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Review Article

A TERAPIA DO RISO COMO FERRAMENTA DE CUIDADO COM A CRIANÇA HOSPITALIZADA: REVISÃO INTEGRATIVA DA LITERATURA

LAUGHTER THERAPY AS A CARE TOOL FOR HOSPITALIZED CHILDREN: AN INTEGRATIVE LITERATURE REVIEW

LA RISOTERAPIA COMO HERRAMIENTA DE ATENCIÓN PARA NIÑOS HOSPITALIZADOS: UNA REVISIÓN BIBLIOGRÁFICA INTEGRADORA

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RESUMO

Objetivo: Investigar, na literatura nacional e internacional, o uso da terapia do riso junto às crianças hospitalizadas. **Método**: Revisão integrativa da literatura. As bases de dados pesquisadas foram MEDLINE®, *Cumulative Index to Nursing and Allied Health Literature*, PsycINFO®, Literatura Latino-Americana e do Caribe em Ciências da Saúde, Banco de Dados em Enfermagem – Bibliografia Brasileira e *Índice Bibliográfico Español em Ciencias de la Salud*. Os termos utilizados identificados nos Descritores em Ciência da Saúde e nos *Medical Subject Headings* foram "terapia do riso", "criança", "pré-escolar" e "criança hospitalizada", além das palavras-chave "risoterapia", "riso-terapia" e "riso terapia" em diferentes combinações. O recorte temporal foi de 10 anos, a partir de 2008. **Resultados**: A amostra final para a análise foi constituída de 17 artigos, que foram organizados em três categorias: Risoterapia como estratégia para a diminuição da dor, do desconforto e do sofrimento; A diminuição do medo, do estresse e da ansiedade com a risoterapia e O Impacto psicossocial da risoterapia na criança hospitalizada. **Conclusão**: Foi possível perceber benefícios da terapia que incluem diminuição da dor, do estresse e da ansiedade e mudanças emocionais e sociais. Salienta-se a importância da temática, por meio da qual é possível oferecer ao paciente pediátrico um cuidado integral e humanizado.
Descritores: Criança Hospitalizada; Terapia do Riso; Revisão; Enfermagem Pediátrica.

ABSTRACT

Objective: To investigate, in the Brazilian and international literature, the use of laughter therapy with hospitalized children. **Methods**: An integrative literature review. The databases searched were MEDLINE®, Cumulative Index to Nursing and Allied Health Literature, PsycINFO®, *Literatura Latino-Americana e do Caribe em Ciências da Saúde*, *Banco de Dados em Enfermagem – Bibliografia Brasileira* and *Índice Bibliográfico Español em Ciencias de la Salud*. The index terms used on *Descritores em Ciência da Saúde* and Medical Subject Headings were "laughter therapy", "child", "preschool" and "hospitalized child", and the keywords "risotherapy" in different combinations. The timeframe was 10 years, starting from 2008. **Results**: The final sample for analysis consisted of 17 papers, organized into three categories: laughter therapy as a strategy to reduce pain, discomfort and suffering; Decreased fear, stress, and anxiety with laughter therapy; and the psychosocial impact of laughter therapy on hospitalized children. **Conclusion**: Some observed benefits from laughter therapy include decreased levels of pain, stress, and anxiety, as well as emotional and social changes. We emphasize the importance of this theme since it provides pediatric patients with a comprehensive and humanized care.
Descriptors: Child, Hospitalized; Laughter Therapy; Review; Pediatric Nursing.

