need to register, but composing messages and responding to other participants in the forum is enabled after registration. This registration includes choosing a nickname. Due to the use of nicknames, participants can maintain their anonymity. Some participants choose to connect their e-mail address with a link to their nickname, while others choose not to share their e-mail when posting messages or questions.

The graphic design of the forums' webpage is relatively simple and is comprised of a long table with light gray background divided into three columns. One column indicates the title of the message. A second column indicates the date and time of the message, while the third column indicates the nickname of the message composer. Each message can be read by clicking on the message's title. When group participants reply to a message, all the replies are listed below the original message in a string of responses, and the initial message which triggered the string of responses appears in bold blue letters.

The average number of new messages in this forum is around 200 per day. The website interface enables users to browse older messages. Unfortunately, there is no option for performing a search to find a specific message. In addition to writing textual messages, participants can upload pictures, documents, and utilize emoticons. The messages posted by the groups' participants can be classified into six major categories. The first category is questions that are medical in nature and pertain to physical symptoms during pregnancy. For example, participants can ask questions about fetal movements, feelings of nausea and heartburn, headaches, and phenomena like bleeding, cramps, diarrhea and contractions. For instance, one participant wrote in her message,

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This is my first pregnancy, and I am 21 weeks along. In the past few weeks, I felt the fetus move every time I got into bed, getting ready for sleep. However, in the past few days I have not felt anything. I would be happy if you could tell me, based on your experience, that I am just stressed. My next doctor's appointment is two weeks from today.

Despite the fact that there are no certified physicians or nurses in this forum, participants usually answer medical questions based on their own personal experience. In the case of the above question, three participants responded. One participant shared her experience with fetal movements by saying that it felt like butterflies spinning in her stomach. The other two respondents said that this description sounded reasonable considering the age of the pregnancy and the fact that fetal movements should be counted and monitored starting in week 25 of the pregnancy.

In addition to discussing physical symptoms during pregnancy, participants also ask questions and discuss issues related to prenatal tests. Participants share their experiences with prenatal tests, discuss test results and the meaning of those tests, and ask about prenatal testing procedures. One example to a question about a prenatal test read,

Hello everyone. About a month ago I did my amniocentesis and still did not get the results. Does anybody know the phone number of the center where I can ask about my test results?

Some of the questions regarding prenatal tests deal with technical issues of obtaining test results, such as in the above example. Other questions seek recommendations as to hospitals and physicians for specific prenatal tests, such as amniocentesis, questions

about prenatal test schedule, and request for assistance in interpretation of prenatal tests results.

The second category of issues discussed in the forum concerns requests for emotional support. In this type of message participants describe their situation and ask other group participants to comfort them and provide them with emotional support. One woman posted her personal account on the forums' webpage,

> I am 39 weeks + 2 days pregnant and having contractions since Thursday. They [the contractions] are not regular but painful and it's not progressing. During the night between Thursday and Friday I had regular contractions every 5 minutes and I planned on taking a shower and go to the hospital, but then everything stopped like it never existed. I barely felt anything on Friday and a little bit today. Now, it is painful again but not regular. It is very frustrating having this pain which does not promote anything. I already prepared myself mentally that it [the birth] will happen on Thursday night but nothing. Today I strolled in the neighborhood, climbed stairs and I do not think it was helpful. How long it can last? Please keep your fingers crossed for me that tonight is my night to give birth!

This excerpt represents a common type of message. A forum participant will describe a distressing and frustrating situation and ask other participants to react and provide emotional support. The call to "keep fingers crossed for me" is also a way to obtain support, especially before important prenatal test procedures, such as amniocentesis, or when women have contractions and are entering active labor. Forum participants might

do so to get encouragement by knowing that other women will be thinking about them, wishing them good luck.

A third segment of the forum presents announcements and updates that group participants post on a daily basis (every morning). One of the daily updates includes a daily count of the forum's participants, including their week of pregnancy and the gender of the fetus. Additional types of daily updates include a daily grumble, in which participants are invited to share their frustrations and complain about anything, a daily "show off" in which participants are invited to share something they makes them proud, and a daily "pregnancy-induced stupidity" in which participants share their funny/stupid incidents.

Fourth, the forum provides birth updates. This category includes participants' updates about giving birth, posting of baby pictures after the birth and posting birth stories that include a detailed narrative of the birth. This type of update seems to serve as a source of pride for the forum participants. Birth updates signify a successful completion of the pregnancy, and are usually shared with participants to show them the outcome of the pregnancy they were part of. As one participant wrote in her post,

> Hi girls, I disappeared [from the forum] for 10 days…because I gave birth. I had a very short and easy birth. The birth story of my baby girl is in the attached file. I want to thank all the girls in the forum for the emotional support during my pregnancy. It is wonderful to know that there is support [here] and that I am not alone. The months of waiting for the birth passed much easier knowing that there

are wonderful women here. Good luck to all of the pregnant women and the women who gave birth. Have a sunny day.

A fifth element of the forum is various survey questions. Group participants occasionally initiate survey questions on a matter of interest related to pregnancy and birth and invite other participants to respond. Examples of survey questions posted on the forum include, "Do you have a birth plan?", "Does your husband accompany you to your prenatal tests?", "Are you for or against a baby carrier made of fabric?", and the like. These types of survey questions allow participants to compare their own situation and choices to other pregnant women and discuss these issues in a manner that provide them with insights and food for thought.

Sixth, the forum is used to discuss different types of recommendations, ranging from recommendation requests for gynecologists for prenatal care and prenatal tests to recommendations for baby gear, such as strollers, baby carriers, baby beds and the like. The combination of abovementioned issues and topics create a vibrant and diverse space where pregnant women discuss many different aspects of pregnancy and birth and share their daily coping while pregnant.

After describing the Ynet support forum for pregnancy and birth, I will discuss the characteristics of the Tapuz online support forum for pregnancy and birth. Tapuz shares features with the Ynet support forum. Similar to Ynet, the Tapuz forum requires participants who wish to upload messages or to respond to message to register and choose a nickname. The forum has three women who serve as moderators. One of them is a certified doula; the second moderator is a breastfeeding instructor; and, the third

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moderator is a senior participant. The webpage has a gray background and the messages are shown in black font accompanied by an orange bullet point near each original message. Messages posted as responses to an original message are listed in a string underneath the original message and are identified with blue bullet points.

Upon entering the forum webpage, all messages are shown with the title of the message, the nickname of the message author, and the date and time of the message posting. Each message is read by clicking on the message's title. Tapuz is also a very active forum. There are 250-300 new messages each day.

The webpage interface allows users to browse the archive of messages and to conduct a search within the postings on the website by using key words.

The content of the messages and discussions within the support group can be classified into seven categories. The first type of message pertains to medical questions and concerns about different physical symptoms experienced during pregnancy. For example, one participant wrote,

I have abdominal pain and back pain that appear after I stand or walk for 20-30 minutes, even at the grocery store. I am only 16 weeks pregnant. What is this???? What does it mean??? In any case I have a doctor's appointment tomorrow.

The above question represents a common type of question posted by a group participant who asks other participants for advice/ insights about pain and various physical sensations and phenomena. Despite the fact that there are no official professional health care providers in the group, participants answer these types of questions based on their

own personal experience and often advise the person posting the question to seek professional medical care rather than rely on lay responses.

The second type of message includes requests for assistance in the interpretation of prenatal test results. In these types of messages, participants type their test results into the messages and ask other participants to tell them what those results means. For example,

I have protein 70 in my urine test. I do not have high blood pressure, but I have edema, this is why I was sent to do this test. I am currently 28 weeks along. Does anybody know what it means?

This excerpt represents a common type of question posted on this forum in which participants provide their test results and ask for help in interpreting the results. By asking this type of question, participants try to get a better understanding of their test results and health condition prior to their physician office visits.

The third type of messages includes descriptions of an emotional state of distress and requests for emotional support and encouragement. One participant described her emotional distress,

Ugh, I feel completely down and I have no energy to do anything, my house is a mess but I am too tired to start cleaning, organizing, cooking, doing laundry. This is so not typical because I am a cleaning freak. I really fear the birth and this fear is stuck in my head although I have two more months. I do not want to be pregnant.

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This message exemplifies a manner of communication which seeks emotional support from the forum participants. It displays emotions and feelings that show a state of distress and hardship. This message does not contain a direct request for support but, rather, a more indirect request. These messages usually trigger many participant responses providing words of comfort, encouragements, and identification. As one participant wrote,

> I remember the end [of my pregnancy]. It was very tough. It irritated me when people told me that. You are the only one that can understand. I can only send you a hug, and recommend that you rest as much as you can. Also, talk to your baby for encouragement.

The fourth type of message common within this forum includes survey questions on various topics related initiated by the group participants. Some examples for this survey questions are, "What did you have today for lunch?", "How do you deal with your dogs when you bring home a new baby?" and "Are you going to have a doula assisting you in the delivery room? and if so why?" Most of these survey questions are related to issues of pregnancy, birth, and adjusting to living with a new baby, but some of the survey questions, such as the food surveys, are on random topics, mainly for fun, and are not necessarily related to the group's main interest.

The fifth type of message includes status updates about the medical state of the pregnancy. Because some of the group participants are frequent users and develop relationships with other participants, there is a trend on the forum of posting reports about their current medical situation. In these messages, participants report what they have been

through. For example, they might talk about getting back from prenatal tests, going to the hospital to give birth, or coming home from the hospital after giving birth. The aim of these updates is to keep other participants updated about their situation while sharing their experiences and getting feedback and support. As one participant wrote,

> Help! I need your fingers crossed. I was sent from the clinic to the hospital probably to induce labor because my blood sugar level is imbalanced. I am very scared and afraid. Now I am waiting for the doctor to see what he will decide to do.

This excerpt illustrates an update that provides a description of the medical situation along with an account of the emotional state of the author and a request for emotional support and encouragement.

The description of the physical and emotional situation encapsulates an indirect call for support from participants and is often used by women to trigger supportive messages.

The sixth type of message is messages that initiate a string of pictures in which participants upload photos of their growing baby bumps and present their bellies with a short description of how far along they are. This type of posting is initiated every once in a while by the forum participants to show the physical manifestation of the pregnancy. The group participants call this practice a "bellies string."

The seventh type of issue discussed in the forum is related to different types of recommendations. These range from recommendation requests for gynecologists for prenatal care, and prenatal tests to positive and negative recommendations concerning baby gear such as baby beds and baby carriers.

Overall, Ynet and Tapuz are similar in the sense that they provide a venue for obtaining and providing information and emotional support for Israeli pregnant women. Through a variety of communicative practices that include daily surveys, questions, medical updates and picture sharing, pregnant women communicate about issues of interest and support one another. Both Ynet and Tapuz accommodate hundreds of Israeli pregnant women and, thus, serve as a vibrant resource for information and support. However, there are also two differences between the two forums. First, Tapuz seems to be a forum with greater intensity of participation.

This intensity is illustrated through the number of messages posted each day and the number of participants on the site. Both are higher than on Ynet.

Second, in Tapuz, as opposed to Ynet, some participants choose to reveal their "offline" identity. This choice is illustrated in two ways. First, in the practice of uploading belly pictures to the website some participants reveal their real identity by uploading pictures showing their face. This practice is not common in Ynet, where most participants seem to prefer the anonymity of the forum and typically do not reveal their offline identity. Second, some Tapuz participants meet "offline." These participants utilize the forum to schedule and organize social meetings of pregnant women in addition to communicating online.

After describing the different types of messages and content discussed and shared within the two forums, I next discuss the characteristics of participation within these online pregnancy support forums that emerged from the interviews data.

Lurking and Active Participation in Online Pregnancy Support Forums

The participation by interviewees in "Ynet,""Tapuz" and other online pregnancy support forums can be classified on a continuum that ranges from silent participation (lurking) to regular active participation. Active participation includes composing messages, initiating discussions, entertaining questions, and providing information, verbal encouragement and emotional support.

Among participants in this study, the practice of lurking involves reading the messages posted on the forums' webpages without composing or responding to those messages. Lurking seems to be the most prevalent way of using the online pregnancy forums. Four of the interviewees explained,

> When I am using online pregnancy forums, I am not writing questions and I am not answering other girls. I am a passive reader. (Interviewee # 14)

> When it comes to pregnancy forums, I am a passive reader of questions on issues that interest me. If somebody already asked the question, it saves me from asking the question. (Interviewee # 20)

> I have never asked questions in the pregnancy forum, but I read other women's questions. (Interviewee # 17)

> I usually go to online pregnancy forums to read what other girls are asking. I never ask questions myself. (Interviewee # 39)

The above quotes represent the most prevalent way of participating within online pregnancy support forums. Only six out of the fifty interviewees declared that they correspond regularly with other participants by posting messages or asking and

answering questions. One interviewee who is a an active participant explained that she feels a need to respond to other pregnant women on the forum who are going through experiences similar to hers to provide them with emotional support.

