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MUSICAL LISTENING FOR ANXIETY RELIEF IN PEDIATRIC COMPANIONS

AUDIÇÃO MUSICAL PARA ALÍVIO DA ANSIEDADE DO ACOMPANHANTE PEDIÁTRICO

AUDICIÓN MUSICAL PARA ALIVIO DE LA ANSIEDAD DEL ACOMPAÑANTE PEDIÁTRICO

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Objective: to investigate the effects of music listening on the level of postoperative anxiety of companions of children submitted to surgeries in comparison with the conventional care of a pediatric surgical clinic. Methodology: a quasi-experimental study conducted in a public teaching hospital with 62 companions of children in the postoperative period. The control group – CG (n=32) was submitted to the clinic's conventional care and the experimental group – EG (n=30) was submitted to music listening. Both groups had their physiological indicators measured, level of anxiety measured by the State-Trait Anxiety Inventory (STAI), and they answered a structured questionnaire for sample characterization. Results: the EG presented higher and statistically significant mean values in the STAI items: feel 'at ease,' 'well-rested,' 'relaxed,' and 'satisfied' when compared to the CG after music listening. Conclusion: music listening may reduce the level of postoperative anxiety of companions of children submitted to surgery.

Descriptors: Music. Anxiety. Pediatric Nursing. Family.

Objetivo: investigar os efeitos da audição musical sobre os níveis de ansiedade pós-operatória de acompanhantes de crianças submetidas a cirurgias em comparação ao cuidado convencional de uma clínica cirúrgica pediátrica. Método: estudo quase-experimental realizado em um hospital público de ensino com 62 acompanhantes de crianças em pós-operatório. O grupo controle – GC (n=32) foi submetido aos cuidados convencionais da unidade e o grupo experimental – GE (n=30) foi submetido à audição musical. Ambos os grupos tiveram os indicadores fisiológicos aferidos, nível de ansiedade mensurado por meio do Inventário de Ansiedade Traço-Estado e responderam um questionário estruturado para caracterização da amostra. Resultados: GE apresentou médias mais elevadas e estatisticamente significativas nos itens do Inventário de Ansiedade Traço-Estado sentir-se "à vontade", "descansado", "descontraído" e "satisfeito" em relação ao GC, após a audição musical. Conclusão: a audição musical tem o potencial de reduzir o nível de ansiedade pós-operatória dos acompanhantes de crianças submetidas a cirurgia.

Descritores: Música. Ansiedade. Enfermagem Pediátrica. Família.

Objetivo: investigar los efectos de la audición musical sobre niveles de ansiedad postoperatoria de acompañantes de niños sometidos a cirugías, en comparación a atención convencional de una clínica quirúrgica pediátrica. Método: estudio cuasiexperimental, en hospital público de enseñanza, con 62 acompañantes de niños en postoperatorio.

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El grupo control GC (n=32) fue sometido a los cuidados convencionales de la unidad y el grupo experimental GE (n=30) a la audición musical. Ambos grupos tuvieron los indicadores fisiológicos evaluados, nivel de ansiedad medido por medio del State-Trait Anxiety Inventory y respondieron a cuestionario estructurado para caracterización de la muestra. Resultados: GE presentó medias más elevadas y estadísticamente significativas en los ítems del State-Trait Anxiety Inventory sentirse "a voluntad", "descansado", "relajado" y "satisfecho" en relación al GC, después de la audición musical. Conclusión: la audición musical tiene potencial de reducir el nivel de ansiedad postoperatoria de acompañantes de niños sometidos a cirugía.

Descriptores: Música. Ansiedad. Enfermería Pediátrica. Familia.

Introduction

Hospitalization is a critical and delicate situation in any person's life, which becomes even more sensitive when the patient is a child. Hospitalization of a child implies changes in his/her routine and that of the family. In this situation, hospitalized children see their companions as a representation of their social network in the hospital environment and sometimes as their only source of security in that new setting[1].

Pediatric hospitalization often occurs for surgical reasons, which is considered a delicate episode in a child's life. A common clinical outcome in children undergoing surgery is anxiety. Although the child is more vulnerable to such an outcome, family members can also experience anxiety, as well as fear, worry, feelings of insecurity, and doubt about the surgical event[2].

