

Effect of music as a therapeutic resource in a support group for the elderly

Efeito da música como recurso terapêutico em grupo de convivência para pessoas idosas

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ABSTRACT

Objective: to analyze the effect of musical interventions to reduce stress levels in the elderly. **Methods:** quantitative research, of quasi-experimental type, in which the level of stress was assessed before and after interventions with the music therapy method, called receptive experience, in 25 elderly people in a support group. The Perceived Stress Scale was used and descriptive and inferential statistical analysis was performed. **Results:** in the assessment of perceived stress, the average was 33.6 (standard deviation 5.17) points in the pre-test and 31.6 (standard deviation 2.29) points in the post-test ($p < 0.05$). In the assessment dimension, the reduction was identified only in the perceived distress factor. Pre-tests outcomes showed that the higher the monthly income, the lower the perceived stress ($p = 0.043$). **Conclusion:** musical interventions with the participants of this study were able to reduce stress levels, indicating the importance of music as a therapeutic resource in health promotion actions.

Descriptors: Music Therapy; Aged; Stress, Physiological; Nursing.

RESUMO

Objetivo: analisar o efeito de intervenções musicais na redução dos níveis de estresse em pessoas idosas. **Métodos:** pesquisa quantitativa, do tipo quase-experimental, em que se avaliou o nível de estresse antes e depois de intervenções com música, com o método musicoterápico, denominado experiência receptiva, em 25 pessoas idosas de um grupo de convivência. Utilizou-se da Escala de Estresse Percebido e realizou-se a análise estatística descritiva e inferencial. **Resultados:** na avaliação do estresse percebido, a média foi de 33,6 (Desvio-padrão 5,17) pontos no pré-teste e 31,6 (Desvio-padrão 2,29) pontos no pós-teste ($p < 0,05$). Na avaliação por dimensão, a redução na pontuação foi identificada apenas no fator *perceived distress*. Identificou-se, no pré-teste, que quanto maior a renda mensal, menor o estresse percebido ($p = 0,043$). **Conclusão:** intervenções musicais com os participantes deste estudo foram capazes de reduzir os níveis de estresse, indicando a validade da música como recurso terapêutico em ações de promoção à saúde.

Descritores: Musicoterapia; Idoso; Estresse Fisiológico; Enfermagem.

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Introduction

Music is an artistic expression that has been used as a therapeutic tool in the care of people in mental distress, capable of promoting rehabilitation and social inclusion⁽¹⁾, so that music therapy or interventions with music can provide a better quality of life to participants.

It is part of a non-pharmacological therapy that contributes significantly to the relief of anxiety and stress and to the promotion of relaxation, in addition to being useful in cases of social isolation⁽²⁾. Thus, it can help to strengthen bonds between patients and professionals, allowing the care environment to become more comfortable, favoring mutual trust.

The use of music for therapeutic purposes is related to some benefits, such as reduced blood pressure and heart rate, contributing to the reduction of circulatory problems; anxiety relief; action on the autonomic nervous system, decreasing the respiratory rate⁽³⁾.

The participation in interventions with music can be beneficial, especially for the elderly, as many complain about feelings of loneliness and social isolation, especially widowers and divorcees. Elderly people who consider themselves lonely believe that moments of interaction and activities with dance and music are important strategies to overcome difficulties⁽⁴⁾.

To alleviate the suffering and difficulties that may arise in the course of life, it is considered important that the elderly seek more social interaction and leisure activities. Support groups are an important space to develop such activities and can work as a support network, improving participants' self-esteem, resilience and autonomy⁽⁵⁾. Among the countless activities that can be developed in these groups, it is believed that musical interventions are positive for those in the process of aging, considering the previously proven benefits⁽¹⁻²⁾.

Such interventions can improve, for example,

the elderly's mental health, which includes a range of disorders involving anxiety, suffering and stress. The latter has been extensively studied at the international level, following the example of research carried out in six countries with a sample of more than 30 thousand elderly people, which showed a high level of stress in this population, which was strongly associated with the presence of multiple chronic diseases⁽⁶⁾.

In Brazil, although there are studies about mental health during aging, there are still few investigations that specifically address the stress experienced by these people in recent scientific literature, showing a knowledge gap in the specific theme of this research. At the same time, professional practice signals the challenge of dealing with elderly people who suffer from those ailments and proposes strategies capable of minimizing such problems.