> I usually respond to other participants in the online forum because I see women going through the same thing I have gone through [suspicion of a fetus with Down syndrome]. I see the anxiety they experience, and I know that, like in my case, it can be a false alarm and I am the only one who can really understand what they feel. Nobody else can, not even the physician. So I think that when I write to them it can ease them. It does not burden me to make somebody's night more relaxed. I even gave several of the forum's participants my phone number and talked to them on the phone. I am thirty years old and most of the girls in the forum are much younger than me and very stressed. (Interviewee # 21)

The above excerpt shows that an interviewee's past experience of emotional turmoil helps her identify with other pregnant women who share similar concerns. This identification guides the interviewee to help these women by interacting with them in a supportive manner. In the instance just illustrated, the interviewee even took her support for pregnant women beyond the online forum's virtual "boundaries" by providing her phone number.

Another interviewee, a 33 year old in her third pregnancy, who is an active participant, stated that her major reason for responding to pregnant women posting on the online pregnancy forum stems from her concern that online forum users will get inaccurate and risky medical advice from other forum participants.

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I was on the verge of death when I was 34 weeks pregnant [in the previous

pregnancy] and the main reason that I read and responded to other women is when

I see that they have symptoms that I had. So I just write them to turn to their

physician, because, what bothers me a lot in the online pregnancy forum is when

women who are pregnant for the first or second time and are not professionals

[medically] say, "I had the same symptoms. Everything is OK. Relax." There are

many responses like that and it bothers me. For example, I logged into the "Ynet"

forum a few days ago and somebody said [in her message to the group] that she is

37 weeks along and feels numbness in her upper abdomen. It is not supposed to

be like that. And somebody responded to her, "I have the same sensation for a

long time now." I wrote her suggesting that she should seek medical care sooner

than later. (Interviewee # 5)

This quote illustrates a common situation within the forum's correspondence. Pregnant

women receive advice and feedback from other participants regarding pregnancy-related

medical concerns and medical questions. In the above example, the interviewee feels that

her participation in the forum is valuable in stressing the importance of seeking medical

care. She is concerned that women rely on medical advice from lay participants, a

practice that she perceives as dangerous.

This concern about obtaining medical advice via online pregnancy support forums

from other pregnant women who do not have professional medical training and expertise

was echoed by three other interviewees. These interviewees utilize online pregnancy

support forums and report they are bothered by the tendency of participants to provide advice to medical questions.

> I think that in [online pregnancy] forums there are many pregnant women who provide answers that could be contradictory [to other women' answers] and without authority. Other women can take these answers seriously, and I think it is a drawback, especially if it's about important [medical] issues such as bleeding. Personally, I wanted to know if other pregnant women experience bleeding, but I went to the doctor anyway because the doctor is the one who gets to decide. (Interviewee # 26)

> There is lots of incorrect information on the internet. You see women in pregnancy forums write things that are not true with misspellings and writing styles that one can understand that they are not the most educated people. I have to filter this information. (Interviewee # 34)

> Sometimes women [in the online pregnancy forum] recommend things that are not correct. For example, a woman asked [the other forum's participants] "what do you think about intercourse during pregnancy?" and one of the women responded to her "I do not engage in intercourse while I am pregnant, I am not going to take this risk." I could not hold myself, so I responded, "how could you recommend such a thing? If the doctor defined the pregnancy as high-risk or it is painful [to have intercourse] then I agree, but if everything is normal, how could you influence somebody else when you do not have medical training?" (Interviewee # 24)

As we can see in the above excerpts, some of the women who participate in online pregnancy support forums are aware that the information provided by participants is not always reliable or based on medical expertise. The concerns about the implications of medical recommendations and advice might trigger participants to direct other women's' attention to the possible harmful consequences of relying on lay medical advice. They do so by reminding participants that, in case of medical questions, it is better to get advice from a professional rather than getting an advice from other pregnant women who do not have medical training.

Having discussed the different types of participation within online pregnancy forums, I now discuss the two primary uses of online pregnancy forums. These forums are used for informational purposes and for emotional and social support.

Thirteen interviewees said that they use pregnancy support forums mainly to obtain emotional and social support, while sixteen interviewees said that they utilize pregnancy and birth support forums for obtaining information about issues related to pregnancy. I begin my discussion with the use of online pregnancy forums for informational purposes.

Utilizing Online Pregnancy Support Forums for Informational Purposes

Israeli pregnant women use pregnancy forums to fulfill informational needs as discussed previously in this chapter. They use the forums in two ways. One way is finding relevant discussions, questions, and correspondence within online pregnancy forums using keywords with the Google search engine,

When I am searching for specific information and the Google search engine shows online forums in the list of results, I will go there to read. (Interviewee # 6)

If I have something that bothers me and I want more information about it, I use Google to search for an online pregnancy forum where the girls there discuss a similar concern to mine and I read what they say. (Interviewee # 8)

I use online pregnancy forums only for information, primarily to read recommendations about gynecologists. This is the only thing I do there. I find these forums using Google. (Interviewee # 10)

When I Google the term "pregnancy" it usually gives me results that include online forums for pregnancy and I use these forums to read information. I am reading mostly about physical symptoms I have, what other girls experience and what they answer to other girls' questions. I feel that generally it contributes to me in increasing my knowledge. (Interviewee # 14)

These quotes illustrate the use of the Google search engine to locate relevant information within online pregnancy forums. This process is similar to browsing internet websites for information. Interviewees who use this method of seeking information are not interested in communicating with other pregnant women. They do not have loyalties or a special preference for a specific forum. Rather, these women use the online support forums' webpages as tools to obtain desired information.

The other way of using online pregnancy forums to fulfill informational needs is by reading messages and obtaining information from the content of the messages. These

interviewees, a 37 year old in her third pregnancy and a 28 year old in her first

pregnancy, stated,

> I am not really active in online pregnancy forums. I just go into the website to
>
> perform a search on topics that I am interested to read about. Mainly for
>
> recommendations on gynecologists and purchasing baby gear. (Interviewee # 4)
>
> I frequently visit online pregnancy forums, especially "Ynet" to see what women
>
> ask and what answers they get. It provides me with information.
>
> (Interviewee # 32)

The above quotes reflect a practice of intentionally browsing forum messages,

without being an active participant in group conversations. This is done to acquire

information on specific issues of interest related to pregnancy and birth such as

physicians' recommendations and baby gear. Using this search method, the women are

not using a search engine to direct them to relevant forums but, rather, they prefer to visit

a forum webpage directly to see if they can find information of interest to them.

Israeli pregnant women who use this technique have more loyalty to a specific forum in

comparison to Israeli pregnant women who use a general Google search.

Online Pregnancy Forums as Informational Resources

Five interviewees who use online support forums for informational purposes,

rather than for emotional/social support, explained that support from family and friends

renders the support function of online pregnancy forums superfluous.

> I do not feel that I need online forums for social reasons because I have enough
>
> girlfriends around me. (Interviewee # 13)

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I use the internet mostly for information and not for support. I get support from the people around me who are close to me and not from online support forums. (Interviewee # 18)

Online support forums are not my thing. I am so self-centered right now that I am pregnant. I feel that I have a strong and very open support system, I have my sister, my husband, my girlfriends, and I prefer to get support from people I am close to. I did not have a situation where I felt uncomfortable asking the people who are close to me for support. (Interviewee # 7)

I am using forums mainly for information, less for emotional-social support. I get my support from the fact that the information gives me a sense of power. I have a pregnant girlfriend and girlfriends who were pregnant and we talk amongst ourselves. I am not so into interactivity on the internet. I am more into information seeking. Support for me is more face to face. (Interviewee # 25)

I do not like [online pregnancy] forums because I am required to use a password before composing any message and, besides, I have enough girlfriends to talk with. (Interviewee # 28)

The above quotes convey some interviewees' preferences for obtaining social and emotional support from people in their close social circle, such as girlfriends and family members, as opposed for obtaining this support from interactions on the internet. As we can see in these excerpts, there is a preference for face-to-face interaction above online written interaction with forum users. A forum user's "offline" identity is unknown and, therefore, she is considered to be a stranger. One interviewee mentioned the technical

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requirement of using a password in the forum interface as a barrier to use, but this barrier did not seem to be prominent.

Utilizing Online Pregnancy Forums for Social and Emotional Support Purposes

Although some women quoted said they do not need online pregnancy forums for social support, interviewees who use the online pregnancy support forums for social and emotional support explain that this virtual space makes up a for lack of social support in their close social circle. As a 33 year old interviewee in her their third pregnancy explained,

> During my first pregnancy, I was the only one pregnant among my friends and I had the need to find other women in my situation. This is why I participated in an online pregnancy forum; it gave me a lot of support. The online forum fulfills a social need of sharing, especially if your husband is sick of listening to you complaining all day long, or if you do not have other people to share with. There was one pregnant woman in this forum, and she described how her boyfriend was cheating on her while she was carrying his baby and she broke up with him and then got back to him. When I read her stories I thought to myself, "oh my god"…but I guess she had nobody else to share it with. (Interviewee # 5)

This excerpt well illustrates one for the most important functions of the online pregnancy forum. It becomes a space for sharing personal stories and emotional situations related to pregnancy when there is no alternative for this type of communication in the "offline" environment. When pregnant women feel that they cannot share their pregnancy-related thoughts, feelings, and stories within their close social circle, they might turn to online

pregnancy forums where they can find other pregnant women who are willing to interact

with them and provide them with social support. This use of the online pregnancy forum

as an alternative space to talk about pregnancy is echoed in the following explanations:

> I do not have girlfriends who are pregnant to talk about the pregnancy so I go to
>
> the internet. The online forum is helpful because you can share your concerns,
>
> other women can identify with you and give you support.
>
> I usually read what other women wrote and sometimes ask a question. It makes
>
> me feel that I am not alone. (Interviewee # 35)
>
> Most of my close friends are single so I cannot ask them and learn from them
>
> about pregnancy. The online forum is wonderful for me in this sense. They give
>
> you legitimacy to whine if I did not get enough sleep at night, if my head
>
> explodes, or if I had an argument with my husband. They give good support.
>
> (Interviewee # 24)
>
> I think that the online forum is helpful if you do not have people to share with.
>
> For example, if your girlfriends are not into pregnancy, it is really important that
>
> you have a place where you can share, and no matter how much you will
>
> complain about your heartburn they will understand what you are going through.
>
> (Interviewee # 9)

These quotes show that women turn to a pregnancy online support forum when they feel

there are no alternatives within their close social circle. Moreover, these quotes illustrate

two perceived advantages for obtaining social and emotional support within an online

pregnancy forum. First, because the vast majority of the forum participants are pregnant

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women, it gives participants a sense of legitimacy to complain and share hardships. This sense of legitimacy stems from the fact that all participants are going through the same experience and, therefore, have a better capacity to relate and to identify with other pregnant women. The ability of the forum participants to understand the physical and emotional implications of being pregnant creates an environment in which women feel comfortable to communicate their complaints and discomfort because they know that the forum participants are there to support and comfort them without judging.

The Online Pregnancy Support Forum Confirms that I am Not the Only One

The second advantage of the forum, as interviewee # 35 mentioned, is that this type of supportive communication provides participants with the feeling that they are not alone. By reading other pregnant women's questions and concerns, and by sharing personal thoughts and emotions, pregnant women can see that what they feel is not unique but, rather, common among pregnant women.