The way a pediatric patient's companion perceives and faces the surgical event directly influences the child's level of anxiety and behavior in this situation. Therefore, nurses must be prepared to recognize, support and intervene not only in the emotional needs of the children, but also those of their companions. A nurse who is able to provide care to pediatric patients and their companions promotes humanized, comprehensive care focused on the child and his/her family[3].

Complementary therapies have increasingly been used in nursing care at national and international levels. In this context, music therapy is one of the most explored alternative interventions in nursing care, as it is a simple and low-cost tool that favors patient care in a more comprehensive and multidimensional manner[4].

Musical intervention, inserted in the Nursing Intervention Classification system, is a non-pharmacological, non-invasive, low-cost and easily applicable strategy, recognized as a nursing intervention to achieve physiological, behavioral or feeling-related changes[5].

Music therapy brings several benefits to care provided in hospital environments, as it reduces feelings of discomfort, favors communication and promotes sociability of individuals, reduces physical and mental pain, and changes in physiological patterns such as changes in heart rate, respiratory rate, blood pressure and hormone secretion[4,6]. In addition, as it causes positive feelings and evokes positive memories, musical intervention is an effective strategy to improve mood and psychological well-being, increasing the state of relaxation and relieving symptoms such as depression, anxiety, and fear in hospitalized patients[7].

Therefore, considering the tension and anxiety experienced by pediatric companions before the child's surgery, as well as the therapeutic effects of musical intervention reported in the literature, the objective of this study is to investigate the effects of music listening on the levels of postoperative anxiety of companions of children submitted to a surgery versus the conventional care of a pediatric surgical clinic.

Method

This is a quasi-experimental quantitative analytical and prospective study conducted at the pediatric surgical clinic of a public teaching

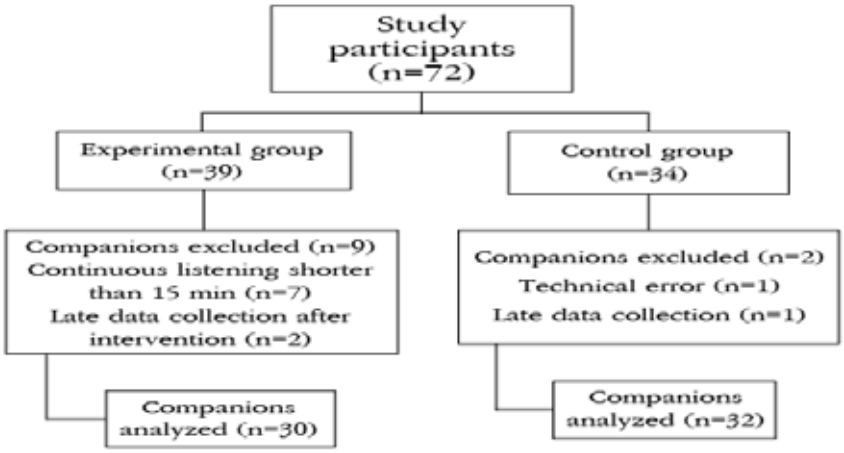
hospital located in the Federal District of Brazil, a reference in pediatric surgeries.

The study participants were companions of hospitalized children who were in the postoperative period. The inclusion criteria were: pediatric companions of children submitted to any type of elective or emergency surgery, aged 18 years or older. The exclusion criteria were companions who had self-reported listening or cognitive deficits/disorders.

This study used non-probability convenience sampling. Regarding the sample calculation, due to the scarcity of studies in the literature reporting the variables of interest, the central limit theorem (CLT) was adopted as the basis, which ensures the approximation of the distribution of sample means from samples greater than or equal to 30 to normal distribution for any population[8].

Initially, the sample consisted of 72 companions. Of these, only 62 completed all stages of data collection, that is, they did not interrupt music listening before the predefined time (Flow diagram 1).

Flowchart 1 – Study stages – 2018



Source: Created by the authors.

All 62 companions who participated in this study were divided into two groups: experimental group (n=30), submitted to instrumental music listening; and control group (n=32), who received the surgical clinic's conventional care, which consisted in the provision of a companion chair next to the child's bed and a TV set in the corridor, and health professionals at disposal to answer any question.

Data were collected from December 2017 to April 2018. The companions were personally invited to participate in the study. After they were checked against the inclusion criteria, they were allocated to either EG or CG.

