University of Cincinnati

Date: 11/1/2014

I, Pamela J. Irvin, hereby submit this original work as part of the requirements for the degree of Master of Science in Health Education (Public & Community Health).

It is entitled:
A Retrospective Study of the Effects of Art Making on the Well-being and Levels of Stress of Pediatric Patients Suffering from Chronic Disease

Student's name: Pamela J. Irvin

This work and its defense approved by:

Committee chair: Rebecca Vidourek, Ph.D.
Committee member: K King, Ph.D.
Committee member: Laura Nabors, Ph.D.
A Retrospective Study of the Effects of Art-making on the Well-being and Levels of Stress of Pediatric Patients Suffering from Chronic Disease

University of Cincinnati

A thesis submitted to the

Division of Graduate Studies and Research
University of Cincinnati

In Partial Fulfillment of the requirements for the degree of
Master of Science

In the school of Human Services
Of the College of Education, Criminal Justice and Human Services

By

Pamela J. Irvin
M.S., University of Cincinnati 2014

Dr. Rebecca Vidourek, Committee Chair
Dr. Keith King, Committee Member
Dr. Laura Nabors, Committee Member
Abstract

The purpose of this study was to examine if art-making could reduce stress and have a positive impact on the well-being of pediatric patients suffering from chronic disease.

The following research questions were examined in this study: 1) Is there a significant change in the patient’s feelings pretest to posttest? 2) Is there a significant change in the patient’s feelings pretest to posttest based on sex? 3) Is there a significant change in the patient’s feelings pretest to posttest based on age?

Participants in this study were pediatric patients, age 12-18, at Cincinnati Children’s Hospital Medical Center, in Cincinnati, Ohio. To participate in the study, patients suffered from at least one chronic disease. A total of 42 females (67.7%) and 20 males (30.3%) participated in the study. The participants suffered from cancer and blood diseases, chronic pain, and mental health illnesses.

Paired-sample t-tests and independent sample t-tests were used to analyze the data. Results were analyzed based on sex and age. To conduct the t-test for age, the samples were dichotomized into two groups (12-14 years old) and (15-18 years old) based on the median split. Survey results indicated an overall statistically significant decrease from pretest to posttest by 4.85%. When responding to questions such as how angry the patient felt angry before the art-making session versus how angry they felt after the session, 66.2% strongly agreed that they felt angry before the session versus 85.7% who strongly disagreed that they felt angry after the session.

The following qualitative questions were asked on the survey. 1) How did art-making make you feel? 2) What did you like about art-making? 3) What would you change about art-
Art-making Workshops for Pediatric Patients with Chronic Disease

making? 4) What are your overall thoughts on art-making? 5) Would you like to have another time to make art? Overall the patient’s responses to the art-making session were very favorable.

Three overarching themes were evident in the responses. Overall, the patient’s indicated that they felt less stress and were positively distracted while they were making art, that they felt independent and free, and perhaps the most impactful, that the art-making provided an overall sense of well-being. Patients commented that they felt happy, free, calm and even joyful. In addition, they felt confident and relieved of anxiety.

This study demonstrated that art programming had a statistically significant positive impact on well-being and reduced levels of stress of those suffering from chronic disease. More research should be completed to document the positive effects art-making, art in the environment, and art therapy, can have on patient outcomes.
# Table of Contents

Table of Contents.............................................................................................................4

Table of Tables ................................................................................................................5

Acknowledgements.........................................................................................................6-7

Dedication..........................................................................................................................8

Introduction.......................................................................................................................9-16

Background and Significances.........................................................................................9

Methods............................................................................................................................17

Participants.......................................................................................................................17

Procedures.......................................................................................................................17-18

Instrumentation...............................................................................................................18

Analysis.............................................................................................................................19

Results..............................................................................................................................19-21

Discussion.......................................................................................................................21-25

Limitations.......................................................................................................................24-25

Conclusions....................................................................................................................25-26

References.......................................................................................................................27-30

Tables...............................................................................................................................31-36

Appendix...........................................................................................................................37

IRB Approval Letter.........................................................................................................38-40

Samples of Artwork..........................................................................................................41-42

Samples of Artwork Created in Glass.............................................................................43

Exhibit...............................................................................................................................44

Poem.................................................................................................................................45

Observations.....................................................................................................................45-48
Table of Tables

Quantitative Tables………………………………………………………………………31-33
  Table 1 Quantitative Responses based on Patient’s Emotional State………………..32
  Table 2 Quantitative Responses based on Pre/Post Test, Sex and Age……………….33

Qualitative Tables………………………………………………………………………34-36
  Table 3. Qualitative Responses……………………………………………………….34
  Table 4. Qualitative Responses……………………………………………………….35
  Table 5. Qualitative Responses……………………………………………………….36
Acknowledgements

I would like to thank the following Cincinnati Children’s Hospital Medical Center staff. Without their support this study would not have been possible.

Maggie R. Brennan, Champions Program, Benjamin “Rocky” Byington, CIP, Sr. Research Compliance Specialist, Institutional Review Board, Office of Research Compliance and Regulatory Affairs (ORCRA), Dr. Michael Cloughessy, SR IC Preventionist, Infection Control Program, David Eaves, Senior Research Assistant, Pathology, Maureen Donnelly, LISW-S, Social Work Manager, Cancer and Blood Diseases Institute, Jean Gibson, Manager, Institutional Review Board, Office of Research Compliance and Regulatory Affairs (ORCRA), Lisa Hall, Operations Coordinator, The Division of Child Life and Integrative Care, Michelle Lawrence, MSN RN CPN, Education Specialist II, Division of Endocrinology, Scott Menner, M.Ed., Principal / Teacher II, Division of Child Life & Integrative Care, Catherine Parts, Teacher, Division of Child Life & Integrative Care, Nancy Pushkar, Child Life Specialist II, Division of Child Life & Integrative Care, Constance Turner, Teacher, Division of Child Life & Integrative Care, Ashley Wagner, M. Ed. Teacher, Division of Child Life and Integrative Care, Dr. Sara Williams, Assistant Professor, Behavioral Medicine and Clinical Psychology, Meg Zaleuke, MA, CCLS II, Certified Child Life Specialist II, Blood & Marrow Transplant, Division of Child Life & Integrative Care.