RESUMEN

Objetivo: Investigar en la literatura nacional e internacional el uso de la risoterapia con niños hospitalizados. **Metodología**: Revisión integrativa de literatura. Las bases de datos establecidas fueron: MEDLINE®, *Cumulative Indexto Nursing and Allied Health Literature*, PsycINFO®, *Literatura Latino-Americana e do Caribe em Ciências da Saúde*, *Banco de Dados em Enfermagem – Bibliografia Brasileira* e Índice Bibliográfico Español en Ciencias de la Salud. Los descriptores utilizados identificados en los *Descritores em Ciência da Saúde* y *Medical Subject Headings* fueron: "terapia de la risa", "niño", "preescolar" y "hospitalizado", y la palabra clave "risoterapia" en sus diferentes combinaciones. El plazo fue de 10 años, a partir de 2008. **Resultados**: La muestra final para el análisis consistió en 17 artículos, agrupados en tres categorías: La risoterapia como estrategia para reducir el dolor, las molestias y el sufrimiento; Disminución del miedo, el estrés y la ansiedad con la risoterapia y El impacto psicosocial de la risoterapia en los niños hospitalizados. **Conclusión**: Fue posible obtener beneficios de la terapia que incluyen disminución del dolor, estrés, ansiedad y cambios emocionales y sociales. Se enfatiza la importancia del tema porque a través de él es posible ofrecer a los pacientes pediátricos una atención integral y humanizada.
Descriptores: Niño Hospitalizado; Risoterapia; Revisión; Enfermería Pediátrica.

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INTRODUCTION

Currently, humor has been indicated as an emotional state and a way to express feelings that motivate personal well-being. Laughter is linked to good humor, which is a biological phenomenon capable of reflecting physical and emotional relaxation and even acting as an effective antidote in times of adversity. Laughter is contagious, infallible, and liberating[1].

Good humor and joy promote several benefits, both physiological, emotional, and social. From the perspective of a physiological approach, joy stimulates the modulation of hormones that promote a feeling of well-being and relaxation. A simple smile is enough to activate the limbic system. Laughter raises the heart rate, promoting greater blood pumping and oxygen absorption, also acting under the immune system. It also has benefits in the social context, being able to improve the bond between people, increasing communication, making it clearer and involving relationships between people and the perception of the world, sharing emotions[2].

For pediatric patients, the hospitalization process along with invasive and painful procedures is an extremely difficult time, bringing feelings such as anxiety, fear, and stress. Thus, the insertion of playful activities such as playing can be a strategy for the child care plan, aiming to alleviate this suffering and promote physical, emotional, and intellectual development[3].

Playing is part of the children's routine regardless of their environment. Thus, it should not be interrupted during the process of illness and hospitalization because the child develops his imagination through it, allowing the construction of his own and unique reality, regardless of his clinical health conditions and physical capacities. Playing favors the child's hospital adaptation, minimizing the effects of hospitalization, making the environment less traumatic, and favoring the physical and emotional re-establishment of the child who lived this experience, being an alternative in the assistance for the health team[3-4].

Laughter therapy, or risotherapy, has been an existing therapeutic method since the 1960s. It was propagated by the American doctor Hunter Adams, who, observing the low state of joy of his patients, chose to insert risotherapy in the environment, proposing a deconditioning of harmful attitudes and habits in human behavior to then live with love and happiness[5]. In this sense, greater advances have been currently made regarding the care of hospitalized children, adapting strategies aimed at reducing the negative impacts of hospitalization, using playfulness as a tool for a less harmful approach, and making the hospital environment more cheerful and fun for these people[6].

On these recommendations, the creation of spaces for playful activities, such as playrooms, a program of storytellers, music, magic, and doctor clowns intensified. Playful interventions in the hospital context are now widely recognized and have gained their space in hospitals and clinics[7].

In this perspective, the acceptance of laughter therapy through clowns has grown in recent years and brought varied benefits to the child hospitalization process, such as improved communication with the health team and acceptance of therapy, among others[2].

This study aims to investigate, in national and international literature, the effects of laughter therapy with hospitalized children.

METHOD

It is an integrative review of developed literature, based on six steps: definition of the research question; establishment of inclusion and exclusion criteria by searching the literature; selection of the researches of the review sample; evaluation of included studies and interpretation of results and synthesis of data[8].

In this perspective, the following research question was elaborated: What are the effects of laughter therapy on hospitalized children?

For the construction of the appropriate question, PICO strategy was used, with “P” corresponding to the population (hospitalized children), “I” to the intervention (laughter therapy), “C” to the comparison (not applicable, as it was not a comparative study) and “O” to the outcome (effect). The use of this strategy facilitates the elaboration of a question, for the correct definition of the information necessary to solve the researched question[9].