After the participants were contacted by the researchers and signed an informed consent form (ICF), the companions from both groups answered a questionnaire of sociodemographic data, such as age, sex, relationship with the hospitalized child, and musical information, for example, if the companion had already studied music or played any musical instrument, for sample characterization.

Then, their physiological indicators were checked and recorded: heart rate (HR), respiratory rate (RR), blood pressure (BP), and oxygen saturation (O2 sat). BP was measured using Omron HEM-710INT automatic blood pressure monitor, and Omron HEM-CR24 22-32cm cuff and HEM-CL24 32-42cm cuff. HR and O2 measurements used Bioland AT101C portable

pulse oximeter. RR was clinically measured by observing the number of breaths per minute.

The state of anxiety was evaluated through the State-Trait Anxiety Inventory (STAI), an instrument widely used in national and international studies for this type of measurement. This is a self-assessment questionnaire developed in 1970, translated and validated for the Brazilian population[9].

The STAI measures the anxiety state, which is a transitory condition of the human body, in which unpleasant feelings of tension are consciously perceived. This instrument has 20 items, each with four possible answers: absolutely no (=1), a little (=2), a lot (=3), very much (=4). When adding up the scores, items 1, 6, 7, 10, 13, 16, and 19 should have their scores inverted. In the end, the level of anxiety is classified according to the final score: low (20 to 34), moderate (35 to 49), high (50 to 64), or very high (65 to 80)[10].

Fifteen minutes after the first evaluation, the CG participants were submitted to a new evaluation of physiological indicators and anxiety state. The EG participants were submitted to a 15-minute session of instrumental songs of 60 to 80 beats per minute, preferably performed on string instruments with minimum percussion, as recommended by the Joanna Briggs Institute[11], using an individual MP3 player "MP3 Multimedia Onbongo ONB-M80," and right after that, they had their physiological indicators and anxiety state measured again.

The songs selected for the intervention repertoire were: *Clube da Esquina* (by Milton Nascimento), *Let it be* (The Beatles), both performed by André Mehmari, and *Concert for piano nº 5 in E flat*, Op. 73 (*Ludwig van Beethoven*), performed by the City of London Sinfonia, Cristina Ortiz & Richard Hickox.

After data collection, the statistical analysis of data was performed using IBM SPSS Statistics software, version 20.0. Besides the descriptive analysis (mean, standard deviation, frequency), an inferential analysis was performed using Student's t-test, chi-square test, and analysis of variance (ANOVA) with repeated measures. The level of significance was 5% for all statistical tests.

This study was approved by the Research Ethics Committee of Fundação de Ensino e Pesquisa em Ciências da Saúde, protocol 2.051.171 and CAAE 67099617.2.0000.5553. The guidelines from CNS Resolution 466/2012 were observed in all stages of this study.

Results

In the final sample of 62 pediatric companions, the mean age of the experimental group (n=30) was 35.6 years and of the control group (n=32), 35 years. In both groups, most cases of pediatric surgery were the first surgical event for the children related to the companions who participated in this study.

The type of surgery was categorized into four groups: head and neck surgery, gastrointestinal tract surgery, urinary tract surgery, and abdominal surgery. Head and neck surgeries included adenoidectomy, tonsillectomy, and thyroglossal duct cyst excision. Gastrointestinal tract surgeries included appendectomy, anorectoplasty, gastrostomy, colostomy reversal, cordotomy, colectomy, and splenectomy. Urinary tract surgeries included neourethroplasty, ureteral reimplantation, urethroplasty, pyeloplasty, cystostomy, and nephrostomy. Abdominal surgeries included laparotomy and abdominal resection.

In both study and control groups, the most common type of surgery was in the gastrointestinal tract. In addition, in both groups, these surgeries were predominantly emergency procedures, as detailed in Table 1.