Additionally, I would like to extend my appreciation to the following individuals for their participation:

Nancy Pushkar for her enthusiasm and support, and for connecting me with the team at Cincinnati Children’s.

Scott Menner, Cincinnati Children’s, School Principal, and the teachers on his team, for their enthusiasm and willingness to incorporate my study into their curriculum.
Megan Zaleuke for her positive spirit and determination which ensured that I was able to include cancer and blood disease patients in this study.

Dr. Michael Cloughessy, SR IC Preventionist, Infection Control Program, whose guidance and mentorship enabled me to follow infection control protocols.

I would also like to thank Sandy Gross, Artist and Owner, Brazee Street Studios, for encouraging me and for providing the space to exhibit the patient’s portrait-making. Her team’s creation of the faces in glass, were perfect in every way.

My sincere appreciation is extended to my advisor, Dr. Rebecca Vidourek, for her advice and expertise throughout the duration of my time in this program. I would also like to acknowledge my thesis committee, Dr. Keith King, PhD, MCHES, Professor and Program Director, Health Education and Promotion, Dr. Laura Nabors, PhD, ABPP and Dr. Rebecca Vidourek, PhD, CHES, Assistant Professor, for their knowledge, insight and dedication to community health and well-being.

Lastly, I would like to recognize and acknowledge my husband, Len Thomas and daughter, Angella. Without their love, continuous support and encouragement, none of this would have been possible.
Dedication

This thesis is dedicated to children, and their parents and families, who are affected by chronic disease.

Their determination, resilience and strength are awe inspiring.
Introduction

“Art washes away from the soul the dust of everyday life.”

Pablo Picasso

Background and Significance

The number of humans suffering worldwide from chronic diseases is staggering. About half of all adults in the US, 117 million people, suffer from one or more chronic diseases. 25% of adults have two or more chronic diseases. (Ward, Schiller & Goodman, 2012). According to the American Academy of Pediatrics, ten to twenty million children and adolescents in the United States have some form of chronic illness or disability. Chronic refers to a health condition that lasts anywhere from three months to a lifetime (Healthy Children, 2014).

The consequences of children with chronic disease are dissimilar than those for adults. In the United States, health is taken for granted. Parents assume that their children will be healthy. But when a child suffers from a chronic disease, it affects everyone and everything in the family dynamic.

With the advent of new treatments for chronic pediatric disorders such as cystic fibrosis (CF), juvenile rheumatoid arthritis, and congenital heart disease, more children and adolescents are surviving into adulthood than ever before (Turkel & Pao, 2007). According to Turkel, chronic illnesses may lead to growth retardation, either because of the illness itself or because of treatments required for it. Young adults who are chronically ill, with a wide variety of disorders, have lower academic and employment achievement, are more likely to be single and have delayed independence. The full range of developmental and childhood psychiatric disorders, including adjustment disorder, major depression anxiety and delirium are seen in children and
adolescents who have chronic diseases. Issues of puberty, autonomy, personal identity, sexuality, education and vocational choices become more difficult for an adolescent who also is coping with chronic illness. For adolescents who have a chronic illness, perception of their illness severity is related directly to their psychosocial well-being (Turkel & Pao, 2007).

As stated by Eiser (1993), in her book, *Growing Up With a Chronic Disease: The Impact on Children and Their Families*, children with chronic disease in infancy and pre-school age cannot understand the seriousness of the disease. During the middle-school period, the child spends more time with peers which can pose challenges, since parents are unable to monitor their children’s behaviors as much as they have done before. Self-esteem is often affected. During adolescence, the parent’s role is reduced and the child is often, on their own to explain their condition to their peers. Restrictions on work, school and social activities can also be burdensome (Eiser, 1993).

These ramifications are still prevalent today, however families are also burdened by other issues. There are high percentages of single parent homes, which put pressure on one parent to care for the child with the medical condition, while simultaneously raising healthy siblings. There are greater demands on children to perform in sports, while managing their social calendars and academic loads, than there were 20 years ago. Children are also constantly connected through technology, in which life frequently appears more alluring and exciting than it actually is. For children who are limited by their disease, and unable to lead lives consistent with their peers, they can be left feeling isolated, lacking in confidence and inadequate.

Children with chronic diseases must develop coping skills to assist their navigation through life. These illnesses, and their treatment, present children, adolescents and their parents
with significant sources of chronic stress that can contribute to emotional and behavioral problems, and can compromise adherence to treatment regimens (Campas, Jaser, Dunn & Rodriguez, 2012). Examples of coping skills include group and individual therapy, the fostering of social connections, exercise, practicing positive thinking, making healthy food choices and participating in positive diversions such as drawing and writing (Everyday Health 2014).

Mental health illness, which is considered a chronic disease, is a major health concern. According to Merikangas et al, 46.3% of 13-18 year olds have a lifetime prevalence of mental health disorders. 21.4% have a severe disorder. Anxiety disorders, which according to the National Institute of Mental Health, are categorized as 1) obsessive compulsive disorders, 2) post-traumatic stress disorder, 3) social phobia and 4) generalized anxiety disorder. Girls are at increased risk for developing mood and anxiety disorders (NIMH, 2014). As reported by Merikangas et al, anxiety disorders are the most common condition (31.9%), followed by behavior disorders (19.1%), mood disorders (14.3%), and substance use disorders (11.4%). Approximately 40% with one class of disorder also meeting criteria for another class of lifetime disorder (Merikangas et al,). As reported by the National Institute of Mental Health, only 18% of teens diagnosed with anxiety disorders receive mental health care (NIMH 2014). Children suffering from mental illness can benefit from pharmacological treatment, combined with numerous coping skills, which aid them in leading productive lives. Art-making is an inexpensive and simple coping skill that is believed by many to be a positive and effective approach to health and well-being.

