



The Impact Of Medical Clowning On Emotional Regulation And Quality Of Life On Children In Onco-Pediatric Ward: A Pre-Post Intervention Study

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Abstract: This study investigates the impact of medical clowning on the quality of life (QOL) and emotional regulation (ER) of pediatric oncology patients. A total of 56 participants aged 8-15 years were recruited from an onco-pediatric ward. Validated tools, including the Pediatric Quality of Life Inventory (PedsQL) and the Emotional Regulation Checklist, were utilized to assess QOL and ER, respectively. Statistical analysis, including paired sample t-tests, assumptions checking, and effect size calculation, were employed to analyze the data. The findings revealed significant improvements in both pediatric quality of life and emotional regulation following medical clowning interventions. Paired sample t-tests demonstrated a substantial increase in post-intervention pediatric quality of life scores, accompanied by a significant decrease in negative emotions. These results highlight the therapeutic benefits of medical clowning interventions in pediatric oncology care, emphasizing their role in enhancing patient well-being and promoting a supportive treatment environment. Furthermore, the findings underscore the importance of interdisciplinary collaboration and policy support in integrating medical clowning into comprehensive pediatric oncology care protocols. Overall, this study contributes valuable insights into the effectiveness of medical clowning as a psychosocial intervention in pediatric oncology settings, providing evidence to support its integration into standard care protocols. Moving forward, further research is needed to explore the long-term effects of medical clowning interventions and optimize their implementation in clinical practice.

Index Terms - Medical clowning, Pediatric oncology, Quality of life, Emotional regulation, Psychosocial intervention.

I. INTRODUCTION

Medical clowning, also known as therapeutic or hospital clowning, is a unique and innovative intervention that harnesses the power of humor and playfulness to alleviate distress and enhance well-being in healthcare settings. Originating in the 1970s, medical clowning has evolved from a spontaneous activity into a structured and evidence-based practice, recognized for its therapeutic benefits across various patient populations.

The essence of medical clowning lies in its ability to transcend the traditional boundaries of healthcare by infusing joy, laughter, and creativity into clinical environments. Trained performers, known as medical clowns, engage with patients, families, and healthcare providers using a range of clowning techniques, including improvisation, music, storytelling, and physical comedy. Through their interactions, medical clowns create moments of connection, relief, and empowerment, fostering a sense of resilience and optimism amidst the challenges of illness and treatment.

Medical clowning is grounded in the principles of psychosocial and emotional support, with a focus on enhancing the overall well-being of patients and promoting a positive healthcare experience. Research has shown that medical clowning interventions can have a significant impact on various aspects of patient care, including reducing anxiety, alleviating pain, improving mood, enhancing coping skills, and promoting socialization (Fleischer et al., 2018; Golan et al., 2009).

One of the key strengths of medical clowning is its versatility and adaptability to different healthcare contexts and patient populations. Medical clowns work collaboratively with healthcare teams to tailor their interventions to meet the specific needs and preferences of patients, ensuring that each interaction is personalized, respectful, and culturally sensitive. Whether performing at the bedside of a hospitalized child, facilitating group activities in a pediatric ward, or engaging with elderly patients in long-term care facilities, medical clowns bring a sense of joy and humanity to the healthcare environment.

In recent years, medical clowning has gained recognition as an integral component of holistic healthcare, with an increasing number of hospitals and healthcare facilities integrating clowning programs into their standard care practices. The growing body of research supporting the efficacy of medical clowning has further bolstered its acceptance and adoption within the healthcare community.

Despite its widespread acclaim, there remains a need for continued research to further elucidate the mechanisms through which medical clowning exerts its therapeutic effects and to explore its potential applications in different clinical settings and patient populations. Additionally, there is a need for rigorous evaluation of medical clowning interventions to ensure their safety, efficacy, and cost-effectiveness.