Activities that involve music, in general, usually provide good interaction between those involved and, they also evoke satisfaction and pleasure in its accomplishment. In fact, there is no way to know how each human being reacts to a certain situation, memory or event, but what has been noticeable in nurses' professional practice, in support groups for elderly people, is that activities with music favor interaction and seem to promote well-being among the participants in the actions. Thus, it is believed that activities with music can contribute to reduce stress levels and, thus, prevent complications or worsening of diseases that have stress as a risk factor, whether physical or psychological.

Due to the above, the following question arose: what is the effect of musical interventions in relation to stress levels in elderly people in a support group? The hypothesis tested in this study was that interventions with music are associated with a lower level of stress in elderly people from social groups.

This study aimed to analyze the effect of musical interventions in the reduction of stress levels in elderly people.

Methods

It is a quantitative, quasi-experimental study, considering that the participants received an intervention - actions with music - and underwent an assessment of the stress level, applied before the first intervention and after the last one.

The research was carried out in a small city named Santa Cruz, RN, Brazil, and data collection took place from July to October 2016, having as a place for participants enrollment a support group for the elderly, conducted by the city social service board, which has weekly meetings. The meetings take place in a closed physical space of a room located in a public building. The group is coordinated by a professional social worker and has the participation of other professionals and students from the fields of nursing, physiotherapy and psychology who voluntarily collaborate with the activities. The city of Santa Cruz is located in the immediate geographical region of the same name, which, due to its ancient geographical division, corresponded to the mesoregion and to the Borborema microregion of Rio Grande do Norte state.

The total sample considered a total of 57 people registered in the referred group. As it is a small population, no sample calculation was performed, making the sample with those who met the inclusion criteria: being 60 years of age or older and participating in the group at least in one meeting per month. Those who reported discomfort to participate in interventions or deafness and did not participate in at least eight sessions of musical intervention were excluded, as recommended by the adopted framework⁽⁷⁾.

Thus, 26 individuals were selected, and at the end of the collection, an elderly person had to be excluded for not having participated in the minimum number of necessary interventions, so that the final sample was 25 elderly people. It is observed that about half of the registered participants were part of the final sample, which is justified by the fact that this group is also attended by people under 60 years of age and, therefore, did not meet the age criteria establi-

shed for inclusion in the research.

The invitation to participate in the study was carried out during the meetings of the support group, those who agreed to participate in the research and presented the determined criteria, after signing the Free and Informed Consent Form, responded to the structured type interview, using a detailed instrument and participated in activities with musical interventions, conducted by a researcher with experience as a musician.

For the interview, the Perceived Stress Scale (PSS) was used, a translated and validated version for Brazilian old people⁽⁸⁾, which has two dimensions: "distress perceived" and "coping perceived". The PSS consists of 14 questions with answer options ranging from zero to four (0=never; 1=almost never; 2=sometimes; 3=almost always 4=always), and the questions with a positive connotation (4, 5, 6, 7, 9, 10 and 13) have the added score reversed. The participant's performance was obtained by adding the scores of the 14 questions, considering the aforementioned observations, whose scores can vary from zero to 56 points⁽⁸⁾. This instrument was adapted to insert fields for the variables of sociodemographic characterization and satisfaction with the health and life conditions of the participants. The questions were about self-assessment of health status, perception of the economic situation, memory, satisfaction with life and the occurrence of negative events. Despite not being part of the instrument, these questions were adopted because they were used in the PSS validation study⁽⁸⁾, as a way to better characterize the population and help in the interpretation of the results obtained.

The PSS was applied to each elderly participant, before the first and after the last musical intervention, as a way to, respectively, measure the perceived stress before any intervention and after the 12 sessions with music were performed. Musical interventions were always started with a conversation circle, in order to establish a bond with the participants. Musical interventions were carried out in 12 sessions, in which each one lasted for one hour and, in order to analyze

any effect, it was necessary to participate in, at least, 65.0% or eight interventions⁽⁷⁾.