The search for the articles was carried out from September 2018 to April 2019. For the construction of the sample, we used the descriptors identified in the Health Science Descriptors (DECs) and Medical Subject Headings (MESH). They were “laughter therapy”, “child”, “pre-school” and “hospitalized child”; and the keywords were “risotherapy”, “laughter-therapy” and “laughter therapy” in different combinations and the appropriate language for each database. The databases established were: MEDLINE® (via

PubMed® and Virtual Health Library - VHL), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PsycINFO®, in addition to the Latin American and Caribbean Literature in Health Science databases (LILACS), Nursing Database - Brazilian Bibliography (BDENF) and *Índice Bibliográfico Español em Ciencias de la Salud* (IBECS).

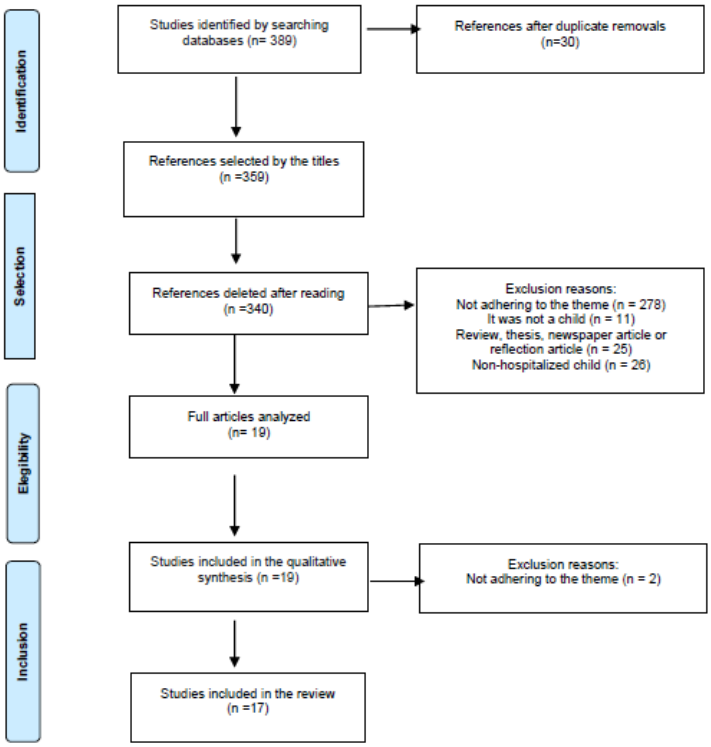
The inclusion criteria were articles published in Portuguese, English or Spanish, in the last 10 years (2008 to 2018), about the use of laughter therapy in hospitalized children and adolescents. The exclusion criteria were: review articles, theses and dissertations, and articles whose population consisted of adults or children and adolescents who were in outpatient care, that is, not hospitalized.

The initial sample consisted of 389 articles, with 54 articles found in the CINAHL database; 126 at PsycINFO; 200 on MEDLINE®; four at LILACS; three at IBESC and two at BDENF.

After data collection, primary studies were selected, according to the research objective and the inclusion and exclusion criteria mentioned. Among the 389 publications selected, after reading and analyzing them by title and abstract and, after reading the texts in full, 17 publications remained for the preparation of this review.

Figure 1 shows the selection process.

Figure 1 - Flowchart *Preferred Reporting Items for Systematic Reviews and Meta-Analysis*.



Source: the authors.

To extract the data of interest from the selected studies, the authors created an instrument to collect the information to answer the guiding question of the review.

Data analysis was performed descriptively. A table created by the authors was used for the extraction and synthesis of data for each study included in the review, containing the following information: title of the article, authors, country of origin, year of publication, objectives, participants, design of the study and main results and conclusions. This table allowed the comparison and organization of data, according to their differences and similarities, and the question of the review, which were critically analyzed and grouped into three categories[10].