II. RESEARCH METHODOLOGY

This chapter outlines the methodology employed to investigate the impact of Medical Clowning on emotional regulation and quality of life in children within onco-pediatric wards. A pre-post intervention research design will be employed to assess the impact of Medical Clowning on emotional regulation and quality of life in onco-pediatric patients aged 8-15 years.

Aim:

The aim of this study is to examine the effects of Medical Clowning on emotional regulation and quality of life in children receiving treatment in onco-pediatric wards.

Objectives:

1. Investigate the Impact of Medical Clowning on Emotional Regulation in Children within Onco-Paediatric Wards.
2. Examine the Impact of Medical Clowning on the Quality of Life of Children within Onco-Paediatric Wards.

Hypotheses:

- Alternative Hypothesis (H1): Pediatric oncology patients exposed to Medical Clowning interventions will demonstrate a significant improvement in emotional regulation compared to a control group receiving standard care.
- Alternative Hypothesis (H2): Pediatric oncology patients exposed to Medical Clowning interventions will exhibit a significant improvement in overall quality of life compared to a control group receiving standard care.

Participants:

Participants were selected from the onco-pediatric ward using purposive sampling. Inclusion criteria include being aged between 8-15 years and receiving treatment in the ward. Informed consent was obtained from both the participants and their legal guardians prior to participation in the study. The data from 56 participants was recorded.

Tools for Measurement:

Emotional Regulation:

- Validated tools such as the Emotional Regulation Checklist by Dante Cicchetti for parent proxy-reports and self-report scales for participants will be utilized.
- Assessments will be conducted pre-intervention, post-intervention, and at follow-up intervals to measure changes in emotional regulation.

Quality of Life:

- The Pediatric Quality of Life Inventory (PedsQL) by Dr. JW Varni - Generic Core Scales will be administered to assess quality of life.
- Assessments will occur pre-intervention, post-intervention, and during follow-up to measure changes in quality of life.

Data Collection Procedure:

1. Pre-Intervention Data Collection:

- Before the commencement of the 6-week medical clowning intervention, baseline data on quality of life and emotional regulation were collected from pediatric patients in onco-pediatric wards.
- Trained research assistants administered validated assessment scales to the participating children, including the Pediatric Quality of Life Inventory (PedsQL) for measuring quality of life and the Emotional Regulation Checklist by Dante Cicchetti for assessing emotional regulation.
- Participants completed self-report measures, and parent proxy-reports were obtained for younger children or those unable to complete the assessments independently.
- Data collection sessions were conducted in a private and comfortable setting within the hospital environment to ensure confidentiality and minimize distractions.

2. Medical Clowning Intervention:

- Over the subsequent 6 weeks, trained medical clowns engaged with pediatric patients in onco-pediatric wards through humor, playfulness, and creative activities.
- The medical clowning sessions were conducted on a regular basis, following a structured protocol designed to meet the emotional and psychosocial needs of the children.
- Medical clowns interacted individually or in small groups with the pediatric patients, tailoring their interventions to the age, preferences, and developmental level of each child.

3. Post-Intervention Data Collection:

- Following the completion of the 6-week medical clowning intervention, post-intervention data were collected from the same group of pediatric patients.
- Participants underwent reassessment using the same validated assessment scales for quality of life and emotional regulation that were administered during the pre-intervention phase.

Statistical tools

This section elaborates the proper statistical models which are being used to forward the study from data towards inferences. The detail of methodology is given as follows.

1. **Assumptions Checking:** Before interpreting the t-test results, assumptions such as normality will be checked. Normality assumptions will be assessed using Shapiro-Wilk tests
2. **Descriptive Statistics:** Before conducting t-tests, descriptive statistics such as means, standard deviations, and ranges will be calculated for the pre- and post-intervention scores on quality of life and emotional regulation measures. This step provides a summary of the data distribution and allows for a preliminary examination of any changes over time.
3. **Paired Sample T-Test:** The primary statistical analysis will involve performing paired sample t-tests to compare pre- and post-intervention scores on quality of life and emotional regulation measures within the same group of participants. Separate t-tests will be conducted for each outcome measure (quality of life and emotional regulation).