The most prominent theme emerging from these interviews is the notion that this type of sharing of thoughts, emotions and concerns with other pregnant women makes women feel that they are not alone. Moreover, it provides them with a sense that their pregnancy experience is common to many other pregnant women, as the following interviewees, a 36 year old in her second pregnancy and a 30 year old in her first pregnancy, explained,

> The best thing about the online pregnancy forums is that you can see that other
> women go through the same things you go through and to be calm about it.
> (Interviewee # 36)

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The forum is relaxing because it gives me a sense of normality to know that everybody feels like me. I am not the only one who goes to bed at 8 p.m. (Interviewee # 40)

The use of the forum as a means to confirm that the physical and emotional experiences associated with pregnancy are prevalent was echoed in the explanations of additional interviewees. A 34 year old in her third pregnancy and a 29 year old, in her first pregnancy explained respectively,

When you participate in an online forum you realize that you are not the only one that suffers. It is more than just information because you see that many women are like you. They all become fat, they all wake up in the middle of the night because it's not comfortable to sleep. It's a type of support. (Interviewee # 37)

I sometimes look at online pregnancy forums and it makes me feel that I am not alone. (Interviewee # 17)

Communicating with pregnant women in an online forum was perceived to be beneficial by interviewees because they could read about situations and sensations that are of interest for them. As a 29 year old in her first pregnancy and a 30 year old in her second pregnancy explained,

I participate in the online pregnancy forum to see what bothers other pregnant women and to get their advice about things. If other pregnant women write about situations that are applicable to me, I am very interested to read about it. (Interviewee # 16)

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The online pregnancy forum is a very nice place because the women share what they are going through and talk about their daily hardships, even physiological challenges and it is nice to know that you are not alone. And all kind of horrible symptoms that you have, other women also have them, so it is a little bit comforting. (Interviewee # 22)

The above excerpts illustrate the importance that the online pregnancy support forum participants ascribe to the notion of knowing that other pregnant women are experiencing similar phenomena, such as fatigue, sleeping problems, and weight gain. This feeling of similarity not only provides women with comfort but, more importantly, gives women a confirmation that they are "normal," as interviewee # 40 asserts. Knowing that other pregnant women feel similarly provides forum participants with a sense of normality and is helpful in easing concerns that something might be wrong. These concerns can lead to anxiety and fear, especially for women who are pregnant for the first time and do not know what to expect.

There are two more perceived advantages to obtaining social and emotional support through an online forum. The first advantage is that the online pregnancy support forums enable women to communicate with other pregnant women who are not friends in real life. The second advantage is related to the fact that the online support forum provides a variety and diversity of participants that might not otherwise be accessible.

The Advantage of Obtaining Emotional Support from Forum Participants

Rather Than From Friends

Some of the women who utilize online pregnancy support forums find it easier to share pregnancy related concerns and thoughts that they consider to be personal and intimate with the forums participants rather than with close friends.

> The forum provides me with emotional support on a more intimate level. I have close friends who are pregnant, but I feel more comfortable with virtual friends because I care a lot about my privacy. With my virtual friends, we have an unwritten agreement of privacy and confidentiality, whereas, with my off-line girlfriends, things are more blurred. I have known them since we were eight years old and if I choose not to disclose something they will be offended. In the online pregnancy forum, we talk about everything- relationships, health, children, and even about daily chores. We talk about everything. (Interviewee # 48)

> I think that this online support group is helpful in dealing with things. It's not always comfortable to share with friends, and my husband does not always understand what I feel, even though he tries. So once you participate in the forum regularly and you get to know the other participants it is much easier mentally. I usually write about my experiences. The girls in the online forum are very supportive; it is better to share than to stew alone with your own thoughts. (Interviewee # 9)

The above quotes reveal the advantages of obtaining supportive communication from other pregnant women who are not "friends in real life." The anonymity and privacy that

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is enabled by the forum, along with the fact that the women do not need to worry about relationship maintenance and the consequences of their communication, allow for a more open space in which women can communicate. They might feel no need to worry about hurting somebody else's feelings, being judged, or harming an existing relationship. The opportunity to communicate in the online forum with other pregnant women under the cover of anonymity liberates women from the need for caution and calculation of what to disclose or not disclose. This anonymity could make the interaction easier than communication with people that Israeli pregnant women know "offline."

The Advantage of Communicating Online with a

Diverse Population of Pregnant Women

Another perceived advantage of participation in online pregnancy support forums is the opportunity to interact with a diverse group of women. Because the women in the forum are of different ages and life situations, participants are likely exposed to a relatively wide variety of issues. The following interviewees explained,

> The women [in the forum] share personal stories, for example I had a fight with my husband or with my mother-in-law. We share recipes and upload pictures of the kids. I think that the support you receive in the online forum is different from the support you get in reality because, first, this is something that you do when you do not have the energy to talk to anyone. It clears my head. I do not need to talk. I can just read. Second, you are exposed to a wide variety of problems and issues. You do not have such a wide variety among your friends. This is something that you cannot get from your friends. (Interviewee # 22)

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The online pregnancy forum is helpful because the women there are of different ages, across different stages of the pregnancy, and also women who already gave birth, so I can get a variety of opinions. I think it is very beneficial to discuss issues with women who already experienced these things and they give their honest opinions. (Interviewee # 24)

The above quotes emphasize the advantages of communicating with a diverse group of women in the online pregnancy forum. The diverse nature of participants (in terms of age, number of pregnancy, number of children, different life experiences, etc) within the online pregnancy forums enables a wide variety of attitudes, opinions and outlooks which might not be available to pregnant women who communicate only within their close circle of friends and relatives. The online pregnancy forums thereby provide participants with a wider and richer "virtual" social circle to communicate with and obtain support from.

In summary, this chapter covered the findings of the three research questions concerning motives for internet use during pregnancy, practices of internet use and websites preferences, the type of pregnancy-related information sought by pregnant women and the use of online pregnancy support forums for informational and emotional and social support. In the next chapter I present an overview of the research findings and discuss the implications of these findings.

CHAPTER FIVE: DISCUSSION

In this chapter, I discuss the results of my study addressing my three research questions. Also, I present the theoretical implications of this study and discuss some practical recommendations for health care providers, internet website content writers, and pregnant women. Last, I explain the limitations of this study and present directions for future research. The goal of this dissertation research was to employ Uses and Gratifications perspective in order to achieve a better understanding of Israeli women's uses of the internet during pregnancy.

Discussion of Research Question One

The first research question asked:

> RQ1:   What needs and motives do pregnant women have when they go online during pregnancy?

The first part of this research question focused on the needs Israeli pregnant women expressed for going online for pregnancy-related purposes. The interview data indicated that the main reason Israeli pregnant women report for going online was to fulfill informational needs. All fifty interviewees asserted that they utilize the internet to obtain pregnancy-related information. The second type of need fulfilled by the internet among interviewees (13) was a need for emotional and social support. Last, a small portion of the interviewees (7) indicated a need for passing time. These findings are in accordance with previous Uses and Gratifications studies (Armstrong & Rubin, 1989; Charney & Greenberg, 2002; Greenberg, 1974; Johnson & Kaye, 2003; O'Keefe & Sulanowski, 1995; Peled & Katz, 1974; Rubin, 1983).

These previous studies also identified information, human support, and passing time as needs that consumption across different media fulfills.

Informational Needs during Pregnancy

The importance of informational needs to Israeli pregnant women in this study can be explained in light of four themes that emerged in the interview data. These themes included the use of information to cope with stress and fear, the use of information to feel more connected to the pregnancy, the use of information to get reassurance of "normality," and the use of information to obtain practical advice and recommendations.

First, the need for pregnancy-related information is embedded in the normal psychological adjustments, anxieties, and stresses often associated with pregnancy (Dragonas & Chistodoulou, 1998; Elsenbruch et al., 2007). Moreover, an Israeli pregnancy is a highly medicalized process (Weiss, 2002). Israeli pregnant women indicated their frequent medical monitoring, which includes a relatively high number of prenatal screening tests during a normal pregnancy in Israel (see Appendix A), in combination with the general uncertainties of pregnancy, lead to a need for information about prenatal testing schedules, procedures and risks. This need to obtain prenatal test information will be discussed in more depth later in the discussion of RQ2.

Second, the interview data indicated that the need for pregnancy-related information stems from women's desires to feel more connected to the pregnancy and the growing fetus. The need to be more connected to the fetus through information exists because the pregnancy occurs inside the body and, thus, is not directly observable by the

pregnant woman. Understanding the physiological processes involved with fetal development establishes the pregnancy experience as much more tangible for women. Knowing more about fetal development serves to fulfill women's natural curiosity about this process and can help them bond with the unborn fetus. The findings of this study indicated that even women who are pregnant for the second or third time remain interested in acquiring information about their fetus's development. This finding implies that this information serves more than an instrumental value of knowing facts; pregnant women who already have knowledge about the process of pregnancy are also interested in engaging with information as a means of feeling more connected to their pregnancy and making sense of this process.

The internet, as a medium that combines both text and visual images, can be particularly helpful in delivering this type of information. The internet can show pictures, video clips and movies with sounds of the fetus inside the womb. The ability of the internet to provide a wide variety of visual aids including multimedia allows it to offer a vivid and lively depiction of the pregnancy and fetus development and can enhance women's experience of consuming this type of information.

Third, pregnant women reported a need to be reassured of "normality." Pregnant women in this study wanted to know that what they felt and went through was not that different from other pregnant women's experiences. The need for a sense of normality through obtaining pregnancy-related information seems to be connected to physiological aspects of the pregnancy. When women experience physical sensations during pregnancy,

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they might want to know that the sensation is "normal." The need to know that "it is normal" seems to be invoked by a desire to maintain a healthy pregnancy.

This need is especially apparent in women who are pregnant for the first time. For first time pregnant women, the pregnancy is a whole new experience.

The literature suggests (Aaronson, Mural, & Pfoutz 1988; Singh, Newburn, Smith, & Wiggins, 2002) that pregnancy is a psychologically vulnerable period for women and is associated with more concerns, fears and uncertainty about the well-being of the pregnancy and fetus. As a result, pregnant women often have an increased need to acquire information to help cope with the unknown. Acquiring relevant information assists in reducing uncertainty and in increasing a woman's understanding of the situation. Because uncertainty is often related to feelings of anxiety, acquiring information is seen as desirable for both its instrumental and emotional value. Consequently, information sought for uncertainty reduction might also be helpful in reducing emotional stress (Shiloh et al., 1999).

The felt need to obtain information for reassurance was more intense when it came to using the internet to interpret prenatal tests. Israeli pregnant women reported a great volume of internet use to help interpret testing results. Interviewees in this study explained that they utilize the internet to acquire online information that will help them to interpret their prenatal test results. This type of information seeking was typically performed by pregnant women after getting test results back, but before meeting their physician. Because test results can be obtained independently by patients online through the HMO's website, there is usually a gap between the time the results are received and

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meeting the physician. The findings of this study indicated that women tended to self-interpret their tests results through online information prior to office visits. This practice of interpreting test results using online information can be seen as another indicator of the wish to ensure "normality." Pregnant women were eager to know whether their prenatal test results suggested a problem with their pregnancy or with their fetus. Women chose not to wait until they met with their physician. They preferred to go online to figure out the meaning of their prenatal test results. Interpreting prenatal test results via the internet seems to provide women with a way to obtain peace of mind and settle fears associated with the notion of an abnormal pregnancy. The desire of pregnant women to seek reassurance via online information might not be surprising in light of the Israeli context. The Israeli context of pregnancy, as explained in the literature review, is saturated with medical scrutiny and a high number of prenatal tests aiming to identify fetal abnormalities.

Fourth, the need expressed by Israeli pregnant women to obtain pregnancy-related information on the internet stems from women's desires for practical advice and recommendations. Many women in this study sought advice when dealing with physiological symptoms and sensations related to pregnancy such as nausea, heartburn and the like. The internet was used by pregnant women to acquire information that might help them alleviate any uncomfortable physical aspects of their pregnancy.

Emotional and Social Support Needs during Pregnancy

In addition to informational needs, many pregnant women in this study also expressed the need for the kind of emotional and social support they were obtaining

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online. This need also coincides with previous U&G studies (Greenberg, 1973; O'Keefe & Sulanowski, 1995; Rubin, 1983) that identified a need for human companionship. These studies found that some media provide individuals with a sense that "they are not alone" and allow communication of advice and support. The need for social and emotional support through participation in online pregnancy forums was expressed mostly by pregnant women who lacked supportive communication in the "offline" world. Online support forums fulfilled this lack by providing pregnant women with an alternative to the traditional "offline" social support network. The online alternative enables women to communicate with other pregnant women in an online environment intended to provide support and share concerns and hardships. Because RQ3 addresses the functions and implications of online support forums for Israeli pregnant women, I discuss the notion of online social support later in this chapter.