Table 1 – Clinical-demographic data of participants. Brasília, Federal District, Brazil – 2018 (N=62)

Variables	Experimental group		Control group		Total		p-value
	n	%	n	%	n	%	
1st surgery							
No	4	13.3	8	25.0	12	19.4	0.245
Yes	26	86.7	24	75.0	50	80,6	
Surgery class							
Elective	8	26.7	7	21.9	15	24.2	0.660
Emergency	22	73.3	25	78.1	47	75.8	
Sex							
Female	27	90.0	26	81.3	53	85.5	0.328
Male	3	10.0	6	18.8	9	14.5	
Relationship							
Mother	24	80.0	24	75.0	48	77	
Other	5	16.7	3	9.4	8	12.9	0.212
Father	1	3.3	5	15.6	6	9.7	
Type of surgery							
Head and neck surgery	2	6.7	2	6.3	4	6.5	
Gastrointestinal tract surgery	21	70.0	24	75.0	45	72.6	0,268
Urinary tract surgery	6	20.0	2	6.3	8	12.9	
Abdominal surgery	1	3.3	4	12.5	5	8.1	
Schooling							
Complete primary education	2	6.7	2	6.3	4	6.5	
Incomplete primary education	2	6.7	8	25.0	10	16.1	
Complete secondary education	13	43.3	12	37.5	25	40.3	0.532
Incomplete secondary education	4	13.3	3	9.4	7	11.3	
Complete tertiary education	6	20.0	4	12.5	10	16.1	
Incomplete tertiary education	3	10.0	3	9.4	6	9.7	

Source: Created by the authors.

Note: Test used in the analysis: chi-square test.

Although more than 90% of the participants, whether from the EG or the CG, had not studied music or did not play a musical instrument, 90.3% of EG participants and 87.7% of CG participants had the habit of listening to music (Table 2).

Table 2 – Musical information of participants. Brasília, Federal District, Brazil – 2018 (N=62) (continued)

Musical information	Experimental group		Control group		Total		p-value
	n	%	n	%	n	%	
Studied music							
No	27	90.0	30	93.8	57	91.9	0.588
Yes	3	10.0	2	6.3	5	8.1	
Had the habit of listening to music							
No	2	6.7	4	12.5	6	9.7	0.438
Yes	28	93.3	28	87.5	56	90.3	
Had a musician in the family							

Table 2 – Musical information of participants. Brasília, Federal District, Brazil – 2018 (N=62) (conclusion)

Musical information	Experimental group		Control group		Total		p-value
	n	%	n	%	n	%	
No	17	56.7	22	68.8	39	62.9	0.325
Yes	13	43.3	10	31.3	23	37.1	
Played an instrument							
No	27	90.0	32	100	59	95.2	0.067
Yes	3	10.0	0	0.0	3	4.8	

Source: Created by the authors.

Note: Test used in the analysis: chi-square test.

When comparing the physiological indicators of the EG and the CG, no statistically significant difference was observed, since the p-value was above 0.20. Regarding the comparison of mean values from STAI overall scores between the groups, the post-intervention mean of the EG, when compared to the CG, showed a tendency to a significant reduction in the anxiety level, with a p-value very close to the acceptance limit (p=0.066).

The intragroup analysis showed that both groups had a significant reduction in post-intervention anxiety, especially the EG, which showed a drop from 45.4 to 40.2 in the STAI mean score (Table 3).

Table 3 – STAI score for pre-intervention and post-intervention anxiety. Brasília, Federal District, Brazil – 2018 (N=62)

Variables	Mean	Median	Standard deviation	Minimum	Maximum	n	Confidence interval	p-value
Experimental group								
Pre-intervention	45.4	43.5	10.8	25	74	30	3.9	<0.001
Post-intervention	40.2	40	12.2	22	71	30	4.4	
Control group								
Pre-intervention	47.5	47	9.1	31	67	32	3.2	0.033
Post-intervention	45.5	44.5	9.7	28	68	32	3.4	

Source: Created by the authors.

Note: Test used in the analysis: chi-square test.

The experimental group had more participants reporting a low level of anxiety after the musical intervention, in contrast to the reduced number of participants who reported moderate and high levels of anxiety (Table 4).

Table 4 – STAI classification distribution. Brasília, Federal District, Brazil – 2018 (N=62) (continued)

Variables	Experimental group		Control group		Total		p-value
	n	%	n	%	n	%	
Pre-intervention							
Low	3	10.0	1	3.1	4	6.5	0.627
Moderate	18	60.0	18	56.3	36	58.1	
High	8	26.7	11	34.4	19	30.6	
Very high	1	3.3%	2	6.3	3	4.8	

Table 4 – STAI classification distribution. Brasília, Federal District, Brazil – 2018 (N=62) (conclusion)

Variables	Experimental group		Control group		Total		p-value
	n	%	n	%	n	%	
Post-intervention							
Low	9	30.0	3	9.4	12	19.4	0.232
Moderate	14	46.7	20	62.5	34	54.8	
High	6	20.0	8	25.0	14	22.6	
Very high	1	3.3	1	3.1	2	3.2	

Source: Created by the authors.