The musical therapy method called receptive experience was applied, in which the client responds silently or verbally when listening to music, with reproductions of recorded songs and/or to live performances of voice and guitar⁽⁷⁾. Thus, in the researcher's first contact with the elderly, a conversation was held about the kind of music they liked the most, with the aim of organizing a repertoire with music that would please the group. In all sessions, the researchers took a guitar and percussion instruments, in addition to a stereo. During the meetings, the elderly started to take instruments made by themselves, for example, plastic pots with grains of corn and beans to be used as percussion instruments, thus increasing interactivity during the sessions.

The collected data were transferred to a spreadsheet in Microsoft Excel 2007® and then underwent statistical analysis, using the Statistical Package for the Social Sciences, version 20.0. The Kolmogorov-Smirnov test was adopted to assess the distribution of data. To evaluate the effect of the intervention with music on the PSS scores, the t test for paired samples was applied. Pearson's correlation test was used to assess the relationship between PSS scores, age and income variables. Statistical significance was considered when the value was $p < 0.05$. The results were

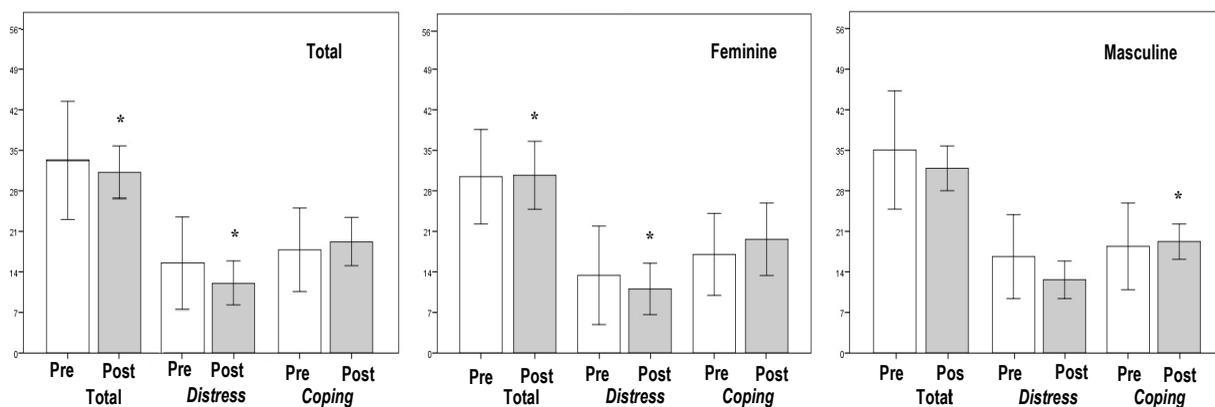
expressed in terms of means and standard deviation, absolute values and percentages.

This research complied with the ethical principles of the Resolution of the National Health Council No. 466/2012, therefore, it was submitted to the Research Ethics Committee of the Faculty of Health Sciences of Trairi, of the Universidade Federal do Rio Grande do Norte. Data collection was initiated after approval by the aforementioned committee, under opinion No. 1,595,887/2016 and Certificate of Presentation for Ethical Appreciation No. 56723416.3.0000.5568.

Results

Out of the 25 participants, 17 were female and eight were male, all retired, on average 71.48 years old (standard deviation (SD) = 5.49), ranging between 61 and 84 years old. Regarding marital status, 17 were married, four were single, three were widowed and one was divorced. The average income was R\$ 1,000.00 (SD=337.04) and ranged from R\$ 880.00 - minimum wage at the time of data collection - to R\$ 2,120.00.

A decrease in the PSS score was identified after the interventions with music ($p < 0.05$), when the population as a whole was assessed. There was a difference in the evaluation of the response obtained, when the group was divided by sex (Figure 1).



Note: Results are expressed as mean and standard deviation. * statistical difference ($p < 0.05$), according to the t test for paired samples

Figure 1 – Scores of the participants' perceived stress scale, before and after interventions with music. Santa Cruz, RN, Brazil, 2016

As described in the method, PSS responses ranged from zero to four and represented the frequency with which a particular complaint was perceived by a participant (the complaint never, almost never, sometimes, almost always or always happens). In this sense, the two questions that contributed most to the reduction of the overall PSS score, observed after the intervention with music, were questions 1 and 14, as shown in Table 1. The questions are distributed in the table according to the two dimensions of the scale.