The third type of need the internet fulfilled for pregnant women in this study was the need to pass time. This need was not as prevalent as the needs for information and for emotional and social support. The need to pass time was consistent with the U&G literature's distinction between "content gratifications" and "process gratification" (Swanson, 1992). While the gratifications from internet use for information and support are considered "content gratifications" (Swanson, 1992), passing time is considered a "process gratification" (Indeok-Song, Larose, Eastin & Lin, 2004). Passing time through browsing the internet has no direct connection to the content consumed while browsing the web. Rather, the process of browsing fulfills the desire to pass time. This type of need is more common in pregnant women who are pregnant for the first time and do not have

children than among women who have children. This study suggested that, when women already have children, they prefer to devote more of their free time to their children than to online activities. Therefore, they have a lesser need to use the internet to pass time in comparison to pregnant women without children.

Israeli Pregnant Women's Motives for Going Online

The second part of the first research question focused on the motives pregnant women have for going online. This question aimed to identify reasons Israeli pregnant women have for using the internet rather than other sources of information. The interview data indicated five reasons women are motivated to turn to the internet for pregnancy-related information. These five reasons are: the availability of the internet, the constant accessibility to up-to-date pregnancy-related information on the internet, the anonymity of the internet, the independence associated with online searches, and the fact that online pregnancy-related information can supplement information given by health care providers.

The first motive pregnant women reported for going online was rooted in the constant availability of the internet. The internet is always open, 24 hours a day, seven days a week. In addition to the ability to use the internet any time, the internet is also accessible from multiple locations. In this sense, women are not confined to a specific space, such as their home or workplace; rather, they can access the internet from any location that has an internet connection. The availability of the internet in both space and time allows pregnant women to utilize the internet from various locations throughout their day. This constant availability contributes to the notion that the internet is a resource

which is "always there" for women and, as such, promotes the frequent use of this medium. Other resources are less available to women, such as pregnancy books which are stored and consumed mainly at home and, therefore, perceived as less available.

The second reason women mentioned for going online was associated with a perceived superiority of the internet over pregnancy books in terms of speed and currency. In terms of speed, performing online searches (mainly through Google) was perceived by pregnant women to be a much quicker way of obtaining information. Typing key words and queries into search engines was seen as less time consuming than searching within pregnancy books for specific information. Moreover, searching for information using computers was mentioned by women in this study as being more physically comfortable than holding heavy and thick books. In other words, performing an electronic search was seen as more user-friendly and more convenient than searching inside books.

The internet was also perceived to be superior to pregnancy books because the internet was seen as having more current information. The production process of books is more lengthy than for electronic materials. Uploading materials to the internet is faster than printing. Therefore, the internet was perceived by women as an information source that is more up-to date than pregnancy books. The currency of information was found to be important for pregnant women, especially because pregnancy-related information was seen as constantly evolving and changing. Israeli women, as health information consumers, are aware of the constant advancements in medicine and research, especially in the area of prenatal tests (Weiss, 2002). Israeli pregnant women find it important to

obtain updated and current pregnancy-related information. The demand for currency is understandable in light of the salience of prenatal tests in Israel. As a result, pregnancy books might no longer be current in the discussion of prenatal tests and diagnostic procurers. They are, therefore, left on the shelves in favor of using the internet.

The third reason that Israeli pregnant women are motivated to go online is the anonymity associated with information seeking on the internet. Interviewees indicated that the ability to search for and obtain pregnancy-related information without the need to disclose the pregnancy was an advantage for them. When women do not wish to disclose the fact that they are pregnant, the internet plays a particularly valuable role in comparison to interpersonal sources of information. It is challenging for women to obtain pregnancy-related information from other individuals without revealing why they are interested in this issue. The internet enables anonymous communication in which women are able to seek information and ask questions without worrying about disclosure or compromising their privacy. Moreover, the anonymity on the internet enables women to openly discuss pregnancy-related issues that they might consider sensitive or embarrassing, such as intercourse or hemorrhoids. This ability makes the internet an appealing resource because it eliminates barriers arising from concerns about losing face and being judged by other individuals.

The fourth reason women were motivated to go online was the sense of independence and self-sufficiency associated with online information seeking. Online information seeking was desirable for pregnant women because it saved them the need to contact a health care provider. The option of turning to the internet was perceived to be a

more convenient and comfortable way of getting information than turning to a nurse or physician. Women would typically turn to the internet for pregnancy-related questions or concerns that they did not deem as justifying consulting a health care provider.

It is important to note that, in this context, the internet does not fully substitute for the health care provider in entertaining medical questions and concerns related to pregnancy. The internet serves more as complementary resource of information. This was the fifth reason pregnant women were motivated to go online.

When women feel dissatisfied with the amount, depth or quality of the information they get from their health care provider during office visits, they will likely turn to the internet to fulfill this need. The internet helps women fill the perceived gap in information, which often occurs due to the limited time health care providers spend with patients during office visits. Under these circumstances, women utilize the internet to supplement information from the provider to learn more about pregnancy-related issues that could not be obtained during physician-patient interaction.

The Role of the Internet within Doctor-Patient Interaction

This study also indicated that Israeli pregnant women conduct research on the internet before going to a physician office visit. The aim of this practice was to acquire relevant medical information to be more knowledgeable and, thus, be more prepared and competent in communicating medical issues with the physician. This finding is consistent with previous research conducted in the United States that reported, "41% of health seekers who got internet information prior to a doctor visit discussed this information with their doctor" (Rice, 2006, p. 11).

The practice of using online health information to inform doctor-patient interaction could be explained in light of the growing trend towards consumerism in health care (Buetow, Jutel & Hoare, 2009; Neelapala et al., 2008; Potter & McKinlay, 2005). As Neelapala and colleagues (2008), pointed out "patients today are more informed, demanding and proactive about their own health care" (p. 300). The current study suggests that pregnant women utilize the internet to be more informed about pregnancy-related information.

The use of online information by pregnant women to prepare for or supplement encounters with physicians illustrates well the shift from the paternalistic model of doctor-patient interaction to a consumerist model (Buetow, Jutel & Hoare, 2009). In the paternalistic model, the physician typically takes the role of a parental figure with the authority and power to decide for the patient; in turn, the patient accepts this authority (Potter & McKinlay, 2005). This study's findings show that Israeli pregnant women do not adhere to the passive role of the patient within the paternalistic model. Rather, the women in this study chose to take an active role by seeking and consuming online pregnancy-related information and participating in the prenatal care they receive. These findings support existing claims in the literature about "Web savvy patients" who alter existing models of physician-patient relationships by creating a triangulation of physician-web-patient (Goldsmith, 2000; Powell, Darvell & Gray, 2003; Wald, Dube, & Anthony, 2007). The internet emerges as a pivotal player within physician-patient communication. That is, information from the internet is used by pregnant women during

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medical encounters and to supplement gaps in knowledge that are not fulfilled by physicians.

Perceived Challenges of Internet Use within Doctor-Patient Interaction

Despite the possibilities offered by online information seeking when communicating with health care providers, this practice could also cast a shadow on these interactions. Interviewees in this study mentioned that physicians often have a negative attitude towards the use of the internet for pregnancy-related information. This negative attitude was communicated by some physicians through dismissive remarks ("It's nonsense") or defensive comments ("Do you think that you are a physician now?"). Moreover, interviewees explained that, despite the fact that they use the internet to be more knowledgeable when interacting with physicians, they often do not mention their internet use to their physicians. These women explained that physicians generally hold an unfavorable attitude towards this practice. Interviewees believed that the internet, with its vast amount of medical information, threatens the physician's status and puts the physician in an uncomfortable position. Interviewees believed that online health information seeking should be concealed when interacting with physicians. Interviewees, therefore, preferred to not disclose their intent use while communicating with physicians because they believe it will promote a negative reaction and will not serve them well.

The perception that online health information seeking should be avoided during interactions with physicians creates an undesirable situation for women. Women strategically choose to not fully disclose their source of information and do not feel comfortable raising the use of internet in the conversation. This strategic decision might

lead to a lack of openness and, thereby, negatively influence the quality of doctor-patient interaction. Obviously, the confidence of pregnant women in their ability to be open with their health care providers without being judged or dismissed is significant. A lack of openness stemming from fear of raising the issue of internet use could negatively affect the quality of doctor-patient communication.

Interestingly, there seems to be a tension between physicians' interpersonal reactions to pregnant women's internet use and the Israeli HMO's public attitude towards internet use. The three Israeli major HMOs ("Clalit," "Macabi," and "Leumit") offer their customers a wide array of online services ranging from obtaining lab test results online to consulting with physicians in online forums. Nevertheless, physicians do not seem to support online services. The interview data indicated that, in most doctor-patient communication, the issue of internet use resulted in an unfavorable reaction when brought up by the patient. Based on interviewees' experiences, physicians usually avoid mentioning the internet as a resource for obtaining pregnancy-related information. The physicians might, then, tend to ignore the HMO's online services during the conversation with patients. It is unclear whether physicians choose to dismiss the internet or are ignorant of these resources while communicating with pregnant women. One of the explanations in the literature (Diaz et al., 2005) for the lack of internet guidance from physicians during interactions with patients is physicians' general lack of trust in the health information on the internet. Because this study focused only on pregnant women's perspectives, the current findings cannot shed light on the reasons for physician's unfavorable attitudes toward the internet. Future research focusing on physicians' attitude

toward patients' online health information seeking would be helpful addressing this important issue.

This study suggests that the challenge of doctor-patient communication was not the only challenge pregnant women face while using the internet. Because content gratifications (online information seeking) were found to be more prominent among pregnant women in this study than were online process gratifications, the quality and usability of pregnancy-related content on the internet is important. The data revealed two challenges that online information presented to pregnant women. The first challenge was the variable reliability of online information. The second was a challenge of information overload.

The Challenge of Variable Reliability of Online Health Information

The variable reliability and quality of health-related online information has been extensively discussed in the literature (Ansani et al., 2005; Brashers, Goldsmith, & Hsieh, 2002; Groot et al., 2001, Hirji, 2004; Kim et al.,1999; Morahan-Martin, 2004; Lewis, 2006; Nicholas, Huntington & Williams, 2006; Smart & Burling, 2001, Tegren, 2007; Wurman, 2001). Evidently, there are significant challenges to using the internet as a source of information about health and medical issues for lay individuals. This study indicates that, although pregnant women rely on the internet as a source of information, they are also aware of the need to filter and critically evaluate this information. The women in this study pointed out a constant need to distinguish between reliable, quality information and information that could be misleading, inaccurate or harmful. Some interviewees perceived themselves as competent and critical enough to make such a

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distinction and, therefore, they were not hesitant to use the web. However, some interviewees explained that evaluating online information is sometimes confusing and often leads to frustration. These concerns are most evident when women encounter information that is contradictory or when it is a struggle to validate the information.

The Challenge of Information Overload

The second challenge associated with pregnancy-related health information seeking was the vastness of information on the internet. This challenge was described as a sense of feeling overwhelmed by choices and information. Interviewees used the metaphors of "ocean" and "drowning" to describe the amount of information available on the internet. In this metaphor, the information was seen as enormous like an ocean and, therefore, one can drown in it. Interviewees' perception of "too much information" on the internet can be explained partly by their use of search engines. Thirty-six interviewees asserted that that they use the Google search engine as their primary method of finding pregnancy-related information. This finding supports claims in the literature (Cullen, 2006; Gaudinat et al., 2006) that search engines are the most common tool for obtaining online health and medical information. The use of search engines for pregnancy-related information seeking can propel the perception of "too much information" when using a search engine, pregnant women are exposed to a vast number of search "hits." These search hits include so many options for browsing that it generates a sense of information overload.

To conclude the discussion of the first research question, the internet was perceived by interviewees as having various advantages. The perceived advantages of the

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internet stem mainly from the unique characteristics of this medium. These advantages consist of the internet's constant accessibility, the speed and currency of online information, the anonymity on the internet, the independence and self-sufficiency associated with online information searches, and its ability to supplement office visits. These characteristics, combined together, make the internet an appealing source for obtaining pregnancy-related information. These advantages are tempered by perceived challenges. These challenges were the need to identify and evaluate reliable, quality information, and the difficulty navigating an overwhelming amount of information. An additional challenge was related to discussing internet use during doctor-patient interactions.

Knowing why Israeli pregnant women go online, however, does not tell us what information they are seeking for. Therefore, RQ2 asked:

RQ2:   What kinds of health information do pregnant women seek online?