RESULTS AND DISCUSSION

After reading and analyzing, 17 of 389 selected publications remained for the preparation of this review.

Table 1 summarizes some information about the studies, which was organized in increasing chronological order according to the year of publication of the studies.

Table 1 - Summary of studies incorporated in the review.

Author, year, country	Objective and participants	Types of therapy	Positive results of the therapy
Cantó et al.[11], 2008 Spain	To evaluate the effect of hospital clowns on anxiety in children in the preoperative period. - 60 children between 6 and 10 years old.	Pre-operative clowns	A decrease in anxiety levels
Calmet et al.[12], 2008 Peru	To determine the influence of laughter therapy on the psychological and social characteristics of hospitalized children. - 30 children between 6 and 12 years old.	Red Ball Doctors Group (games, theaters, puppets, and music)	Positive influence on children's psychological and social characteristics, reducing bedwetting, nightmares, crying, and lack of appetite and improving communication with parents
Lima et al. [13], 2009 Brazil	To explore the experience of using clown theatrical art in the care of hospitalized children, based on an activity developed by undergraduate students in the health area. - 20 children and 11 undergraduate students.	Companhia do Riso Group (music, drama, children's reading, and magic)	Encouragement to fantasy, laughter, joy, and appropriation of hospital daily life
Meisel et al. [14], 2010 Spain	To determine the effect of the presence of clowns on the discomfort and maladaptive behavior of hospitalized children. - 61 children between 3 and 12 years old.	Clowns	Decreased postoperative maladaptive behaviors
Mansson et al.[15], 2013 Sweden	To investigate how children perceive visits by hospital clowns and describe children's behavior and reactions during these visits. - 22 children between 5 and 12 years old.	Clowns	Assistance in the experience of a hospital stay, making it more fun, helping them to feel at ease
Quiles et al.[16], 2014 Spain	To identify the value and impact on the performance of hospital clowns on the child's emotional state. - 182 children between 4 and 14 years old.	Clowns	Fun and happiness
Meiri et al.[17], 2015 Israel	To investigate the effectiveness of clown doctors in reducing pain, crying, and anxiety during an invasive procedure. - 100 children between 2 and 10 years old.	Clowns during the procedure	Decrease in the duration of crying and anxiety due to the clown's distraction during venipuncture
Yun et al.[18], 2015 South Korea	To examine the effects of an educational intervention by a nurse-clown on children undergoing surgery for strabismus. - 50 preschoolers 3 to 6 years old and their parents.	Nurse clown and educational activity	Reduction of anxiety, worries, anguish, and negative affective responses from children and parents, as well as post-operative pain in children undergoing surgery on the day.
Messina et al.[19], 2014 Italy	To evaluate the effectiveness of clown versus videogame therapy during the preoperative child's hospitalization. - 885 children between 5 and 12 years old.	Presence of a clown in the operating room	Improvement of hospital care for pediatric patients.
Phipps et al.[20], 2010 USA	To evaluate the effectiveness of complementary therapies (massage, mood therapy, relaxation/imaging) to reduce the discomfort associated with pediatric stem cell transplantation. - 178 children between 6 and 18 years old.	Massage and mood therapy to the child	Report on the improvement of the patient and father discomfort, but without statistically significant differences.