Note: Test used in the analysis: chi-square test.

When comparing the groups in relation to the mean of the STAI items analyzed after the intervention, the EG presented higher and statistically significant means of the items: feel 'at ease,' 'well-rested,' 'relaxed,' and 'satisfied' versus the CG. In addition, the items feel 'at home' and 'happy' showed a tendency towards significance with higher mean values in the group submitted to music listening (Table 5).

Table 5 – Mean values of the STAI items after the intervention. Brasília, Federal District, Brazil – 2018 (N=30)

Items	Groups	Mean	Median	Standard deviation	Minimum	Maximum	n	Confidence interval	p-value
5. At ease	Experimental	2.67	3.0	0.88	1	4	30	0.32	0.021
	Control	2.13	2.0	0.91	1	4	32	0.31	
8. Well-rested	Experimental	2.27	2.0	1.11	1	4	30	0.40	0.027
	Control	1.66	1.0	1.00	1	4	32	0.35	
10. At home	Experimental	1.80	1.5	0.96	1	4	30	0.34	0.096
	Control	1.44	1.0	0.72	1	3	32	0.25	
15. Relaxed	Experimental	2.37	2.0	1.03	1	4	30	0.37	0.018
	Control	1.81	2.0	0.74	1	4	32	0.26	
16. Satisfied	Experimental	3.13	3.0	0.86	1	4	30	0.31	0.014
	Control	2.56	3.0	0.91	1	4	32	0.32	
19. Happy	Experimental	2.73	3.0	1.05	1	4	30	0.38	0.079
	Control	2.25	2.0	1.08	1	4	32	0.37	

Source: Created by the authors.

Note: Test used in the analysis: chi-square test.

The intragroup analysis showed that the EG participants felt significantly more well-rested (p-value=0.004), at home (p-value=0.026), relaxed (p-value=0.014), satisfied (p-value=0.048), and happier (p-value=0.030) after music listening. In addition, a reduction was observed in the level of tension (p-value=0.004), anxiety (p-value=0.021), nervousness (p-value=0.014), and worry (p-value=0.026) in the second evaluation after the musical intervention.

Discussion

In this study, emergency surgeries were predominant (75.8%), since the study site prioritized emergency surgeries due to the lack of supplies, which limited the types of surgical

procedures. Gastrointestinal tract surgeries were also more common in relation to others (72.6%), given that acute appendicitis is one of the most common causes of emergency surgeries[12].

Most companions who participated in this study were female (85.5%); 77.4% were the mothers of the pediatric patients, a common fact among pediatric patients and widely described in the literature[13]. The caregiving role attributed to women is the result of a historical and social construction that starts in childhood, when girls are taught to perform caregiving tasks, which produces in society and the women themselves the expectation that they should play the role of caregivers during their lives[14]. The idea that women should take care of their homes and children, while men should fulfill the financial needs of the family is culturally and socially established, which sometimes makes it difficult for women to accept man's cooperation while providing care[15].

Such traditional role of women as caregivers may impact their health, well-being, and quality of life[15]. For this reason, this scenario should change, and care should be shared, and not exclusively provided by the mother. Today, a dynamic relation is observed between mothers and fathers, as well as a search for social acceptance, so men are more inserted in care provision to children, which indicates a process of change of this cultural tradition in which women alone assume this role[14].

Regarding the findings related to the level of anxiety of participants, the post-intervention analysis of the STAI mean values showed that the EG presented a lower mean value than the CG, indicating a tendency towards a significant reduction in the level of anxiety ($p=0.066$). In addition, when considering the STAI mean values of the EG, a significant reduction was observed in the level of anxiety of these participants after music listening ($p<0.001$). Before the musical intervention, 10% of the companions presented a low level of anxiety; after the musical intervention, this number increased to 30%.

These data agree with the findings of several studies that reported significance between musical intervention and reduced anxiety. A study conducted with patients with head and neck cancer reported a statistically significant reduction in the anxiety state of all patients submitted to music therapy when compared to those who did not listen to music[5]. Another study[16] reported an anxiety-reducing effect in family caregivers of cancer patients after music listening. Mothers who accompanied their children in clinical hospitalization had their level of anxiety reduced after listening to Gregorian chant[10]. All these studies support the possibility of using music as a non-invasive way to reduce anxiety in adults.