Discussion of Research Question Two

This research question focused on the topics Israeli women search for on the internet during pregnancy. Understanding the topics pregnant women seek on the internet is important in addressing and fulfilling these informational needs. Interview data revealed five types of information sought by Israeli pregnant women online. First, they sought information on prenatal tests, which included three sub-categories: keeping track of the prenatal testing schedule, interpretation of prenatal test results, and information on amniocentesis. The second type of information interviewees reported seeking online concerned the development of the fetus. The third type of information was related to the

physical symptoms involved with pregnancy. The fourth type of information involved nutrition during pregnancy. The fifth type was information related to the selection of health care providers.

The first type of information sought by Israeli pregnant women who use the internet was related to prenatal tests. All interviewees talked about seeking online information regarding prenatal tests. Israeli pregnant women might be interested in prenatal testing information on the internet because of the salience of this issue within the Israeli health care system. As argued in the literature (Remennick, 2006; Weiss, 2002), Israel is one of the countries that is most enthusiastic about prenatal tests. The Israeli Ministry of Health's recommendations for prenatal tests (see Appendix A), along with a system of universal health insurance that covers most of the costs, lead to a relatively high level of compliance (Mishori-Dery et al., 2007) and demand for these tests among Israeli pregnant women (Remennick, 2006). Prenatal tests evolved to become an inseparable and dominant element of the experience of pregnancy in Israel. The prominence of prenatal tests in an Israeli pregnancy is manifested by the number of prenatal tests, the amount of time Israeli pregnant women spend in undergoing these tests, and the time and energy Israeli women devote to making sense of this process. Online prenatal test information seeking could help pregnant women to make sense of their situation. As Dervin (1983, 1992) explained, "making sense" of the situation is a human need which drives information seeking. When Israeli women are pregnant, they find themselves under a highly medicalized scrutiny in the form of many prenatal tests. Therefore, they might feel a need to acquire information about these tests to better

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understand the meaning and the implications of the procedures that they are going through.

The relatively high frequency of prenatal testing during a pregnancy in Israel, combined with the fact that many of these tests need to be performed during a specific period, creates a need for pregnancy women to maintain a relatively loaded test schedule. Many women use the internet as a resource to keep track of their prenatal testing schedule. One of the popular web applications mentioned by interviewees was a prenatal test calculator. The prenatal test calculator indicates the prospective dates of certain prenatal tests; it can be personally customized by plugging in the date of the last period. Women in this study found this calculator application helpful in determining when to schedule a doctor's visit for prenatal testing and for keeping track of their list of prenatal tests.

The second type of information regarding parental tests interviewees sought was related to the interpretations of prenatal test results. Most Israeli HMO's websites include the option of obtaining test results online without the need to call or come to the clinic. This option creates a situation in which pregnant women can obtain their test results before seeing their health care provider. Interview data indicated that many pregnant women use the internet to self-interpret their test results before their doctor's visit. Interviewees explained that making sense of their test using online resources was a way to get peace of mind and to make sure that everything was normal.

Women's use of online information to interpret test results can help address common fears often associated with pregnancy (Hanna-Leena & Lauri, 1999; Heper,

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Cohen, Beiteman & Eaton, 1968; Tipping, 1981). These fears include worries about the

well being of the baby and the pregnancy. Using online information to make sense of

prenatal test results seems to provide pregnant women with a coping mechanism to deal

with their uncertainties. The eagerness of women to self-interpret prenatal test results

fulfills cognitive needs to know but also addresses emotional needs. Prenatal test results

can alleviate concerns and fears about the well being of the pregnancy. Israeli pregnant

women's use of information resonates with existing literature (Shiloh et al., 1999)

suggesting that acquiring information is seen as desirable because of both its instrumental

value and its emotional value as a guard against stress.

Pregnant women's self-interpretation of their prenatal test results online might

reflect a trend toward a more proactive and involved patient (Neelapala et al., 2008).

Pregnant women choose to be involved in their prenatal care by investing time and effort

in searching online information to interpret their own test results.

The internet, in this case, is used not just to satisfy curiosity, but as a diagnostic aid. The

fact that women find it important to engage in self-interpretation with respect to their test

results by self-interpretation demonstrates a higher level of involvement within the

process of health care. Moreover, the use of internet for self-interpretation of prenatal test

results raises questions about the usability of online information to address this need and

about women's competency to find answers of good quality.

Self interpretation of test results can be difficult for lay individuals. Interview data

suggested that women generally find this practice helpful in decreasing anxiety and

stress. This finding might not be surprising in cases of normal test results. However, the

consequences of online-self interpretation of test results that might indicate a problem with the pregnancy might have different implications. In cases of abnormal test results, self-interpretation might promote even higher degrees of stress and anxiety. Therefore, this practice might negatively influence the emotional state of pregnant women and cause more distress.

The third type of prenatal test information Israeli pregnant women seek on the internet was related to amniocentesis. The reason for the prevalence of amniocentesis information seeking can be explained in light of the characteristics of this test. First, amniocentesis is an invasive procedure and, as such, poses risks such as infection, injury to the fetus, or miscarriage (Robertson, 2006). The risks associated with amniocentesis create informational needs. Second, amniocentesis is not mandatory, but elective. Recommendations for amniocentesis are typically based on prenatal screenings or a physician recommendation. Many pregnant women and their partners have to decide whether to have amniocentesis.

The decision might not be easy because of the risks to the pregnancy. As a result, some Israeli pregnant women turn to the internet to acquire information that will assist them in making an informed decision.

Another factor which seems to explain some women's need for online information about amniocentesis is associated with the fear of the procedure itself. Amniocentesis involves the insertion of a hollow needle through the abdominal wall into the uterus and withdrawing fluid from the sac surrounding the fetus (Robertson, 2006). The insertion of a needle into the uterus can be scary for some pregnant women because

of the pain and discomfort this procedure might cause. Therefore, some pregnant women chose to turn to the internet to read testimonials of other pregnant women who had experienced amniocentesis. Women's personal stories and testimonials about experiences with amniocentesis held the potential for reducing fear of and anxiety about the procedure. Online testimonials and personal stories fulfill a need that cannot be met by medical information. Medical information is usually scientific and descriptive and does not focus on women's physical sensations during the test. Personal testimonials serve to supplement descriptive medical information and provide women with a better sense of "what to expect" in regard to potential discomforts and pain associated with this procedure.

In addition to seeking information about prenatal tests, the findings of RQ2 suggested that Israeli pregnant women seek nutritional information on the internet. Women seek information about what types of food they should consume during pregnancy and, more important, what kinds of food might be harmful. The internet is used by pregnant women to entertain queries about specific types of food in order to be more knowledgeable and avoid food-related risks. This tendency to actively seek online nutritional information to avoid risking the pregnancy coincides with research (Szwajcer et al., 2008) suggesting that women become more interested in and worried about food and nutrition while pregnant. Also, these findings support previous research (Jones, 1990) indicating that pregnant women are often concerned that they might do something that will damage the fetus during the pregnancy, such as maintaining an unhealthy diet. Some of the interviewees explained that their health care providers do not address nutrition

during office visits. This lack of nutritional recommendations and warnings by health care providers prompts pregnant women to actively pursue this type of information online.

The findings of RQ2 also indicated that interviewees utilized the internet to attain information that will inform their choice of a health care provider. Because Israeli pregnant women choose their health care provider from an HMO's list of providers, women turn to the internet to help inform this choice. This goal-directed internet research is usually comprised of two methods. The first method is a Google search on the name of the prospective health care provider. This Google search functions as a background check on the health care providers. The background check explores whether there are malpractice lawsuits filed against the health care provider. A Google search might also reveal negative online content related to the professional performance of the health care provider. When interviewees discussed performing a "background check" using Google, they explained that online information plays role in their choice of physician. The existence of negative content on a specific health care provider, such as lawsuits, will usually deter women from choosing that provider.

The second method of using online information to help choose a health care provider was searching for pregnant women's recommendations in online pregnancy forums. This method is especially common when choosing a health care provider for ultrasound screening or amniocentesis. Because ultrasound screening tests and amniocentesis are considered particularly important prenatal tests, some women prefer going to private specialists for ultrasound and amniocentesis. Ultrasound screening tests

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are considered important because they are used as a diagnostic tool to detect fetal abnormalities. Some women prefer specialists who are expert in interpreting fetal ultrasound scans because they believe specialists will be more competent and accurate. As for amniocentesis, the importance of performing this test by a specialists stems from risks of infection or miscarriage involved in this procedure. Therefore, Israeli pregnant women prefer the test be conducted by a specialist who has lots of experience.

Turning to the internet to read pregnant women's testimonials about their experiences with specialists in the areas of ultrasound and amniocentesis seems to assist women in selecting a specialist. By reading testimonials, recommendations and warnings posted online, pregnant women are exposed to factors that can inform their choice of health care providers. These factors include the attitude of the health care provider, his or her bedside manner during the test, the existence of complications (in the case of amniocentesis) after the test, and the like. This information is then used by pregnant women to inform their decisions. Pregnant women's practices of seeking background information through Google and online testimonials could be a part of the overall trend towards consumerism in medicine (Neelapala et al., 2008; Potter & McKinlay, 2005), a trend which signifies the provision of health care as a commodity.

Because pregnant women are consumers of prenatal health care and are able to choose among many options, they would like to ensure their selection of the most competent health care provider that they can get. In this sense, the internet is used as a tool to research health care just like any product or service. The advantage of the internet in performing this kind of market research stems from two elements. First, it is relatively

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easy to locate background information, such as public records and media coverage malpractice lawsuits, via online search engines. Second, the number of testimonials about health care providers that can be obtained via internet is much higher in comparison to face to face interactions. Through online forums, pregnant women are exposed to a relatively high volume of opinions and personal experiences and, thus, women increase their chances of getting information on specific physicians and specialists.

To conclude, the findings of the second research question revealed that pregnant women in this study sought assorted types of pregnancy-related information to fulfill different needs associated with the pregnancy experience. These issues included prenatal tests that are especially prominent in the Israeli context, information on the development of the fetus, and physical symptoms involved with pregnancy, which were explained within the discussion of RQ1. Nutritional information was also found to be a target for online information seeking during pregnancy. Last, women sought information to inform the selection of a health care provider.

The findings of this study suggested that the internet does not only fulfill informational needs during pregnancy, but also provides emotional and social support through online forums. The third research question asked:

RQ3: What kinds of support do pregnant women seek online, and what are the communication strategies they engage in to obtain online support?

Discussion of Research Question Three

This research question aimed to identify support needs and communicative strategies used by Israeli pregnant women who utilize the internet to obtain online

support. This study found that Israeli online pregnancy support forums are used as a venue for getting information and social and emotional support during pregnancy. This venue allows women to engage in a variety of online communicative activities such as posting questions, reviewing questions and responses, and sharing concerns and personal experiences. Online pregnancy support forums offer two types of support to pregnant women. The first type is informational support. Sixteen interviewees explained that they use online pregnancy forums to obtain information about various issues related to pregnancy. This use was discussed in RQ2. The interactions in online pregnancy forums allow pregnant women to acquire more knowledge about topics of interest and to ask questions. Some women prefer to use online pregnancy forums more than browsing internet webpages to obtain information. Moreover, many pregnant women turn to online forums because they utilize Google as a means for finding information on the internet; Google often yields hits that direct women to online pregnancy forums.

Wright (2002) explained that obtaining information online helps individuals to be more informed and better manage their condition.

The present study showed that online pregnancy forums are a vibrant venue for seeking general information regarding pregnancy. They are used for specific information to assist women in pregnancy-related decision making. For example, pregnant women utilize online pregnancy forums to share and read recommendations and testimonials of other pregnant women as a basis for choosing a health care provider. Additionally, some women use online pregnancy forums to ask questions about medical concerns that they have, such as bleeding, cramps and various physical sensations.

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The phenomenon of pregnant women seeking medical advice from lay online pregnancy forums enhances concerns about the quality and reliability of online health information in general (Dutta-Bergman, 2006; Gustafson et al., 2008; Morahan-Martin, 2004; Tegren, 2007; Wurman, 2001). Although some pregnant women explained that they are generally aware of the variable quality of online information, only four interviewees expressed these concerns about using lay online pregnancy forums for medical advice. It is not clear to what extent pregnant women base their decision making and actions on lay medical advice obtained via online pregnancy forums, but the findings of this study indicated that seeking medical advice is a common practice in Israel.