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Author, year, country	Objective and participants	Types of therapy	Positive results of the therapy
Alcântara et al.[21], 2016 Brazil	To compare children's non-verbal communication and vital signs before and during interaction with clowns. - 41 children between 7 and 11 years old.	Medical students dressed as clowns	A significant difference in systolic and diastolic blood pressure, pain, and nonverbal behaviors of children with the intervention.
Rimon et al.[22], 2016 Israel	To investigate clown-assisted medical interventions to reduce child suffering during venipuncture and its effect on cortisol levels - 53 children between 2 and 15 years old.	Clown doctor during the procedure	Reduction of suffering during venipuncture in children.
Kocherov et al.[23], 2016 Israel	To investigate the potential benefits of the participation of clown doctors in the pediatric penile surgery outpatient program. - 80 children between 2 and 16 years old.	Clown doctor as an integral part of the medical team	Reduction of anxiety in the preoperative period and after surgery, induction time for anesthesia, time in the operating room, and time to recover from surgery and be discharged.
Quiles et al.[24], 2016 Spain	To evaluate the effectiveness of the performance of clowns in the response to fear in an onco-hematological unit, before the application of a painful procedure (lumbar puncture or spinal aspiration). - 30 children between 3 and 11 years old.	Presence of a clown-doctor during the procedure	The fear reduction can be seen in all measures, except for the face scale.
Dionigi & Gremigni[25], 2017 Italy	To test a combined art therapy intervention and clown visits to reduce children's anxiety in parental separation before induction of anesthesia. - 78 children between 3 and 11 years old.	Art therapy and clowns on arrival at the hospital and preoperatively.	Anxiety reduction.
Ford et al.[26], 2014 Australia	To understand the impact of clown visits to general pediatrics within a tertiary hospital. - 14 children between 5 and 14 years old and families.	Clown doctors.	Positive effects (they played, laughed, had fun) in all groups. However, not all children enjoyed their visit.
Sánchez et al.[27], 2017 Colombia	To assess the impact of a mood therapy program on stress levels in hospitalized pediatric patients. - 306 children between 2 and 14 years old.	Artists trained in humor therapy	Reduced cortisol levels, lower scores on the Parker test, and higher scores on the Weisz test.

Source: The authors.

Most of the 17 articles on laughter therapy in hospitalized children were published in 2016[21-24] or 2017[25-27], indicating a growing interest in research on the theme, starting in 2016, with a slight decline in 2018. Several countries were identified researching the theme, from Spain (four studies)[11,14,16,24].

Most studies used interventions with the use of clowns exclusively[11,13-17,19,21-23,26-27]. However, studies also used humor therapy[12,24,27], massage plus humor[20], art therapy plus clown[25,] and clown plus educational activity[18].

Regarding the methodology of the studies, most were randomized clinical trials (six)[17,19,20,23-25]. The participants´ ages ranged from 2 to 18 years old, and there were between 14 to 885 participants.

In addition to studies that addressed the experience of children as participants in the laughing activity, their perception and impact, many studies have evaluated the impact of laughter therapy on symptoms such as anxiety, pain/discomfort, stress, and fear and its implications for vital signs, in behavior and cortisol levels.

The evidence found in the publications was grouped into three categories: Laughter therapy as a strategy for reducing pain, discomfort and suffering, consisting of five articles; The reduction of fear, stress, and anxiety with laughter therapy, composed of seven articles; and The psychosocial impact of laughter therapy on hospitalized children, composed of five articles.

Category 1: Laughter therapy as a strategy for reducing pain, discomfort, and suffering

Five of the 17 selected articles fall into this category (A4, A7, A10, A11, A12)[14,17,20-22]. These studies have identified laughter therapy as an effective strategy for reducing pain, discomfort, and suffering.

In the first study (A11), there was a statistically significant difference in pain and changes in systolic blood pressure and non-verbal behaviors of children after the intervention using laughter therapy. Forty-one children between seven and 11 years old participated in the research. The intervention was carried out by medical students dressed as clowns, who used the clowning along with magic tricks, juggling, singing with the children, soap bubbles, and comic performances for 20 minutes[21].

Two other studies (A7, A12) investigated the effectiveness of risotherapy during painful procedures. According to them, laughter was also effective during painful procedures in children, such as during venous punctures[17,22]. In a study with 100 children between two and 10 years old, the distraction through clowning along with music and a series of funny actions had positive effects on the duration of crying and anxiety, despite not providing pain reduction[17]. In another study, A12, in a sample of 53 children between two and 15 years old, pain reduction was identified using the face scale (4 to 7 years old) and Visual Analog (8 to 15 years old), during venipuncture, although no effect was found on serum cortisol levels measured in blood samples obtained by venipuncture[11].