Art has been an integral component of human evolution, both as a species and as a society. Visual art can be traced as far back as the Paleolithic man’s cave art and continues to be an integral part of people’s lives (Hathorn & Nanda, 2008). It makes sense to utilize art as a
coping mechanism for those who have chronic medical conditions. Early writings, such as Egyptian hieroglyphics, often used pictures of objects, such as animals and birds. Cuneiform scripts from the Sumerians, logograms of the Mayan culture, and both ancient and contemporary Chinese characters, are other examples of how art has been integral to human communication and development (Malchiodi, 2007a).

Art and psychotherapy has been utilized by psychiatrists since the 1870’s, as a therapeutic compliment as a way of understanding their patient’s conditions. The introduction of art as a therapeutic model is attributed to Margaret Naumburg in the 1940’s. She is considered to be one of the first to delineate art therapy as a distinctive form of psychotherapy. HannaYaxa Kwiatkowska, an art therapist who worked for the National Institute of Mental Health in the 1950’s and 1960’s, introduced art therapy into family therapy sessions. Thanks to advocates like Naumburg and Kwiatkowska, art therapy became a recognized field by the 1960’s (Malchiodi, 2007d). Many were influenced by Freudian psychology and the connections he discovered between imagery and the subconscious. According to Malchiodi (2007), many great artists, composers and writers have suffered from mental illness (Malchiodi, 2007b). Artists such as Joan Miro, Salvador Dali, Max Ernst and Jackson Pollock created art from memories of their dreams and other spontaneous expression, which they believed represented the unconscious mind. Making art was a means of expressing the conscious and subconscious, but also a self-sustaining form of coping.

The National Institute of Health (NIH) recognizes the impact art has on society. Established in 1999, The National Center for Complementary and Alternative Medicine (NCCAM) is one of the 27 institutes and centers that make up the NIH within the United States Department of Health and Human Services. NCCAM is the federal government's lead agency for
scientific research on complementary and alternative medicine. The mission of NCCAM is to define, through rigorous scientific investigation, the usefulness and safety of complementary and alternative medicine interventions and their role in improving health and healthcare. There are many artistic modes of therapy and interventions recognized by NCCAM. According to NCCAM, mind and body medicine, which includes, but is not limited to, art therapy, music therapy, meditation, and writing therapy has shown to have positive benefits for patients (NCCAM, 2014).

There is a distinction between art-making and art as a therapeutic model. Rubin points out that art therapy in the fullest sense requires combining a deep understanding of art and the creative process with an equally sophisticated understanding of psychology and psychotherapy (Rubin, 2010). Art therapy is a mental health profession in which clients, facilitated by an art therapist, use art media, the creative process, and the resulting artwork to explore their feelings, reconcile emotional conflicts, foster self-awareness, manage behavior and addictions, develop social skills, improve reality orientation, reduce anxiety, and increase self-esteem (American Art Therapy Association, 2014). As stated by Malchiodi (2007), while making art on one’s own can be a relaxing, emotionally fulfilling, and self-repairing experience, art therapy’s effectiveness capitalizes on the relationship between the art maker and the therapist. In all forms of therapy, the presence of a facilitator or witness is central to healing, reparation and recovery (Malchiodi, 2007 c). By no means, does the principal investigator intend to diminish the need for, and power of, art therapy. Despite the recognition that art, has influenced the therapeutic process, many hospitals to not embrace or offer this therapeutic modality. While art therapy is a recognized measurable approach, the results of this study demonstrate that art-making, by itself, has impact with patients in group or independent settings.
Positive distractions in health care settings are key factors which foster a positive patient and family experience. As identified by Ferguson (1986), art interventions are often used as positive distractions for patients. It is no wonder that art, two and three dimensional art is becoming a fundamental element to healing environments. The use of art has many positive implications. As noted, numerous studies have shown that simply viewing art reduces perceived pain and anxiety. According to Tse, pain thresholds and tolerances have been reported as higher when patients have been exposed to soundless nature videos (Tse, Ng, Chung, & Wong, 2002). Dedicated art programming provides patients with a focused time to relax and be creative, provides social support when held in groups, and offers a sense of control to the patient, who has lost so much control over their surroundings and well-being. In Hathorn’s (2008) report, titled Evidence-based Art Programs, it’s identified that nearly 50% of all hospitals in the United States had installed art programs in their facilities. From this study, they found that 96% of hospital arts programs were intended to serve patients directly. Benefit to patients was the primary reason (78.8%) given for having arts programs, noting them specifically to be a part of their mental and emotional recovery (72.8%). The study also found that 25% of hospitals with arts programs allow patients an opportunity to choose their own art for in-patient rooms (Hathorn, 2008).

Within the last decade, arts-health research has gained recognition. According to Ulrich and Gilpin (2003), the following are important relevant outcomes of arts-health research, 1) clinical indicators (observable signs and symptoms related to patient conditions such as length of stay, intake of pain medication or biological markers), 2) patient/staff/family-based outcomes (patient ratings of perceived pain, feelings of loneliness, anger or sadness, satisfaction with healthcare services, staff-reported satisfaction and 3) economic outcomes, i.e.; cost of patient
care or cost related to staff turnover (Ulrich & Gilpin, 2003). Art-based programming that addresses simply one of these three outcomes is worthy of consideration as a healing model.

Healthcare administrators are recognizing the benefits complementary medicines offer, and as a result, leading healthcare institutions are incorporating expressive art programming into their clinical services. Child life specialists, art therapists and volunteers are often engaging with patients, siblings and caretakers in art-making. Therapeutic strategies that incorporate music, visual arts, and dance/movement therapy, along with yoga, drumming circles, creative writing, poetry, pet therapy, massage and acupuncture are examples of programs that are offered. The Ponzio Creative Arts Therapy program offered by Children’s Hospital Colorado, incorporates the arts to help children express, create and heal in an open and supportive environment. Art, music, dance, movement and yoga become tools for communication, emotional release and ultimately, healing. As quoted on their website, by an adolescent recovering from an eating disorder, “I believe in all sincerity that art saved my life, or at least my soul. In art, I find a safe place to be my true self.” (Children’s Hospital Colorado, 2014).