One of the interesting questions stemming from this practice is why some pregnant women choose to turn to lay forums rather than professionals. This question could be answered in a future study specifically exploring the motives for obtaining medical advice from online lay forums. Clearly, there are risks and liability issues involved when women use lay forums as a basis for medical decision making. Although online pregnancy forums are regulated by moderators, the practice of seeking medical advice seems to be uncensored and advice is usually offered by lay participants.

Wright's (2000) definition of informational support emphasized the need for information to be able to make a better decision. However, when pregnant women turn to lay participants in online forums for information and advice, the quality of this information is questionable. Moreover, lay medical advice might not be safe to use as a basis for decision making. Asking for a lay advice in the case of a vaginal bleeding during the first trimester is not the same as asking for advice about choosing a health care

provider or asking questions about baby gear. Lay medical advice based on online interaction might result in women's delay in seeking medical care and could be potentially harmful.

Although some participants in pregnancy online forums communicated their concerns about the practice of asking medical questions and recommended women to seek a professional medical advice, some participants do provide answers and feedback on these forums. These types of feedback might result in contradictory messages that might lead to more confusion for women.

The second type of support sought by Israeli pregnant women from online pregnancy forums is emotional and social support. Thirteen interviewees asserted that they use online pregnancy forums for this purpose. The findings suggest that pregnant women who use online pregnancy support forums use this resource to fill a void in social and emotional support. In other words, online pregnancy forums meet support needs that, for various reasons, are not fulfilled by individuals "offline".

One of the reasons given by interviewees for a lack of "offline" support is that individuals around them (spouse, or close friends and family members) cannot fully understand their situation and, thus, cannot provide them the emotional support they need. This reason for turning to online support forum is echoed in literature (Barak, Boniel-Nissim & Suler, 2008; Sullivan, 2003) explaining that one of the advantages of online support groups is that they provide opportunities for individuals to communicate with others who share similar problems. Pregnant women who turn to online pregnancy support groups obtain emotional and social support from other pregnant women. These

similarities enhance the quality of support given to pregnant women online because this support provides them with a comforting sense of "being in the same boat." Interviewees explained that, when they seek social and emotional support from other pregnant women, they feel that, because those women are also pregnant, they can better relate. This sentiment is echoed by Preece (1998) who pointed out that online communication with other individuals who experience similar situations and conditions is beneficial because these individuals are more understanding of emotional needs.

Obtaining support from Israeli pregnant women through online forums was perceived by interviewees to be helpful because it is a safe space to communicate. In other words, interviewees who communicate in these forums felt that they can legitimately complain, vent or express their hardship in a supportive environment. Interviewees felt more comfortable sharing their problems and concerns with pregnant women because they believed that other pregnant women have the capacity to identify and provide them the support they needed. Communicating with other pregnant women in an online environment also seems to eliminate women's concerns about burdening other individuals. This sense of communicating without "being a burden" might stem from the fact that women know that these forums are designated for obtaining and providing support. The purposeful function of these online forums seems to liberate women from constraints on their needs for emotional support, complaining and sharing. Moreover, the ability to communicate online with pregnant women was found to be helpful in giving women a sense that they "are not alone." When pregnant women are

exposed to other women's pregnancy-related questions, concerns and personal experiences, they get reassurance that what they feel is not unique.

The online exposure to other pregnant women's concerns and problems seems to ease women's fears about "lack of normality" and, therefore, promotes a notion that "everybody is going through the same thing." This notion is useful in getting peace of mind about the physical and emotional phenomena women experience throughout pregnancy. This finding coincides with Potts and Wyatt's (2002) assertion that online support groups provide individuals with accounts of personal experience and, consequently, serve to fulfill needs for reassurance. Moreover, this theme also supports Arntson and Droge's (1987) observation that support group members express a stronger sense of support merely from knowing that they are not alone.

The Advantages of Anonymity and Communicating with "Weak Ties"

In addition to the abovementioned advantages, this study indicated two additional advantages that motivate pregnant women to participate in online pregnancy support forums. These advantages stem from the ability to communicate anonymously with pregnant women who are not part of their circle of "off-line" friends and acquaintances.

The first advantage of communicating in an online forum is embedded in the anonymity associated with this online resource. Because participation in online forums is anonymous, interviewees felt they could engage in open interactions to obtain support without worrying about relationship maintenance or the consequences of the interaction. As opposed to communicating with friends "off –line" the anonymity of online interaction seems to remove concerns about harming existing relationships. This specific

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goal-oriented communication under the mask of anonymity is perceived by interviewees as easier and more "risk free" than face-to-face communication. "Risk free" communication allows participants the option to ask questions and share concerns that might be embarrassing for them to communicate in a non-anonymous platform. In this way, the anonymity of the medium establishes a safer space for sharing.

In addition to anonymity, communicating online with pregnant women who are not a part of a close circle of friends supports claims about the benefits of "weak ties" (Adelman, Parks & Albrecht, 1987; Granovetter, 1973). Because weak ties are restricted to temporal context, limited in nature, and are not as close as strong ties, they allow for communication different in its character than communicating with friends. The main difference is that, in "weak ties" communication, there is no expectation that the social relationships created in the online forum will continue to exist beyond the specific context and point in time. This lack of expectation makes it easier for online forums' participants to enjoy the benefits of obtaining social and emotional support without any commitment or obligations toward other participants.

The second advantage of obtaining support from an online pregnancy forum was related to the ability to communicate with a relatively large network of individuals. Because online support groups bring together pregnant women from diverse backgrounds, ages, and life experiences, they provide a platform for communication with diverse perspectives and personal styles. Interviewees who use online pregnancy support forums explained that they perceive this diversity as an advantage. This finding is echoed by literature (Buchanan & Coulson, 2007; Wright, 2000) about online support groups as a

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means to communicate with a more "heterogeneous mix of individuals offering diverse perspectives, experiences, opinions and sources of information than might otherwise be the case" (Buchanan & Coulson, 2007, p. 264). This advantage of communicating with a relatively diverse group of individuals is also related to the notion of weak ties (Adelman, Parks & Albrecht, 1987). Weak ties tend to expand one's social circle and can provide information, advice and resources that we might not get from individuals with whom we share strong ties because they are more similar to us.

To conclude, online pregnancy forums enable pregnant women to obtain social and emotional support from a diverse group of women who share similar concerns in an anonymous manner and without worrying about relationship maintenance. These factors make this venue an appealing resource for support. For some pregnant women, this resource seems to substitute for support from a close circle of friends "off-line." Online communication also allows for supportive communication without fears of being judged by group members.

Implications

As noted at the beginning of this dissertation, the goal of this inquiry was to shed more light on the needs and practices of Israeli women who use the internet as a resource for information and support during pregnancy. Understanding online needs and communicative practices associated with internet use during pregnancy can assist in better addressing these needs. In the next section, I discuss the theoretical and practical implications of these finding. I begin by explaining the theoretical implications of this study.

Then, I discuss the practical implications of the results for health care providers, website content writers, and pregnant women. Finally, I discuss the limitations of this study and offer directions for future research.

The Theoretical Implications of the Study

The theoretical implications of this study are twofold. First, the findings of this study support the utility of the Uses and Gratifications perspective as a basis for the exploration of media use. U&G research (Case, 2002; Katz, Blumer, & Gurrevitch, 1974; Katz, Gurevitch, & Haas, 1973) has suggested that media use can be studied by asking individuals directly about their interests and motives, rather than collecting observational data covertly and inferring motives. This study utilized in-depth semi-structured interviews to uncover motives, needs and communicative practices associated with internet use among Israeli pregnant women. Interview data indicated that interviewees were aware of their motives and reasons for going online. Interviewees could provide detailed accounts of these motives for using the internet for pregnancy-related purposes.

According to a U&G perspective, media users purposely choose to utilize a medium. Users, therefore, control the amount and nature of their exposure to media messages. Moreover, the U&G approach posits that any single medium is merely a portion of the range of options individuals have for fulfilling needs (Case, 2002). Interviewees in this study chose the internet from available options. They chose based on their preferences and needs for information and social support, and their expectations to fulfill desirable gratifications as a result of this use.

Overall, this study confirms that individuals actively use media to satisfy various human needs (Katz, Blumer, & Gurrevitch, 1974; Katz, Gurevitch, & Haas, 1973; Rubin, 1983). The findings of this study revealed that using the internet fulfills Israeli pregnant women's needs for pregnancy-related information and support. These findings echo other U&G studies (Charney & Greenberg, 2002; Diddi & Larose, 2006; Johnson & Kaye, 2003) that indicated the prominence of informational needs as a reason for using the internet. This study suggested that the internet is more often used than other information sources such as pregnancy books and interpersonal interactions. The internet incorporates various characteristics that make it an appealing medium for pregnant women. These characteristics include its constant availability, anonymity, perceived ease of use, quick retrieval of information, independent use, and access to up-to date materials. The ability of pregnant women to navigate among different types of online content and to search for specific topics emphasizes the notion of user-directed activity which characterizes the internet (Stafford et al., 2004). Users who prefer these characteristics are more likely to actively choose the internet, a choice largely predicted by a U&G perspective (Johnson & Kaye, 2003). The findings of this study indicated that pregnancy-related internet use is a purposeful activity that is generally perceived as valuable during pregnancy. The perceived usefulness of this activity for women in this study seems to exist despite the challenges associated with this activity.

Another contribution of this study to U&G research lies in its use of qualitative methodology and its focus on the context of health. Early U&G studies (Herzog, 1940; Herzog, 1944; Katz & Lazarsfeld, 1955) combined both qualitative and quantitative

approaches as they utilized interviews and surveys. During the 60s, 70s, and 80s, the

majority of U&G studies employed quantitative methodologies to identify, classify and

quantify needs and gratifications of media users (Armstrong & Rubin, 1989; Bantz, 1982;

Gerson, 1966; De Bock, 1980; Katz, Blumer, & Gurrevitch, 1974; Katz, Gurevitch, &

Haas, 1973; Katz & Foulkes, 1962; Rubin, 1983). During the 90s and 2000s, U&G

studies utilized both quantitative (Johnson & Kaye, 2003; Leung & Wei, 2000; Lin, 1993;

O'Keefe & Sulanowski, 1995; Raacke & Bonds-Raacke's, 2008; Walker Bellamy, 1991)

and qualitative (Massey, 1995; O'Donohe, 1994) approaches to explore media use,

including a mixed methods approach (Albarran, Anderson, Bejar & Bussart, et al., 2007;

Ebersole, 2000; Lull, 1990; Schaefer & Avery, 1993). O'Donohe (1994) pointed out that

overall, "much research on media uses and gratifications has relied on direct, structured,

multiple choice questionnaires" (p.56). Because most of the U&G research is based on a

quantitative approach, Ruggiero (2000) asserted that "communication researchers should

be encouraged to employ U&G more frequently in conjunction with qualitative

methodologies" (p. 24). This study demonstrated that a qualitative inquiry can serve as a

beneficial way to explore in-depth media uses and gratifications based on users' personal

accounts and experiences.

In addition to the methodological contribution of this study, it is important to note

that only few U&G studies explored media use related to health issues (Chung & Sujin,

2008; Nwagwu, 2007). This study contributes to literature of U&G within the context of

health and stresses the importance of future inquiries within this context.

A second theoretical contribution of this study lies in the findings of this study regarding doctor-patient interaction. The findings of this study unveil some challenges pregnant women face while communicating with their physicians about their internet use. These challenges emphasize the complexity of doctor-patient interaction in light of patients' internet use. Existing literature on the function of health information seeking within doctor-patient interactions tends to argue that online information seeking is generally an empowering activity (Crooks, 2006; Goldsmith, 2000; Murray, Lo & Pollack, 2003; Powell, Darvell & Gray, 2003). More specifically, these studies claim that online activity enables patients to conduct a better dialogue with physicians because they will hold a higher level of knowledge. This knowledge, in turn, gives patients more leverage to influence their health care. The findings of this study, however, show the practice of online health information seeking to be more problematic and complex when incorporated into doctor-patient interaction. This study does not simply celebrate internet use as an empowering activity; it also calls attention to possible negative implications of this practice on doctor-patient interaction. Physicians who possess a negative attitude towards their patients' online information seeking might react negatively to patients who bring this issue up during a medical encounter. Because the practice of patients' online information seeking might not always promote a positive and supportive reaction during interactions with health care providers, it might not always serve as an empowering activity for patients. These findings are especially important in providing practical recommendations for health care providers interacting with pregnant women who use the internet.