Two other studies (A4, A10) did not show any significant differences regarding laughter therapy[14,20]. One of them (A10) surveyed 178 children between six and 18 years old and evaluated the effectiveness of complementary therapies (massage, mood therapy, relaxation/imagery) to reduce the discomfort associated with pediatric stem cell transplantation[20]. Another study (A4) suggests that, in the 61 children between three and 12 years old, laughter therapy decreased children's disabling behaviors in the postoperative period, although the decrease was not statistically significant[14]. Also, more research is needed, considering age, gender, presence of parents, and different types of hospital environments (A4)[14].

Corroborating the results presented, among the unpleasant experiences in the hospitalization and/or health care process, pain can be caused by procedures such as venipuncture, blood collection, dressings, or by the pathological process installed. The way the child communicates his pain and his ability to face it is related to numerous factors, such as his age and development[28].

The International Association for the Study of Pain (IASP) defines pain as an unpleasant sensory and emotional experience associated with real or potential tissue damage, classified into three stages (acute, chronic, or recurrent), being a subjective manifestation involving physical, psychological, and cultural mechanisms[28].

Adequate pain management must be multidisciplinary with a focus on the nursing team, being a priority in the therapeutic planning of the child/adolescent. Recognition and preventive or early treatment of pain prevent an increase in its intensity, which makes its management more difficult. Both pharmacological and non-pharmacological strategies must be considered.

Among non-pharmacological strategies, they can adopt compresses, oral 25% glucose, emotional support, positioning, reduced brightness, reduced noise, breastfeeding, breast milk supply, and skin to skin contact, among others[29]. Non-pharmacological methods are not a substitute for pharmacological treatment. However, considering that pain is much more than a sensation and receives psychological, social, and emotional influences, among others, the associations of these methods in the treatment of the patient have great relevance in their control, many times, leading to a faster symptom decrease[29]. The combination of non-pharmacological measures can have a protective effect, for example, in the use of non-nutritive sucking and/or oral 25% glucose solution in babies[29-31].

Another method for reducing pain is playing. Although it does not prevent pain, it offers the child a contribution to release feelings such as anger, anguish, and hostility, enabling the inner expression of fear and despair. It is an option that minimizes the negative feelings of hospitalization, enhancing children's recovery[32].

Although three of the five studies found on the individual have shown significant results from laughter therapy, improving pain and discomfort, this finding points to risotherapy as an interesting strategy and the need for further studies to better understand its benefits.

Category 2: The reduction of fear, stress, and anxiety with the use of laughter therapy

Seven articles (A1, A8, A9, A13, A14, A15, A17) selected fall into this category[4,11,18-19,23-24,25,27]. They are studies that have identified laughter therapy as an effective strategy in reducing fear, stress, and anxiety.

One of these studies (A17) evaluated laughter therapy during stress. According to it, laughter therapy was positive among the 306 children participating in the study aged between two and 14 years old. All of them showed a decrease in the level of stress, measured using the Parker test and Weisz test scores, in addition to the use of saliva to measure cortisol. The interventions were carried out every day, in the afternoon, except for Sundays, for three consecutive months (78 interventions), in the first phase of the research and the following three months (76 interventions), in the second phase and had as their clown intervention model, lasting 2 to 3 hours each session[27].

According to the literature, the hospitalized child experiences numerous sufferings that directly influence their affective, psychological, and emotional spheres. Separation from the family, distance from home, pain, physical discomfort from intense manipulation and illness, and numerous procedures are a set of changes that almost always cause stress in children. Thinking about it, several strategies can be adopted to minimize it, such as the use of playfulness, through toys/therapeutic toys, playing, storytelling, touch, guidance on the procedure always to distract and minimize the suffering that environment and pathology can cause, clarifying to the child their doubts about hospital procedures and their pathology[31].

Another study[4] added that the creation of playrooms in a hospital context, storytelling programs, music, magic, or hospital clowns appear as strategies to minimize stress and improve the child's coping with problems.

Also, health professionals believe that the possibility of using toys as an intervention instrument improves the quality of care, offering greater comfort to the child, reducing stress and possible trauma, assisting in the treatment[33].