According to NCCAM, nearly 40% of Americans use healthcare approaches developed outside of mainstream Western or conventional medicine for specific conditions or overall well-being. These modes of therapy are not intended to replace traditional medicine. Interestingly, research indicates that when combined with traditional medicine, alternative modes of therapy can have positive impacts on overall patient health (NCCAM, 2014).

This study evaluates the affect that art-making has on the well-being and levels of stress for pediatric patients. For this study, the following chronic diseases were represented in the patient population: 1) cancer and blood diseases, 2) cardiovascular disease, 3) chronic pain and
4) mental health illnesses, which included; mood disorders, anxiety disorders, obsessive compulsive disorders, self-mutilation, eating disorders and co-concurring conditions. Initially, the focus of this study was aimed at a variety of chronic diseases. However, because of the interest and support from the mental health professionals at Cincinnati Children’s, the vast majority of the patients that participated in this study were mental health patients.

The study demonstrated that portrait-making could introduce a type of expression or introspection that could be difficult for some patients. Therefore, other materials were provided in those instances. Art-making materials, and samples of completed projects, were shared at the beginning of each session. At the end of the session, participants completed a retrospective pretest-posttest survey that assessed their emotional state, both prior to, and at the conclusion of the session.

In order to clearly identify the difference between art-making and art therapy an operational definition is provided. For the purpose of this study, art-making is defined as the use of art materials for the purpose of creative expression and relaxation. The artwork created in this study was not evaluated in any manner, nor was any sort of therapeutic intervention provided.

Therefore, the purpose of this study was to utilize art-making as a complimentary intervention, and by doing so, examine whether art-making could reduce stress and improve the well-being of those suffering from chronic disease. Specifically, the following research questions were examined: 1) Did perceptions of well-being increase from pretest to posttest? 2) Did perceptions of well-being from pretest to posttest differ based on sex and age?
Methods

Participants

Participants in this study were pediatric patients, age 12-18, at Cincinnati Children’s Hospital Medical Center, in Cincinnati, Ohio. To participate in the study, patients suffered from at least one chronic disease. Caretakers, child life specialists, teachers and staff contributed their time in a supervisory role and were invited to participate in the art-making session if desired.

Procedures

Workshops were held during the day and in the evenings at various in-patient units at the main campus, located at 3333 Burnet Avenue, the Division of Child and Adolescent Psychiatry location, in College Hill and the Adolescent Care Center at the Lindner Center of Hope. The workshops lasted approximately one hour. The purpose of the research study was explained and child assent forms were completed. In addition, parents provided written permission for children to participate in the workshops. Children were then encouraged to create a portrait using pre-cut, geometric shaped, colorful papers. Butterfly and flower shapes were available if a patient was uncomfortable with the portrait-making project. At the end of the art-making session, a retrospective pretest-posttest survey was completed.

No incentives were offered as a part of this study. After the session, the artwork was retained, so that a gel medium finish could be applied and the art could be ultimately displayed as a part of an exhibit. The goal of the exhibit was to bring awareness to the impact art-making can have on levels of stress and well-being for children suffering from chronic medical conditions. The exhibit was held at Brazee Street Glass Studio in Cincinnati, Ohio. Patients,
families, staff, and the general public, were invited. At the conclusion of the opening, the staff at Cincinnati Children’s facilitated the return of the artwork to those who were unable to attend.

Instrumentation

Based on a comprehensive review of the literature, as well as a previous survey instrument, a two page survey was developed to answer the research questions. At the end of each art-making session, an anonymous, retrospective pretest-posttest survey was administered to the participants who agreed to complete the research study. A retrospective pretest-posttest has advantages. As outlined by Gouldthorpe and Israel, this type of survey captures the participant’s responses at the same time, which limits the influences of other events on the results. By using the same evaluation tool, the need for a second, possibly different test is avoided. Lastly, the participant’s assessment of change is more accurate, because both answers are generated at the same time (Gouldthorpe & Israel, 2014).

The survey was comprised of three sections: quantitative well-being questions, demographics, and qualitative questions. For the quantitative section, items consisted of well-being questions using a five point scale (strongly disagree to strongly agree), which requested participants to check the appropriate box. Quantitative survey items were based on a previously validated instrument. Demographics items included sex, age, type of condition and length of stay and required participants to check the appropriate box. Lastly, qualitative questions were also included and asked participants to respond to the following questions: 1) How did art-making make you feel? 2) What did you like about art-making? 3) What would you change about art-making? 4) What are your overall thoughts on art-making? 5) Would you like to have another time to make art?
Analysis

Data were analyzed using the SPSS statistical software package (Version 22.0). Frequencies, distributions, means, ranges and standard deviations were used to describe participant’s responses and demographic characteristics. Paired-sample t-tests and independent sample t-tests were used to answer the research questions. For each individual participant, a pretest to posttest difference score was computed by subtracting the posttest score from the pretest score. These differences were subsequently combined to determine if group differences differed based on demographic variables. To conduct the t-test for age, the samples were dichotomized into two groups (12-14 years old) and (15-18 years old) based on the median split. A priori, the alpha level was set at .05. For qualitative analysis, the primary researcher identified main themes in the qualitative items.

Qualitative data were analyzed by reviewing information from the author’s observations and quotes written by the children in response survey questions. The author used an open coding approach where she reviewed the children's responses and her observation notes to uncover key information in order to determine themes in this data.

Results

Demographics

A total of 62 patients participated in this study. The age of the patients ranged from 12 to 18. Of those that participated, 42 were female (67.7%) and 20 were male (32.3%). The participants suffered from cancer and blood diseases, chronic pain, and mental health illnesses.
Quantitative Evaluation Findings

When responding to quantitative questions, such as how angry the patient felt before the art-making session versus how angry they felt after the session, 66.2% strongly agreed that they felt angry before the session versus 85.7% who strongly disagreed that they felt angry after the session. (Table 1). When asked if they were sad, 36.9% of the participants strongly agreed that they felt sad before the workshop, as compared to more than 57.1% who strongly disagreed that they felt sad after the workshop. 55.4% of the participants felt afraid before the art-making session, as compared to 73% of them who strongly disagreed that they felt afraid after the session.