Implications for Health Care Providers

The findings of this study offer three important implications for health care

providers who provide prenatal care to pregnant women. First, health care providers need

to understand that the internet plays a significant role in their patients' information

seeking practices. According to this study, pregnant women prefer to obtain pregnancy-

related information on the internet than from alternative sources of information such as

pregnancy books or interpersonal communication. Pregnancy-related information sought

online is used as a basis for preparing for doctor's office visits. This information also

serves to supplement information provided by health care providers. The findings of this

study suggest that bringing up the issue of internet use during physician-patient

communication might not always be a positive experience for pregnant women because

they believe physicians will react defensively or make dismissive comments about

pregnancy-related internet use.

Health care providers should avoid dismissing pregnancy related internet use

during medical encounters in order to cultivate a more positive and open interaction with

pregnant women. Health care providers should understand that, whether they personally

support this practice or not, their patients are engaging in online health seeking

information. Ignoring or dismissing internet use by patients will not prevent this practice,

and might lead to a lack of openness and frustration of patients. Therefore, health care

providers should find a way to direct their patients to quality health information instead

of ignoring their patient's online information seeking practices. If health care providers

have concerns about the quality and reliability of pregnancy-related information found by

their patients online, they should recommend alternative offline sources of information or direct them to reliable online sources.

Second, it is clear that the time allotted for doctor-patient communication during an office visit is not enough to satisfy pregnant women's informational needs. Women turn to the internet to fill this void. This supplemental information seeking is most common when women want additional information related to testing procedures, risks and implications of test results. Informational needs fulfilled online also engage lifestyle issues, such as nutrition during pregnancy. Israeli pregnant women in this study expressed a wish for more guidance regarding nutrition. Several interviewees said health care providers did not provide nutritional information and advice, so they turned to the internet to satisfy this need. Health care providers could accommodate these informational needs by providing guidance to information sources that could address these needs well. Providers could rely on existing Israeli HMO websites (such as the Clalit website) which contain pregnancy-related information, online forums that enable consultations with physicians, and detailed explanations of prenatal tests. The HMO website medical-related content is written by health care providers and, thus, is likely to be a reliable and professional resource for pregnant women. Moreover, health care providers could offer brochures and print materials during office visits that cover these topics of interest and contain suggested websites or additional information. This guidance will likely improve the quality of information patients obtain on the internet. It is likely to provide better information than Google search results will yield.

Finally, it is important for health care providers to understand that online information seeking for pregnant women does not serve cognitive needs only. This study indicated that online pregnancy information regarding fetal development helps them connect to their fetus and to the pregnancy. Also, online information could serve to alleviate pregnant women's stress and fears associated with the pregnancy. This understanding about the role of online information could assist health care providers in changing their attitudes about pregnancy-related internet use. Health care providers should acknowledge the positive implications of online information for pregnant women's emotional state. This understanding can assist health care providers to better respect their patients' need to go online and promote a more favorable attitude among health care providers toward this practice.

Implications for Website Content Writers

The findings of this study not only provide practical implications for health care providers, but also have three practical implications for internet websites targeting Israeli pregnant women. First, websites designed for Israeli pregnant women should accommodate both informational and support needs. Informational needs could be accommodated through informative webpages. Pregnant women's needs for emotional and social support could be addressed through an online pregnancy support forum application within the website.

This study indicates that Israeli pregnant women prefer forums that allow specific emotional and social support needs to be met. Online pregnancy forums will likely provide pregnant women a platform to communicate with other pregnant women and

obtain support by sharing experiences, concerns and questions. The findings of this study also suggested that some pregnant women utilize online pregnancy support forums to acquire desirable information along with obtaining support. Therefore, it would be beneficial to have an internal search engine that helps women find specific topics within the forum's message archive.

Second, the findings of this study illustrated that some pregnant women ask medical questions in lay online support forums. This practice, as discussed earlier, might be harmful in that it could result in risky delays in action by pregnant women. To address those possible harmful implications of seeking medical advice from lay support forums, website designers could create medical forums to address this need. Online pregnancy forums with professional health care providers as moderators could accommodate women's medical questions. A medical online pregnancy forum can co-exist in the same website with lay online forums for social and emotional support. The inclusion of online forums for medical questions beside online forums entertaining other types of pregnancy-related questions could benefit participants by lessening the chances of receiving unprofessional advice in lay forums.

It is important to note that, along with the potential benefits of online consultation via professional forums of medical health care provides, concerns regarding legal issues such as liability might arise. Eysenbach and Diepgen (1999) pointed out that, in general, the practice of health care providers giving medical advice on the internet could pose various problems related to liability. For example, the authors asserted that it is unclear whether physicians are liable for drawing the wrong conclusion based on the limited data

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that individuals provide them on the internet. Moreover, if physicians choose to provide standard information about a certain health condition as a response to an online medical query, it is unclear if they are liable for misleading individuals by not providing a medical advice related to their own specific condition. These types of liability concerns stem from the fact that the interactions via online medical forums could create a challenging situation for health care providers, in which they are asked to offer a medical advice to individuals without actually seeing them or examining them.

In order to address issues of medical liability the Clalit HMO's website, for example, provides a legal disclaimer upon entering the forum's main webpage (Clalit, 2007). This legal disclaimer highlights the notion that the medical information and advice given to internet users should be considered only as general information, and should not be used as a substitute for a physical examination or an offline medical consultation. This statement is accompanied by a clarification that, in case of a medical emergency, individuals should seek immediate care by turning to their physician or to the nearest emergency room. Furthermore, this disclaimer emphasizes that individuals who utilize Clalit's medical forums waive any demand or claim towards the forums' staff.

Similarly, online medical forums can use this type of disclaimer regarding the role of the forum to ensure that internet users will not use online consultation as a substitute for offline medical consultation and will not rely on online advice in cases of urgent medical concerns or emergencies.

Third, in terms of fulfilling informational needs, pregnancy-related websites' content should include issues and topics found to be relevant to pregnant women. This

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study found five topics Israeli pregnant women would like to see in pregnancy-related websites. First, as shown in this study, Israeli pregnant women undergo a relatively high number of prenatal tests and are closely monitored. Therefore, Israeli pregnant women use internet websites to accommodate their informational needs regarding prenatal tests.

Due to the high number of prenatal tests performed in Israel, women find it beneficial to use a prenatal test calculator on the internet.
This calculator assists women in determining when to schedule a doctor's visit and keeping tracking of their list of prenatal tests. Consequently, a prenatal test calculator in a website targeted to Israeli pregnant women would be a beneficial function.

As shown in this study, many Israeli pregnant women utilize internet websites to self-interpret their prenatal tests results. It is clear that, in general, a health care professional should interpret tests results, not lay individuals lacking medical expertise. However, it might be beneficial to create a content area within the website which contains a glossary of prenatal tests. This glossary could provide detailed explanations about each prenatal test, including possible results. It is important to note that this glossary should not try to be a tool for self-diagnosis. The glossary should serve pregnant women who would like to know more detailed information their test results. The glossary should contain a statement about the importance of professional medical expertise in interpreting prenatal test results.

The findings of this study also suggest that amniocentesis is the test about which Israeli pregnant women seek online information the most. It would be beneficial for pregnancy-related website to have a specific content area concerning amniocentesis. The

content regarding this test should focus on the procedures of this test and the possible risks and complications. Moreover, some interviewees explained that, because they fear this procedure, they look for online testimonials of women who had amniocentesis. Thus, it might be useful to incorporate both medical explanations about the test and a selection of women' testimonials about their experiences. In this way, the testimonials could supplement the scientific medical explanation and become a richer source of information for pregnant women.

Second, this study indicated that nutrition and pregnancy physical symptoms are two prominent topics for online information seeking during pregnancy. It would be beneficial to create content areas that address these issues. The content area regarding nutrition during pregnancy should provide a list of "dos and don'ts" for types of food that should be consumed and avoided during pregnancy, as many Israeli pregnant women are interested in this specific topic. In addition to food, it could also be helpful to have a section of recommendations about the consumption of beverages such as coffee and alcohol during pregnancy.

To address informational needs about physical symptoms during pregnancy, it might be useful to provide an informative section about common physical symptoms. This information can address uncertainties about physical sensations and symptoms associated with pregnancy. Additionally, this section could contain suggestions of how to safely alleviate certain pregnancy-related symptoms such as heartburn and nausea.

Third, the findings of this study indicated that obtaining online information about fetal development serves as a means to connect to the fetus and the pregnancy. To

address this need, pregnancy-related websites could incorporate visual aids, such as video clips and soundtracks to create a more vibrant and lively depiction of fetal development. The use of multimedia could augment pregnant women's experience of connecting to their fetus and allow it to be more enjoyable than reading a text.

Fourth, this study indicated that Israeli pregnant women use the internet to perform a background check on health care providers to better inform their selection. It might be beneficial to have a content area within the website that will be devoted to health care providers. Recommendations and testimonials about gynecologists and specialists could benefit pregnant women. This content area could be organized in alphabetic order of health care provider's last name, based on geographic locations and HMO's affiliations. This content area will allow women to search relevant health care providers. In this way, pregnant women could upload and read testimonials and have an online resource which will assist them in making a more informed choice based on a variety of opinions and experiences.

Implications for Israeli Pregnant Women

This dissertation provides important implications for Israeli women who utilize the internet during pregnancy. The findings of this study highlight the role of the internet as a significant resource for information and support during pregnancy. All interviewees in this study indicated seeking online information to entertain a variety of informational needs. As some interviewees pointed out, one of the most challenging aspects of online information seeking is the constant need to evaluate online information. More specifically, this need requires a distinction between reliable, good quality information

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and unreliable, misleading information on the internet. Evaluating online information can be even more complicated when lay internet users have to evaluate medical information in the absence of professional training and knowledge. This challenge, however, does not seem to prevent Israeli pregnant women from conducting Google searches to satisfy pregnancy-related informational needs or to locate medical information. Therefore, it is important for pregnant women who use the internet for medical information seeking to be critical consumers of the information they obtain online.

The notion of being a critical consumer should begin with women's choice of online sources. Although Google searches might be helpful in locating specific types of information, they might not always direct users to websites written by professionals or health care providers. Thus, when pregnant women are looking for medical information, it would be more beneficial for them to turn to websites that are written and edited by professionals or health care providers. These websites include the Israeli HMO's websites that contain many content areas and materials related to pregnancy and the Israeli Ministry of Health Website which contains information about prenatal care and testing. The reliance on internet websites written by professionals or health care providers can ensure better quality and reliable information. Moreover, directing internet searches to specific websites rather than performing general Google searches using keywords can assist in limiting "information overload" on the internet. Instead of dealing with an overwhelming number of search results, women can browse reliable and professional websites for medical information regarding pregnancy.

Second, the findings of this study indicated that some Israeli pregnant women seek medical advice in online lay pregnancy forum. This tendency, discussed earlier in this chapter, can be harmful and dangerous. Pregnant women should be aware of existing alternatives to online lay forums such as professional online forums. Professional pregnancy consultation forums featuring gynecologists and obstetricians can be found in various internet websites, including the "Clalit" HMO website. Online forums that provide opportunities to consult with health care providers seem to be a better choice for pregnant women when the consultation is medical in its nature. Therefore, Israeli pregnant women should turn to professional pregnancy forums when seeking medical advice and guidance.

Third, the findings of this study illuminate the benefits of online pregnancy support forums for pregnant women. Online pregnancy support forums provide emotional and social support from other pregnant women. They use this platform to share experiences and concerns. Israeli pregnant women who lack support from their close circle of friends and acquaintances have the opportunity to communicate with other pregnant women in online forums and obtain support. This communication can be useful for women in the sense that it allows them access to a diverse group of pregnant women who hold different perspectives and come from varied life situations. Moreover, communicating with forum participants under the cover of anonymity creates a more open and safe space for pregnant women to interact. The online forum allows women to complain, vent, and discuss embarrassing and uncomfortable issues without the fear of being judged and without jeopardizing existing relationships. These benefits are unique to

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an online environment and remove some of the barriers and challenge that exist in "off-line" supportive communication. Therefore, Israeli pregnant women should acknowledge the existence of this venue which serves as an alternative to offline communication.

It is also important to note that pregnant women who wish to obtain social and emotional support through online forums do not necessarily have to be active participants within the forum. Indeed, interview data suggested that most of the women who use pregnancy online support forums are not active participants who post and respond to questions. Most of the women participate through "lurking" and silently reading discussions and questions. This type of participation is common and valid, and it might be helpful for pregnant women who wish to reduce uncertainty and get reassurance about their emotional and physical condition. The exposure of online pregnancy forums' users to other participants' experiences and accounts seems to be useful in giving pregnant women with a sense of "normality" and providing them with a feeling that "they are not the only one" in this situation.