The second study in this category (A14), using a randomized clinical trial with 30 children, between three and 11 years old, identified statistically significant differences in the decrease in the fear response (assessed through functional changes produced in the body, in emotional response, such as pulse and blood pressure variations), when clowns were present during the onco-hematological procedure[24].

Five studies (A1, A8, A9, A13, A15) evaluated laughter therapy in decreasing anxiety[11,18-19,23,25], in which three of them (A1, A8, A9) identified decreased levels of anxiety in children submitted to surgery who received interventions through risotherapy[11,18-19].

In study A9 carried out with the participation of 885 children between five and 12 years old, clowns, video games, and cartoons were used. The therapy through clowns together with the presence of one of the parents was performed during anesthetic induction, with an improvement in anxiety levels (through the application of the preoperative Yale scale), in addition to the contribution to improving hospital care for pediatric patients[19].

Study A1 used the presence of clowns together with the use of toys and puppets in the preoperative period of 60 children between 6 and 10 years old. Through the use of scales, the children in the control group were more affected 7 days after hospital discharge[11].

We found similar results in the study by Yun et al. (A8), carried out with 50 preschoolers aged 3 to 6 years old and their parents. They concluded that the educational intervention with clown nurses reduced anxiety, worries, anguish, and negative affective responses not only for children but also for their parents[18].

The A15 research also found that laughter therapy was positive in the preoperative period. The study was carried out with 78 children between three and 11 years old. The intervention group received therapy using art integrated with the visit of the clowns upon arrival at the hospital and, over time, in the preoperative room; the control group was submitted to general anesthesia following standard practice. Children in the intervention group showed a significant reduction in the scores of the Anxiety Scale and Preoperative Information compared to those in the control group. Also, most parents and nurses rated the intervention as effective in reducing children's anxiety[25].

The last study in this category (A13) found a lower preoperative anxiety rate and, after surgery, after laughter therapy in 80 children between two and 16 years old. The participants in the intervention group required less time to induce anesthesia in the operating room and recovery and discharge. The total preoperative surgical

time and postoperative savings were 20 and 155 minutes, respectively, which led to savings of US$ 467.00, showing positive data for health services[23].

According to findings in the literature, when the children are hospitalized, they have adverse reactions that are potentiated, if there is a need to undergo an invasive procedure, such as surgery[34]. Even when this surgery is considered elective, during the preoperative period, the child may experience a threat to his physical integrity accompanied by fear of death and anxiety. When exacerbated, these feelings can interfere with the course of the installed pathology and/or the surgery, being able to remain for 1 (one) month, as it is considered a traumatic event for the child[34].

Other authors add that, like physical pathology, children's hospitalization needs to be treated so that it does not leave traumas and marks on children's mental health[35]. To minimize the impacts caused to children, during painful procedures and hospitalization and others, interventions such as playing are used, in which the benefits are numerous, especially for children who are in a situation of anxiety and fear, also, to promote the formation and maintenance of the therapeutic bond. Not only playing, but music therapy has its effectiveness demonstrated by studies that point to music as a form of intervention, in several health areas as a way of helping in the process of facing the child to hospitalization and its consequences[36].

Review studies and literature findings highlight the potential of using laughter therapy with a strategy to alleviate fear, stress, and anxiety in hospitalized children.

Category 3: The psychosocial impact of laughter therapy on hospitalized children

In this category, the five studies (A2, A3, A5, A6, A16) showed the psychosocial impact of risotherapy for the hospitalized child[12-13,15-16,25].

The A6 study, with 182 children between four and 14 years old identified that the clowns' performance led to fun and happiness for children. Also, most reported wanting to visit the clowns again[16].

The A5 study, with 22 children between five and 12 years old, corroborates the findings that doctor clowns help children experience their hospital stay in a fun way, which helped them to feel more comfortable, making visits important for the children. He also adds that some children preferred not to be visited by clowns on some occasions, such as when they were feeling bad, at night, when they ate or when the hospital staff collected samples for exams[15].