The control group showed a smaller reduction, but statistically significant ($p=0.033$), when comparing the pre- and post-intervention STAI score mean values. This fact can be related to the attention given by the researchers to the participants during data collection, since a calm and reassuring approach and active listening may also reduce anxiety[17].

In the post-intervention period, the EG participants felt more at ease, well-rested, relaxed, and satisfied than the CG participants, who received the clinic's routine intervention. EG participants also felt more at home, well-rested, satisfied, relaxed, happier, and less tense, anxious, nervous, and worried than before music listening. Such change of state can be attributed to the ability of music to promote relaxation, comfort, and well-being[18].

Music, because of its tendency to evoke memories, emotions and good experiences, can boost hope and peace in listeners, and even prevent the sensation of loneliness, as reported by patients of an intensive care unit who were submitted to a musical intervention[19]. Patients who experienced chronic pain and showed skepticism before music listening reported less pain after music listening, and even total pain relief[20].

Regarding the physiological dimensions, music listening did not cause statistically significant alterations between the EG and the CG. Despite this result, some studies reported a reduction in heart rate, respiratory rate[5,11], pulse

blood volume[16], systolic and diastolic pressure, and hormonal changes[21] in adult patients after music listening.

It should be questioned whether the full relaxation of participants would be achieved if the intervention time performed in this study was longer, since a tendency to statistical significance was observed for many variables, and there is still no minimum time defined for musical interventions in a hospital environment. Several studies on the subject[22] report varied duration of this intervention, from 15 minutes to 4 hours. However, the most common range is 15 to 30 minutes[11].

The study limitations include the environment where the intervention was performed, which consisted of shared busy rooms, with the presence of other companions, children and health professionals. Participants could be easily distracted or interrupted by hospital staff during the intervention, which contributed to sample loss. Due to the lack of control over the environment where the intervention was performed, some participants left the area during music listening, with late data collection after the intervention. Some participants dropped out as they had to take their children to the exam room, and late data collection was performed caused by the fact that companions had to handle complications with the children before the second data collection. Then future studies should perform musical intervention in a more reserved and controllable area, which would allow improvements to a more robust study design, such as a controlled clinical trial.

In addition, further studies should explore interventions longer than 15 minutes to deepen the investigation of the effects of music listening for longer periods, especially in the intraoperative period, when the companion will be away from the child for hours and may experience tension and concern.

This study used a non-drug and non-invasive technology to promote a positive environment to companions of pediatric patients submitted to surgeries, which is a moment of tension for the whole family. Care should focus on pediatric patients and their families as well, so that full care is provided in the hospital environment. The use of music to help companions is a good strategy, as it is inexpensive, does not require specialized equipment[23], and can be easily applied to companions of perioperative pediatric patients.

Conclusion

The results showed that music listening can reduce the level of anxiety of companions of perioperative pediatric patients. The nursing team should plan care focusing on the child and the family, since the companion's way to cope with the situation will directly influence the behavior and anxiety of the child who is in a stressful situation, such as the intraoperative period.

Significant differences were observed in the anxiety state of the experimental group after music listening. The mean anxiety of the experimental group showed a relevant reduction after the intervention. When compared to the control group, the difference tended to significance (p=0.066). Regarding the STAI items, the EG presented higher and statistically significant mean values of the items: feel at ease (p=0.021), well-rested (p=0.027), relaxed (p=0.018), and satisfied (p=0.014) in relation to the CG after the intervention. In addition, the experimental group presented a statistically significant reduction in anxiety scores after 15 minutes of music listening (p=<0.001), with reduction in tension (p=0.004), anxiety (p=0.021), nervousness (p=0.014), and worry (p=0.026), and feeling more well-rested (p=0.004), at home (p=0.026), relaxed (p=0.014), satisfied (p=0.048), and happier (p=0.030) after music listening.

Further studies should be conducted exploring other music styles, in different duration of music therapy and other operation times to obtain new evidence-based knowledge to have a better understanding on how to apply musical intervention in the context of nursing care.