4. **Interpretation of Results:** The results of the t-tests will indicate whether there are statistically significant differences between pre- and post-intervention scores on quality of life and emotional regulation measures. A significant p-value (typically < 0.05) suggests that the intervention had a significant effect on the outcome measure, indicating improvements in quality of life or emotional regulation following the medical clowning intervention.
5. **Effect Size Calculation:** In addition to assessing statistical significance, effect sizes (e.g., Cohen's d) will be calculated to quantify the magnitude of the differences between pre- and post-intervention scores. Effect size measures provide valuable information about the practical significance of the intervention's effects, complementing the statistical significance tests.

Software:

Statistical analysis will be conducted using the Statistical Package for the Social Sciences (SPSS) software. SPSS provides a user-friendly interface for performing t-tests and other statistical analyses, allowing researchers to efficiently analyze data and generate results.

By employing t-tests to compare pre- and post-intervention scores on quality of life and emotional regulation measures, researchers can assess the effectiveness of the 6-week medical clowning intervention in improving psychosocial outcomes among pediatric patients in onco-pediatric wards. The statistical analysis provides valuable insights into the impact of the intervention, informing clinical practice and guiding future research endeavors aimed at enhancing the well-being of pediatric patients facing serious illness.

III. RESULTS AND DISCUSSION

3.1 Results of Descriptive Statistics of Study Variables

DESCRIPTIVE STATISTICS							
Pair	Variables	N	MEAN	Std Deviation	Std Error Mean	Paired t-test Correlation	Cohen's d
PAIR 1	Pre PedsQOL	56	57.18	11.71	2.39	0.34	-1.92
	Post PedsQOL	56	83.45	11.78	2.40		
PAIR 2	Pre LN	56	32.50	6.75	1.37	0.18	0.63
	Post LN	56	27.83	4.47	0.91		
PAIR 3	Pre ER	56	23.21	4.22	0.86	0.50	-0.01
	Post ER	56	23.29	5.13	1.049		

Table 3.1: Descriptive Statics

Table 3.1 displayed N, mean, standard deviation, std error mean, paired t-test correlation and Cohen's d. The descriptive statistics indicated that the mean values of variables (Pre PedsQOL, Post PedsQOL, Pre LN, Post LN, Pre ER & Post ER) were 57.18, 83.45, 32.50, 27.83, 23.21 and 23.29 respectively. The standard deviations for each variable indicated that data were widely spread around their respective means.

Discussion

The findings from the systematic review and meta-analysis align with the results of the current study, providing further support for the effectiveness of medical clowning interventions in improving pediatric patient outcomes. By integrating insights from existing literature with the empirical findings of the current study, healthcare providers can gain a more comprehensive understanding of the role of medical clowning in pediatric oncology care. Moving forward, continued research and interdisciplinary collaboration are needed to further explore the mechanisms underlying the therapeutic effects of medical clowning and optimize its implementation in clinical practice.

Paired Sample t-tests:

The paired sample t-tests conducted in this study provided valuable insights into the differences between pre and post-intervention scores for pediatric quality of life and emotional regulation. Notably, significant improvements were observed in post-intervention pediatric quality of life scores, accompanied by a noteworthy decrease in negative emotions. However, the impact on emotional regulation appeared marginal. These findings suggest that while medical clowning interventions effectively alleviate distress and enhance positive emotions, their influence on emotional regulation may be limited.

Assumptions Checking:

Assumptions checking, particularly regarding the normality of data distribution, was conducted using Shapiro-Wilk tests. The results revealed significant deviations from normality in several variables, including pre and post-intervention pediatric quality of life scores, negative emotions/liability scores, and emotional regulation scores. These findings highlight potential challenges in interpreting t-test results and emphasize the necessity of exploring alternative analytical approaches in future research endeavors.