Also, study A3 shows that laughter therapy indicates a positive experience, as the intervention values the child development process, opening space for fantasy, laughter, joy, and the appropriation of hospital routine. The intervention was carried out on 20 children of uninformed ages and 11 undergraduates from different courses in the health area, using music, drama, children's reading, and magic[13].

Results in the literature corroborate the findings of the review. The strategy of promoting laughter therapy to brighten hospital spaces has an efficient action for contributing to the child's adaptation to space, promoting joy and fun[37]. When smiling, the human being feels pleasure, stimulating the release and multiplication of neuroendocrine, lymphocytes, and other cells responsible for fighting viruses and bacteria that invade the organism, strengthening the immune system[38].

Laughter therapy has effects not only on improving the emotional aspect but also on the physical, mental, and spiritual aspects, reaching in different ways the different parts of the human body. The act of laughing strengthens the immune system, stimulates cardiovascular functions, and releases endorphins, substances that relieve pain. The heart rate accelerates and, with that, the blood circulates better, with a significant increase in the oxygenation of cells, tissues, and organs. The lungs speed up respiratory movements, promoting greater absorption of oxygen by the lungs. With this greater pulmonary ventilation, excess carbon dioxide and residual vapors are eliminated, which encourages cleaning[38].

The A2 study performed the intervention with laughter therapy with 30 children between six and 12 years old and used an observation guide with 11 assessment items composed of social and psychological characteristics. In their results, they observed that laughter therapy positively influences the child's psychological and social characteristics, reducing bedwetting, nightmares, crying, and lack of appetite and improving communication with parents and personal health[12].

The use of recreational activities in the health system, especially in pediatric patients, is in line with the humanization proposal, which pays attention to comprehensive care that does not only aim at the disease, the cure, and the

treatment but also the psychological demands and social aspects of the patient and his family[35].

Freitas et al.[37] also state that offering users of the health system recreational activities can imply numerous benefits, not only for patients but also for the entire hospital community, promoting the inclusion of companions and the family group present[37].

Article A16 evaluated 14 children/adolescents between five and 14 years old, through observation, interview, and focus groups with children, their guardians, and clown doctors. The interactions with clowns had positive effects for the child, the family, and the employees, however not all participants liked the visit of the clowns, especially the adolescents[26].

The team's comprehensive view should also be attentive when determining an intervention for the child, preventing what should bring benefits from becoming a bad thing, which can cause a greater trauma than the hospitalization[39].

Despite all the studies found in this review using clowns as a form of laughter therapy, other authors show numerous possibilities for composing it, such as the use of video games, music, art, puppets, animal therapy, among others[4,11, 17,20,21-23,25,29,31-36].

Nursing should understand that each child is a unique human being, who has his preferences and can choose what is good for him and promotes happiness. Bringing laughter therapy in an individualized way allows the child to exercise the autonomy that is taken so much from the hospital.

The generalization of the findings is recognized as limitations of this review due to the diversity of intervention protocols and the very varied number of participants; the inexistence of the use of a control and randomization group in most studies and the fact that all studies found used only clowns as a form of laughing therapy.

FINAL CONSIDERATIONS

The use of laughter therapy has shown positive results, providing greater visibility to this therapy that is of low cost and simple applicability and has good acceptance by pediatric patients, causing no harm to them.

Based on the results, we realized the importance of this theme and the use of playful and non-pharmacological strategies to minimize the impacts and possible traumas generated in children by the hospitalization process and the pathology.

Laughter therapy has positive effects on hospitalized children, enabling comprehensive and humanized care. Despite all the benefits found with the use of this therapy, it is still little used in clinical practice by health professionals and hospitals.

Most studies used clowns as the main resource for the application of laughter therapy but the amplitude of therapy stands out, which goes far beyond clowns.

We expect that this study can be an incentive to implement the method in pediatric wards, to promote the humanization of care and reduce the stress caused by hospitalization. It also should contribute to teaching and research, in the dissemination of the therapeutic method among the academic community in the area of child health, encouraging the development of studies, according to the gaps found in the literature.

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