When asked if they felt things would never get better for them, if they were experiencing any pain, or had low energy, participants indicated little change in their pretest and posttest responses. Changes in the responses were .02%, 3.3% and 1.2% respectively (Table 1) from the pretest to the posttest.

The pretest mean was 25.15 (SD = 10.329) compared to the posttest mean of 20.30 (SD = 8.273) (Table 2). Results indicated a significant difference in perceived well-being from pretest to posttest (t = 6.572, df = 62, p < .001). Regarding sex, results demonstrated no significant difference based on sex (t = -1.812, df = 58, p < .075). Based on age, no significant differences from pretest to posttest were found (t = .464, df = 57, p < .645).

Qualitative Evaluation Findings

The patient’s qualitative responses related to the impact that the art-making session on them was very favorable. Three overarching themes were evident in the responses. Overall, the patient’s indicated that they felt less stress while they were making art (Table 3), that they felt
independent and free (Table 4), and that the art-making provided a sense of well-being (Table 5). When commenting on their level of stress after making art, the patients said they felt at peace, relaxed, and in some cases, the anxiety they typically experience, disappeared. In regards to feeling independent, the patients indicated that they enjoyed being able to express themselves, the freedom to be themselves and that they were proud of their artwork. They appreciated being able to do whatever kind of artwork they wanted, even if it was abstract art, and liked the fact that they were reminded, before taking the survey, that there were no right or wrong answers. Perhaps the most impactful of the qualitative responses may have been that the art-making session resulted in an overall sense of well-being. Patients commented that they felt happy, free, calm and even joyful. In addition to this, they felt confident and relieved of anxiety.

**Discussion**

This study found a statistically significant difference in participant’s perceived well-being from pretest to posttest. This is important because of the lack of existing research that exists in this area. Art-making is an inexpensive and easy intervention to adopt. Based on this study, not only do the participants experience positive results, but it’s probable that caretakers, staff and those who administer the programs, would benefit as well.

Although not statistically significant, it is interesting to note female participants mean difference from pretest to posttest was 6.1 compared to 3.05 for males. This could be attributed to a connection that the female respondents had to the female principal investigator, or the content and materials of the art-making session may have resonated more the female participants. In future studies, it may be warranted to provide a variety of media and have both males and
females conduct the art-making workshops, so that a comparison may be made to determine any potential impact these conditions may have on participants.

Art is identified by many as a catalyst to healing and renewal. As stated by Kreitzner, there is a growing body of empiric evidence that healing the heart requires care of the whole person, the body, mind and spirit. To effectively achieve this requires tapping into a broad array of healing options, including the best of high-technology biomedical care, as well as, complementary and alternative care options. Engagement with creative activities has the potential to contribute toward reducing stress and depression and can serve as a vehicle for alleviating the burden of chronic disease (Kreitzner & Snyder, 2002). The participants in this study indicated that the art-making session had a positive impact both in their quantitative and qualitative responses. In most cases, the subject’s moods were noticeably improved at the end of the session. It did appear that they had experienced a therapeutic intervention that had a positive effect on them.

As reported by Stuckey (2010), music therapy has been shown to decrease anxiety, restore emotional balance and serve as a strategy for achieving control over pain. There is also evidence that the use of art and music reduces hospital stays and decreases the need for pain medication (Stuckey & Nobel, 2010). In many cases, the participants responded that they felt less anxiety, and in one case, a patient noted that while he was making art, his anxiety was gone, but as soon as the session ended, and he stopped making art, his worries and anxieties returned. Art-making can enhance one’s capacity to cope more effectively and is an uncomplicated procedure to incorporate into in-patient programming.
According to Madden (2010), when using creative expression, a child or adolescent with cancer can express feelings about the course of the disease and tumultuous treatment through dance/movement, music and art. This outlet allows the patient to creatively and kinesthetically process the assaults of cancer and its treatment, and thus establish a stronger sense of self and improved well-being (Madden, Mowry, Gao, McGuire-Cullen & Foreman, 2010). Hamre’s 2007 study showed that patients receiving art therapy had long-term reduction of chronic disease symptoms and improvement in well-being (Hamre, Witt, Glockman, Ziegler, Willich & Kiene, 2007). A patient suffering from sickle cell disease attended one of the workshops in this study. The subject was wheeled into the room. She was very disinterested in the intervention. She could have even been considered despondent. By the end of the art session, she was laughing, dancing in her wheelchair and singing. It was apparent that the distraction of making art, and working on a creative project, elevated her mood in an intensely, positive way.

It is evident from this study, and from other research that has been conducted, that art-making sessions can provide positive benefits. A study conducted in Taiwan with terminally ill patients showed that 73% of patients admitted having fun while painting, 62% had feelings of gratitude and faith, 85% had positive views about the meaning of life, 56% were willing to share their views about life and death, and 53% felt improvement in their physical condition (Lin, Wu & Chen, 2011). It was evident during observations of the participants during this study that art-making has a role in enhancing well-being and sense of well-being. During one session, a timid, withdrawn girl, approximately age 12, came to the table. When the project was introduced to her, she burst into tears. A staff member calmed her and assured her that everything would be alright. Soon she was engaged with the others at the table, and was engrossed in making her portrait-making. At the end of the session, she was smiling, talkative and emotionally, at peace.
A healthcare institution’s ability to create positive experiences for patient, families and staff is integral to successful treatment and revenue streams. According to Press Ganey, patients are simply more likely to recommend and reuse the hospital’s services if they have a satisfying experience. This means more business which brings in more revenue. Satisfied patients also are more likely to cooperate and communicate with staff (resulting in fewer errors), more likely to utilize fewer resources and less likely to experience stress-related complications. This means lower costs per hospital stay (Press Ganey, 2014).

In response to the need to provide positive patient experiences and meet patient’s expectations, architectural enhancements now include healing gardens, views into nature from patient rooms, interior penetration of natural light and walking trails. These amenities provide patients and their families with the opportunity to experience places of reflection and respite, and a place of introspection, during stressful and extended hospital stays. Many facilities provide rotational galleries, and display permanent art collections, both of which provide positive distractions, for patients, families and visitors. Staff also certainly benefit from the opportunity to view artwork during or after a stressful shift. And as shown in this study, participating in art-making is also beneficial. In response to the desire for art in healing environments, it would be meaningful to showcase artwork made from hospital programming, as a permanent or temporary display.