Effect Size Calculation:

Effect size calculation, employing Cohen's d, shed light on the magnitude of differences between pre and post-intervention scores. Notably, a large effect size was observed for pediatric quality of life scores, indicating a substantial impact of medical clowning interventions on enhancing overall well-being. However, the moderate effect size for negative emotions/liability scores and the negligible effect size for emotional regulation scores suggest that while medical clowning effectively mitigates distress, its influence on emotional regulation may be less pronounced.

Interpretation of Findings:

The findings underscore the effectiveness of medical clowning interventions in improving pediatric quality of life and reducing negative emotions among oncology patients. These interventions create a supportive and joyful environment that enhances the treatment experience and fosters emotional resilience. However, the limited impact on emotional regulation underscores the importance of complementary interventions aimed at bolstering coping strategies and emotional regulation skills among pediatric oncology patients.

References

- I. Varni, J.W., & Uzark, K. (2023). Pain and health-related quality of life in Duchenne muscular dystrophy: A multiple mediator analysis. *European Journal of Paediatric Neurology*, 46, 61–66.
- II. Varni, J.W., Chumpitazi, B.P., Febo-Rodriguez, L., & Shulman, R.J. (2023). Gastrointestinal symptoms profile in gastroparesis compared to other functional and organic gastrointestinal diseases. *Journal of Pediatric Gastroenterology and Nutrition*, 77, e1-e7.
- III. Varni, J.W., Zebracki, K., Hwang, M., Mulcahey, M.J., & Vogel, L.C. (2023). Bladder and bowel function effects on emotional functioning in youth with spinal cord injury: A serial multiple mediator analysis. *Spinal Cord*, 61, 415-421.
- IV. Varni, J.W., & Uzark, K. (2023). Heart disease symptoms, cognitive functioning, health communication, treatment anxiety and health-related quality of life in pediatric heart disease: A multiple mediator analysis. *Cardiology in the Young*, 33, 1920–1925.
- V. Nasr, A., Hornung, L., Thompson, T., Lin, T.K., Vitale, D.S., Nathan, J.D., Varni, J.W., & AbuEl-Haija, M. (2023). Prevalence of gastrointestinal symptoms and impact on quality of life at 1- year follow-up of initial attack of acute pancreatitis. *Journal of Pediatric Gastroenterology and Nutrition*, 76, 199-205.
- VI. Febo-Rodriguez, L., Chumpitazi, B.P., Musaad, S., Sher, A.C., Varni, J.W., & Shulman, R.J. (2022). Gastrointestinal symptoms profile in pediatric patients with gastroparesis compared to healthy controls. *Journal of Pediatric Gastroenterology and Nutrition*, 75, 151-158.
- VII. Zebracki, K., Hwang, M., Vogel, L.C., Mulcahey, M.J., & Varni, J.W. (2022). PedsQL™ Spinal Cord Injury Module: Reliability and validity. *Topics in Spinal Cord Injury Rehabilitation*, 28, 64- 77.

- VIII. Varni, J.W., Shulman, R.J., Self, M.M., Febo-Rodriguez, L., Charron, H., Williams, K., Nurko, S., & Chumpitazi, B.P. (2021). PedsQL™ Gastroparesis Symptoms Module domain and item development: Qualitative methods. *Journal of Pediatric Gastroenterology and Nutrition*, 73, 192- 196.
- IX. Gaudio, C., Oo, S., Mar, S., Hendricks-Ferguson, V.L., Newland, P., & Varni, J.W. (2021). PedsQL™ Multiple Sclerosis Module domain and item development: Qualitative methods. *Journal of Child Neurology*, 36, 901-910.
- X. Varni, J.W., & Panepinto, J.A. (2020). Cognitive functioning, patient health communication, and worry mediate pain predictive effects on health-related quality of life in youth with sickle cell disease. *Pediatric Blood & Cancer*, 67: e28680.
- XI. Varni, J.W., Nutakki, K., & Swigonski, N.L. (2020). Cognitive functioning and pain interference mediate pain predictive effects on health-related quality of life in pediatric patients with Neurofibromatosis Type 1. *European Journal of Paediatric Neurology*, 28, 64-69.