Collaborations:

1. conception, design, analysis and interpretation of data: Clara Martins de Oliveira, Aline Cristine Candeia de Lira, Raquel de Queiroz Matos and Mariana André Honorato Franzoi;

2. writing of the article and relevant critical review of the intellectual content: Clara Martins de Oliveira and Mariana André Honorato Franzoi;

3. final approval of the version to be published: Clara Martins de Oliveira, Aline Cristine Candeia de Lira, Raquel de Queiroz Matos and Mariana André Honorato Franzoi.

References

1. Marques DKA, Silva KLB, Cruz DSM, Souza IVB. Benefícios da aplicação do brinquedo terapêutico: visão dos enfermeiros de um hospital infantil. Arq ciênc saúde [Internet]. 2015 out [cited 2017 Jun 5];22(3):64-8. Available from: https://doi.org/10.17696/2318-3691.22.3.2015.240

2. Sampaio CEP, Silva RV, Comino LBS, Romano RAT. Nível de ansiedade dos acompanhantes de crianças em cirurgia ambulatorial: contribuições da consulta de enfermagem. Rev enferm UERJ [Internet]. 2014 [cited 2017 Jun 5];22(2):233-8. Available from: http://www.e-publicacoes.uerj.br/index.php/enfermagemuerj/article/view/13612

3. Franzoi MAH, Martins G. Ansiedade de crianças em situação cirúrgica e percepções emocionais reportadas por seus acompanhantes no pré-operatório: um estudo exploratório. REME Rev min enferm [Internet]. 2016 [cited 2017 Jun 5];20:e984. Available from: http://www.dx.doi.org/10.5935/1415-2762.20160054

4. Araújo TC, Pereira A, Araújo MSS. Uso da música nos diversos cenários do cuidado: revisão integrativa. Rev baiana enferm [Internet]. 2014 [cited 2018 Sep 22];28(1):96-106. Available from: http://dx.doi.org/10.18471/rbe.v28i1.6967

5. Hole J, Hirsch M, Ball E, Meads C. Music as an aid for postoperative recovery in adults: a systematic review and meta-analysis. Lancet [Internet]. 2015 [cited 2018 Jul 26];386(10004):1659-71. Available from: https://doi.org/10.1016/S0140-6736(15)60169-6

6. Pinto Junior FEL, Ferraz DLM, Cunha EQ, Santos IRM, Batista MC. Influência da música na dor e na ansiedade decorrentes de cirurgia em pacientes com câncer de mama. Rev Bras Cancerol [Internet]. 2012 [cited 2017 Jun 23];58(2):135-41. Available from: http://www1. inca.gov.br/rbc/n_58/v02/pdf/03_artigo_influencia_musica_dor_ansiedade_decorrentes_cirurgia_pacientes_cancer_mama.pdf

7. Zhou KN, Li XM, Yan H, Dang SN, Wang DL. Effects of music therapy on depression and duration of hospital stay of breast cancer patients after radical mastectomy. Chin Med J [Internet]. 2011 [cited 2018 Sep 22];124(15):2321-7. Available from: https://www.researchgate.net/publication/51657446_Effects_of_music_therapy_on_depression_and_duration_of_hospital_stay_of_breast_cancer_patients_after_radical_mastectomy

8. Lopes B, Ramos I, Ribeiro G, Correa R, Valbon B, Luz A, et al. Biostatistics: fundamental concepts and practical applications. Rev bras oftalmol [Internet]. 2014 [cited 2017 Jun 23];73(1):16-22. Available from: http://www.scielo.br/pdf/rbof/v73n1/en_0034-7280-rbof-73-01-0016.pdf

9. Souza RG, Santana EB, Pedral R, Dias D, Dantas EHM. A relevância dos instrumentos de avaliação de ansiedade, estresse e depressão. Cad Grad Ciênc Hum Soc Unit [Internet]. 2015 [cited 2017 Jun 23];3(1):37-57. Available from: https://periodicos.set.edu.br/index.php/cadernobiologicas/article/view/2493/1455

10. Almeida AP, Silva MJP. Canto Gregoriano: redutor de ansiedade de mães com filhos hospitalizados. Acta Paul Enferm [Internet]. 2012 [cited 2018 Jul 26];25(1):36-42. Available from: http://www.scielo.br/pdf/ape/v25n1/v25n1a07

11. Joanna Briggs Institute. The Joanna Briggs Institute Best Practice Information Sheet: music as an intervention in hospitals. Nurs health sci [Internet]. 2011 [cited 2017 Jun 23];13(1):99-102. Available from: https://doi.org/10.1111/j.1442-2018.2011.00583.x