**Limitations**

The results of this study indicate that the art-making sessions did have a significant impact on the participants. However, there were some limitations that should be acknowledged. The retrospective pretest/posttest survey may have confused some of the participants. Some indicated they couldn’t remember how they felt before the workshop. For this reason, future
studies may want to consider a pretest-posttest model alternatively. Although not initially intended, the vast majority of the subjects in this study were mental health patients. Because these patients may have responded more favorably to the effects of art making, than those suffering from other chronic diseases, this selection bias is identified. Most of the workshops were held in group sessions, which could have been distracting to the participants when completing the survey. The mental health clinical staff indicated that in some cases, patients find the in-patient setting safer and more comfortable than their home environments. Due to this factor, it is fair to question whether or not the patients are able to truly express, after some time in the hospital, the vulnerable state they were in prior to their hospitalization.

Conclusion

As stated earlier, according to Hathorn in 2008, 50% of the hospitals in the U.S., had installation based art programs in place (Hathorn & Nanda, 2008). To further support this initiative and evaluate the effect art-making can have on patient outcomes, future studies could include in-patient art programming, out-patient, community-based programming, home-based interventions, and art programs for those who are in the final stages of life. Programs for staff and caretakers should also be considered.

As a short term intervention, the art-making sessions in this study resulted in measureable, positive outcomes. Future studies could assess whether repeated applications can provide long term influence in affecting permanent change. Art intervention programs could be offered to patients at their initial in-take consultation, and provided to patients who are receiving an out-patient treatment program. Repeated exposure to art-making, and kits which can be taken to patient’s rooms, could be provided during their length of stay.
As stated, this study initially focused on four chronic diseases however, in the end the population was mostly comprised of mental health patients. Since this patient population was relatively easy to access, future studies could compare and evaluate the effects of art-making on specific mental health illnesses. Prospective studies could also assess the impact of art-making on various chronic diseases. In addition, the effects of art-making on patients with co-concurring, chronic diseases could be studied. Comparison results with a control group and an experimental group could provide valuable insight to the impact art-making may have on these vulnerable populations. Studies measuring and evaluating the impact of art-making on families and caretakers could simultaneously be conducted.

In addition to surveys and observations, similar to those gathered in this study, biometric measures, such as heart rate and blood pressure, could be taken while patients are making art. This may add even more credible evidence to the potential impact art-making can have on the well-being among pediatric patients suffering from chronic diseases.

This study demonstrated that art programming had a positive impact on well-being and reduction of stress levels of those suffering from chronic disease. More research should be completed to document the long-term, positive effects art-making, art in the environment, and art therapy, has on patient outcomes. Perhaps, it’s the combination of patient-centered care, medical research, technology and complementary medicines that may prove to be the most healing of all.
Art-making Workshops for Pediatric Patients with Chronic Disease

References


Turkel, S., Pao, M., (2007). Late Consequences of Chronic Pediatric Illness. The Psychiatric


Tables
Table 1. Quantitative Responses based on Patient’s Emotional State

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Pretest M</th>
<th>Pretest SD</th>
<th>Posttest M</th>
<th>Posttest SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel afraid.</td>
<td>1.82</td>
<td>1.029</td>
<td>1.52</td>
<td>1.014</td>
</tr>
<tr>
<td>I feel sad.</td>
<td>2.42</td>
<td>1.345</td>
<td>1.73</td>
<td>.987</td>
</tr>
<tr>
<td>I feel angry.</td>
<td>1.60</td>
<td>1.012</td>
<td>1.129</td>
<td>.771</td>
</tr>
<tr>
<td>I worry about what will happen to me.</td>
<td>2.32</td>
<td>1.393</td>
<td>2.02</td>
<td>1.225</td>
</tr>
<tr>
<td>I feel lonely.</td>
<td>2.42</td>
<td>1.489</td>
<td>1.89</td>
<td>1.138</td>
</tr>
<tr>
<td>I feel that things will never get better for me.</td>
<td>2.31</td>
<td>1.402</td>
<td>1.98</td>
<td>1.129</td>
</tr>
<tr>
<td>I feel unhappy with myself.</td>
<td>2.68</td>
<td>1.592</td>
<td>2.02</td>
<td>1.251</td>
</tr>
<tr>
<td>I feel unhappy with my life.</td>
<td>2.69</td>
<td>1.315</td>
<td>2.14</td>
<td>1.189</td>
</tr>
<tr>
<td>I hurt or ache.</td>
<td>2.08</td>
<td>1.315</td>
<td>1.79</td>
<td>1.034</td>
</tr>
<tr>
<td>I have low energy.</td>
<td>2.62</td>
<td>1.486</td>
<td>2.24</td>
<td>1.266</td>
</tr>
<tr>
<td>It is hard for me to do things because of my illness.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.25</td>
<td>1.370</td>
<td>1.68</td>
<td>1.029</td>
</tr>
</tbody>
</table>
Table 2. Quantitative Responses based on Pre/Post Test, Sex and Age

<table>
<thead>
<tr>
<th>ITEM</th>
<th>M (SD)</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre/Post Diff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>25.15 (10.329)</td>
<td>6.572</td>
<td>62</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Posttest</td>
<td>20.30 (8.273)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest/Posttest Diff Based on Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.05 (6.940)</td>
<td>-1.812</td>
<td>58</td>
<td>&lt;.075</td>
</tr>
<tr>
<td>Female</td>
<td>6.10 (5.612)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest/Posttest Diff Based on Age</td>
<td></td>
<td>.464</td>
<td>57</td>
<td>&lt;.645</td>
</tr>
<tr>
<td>12-14</td>
<td>5.63 (5.658)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-18</td>
<td>4.88 (6.671)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3. Qualitative Responses: Patient’s self-reported answers when asked “How did art-making make you feel?” on the survey.