Limitations and Directions for Future Research

This study, as any study, has limitations. The first limitation concerns the diversity of the sample. The vast majority of interviewees were Ashkenazi Jewish women in their 30s. This type of inquiry could benefit from a pool of interviewees representing a more diverse population in terms of ethnicity, religion and age.

Second, the vast majority of interviewees had been using the internet for about a decade. Thus, they were experienced internet users. It would be interesting to explore

pregnancy-related internet use among pregnant women who have not been using the internet for many years and have less experience in using the internet.

Third, the sample of interviewees in this study intentionally included only pregnant women who were carrying one fetus and were going through a pregnancy that was not considered high risk. Therefore, the findings of this study cannot speak to the online needs and pregnancy-related internet use of women with high risk pregnancies or women carrying more than one fetus. It would be interesting to conduct future research exploring online needs and online practices of women with high risk pregnancies or with multiple fetuses to see whether these women use the internet differently or have different needs.

Fourth, this study was conducted in Israel. This context has a relatively high number of prenatal tests in comparison to other countries. Therefore, it is not surprising there was strong interest in prenatal care information on the internet. Future studies could be conducted in other countries to see to what extent non-Israeli's internet use resembles or differs from Israelis. Also, future studies of pregnancy-related internet use among women in other countries could indicate to what extent prenatal tests are prominent issues.

Fifth, this study utilized only one method for data collection. Although interviews in this study yielded a rich data, they were based on participants' recollections of their internet use and pregnancy-related online experiences. It would be beneficial for future study to combine observations of pregnant women while engaging in online activities

with interviewees. This method could allow for a "real time" account of internet use and, thus, could provide additional insights regarding this practice.

Sixth, this study indicated that Israeli pregnant women believed there were possible negative consequences of online health information seeking on doctor-patient interactions. More specifically, the findings of this study demonstrated that Israeli pregnant women perceive negative reactions and unfavorable attitudes of physicians when bringing up this issue during office visits. Further research could concentrate on attitudes of health care providers toward pregnant women who use online information to inform and supplement medical information discussed during office visits. This research could include in-depth interviews with health care providers about their attitudes and behavior toward their patients' online information seeking. This line of research could be beneficial in understanding the complexities and challenges of doctor-patient interactions in light of the internet and could provide basis for recommendations about how to deal with these types of challenges.

<div align="center">Summary of the Dissertation</div>

This dissertation explored the role of the internet during pregnancy among Israeli women. More specifically, this study examined online needs, motives for use and online communicative practices associated with pregnancy. In this study, I reviewed literature concerning online health information seeking, online support, doctor-patient interactions in light of the internet, and informational and support needs during pregnancy. The literature review revealed a gap regarding the use of the internet for pregnancy-related purposes and illustrated the need to conduct a study that will shed more light on this

phenomenon. A population of Israeli pregnant women was deliberately chosen because of Israel's unique context and the relatively high number of prenatal tests during pregnancy in comparison to other countries.

This study was theoretically guided by a Uses and Gratifications perspective. It used a qualitative approach employing semi-structured in-depth interviews with Israeli pregnant women. The interviews served as basis to obtain rich data to better understand Israeli pregnant women's online needs, communicative practices and challenges regarding online use.

The findings of this study indicated the perceived advantages and challenges of using the internet for pregnancy-related purposes. The findings emphasized the prominence of informational and support needs. Additionally, the findings of this study illustrated possible negative implication of online health information seeking on doctor-patient interactions.

The findings of this dissertation contributes to Uses and Gratifications research in the context of internet use, research on doctor-patient interaction in light of the internet, and research on online health information seeking. Furthermore, the results of this study offer practical implications for health care providers, website content writers, and pregnant women who utilize the internet for pregnancy-related purposes. Finally, future research on this topic should address the limitations of this study and continue this line of inquiry which has significant theoretical and practical merit.

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Appendix A: Israeli Ministry of Health Recommendations for Prenatal Tests

Prenatal test	Testing Period	Remarks
Cystic Fibrosis, Spinal Muscular Atrophy, Fragile X, Tay-Sachs, Familial Dysautonomia, Canavan Disease, Niemann pick, Fanconi Anemia C, Bloom Syndrome, Mucolipidosis Type 4, Usher Syndrome, Maple Syrup Urine Disease, Glycogen Storage Disease Type 1a, Nemaline Myopathy, Alpha 1-Antitrypsin Deficiency	Before or after conception	Genetic tests for Israeli couples of Ashkenazi origin.
Cystic Fibrosis, Spinal Muscular Atrophy, Fragile X, Tay-Sachs, Thalassemia Major, Fanconi Anemia A, Ataxia Telangiecasia.	Before or after conception	Genetic tests for Israeli couples of Mizrahi (North African) origin.
Weight gain	Throughout the pregnancy	Routine test performed during every doctor's visit
Blood pressure	Throughout the pregnancy	Routine test performed during every doctor's visit
Urine analysis for protein	Throughout the pregnancy	Routine test performed during every doctor's visit
Urine analysis for glucose	Throughout the pregnancy	Routine test performed during every doctor's visit
Complete blood count	During the first trimester	
Urine Culture & urine analysis	At the beginning of the pregnancy (first trimester)	
Ultrasound scan to detect number of fetuses, their location in the uterus, and the expected date of delivery	Weeks 6-12	
Blood type, Rh	At the beginning of the pregnancy (first trimester)	
VDRL test (Venereal Disease Research Laboratory), which is a tests for Syphilis	At the beginning of the pregnancy (first trimester)	

Rubella tests	At the beginning of the pregnancy (first trimester)	Based on physician's recommendation according to the woman's medical history
Hepatitis B Surface Antigen	At the beginning of the pregnancy (first trimester)	Based on physician's recommendation according to the woman's medical history
Cytomegalovirus (CMV) test	At the beginning of the pregnancy (first trimester)	Based on physician's recommendation according to the woman's medical history
Toxoplasmosis Test	At the beginning of the pregnancy (first trimester)	Based on physician's recommendation according to the woman's medical history.
Alphafetoprotein triple screen (AFP3)	Weeks 17-20 (second trimester)	
Amniocentesis	Weeks 16-20 (second trimester)	Amniocentesis tests is based on screening tests findings or a physician recommendation.
Ultrasound screening tests	Weeks 19-25 (second trimester)	
Glucose Tolerance Test	Weeks 24-28 (second trimester)	
Ultrasound scan to measure the fetus' weight, the fetus' position in the uterus and the amount of amniotic fluid.	Third trimester	
Complete blood count to detect anemia	Third Trimester	Based on physician's recommendation.

Appendix B: Demographic Survey and Interview Protocol

Intro/Warm up:

Thanks very much for your willingness to talk to me today and answer some questions about your internet use related to your pregnancy. There are no right or wrong answers to these questions. If at anytime you feel uncomfortable with the questions being asked, you have the right to choose not to answer them. I will start with general question about your internet use:

Demographic Information:

First I would like to ask you to fill out some demographic questions. This data will not be connected in any way to your name and will remain confidential. If you do not feel comfortable answering a certain question please skip.

1. Age_____
2. Marital status_____
3. Level of education_____
4. Is this your first pregnancy Yes / No
5. How many children do you have? _____
6. Could you specify the age of your children_____
7. How far along are you in your pregnancy_____
8. What is your ethnic background?_____
9. For how long have you used the internet?_____
10. Do you have an internet access at home? Yes / No
11 At work? Yes / No
12. How often do you utilize the internet in general? _____
13. How often do you utilize the internet in terms of pregnancy-related activities?_____

Ice breaker questions:

    a. Why do you go online?

    b. Do remember the first time you utilized the internet during this pregnancy?

Interview questions:

    1. For what kind of information about pregnancy do you turn to:
    a. A health care provider? Now, compare that to the internet.
    b. Books? Now, compare that to the internet
    c. Family members? Now, compare that to the internet.
    d. Friends? Now, compare that to the internet.

e. If you had to rank these 5 sources of pregnancy-related information, which is the source you rely on the most? Which is second? Third? Fourth? Least?

2. What types of pregnancy-related activities do you do online? (probes: browsing websites, using search engines, participating in chats and forums, sending e-mails)

3. For what reasons do you use the internet in terms of pregnancy-related information? (probes: for information, entertainment, escape, habitual passing of time, companionship)

4. What kind of information do you seek online for in terms of your pregnancy? Are there specific topics of interest related to pregnancy that you seek information on?

5. Do you use the internet to seek information on prenatal testing (Tay Sachs, Thalassemia)? Please explain.

6. Do you have regular or favorite internet websites that you go to? Can you tell me your top three favorite websites?

7. Could you describe the things that you find most helpful on the internet in terms of pregnancy-related information? What is most helpful in terms of prenatal testing?

8. Could you describe the things that you find not helpful or challenging in terms of pregnancy-related-information? What is not helpful in terms of prenatal testing?

9. Can you tell me about your overall experience using the internet during your pregnancy?

10. Do feel that your internet use during pregnancy provides a positive or a negative experience for you? (maybe both) Please explain.

Thank you very much for your time!

Appendix C: Consent Form

The use of internet by Israeli women during pregnancy
Consent Form
Eimi Lev
School of Communication Studies
Ohio University

Federal and university regulations require signed consent for participation in research involving human subjects. After reading the statements below, please indicate your consent by signing this form.

Explanation of Study

This study aims to explore the use of internet by Israeli women during pregnancy in order to better understand pregnant women's online needs and practices. In this study you will be filling out a short survey regarding some demographic information and then you will be interviewed about your internet use. The interview will be audiotaped.

Risks and Discomforts

There are no anticipated risks associated with this project. Participation is completely voluntary. You will be asked a series of questions about your internet use. If you feel any discomfort you can skip any question, or choose to stop at any time.

Benefits

Although you will not personally benefit from participating in this study, your answers may help to improve the understanding of internet use during pregnancy and may have practical implications in enabling health care providers and internet content writers to better address pregnant women's informational and support needs.

Confidentiality and Records

All materials collected (such as interview answers) for this study will be kept in confidential manner in the main researcher's computer. This data will be destroyed after 1 year.

Contact Information

If you have any questions regarding this study, please contact Eimi Lev at el405706@ohio.edu (740) 593-0164.

If you have any questions regarding your rights as a research participant, please contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740)593-0664.

I certify that I have read and understand this consent form and agree to participate as a subject in the research described. I agree that known risks to me have been explained to my satisfaction and I understand that no compensation is available from Ohio University and its employees for any injury resulting from my participation in this research. I certify that I am 18 years of age or older. My participation in this research is given voluntarily. I understand that I may discontinue participation at any time without penalty or loss of any benefits to which I may otherwise be entitled.

Signature Date_____

Printed Name_____

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A determination has been made that the following research study is exempt from IRB review because it involves:

Category   2 _   research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior

Project Title: The Use of Internet by Israeli Women during Pregnancy

Project Director: Eimi Lev

Department: School of Communication Studies

Advisor: Benjamin Bates

Rebecca Cale, Associate Director, Research Compliance
Institutional Review Board

4/4/08
Date

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any additions or modifications to the project must be approved by the IRB (as an amendment) prior to implementation.

Appendix E: Helsinki Committee IRB

לכבוד
ד"ר אדם גבע
מנהל המרכז לבריאות האישה מרכז רפואי לין
מחוז חיפה קהילה.

שלום רב,

הנדון פטור מאישור וועדת הלסינקי

בישיבת תת וועדת הלסינקי מתאריך 3.09.08 התקבלה ההחלטה לפטור את עבודתך
בנושא: "השימוש באינטרנט בזמן הריון על ידי נשים בישראל".
מאישור וועדת הלסינקי .

העבודה עוסקת בשימוש באינטרנט בזמן הריון- המחקר הנ"ל אינו מחקר רפואי
החלק היחידי שקשור הם פרטי המחקר שנלקחים דרך מרפאת נשים .

בצורת הפנייה לנשים כפי שהוצגה, לא רואה הוועדה כל פגיעה אתית והיא פוטרת
את החוקר מאישור וועדת הלסינקי.

ב ב ר כ ה,

פרופ' מיכאל לישנר
מ"מ יו"ר וועדת הלסינקי המוסדית.