12. Santos DH, Kato JM. Apendicite aguda: epidemiologia, sintomas, exames complementares e riscos para complicações. Rev med (São Paulo) [Internet]. 2015 [cited 2018 Jul 28];94:38. Available from: http://dx.doi.org/10.11606/issn.1679-9836.v94isupl.p38-38

13. Franzoi MAH, Goulart CB, Lara EO, Martins G. Music listening for anxiety relief in children in the preoperative period: a randomized clinical trial. Rev latinoam enferm [Internet]. 2016 [cited 2018 Jul 15];24:e2841. Available from: http://dx.doi.org/10.1590/1518-8345.1121.2841

14. Ferreira CR, Isaac L, Ximenes VS. Cuidar de idosos: um assunto de mulher? Est Inter Psicol [Internet]. 2018 [cited 2018 Jul 26];9(1):108-25. Available from: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S2236-64072018000100007&lng=pt&nrm=iso

15. Muylaert CJ, Delfini PSS, Reis AOA. Relações de gênero entre familiares cuidadores de crianças e adolescentes de serviços de saúde mental. Physis (Rio J.) [Internet]. 2015 [cited 2018 Jul 26];25(1):41-58. Available from: http://dx.doi.org/10.1590/S0103-73312015000100004

16. Lai HL, Li YM, Lee LH. Effects of music intervention with nursing presence and recorded music on psycho-physiological indices of cancer patient caregivers. J clin nurs [Internet] 2012 [cited 2018 Jul 31];21(5-6):745-56. Available from: https://doi.org/10.1111/j.1365-2702.2011.03916.x

17. Carvalho CC, Chaves ECL, Iunes DH, Simão TP, Grasselli CSM, Braga CG. A efetividade da prece na redução da ansiedade em pacientes com câncer. Rev Esc Enferm USP [Internet]. 2014 [cited 2018 Jul 28];48(4):684-90. Available from: http://dx.doi.org/10.1590/S0080-623420140000400016

18. Cardoso AVM, Souza AAM, Silva PLN, Carvalho HLA, Alves ED, Aguiar Filho W. Cuidando com arte: a promoção da saúde por meio da música. Rev Univ Vale Rio Verde [Internet]. 2016 [cited 2018 Jul 31];14(1):714-35. Available from: https://dialnet.unirioja.es/servlet/articulo?codigo=5511275

19. Araújo TC, Silva LWS. Música: estratégia cuidativa para pacientes internados em unidade de terapia intensiva. Rev enferm UFPE on line [Internet]. 2013 [cited 2018 Jul 31];7(5):1319-25. Available from: https://doi.org/10.5205/1981-8963-v7i5a11615p1319-1325-2013

20. Rodrigues AB, Oliveira PP, Carvalho Onofre PS, Belinelo RGS, Franco M. A utilização da música em pessoas doentes de câncer com dor crônica. Rev enferm UFPE on line [Internet]. 2014 [cited 2018 Jul 31];8(11):4097-106. Available from: https://doi.org/10.5205/1981-8963-v8i11a10148p4097-4106-2014

21. Daniel E. Music used as anti-anxiety intervention for patients during outpatient procedures: a review of the literature. Complement Ther Clin Pract [Internet]. 2016 [cited 2018 Jul 31];22:21-3. Available from: https://doi.org/10.1016/j.ctcp.2015.11.007

22. Firmeza MA, Rodrigues AB, Melo GAA, Aguiar MIF, Cunha GH, Oliveira PP, et al. Control of anxiety through music in a head and neck outpatient clinic: a randomized clinical trial. Rev Esc Enferm USP [Internet]. 2017 [cited 2018 Jul 28];51:e03201. Available from: http://dx.doi.org/10.1590/S1980-220X2016030503201

23. Alam M, Roongpisuthipong W, Kim NA, Goyal A, Swary JH, Brindise RT, et al. Utility of recorded guided imagery and relaxing music in reducing patient pain and anxiety, and surgeon anxiety, during cutaneous surgical procedures: a single-blinded randomized controlled trial. J Am Acad Dermatol [Internet] 2016 [cited 2018 Jul 28];75(3):585-9. Available from: https://doi.org/10.1016/j.jaad.2016.02.1143

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