<table>
<thead>
<tr>
<th>Art-making made the patients feel less stress.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I felt less stressed while making art.”</td>
</tr>
<tr>
<td>“I was relaxed and calm when I was making art.”</td>
</tr>
<tr>
<td>“It made my anxiety go away a little bit.”</td>
</tr>
<tr>
<td>“It eased my stress and took my mind off of things.”</td>
</tr>
<tr>
<td>“It makes me feel at peace and it makes me forget my stressors. I feel good at peace.”</td>
</tr>
<tr>
<td>“Art relieves stress.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Art-making provided a positive distraction.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Distracted. It took my mind off of things.”</td>
</tr>
<tr>
<td>“Art-making distracted me from my sadness.”</td>
</tr>
<tr>
<td>“Making art made me feel better because it took my mind off of my problem.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Art-making made the patients feel better.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Making art made me feel good.”</td>
</tr>
<tr>
<td>“I felt happy afterwards.”</td>
</tr>
<tr>
<td>“Safe a little bit.”</td>
</tr>
<tr>
<td>“It made me feel better.”</td>
</tr>
<tr>
<td>“Not depressed.”</td>
</tr>
<tr>
<td>“Less sad and I liked having something to do.”</td>
</tr>
<tr>
<td>“I felt calm and creative when I was making art.”</td>
</tr>
</tbody>
</table>
Table 4. Qualitative Responses: Responses from patients when asked “What did you like about making the art?” on the survey.

| Patients indicated that art-making made a difference in their overall sense of well-being. |
| “Making art was fun and it made me feel joyful.” |
| “It made me calm down and I felt happy and free.” |
| “I really enjoyed being able to make art and keep my mind off of things.” |
| “It’s a stress reliever and a great coping skill.” |
| “I really liked how calming it was.” |
| “Awesome. I think it will help kids get through tough times.” |
| “It might help patients forget about their illness for a while.” |

| Patients indicated that art-making made them feel better about themselves. |
| “I felt confident.” |
| “It made me think better about myself than usual.” |
Table 5. Qualitative Responses: Responses from patients when asked “What are your overall thoughts on making art?” on the survey.

<table>
<thead>
<tr>
<th>Patients indicated that art-making made a difference in their overall sense of well-being.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Making art was fun and it made me feel joyful.”</td>
</tr>
<tr>
<td>“It made me calm down and I felt happy and free.”</td>
</tr>
<tr>
<td>“I really enjoyed being able to make art and keep my mind off of things.”</td>
</tr>
<tr>
<td>“It’s a stress reliever and a great coping skill.”</td>
</tr>
<tr>
<td>“I really liked how calming it was.”</td>
</tr>
<tr>
<td>“Awesome. I think it will help kids get through tough times.”</td>
</tr>
<tr>
<td>“It might help patients forget about their illness for a while.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patients indicated that art-making made them feel better about themselves.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I felt confident.”</td>
</tr>
<tr>
<td>“Helps calm my anxiety.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overall, patients liked making art.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I love to make art.”</td>
</tr>
<tr>
<td>“I liked being expressive.”</td>
</tr>
<tr>
<td>“I feel happy! Loved it.”</td>
</tr>
<tr>
<td>“I loved being creative.”</td>
</tr>
<tr>
<td>“It makes me happy, relaxed and comfortable.”</td>
</tr>
<tr>
<td>“Making art made me feel great.”</td>
</tr>
<tr>
<td>“I absolutely love it.”</td>
</tr>
</tbody>
</table>

It’s a good way to get my mind off of things.
Appendix
Institutional Review Board - Federalwide Assurance #00003152

University of Cincinnati

Date: 8/8/2014

From: UC IRB

To: Principal Investigator: Pam Irvin
    CECH Human Services

Re: Study ID: 2014-3133
    Study Title: Brief evaluation of an art therapy program for pediatric patients with chronic diseases.

The above referenced protocol and all applicable additional documentation provided to the IRB were reviewed and APPROVED using an EXPEDITED review procedure in accordance with 45 CFR 46.110(b)(1)(see below) on 8/8/2014.

This study will be due for continuing review at least 30 days before: 8/7/2015.

Study Documents
052914 Irvin Caretaker survey.doc
0729 art-making workshops flyer.pdf
072914 child_Assent_pam irvin - ePas header.doc
072914 Irvin child survey age 13-18.doc
072914 Irvin child survey age 8-12.doc
2014 3133 Pam Irvin COI.pdf
2014-3133 Adult Consent and Parent Permission (IRB markup 7-28-14).doc
2014-3133 IRB Protocol (IRB markup 7-31-14).doc
2014-3133 recruitment email (IRB tracked 7-31-14).docx
2014-3133 Youth Assent (IRB markup 7-28-14).doc
Approval for Space Use Maggie Brennan.pdf
Approval for Space Use Megan Zalueke.pdf
Approval for Space Use Scott Menner.pdf
CCHMC Releaseform current from cchmc.pdf
CHECKLIST_FOR_PIs_080107_-_Children.sflb.ashx.doc
Please note the following requirements:

Consent Requirements
Per 45 CFR 46.116 (21 CFR 50.20) the IRB has determined that informed consent must be obtained from all adult participants and that this consent must be documented by signature on the IRB approval consent form.

Parental Permission Requirements
Per 45 CFR 46.408 the IRB has determined that at least ___1___ parent(s) (or guardian) must give permission for the inclusion of a child in this research and that permission must be documented by signature on the IRB approved parental permission form.

Assent Requirements
There are no items to display

HIPAA Requirements
There are no items to display

AMENDMENTS: The principal investigator is responsible for notifying the IRB of any changes in the protocol, participating investigators, procedures, recruitment, consent forms, FDA status, or conflicts of interest. Approval is based on the information as submitted. New procedures cannot be initiated until IRB approval has been given. If you wish to change any aspect of this study, please submit an Amendment via ePAS to the IRB, providing a justification for each requested change.

CONTINUING REVIEW: The investigator is responsible for submitting a Continuing Review via ePAS to the IRB at least 30 days prior to the expiration date listed above. Please note that study procedures may only continue into the next cycle if the IRB has reviewed and granted re-approval prior to the expiration date.