A negative statistical correlation, of medium size, was identified only between the income variable

and the PSS score, in the pre-intervention moment ($r = -0.43$; $p = 0.033$). Such correlation was not maintained in the evaluation of PSS scores after the intervention ($r = -0.30$; $p = 0.153$). That is, according to the pre-test evaluation, the higher the monthly income, the lower the perceived stress.

As for the additional questions investigated, regarding satisfaction with health and life conditions, the most significant change occurred in the aspect of irritation, as shown in Table 2. Due to the distribution of responses and the nature of variables, no statistical test was performed with these data.

Table 1 – Perceived Stress Scale score, before and after musical intervention. Santa Cruz, RN, Brazil, 2016

Questions	Pre-intervention Average (standard deviation)	Post-intervention Average (standard deviation)
Distress		
Q1 Have you been sad because of something that happened unexpectedly?	2.08 (1.41)	0.88 (0.60)
Q2 Have you been unable to control the important things in your life?	2.20 (1.19)	1.40 (0.71)
Q3 Have you been feeling nervous and stressed out?	2.40 (1.29)	1.72 (0.54)
Q8 Do you think you cannot handle all the things you have to do?	2.28 (0.74)	1.84 (0.55)
Q11 Have you been irritated because things that happen are out of your control?	2.44 (1.16)	1.80 (0.71)
Q12 Have you found yourself thinking about the things you should do?	2.36 (1.19)	3.48 (0.65)
Q14 Have you felt that difficulties have accumulated to the point where you believe you cannot overcome them?	1.88 (0.67)	1.04 (0.68)
Coping		
Q4 Have you successfully dealt with life's difficult problems?	2.64 (0.86)	2.76 (0.78)
Q5 Do you feel that you are coping well with the important changes that are taking place in your life?	2.56 (1.00)	3.04 (0.45)
Q6 Have you been confident in your ability to solve personal problems?	2.64 (0.99)	2.96 (0.84)
Q7 Do you feel that things are happening according to your will?	2.16 (0.69)	2.20 (0.71)
Q9 Have you been able to control the irritations in your life?	2.64 (0.86)	2.76 (0.60)
Q10 Do you feel that things are under your control?	2.48 (0.65)	2.56 (0.77)
Q13 Have you been able to control the way you spend your time?	2.88 (0.97)	3.12 (0.60)

Table 2 – Distribution of the results of the participants’ satisfaction, before and after the intervention with music. Santa Cruz, RN, Brazil, 2016

Satisfaction	Pre-intervention	Post-intervention
	n (%)	n (%)
Happy		
Yes	25 (100.0)	24 (96.0)
No	-	-
Partially	-	1 (4.0)
Satisfactory memory		
Yes	16 (64.0)	17 (68.0)
No	1 (4.0)	-
Partially	8 (32.0)	8 (32.0)
Angrier		
Yes	11 (44.0)	-
No	8 (32.0)	16 (64.0)
Partially	6 (24.0)	9 (36.0)
Satisfactory health		
Yes	8 (32.0)	9 (36.0)
No	1 (4.0)	-
Partially	16 (64.0)	16 (64.0)

Discussion

The limitations of this study refer to the adopted design, which generates results with a generalization restricted to the studied scenario, since a convenience sample was adopted and the intervention was carried out in only one group.

The findings obtained in the present study help to reinforce the practical applicability of musical interventions in the lives of the elderly, since there was a decrease in the level of stress. Thus, the importance of using music as a therapeutic resource that can be adopted by health professionals is highlighted because of the potential to contribute to the promotion of people’s health.

The use of music as a non-pharmacological resource and without side effects in adults⁽⁹⁾, combined with the growing need for the development of low-cost interventions, at the population level, to deal with

stress⁽⁶⁾, indicates the strength of this action as a tool in interprofessional care for the elderly. When considering music as an available therapeutic resource, health professionals will be able to expand the transforming potentialities that this strategy has for individuals and for the community⁽¹⁾.

As for sociodemographic data, monthly income showed a statistical association, since the higher the income, the lower the stress level. Another study demonstrated that elderly people with higher incomes have a better perception of their health status⁽¹⁰⁾. This fact requires extensive discussion, because in the Brazilian reality, the elderly usually have low income.