UNANTICIPATED PROBLEMS: The investigator is responsible for reporting unanticipated problems promptly to the IRB via ePAS according to current reporting policies.

STUDY COMPLETION: The investigator is responsible for notifying the IRB by submitting a Request to Close via ePAS when the research, including data analysis, has completed.

Please note: This approval is through the IRB only. You may be responsible for reporting to other regulatory officials (e.g. VA Research and Development Office, UC
Health – University Hospital). Please check with your institution and department to ensure you have met all reporting requirements.

Statement regarding International conference on Harmonization and Good clinical Practices. The Institutional Review Board is duly constituted (fulfilling FDA requirements for diversity), has written procedures for initial and continuing review of clinical trials: prepares written minutes of convened meetings and retains records pertaining to the review and approval process; all in compliance with requirements defined in 21 CFR Parts 50, 56 and 312 Code of Federal Regulations. This institution is in compliance with the ICH GCP as adopted by FDA/DHHS.

Thank you for your cooperation during the review process.

Research Categories

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)
Artwork Samples

Subject: Female
Approximate Age: 15
Chronic Disease: Mental Health Illness

Subject: Female
Approximate Age: 13
Chronic Disease: Cancer

Subject: Male
Approximate Age: 15
Chronic Disease: Mental Health Illness

Subject: Female
Approximate Age: 14
Chronic Disease: Mental Health Illness
Artmaking Workshops for Pediatric Patients with Chronic Disease

Artwork Samples

Subject: Male
Approximate Age: 15
Chronic Disease: Mental Health Illness

Subject: Female
Approximate Age: 13
Chronic Disease: Mental Health Illness

Subject: Female
Approximate Age: 15
Chronic Disease: Mental Health Illness

Subject: Male
Approximate Age: 15
Chronic Disease: Mental Health Illness
Artwork Samples Created in Glass
The Exhibit
Poem

(a poem session was held by the Cincinnati Children’s staff member after the completion of the art-making project)

Subject: Female, Age: 14

I am

I am creative and kind
I wonder about my future
I hear a mocking jay song
I see the fountain of gold
I want to be with family
I am creative and kind

I pretend I am little
I feel the sun’s warmth
I touch my dog
I worry about food
I cry when I don’t know what to choose
I am creative and kind

I understand I am alive
I say I’ll be strong
I dream this will pass
I try to make others happy
I hope I will be happy
I am creative and kind
Observations

8/22
Female Subject
Psych Unit
Approximate age 14

Subject was very expressive both verbally and in her art. The session enabled her to open up emotionally. At first she was, solemn, very quiet and reserved but as she began to work on her project, she became much more conversant. By the end of the session, she appeared happier. She smiled many times and looked me directly in the eye, thanked me and smiled. She said she did not like her artwork and did not want to keep it.

8/22
Female Subject
Psych Unit
Approximate age 12

Subject was very timid and shy at first. During the session, however, she asked questions freely, smiled often and laughed frequently. She said she would like her artwork back because she would want her mom to see it. She knew she would be proud of her.

8/22
Male Subject
Psych Unit
Approximate age 15

Subject was very inquisitive and looked me directly in the eye many times. He seemed a bit anxious during the project and said he was going to be back. He would walk around the room for a few minutes. Each time he came back to the table, he asked if he could do another project. He made four pieces of art in total.

8/27
Female Subject
Cancer and Blood Disease In-patient unit
Approximate age 11

Subject joined the art-making session a few minutes after we had started….. saw the other faces being created and said “am I the only one making a bald one?” (the other two subjects were Sickle Cell patients) She was excited to participate in the project. She was being dismissed from
the hospital directly after and was going to a music concert out of town the next day. She finished her project, while conversing with the other subjects. She asked to have her face returned to her but was happy to hear it would be in an exhibit.

9/3
Male Subject
College Hill Residential Psychiatry Unit
Approximate age 15

Subject had a caretaker with him. He didn’t look at me or speak at all. He nodded when asked if he wanted to participate in the art-making project and complete a survey about his feelings afterwards. He signed the assent form. He was very focused on his project, taking deep breaths and sighing often. His face was simple and very precise. He seemed to have enjoyed it. I read his survey afterwards. I was surprised to read that he did not enjoy making art, said it made him feel averted and indicated that he did not want to do it again.

9/3
Female subject
College Hill Residential Psychiatry Unit
Approximate age 16

Subject did not seem very interested in the research study or the art-making project. She started slowly, as if she was not going to do it for very long. I noticed after some time, she had decided not to make a portrait-making but was instead, creating a beautifully colorful, abstract piece of art. It had a perfectly, chaotic sense to it. Later she drew a beautiful line drawing of a woman. She was frustrated that she wasn’t permitted to use a pencil and denoted her irritation clearly on her survey.

9/11
Female Subject
College Hill Residential Psychiatry Unit
Approximate age 13

Subject came to the table withdrawn and quiet. She wanted to participate in the art-making but did not want to complete the survey. After assuring her this was fine, and providing her the art-making materials, she burst into tears. A staff member encouraged her and told her it would be alright. Subject opted to stay and work on her portrait-making. She was very focused and participated with the others at her table in casual, light hearted conversation. She seemed very happy with her art project at the completion. Her mood was calm, even elevated. She did not complete the survey.
9/12
Male Subject
Lindner Center of Hope
Approximate age 15

Subject joined the group a little late, so I explained the project to him one-on-one. He completed and assent form and was given materials. Subject then sat and stared at the materials for about 20 minutes. I asked him periodically if he needed anything. He would look at me and say no. Finally at close to the end of the session, he said he didn’t know what to make. I encouraged him to doodle, write a poem, or simply write words explaining how he felt. He eventually drew a line drawing of an imaginary, somewhat scary, creature before completing the survey.

9/14

I have noticed that the majority of mental health patients show only a head in their portrait-makings (no necks, shoulders or other body parts are depicted). I noticed this after the first session, and purposely provided samples of portrait-makings that included necks, arms, etc… Even doing so, did not change the outcome. In session after session, most mental health patients only depicted their portrait in this way.