Having a satisfactory family income is important for the elderly, in addition, they consider the importance of maintaining the ability to make decisions, memory, happiness, autonomy, lifestyle, affective and social relationships as relevant to feeling satisfied in old age⁽¹¹⁾.

The maintenance of social ties during the aging process is relevant to the mental health of the elderly and those who live with them. Elderly people who manage to maintain social contact, with solidary and rewarding relationships, present more positive health behaviors and better mental health. However, the losses associated with old age emphasize the importance of strengthening bonds and intergenerational interaction⁽¹²⁾, as a way of social inclusion for the elderly.

Regarding the mental health of the elderly, any factor that may affect it, is considered as significant, and stress was highlighted in this study as responsible for changes in the functioning of the immune, gastrointestinal, nervous and endocrine systems and in the various interactions among them. It is capable of causing, maintaining and exacerbating physical, psychological and cognitive disorders and, therefore, actions that can relieve stress, whether in prevention, treatment or rehabilitation, are recognized to be beneficial in the prognosis of various diseases and should be encouraged⁽¹³⁾. In this way, the value of musical interventions to reduce stress levels is emphasized, fa-

voring improvement to the health of the elderly and, thus, presenting the potential to alleviate the burden on the health system.

In a study with elderly people with sequelae of stroke, it was found that greater perceived stress was associated with less functional independence and a greater number of depressive symptoms⁽¹⁴⁾. Preserving functional capacity is an important strategic indicator of health and quality of life for the elderly. For that, it is pointed out that health professionals should allow themselves to innovate in care actions. Innovation can also be understood as the resumption of care that is considered as simple, but that has special value in people's lives⁽¹⁵⁾. In the meantime, the results of this study pointed to the use of music as a therapeutic resource as an innovation in care for the elderly.

The literature also brings discussions about the use of music in the treatment of neurological disorders, but this is an issue that still needs further investigation. It cannot be said that music plays an active role in structural changes in the brain, but it is recognized that auditory-motor interactions can contribute to improving people's health status⁽¹⁶⁾.

During the musical interventions, the researchers realized that when listening to the chosen songs, the participants showed satisfaction, through body, facial expressions and verbal reports, but there is no way to evaluate this type of effect, since these questions were not the object of this study.

The results showed a reduction in the perceived stress, after the musical interventions, in the female group, motivating the reflection on the issues of gender, mental health and aging, since, among the elderly, women are the ones who have the greatest chances of developing common mental disorders⁽¹⁷⁾.

In the group of men, there was a tendency of decrease in the overall score, after the musical intervention, and of an unexpected increase in the score of perceived coping. However, given the small number of male participants (n=8), it was not possible to make any greater inferences about this finding. This limitation raises the need to reproduce the present work,

expanding the number of male participants.

The interventions undertaken in the present study may have stimulated, in a way, the creative potential of the elderly participants in the support group, since music is an important artistic expression. The physical, recreational and educational activities provided by support groups contribute to social interaction and improvement of the intellectual skills of the elderly⁽⁵⁾ and can be promoted by different health professionals, especially those in nursing, since it is a category whose object of work is care.

The results of this study showed a reduction in the perceived stress of the elderly, after interventions with music, showing the value of this type of activity in the support groups, considering that in the elderly, stress may be related to anxiety, depression and decreased functional capacity⁽¹⁸⁾.

In the elderly, perceived stress was also associated with cognitive decline and a low perception of self-efficacy, which can be improved through interventions that promote coping strategies⁽¹⁹⁾. Therefore, since music is recognized as a relevant and accessible strategy for coping with stress⁽²⁰⁾, its therapeutic potential in caring for the elderly is emphasized.

Conclusion

Interventions with music reduced the level of perceived stress in elderly people participating in support groups, so that the stated hypothesis was confirmed. However, more studies are needed to try to develop protocols that help to apply and better understand the effect of musical interventions on the perceived stress of elderly people.

Collaborations

Medeiros JSS, Oliveira LPBA, Medeiros ACQ, Távora RCO and Barros WCTS contributed to the conception and design or analysis and interpretation of data, writing of the article, relevant critical review of the intellectual content and final approval of the version to be published.

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