AMBIENT MUSIC IN THE EMERGENCY SERVICES: THE PROFESSIONALS' PERCEPTION

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Due to the assistant characteristic of the emergency service, the health professional experiences countless situations that generate anxiety. This study aimed to learn the professionals' perception about the presence of classical music in the working environment. The sample was composed of 49 professionals of the adult emergency department of a medium sized private hospital. The data were collected through a questionnaire to evaluate the professional's perception. The results showed that 78% of the professionals noticed alteration in the atmosphere when the music was present, 41% believed that the music altered their personal performance; 85% believed it altered their performance in a positive way and 15% in a negative way. Regarding the musical repertoire, 61% of the individuals affirmed they enjoyed the selection, 96% believed that the ambient music should be kept, while 76% of the interviewees suggested other musical genres.

DESCRIPTORS: anxiety; emergencies; music; complementary therapies

MÚSICA AMBIENTAL EN EL SERVICIO DE EMERGENCIA: PERCEPCIÓN DE LOS PROFESIONALES

Considerando que el servicio de emergencia tiene una función asistencial, el profesional de salud se expone a diversas situaciones que le generan ansiedad. El objetivo del presente estudio fue conocer la percepción de los profesionales sobre la audición de música erudita en el ambiente de trabajo. La muestra estuvo conformada por 49 profesionales del servicio de emergencia adulto de un hospital privado de mediana complejidad. Los datos fueron recolectados utilizando un cuestionario que evaluó la percepción de los profesionales. Fue observado que la presencia de música provocó alteraciones en el ambiente según 78% de los profesionales, 41 % consideró que la música alteró su desempeño personal, de los cuales 85% mencionaron que fue de forma positiva y 15% de forma negativa. En relación al repertorio musical, 61% de los individuos afirmaron haberse sentido a gusto con la selección musical, 96% mencionaron que debe continuarse con la música ambiental y 76% sugirió la introducción de otros géneros musicales.

DESCRIPTORES: ansiedad; emergencias; música; terapias complementarias

MÚSICA AMBIENTE EM SERVIÇO DE EMERGÊNCIA: PERCEPÇÃO DOS PROFISSIONAIS

Em função da característica assistencial do serviço de emergência, o profissional de saúde vivencia inúmeras situações geradoras de ansiedade. O objetivo deste estudo foi conhecer a percepção dos profissionais sobre a audição de música erudita no ambiente de trabalho. A amostra constituiu-se de 49 profissionais do pronto-socorro adulto de um hospital privado de médio porte. Os dados foram coletados utilizando-se questionário de avaliação da percepção do profissional. Foi observado que, com a presença da música, 78% dos profissionais percebeu alteração no ambiente, 41% acreditou que a música alterou seu desempenho pessoal, de forma positiva para 85% e negativa para 15%. Em relação ao repertório musical, 61% dos indivíduos afirmou ter gostado da seleção, 96% acredita que se deve continuar com a música ambiente com sugestão de outros gêneros musicais por 76% dos entrevistados.

DESCRITORES: ansiedade; emergências; música; terapias complementares

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INTRODUCTION

Nursing is considered a profession that suffers the total and immediate impact of stress, which stem s from the constant care of sick people, unpredictable situations, execution of sometimes repulsive and agonizing tasks, characterizing the work itself as a focus of stress[1].

Another approach evaluates that the psychic loads, due to physical conditions (noise, temperature, vibrations), biological conditions (viruses, bacteria, fungi) and work organization (division of tasks, hierarchy, command, submission) can directly affect the workers' relationships. In response to the organizational pressure, psychosomatic diseases emergence, which are described as stress[2].

Here, we consider that both the work object (and the activities that stem from it) and its organization contribute to highlight nursing in terms of stress. Studies have tried to identify whether the focus of stress lies in the characteristic of the units where the activities are developed, comparing the diverse hospital units and revealing a reality that is not equal in different institutions.

While one study identified that nurses who work in open units (determined by the flow of patients and relatives) present higher levels of stress in comparison with those in closed units[3]. Another research identified a higher level of stress in critical units like surgical wards (SW) and emergency rooms (ER), independently of the flow of patients and relatives[4], which suggests that it is not the unit characteristic, but the professional activity characteristic *per se* which leads to stress.

Studies in general have tended to consider stress only in the work of nurses and not of other health professionals, perhaps because most research is conducted by this professional category. However, considering that the activity of secondary-level professionals requires dedication, commitment and responsibility in an equal proportion to their activity, it can be inferred that these professionals' stress should be analyzed in the same way.

Although hospital institutions are actually concerned with relating satisfaction, turnover and absenteeism indices with work conditions, effective measures to improve this process are still being discussed in a very isolated way, so that a culture of intervention, or even prevention of suffering at work is far from being implemented.

Interpersonal relationships represent the main difficulty, not only for the nursing team but for all professionals in the sector. The environment, often disrupted due to excessive patient demands, care needs within an appropriate time, limited physical structure, requests by patients and families, who are sensitive and need information at this moment, frequently generate anxiety and expectation, also in the teams, to solve problems.

Several stress factors have been identified which can affect the emergency service team, including personal problems of emotional order, which directly affect the professional's communication and professional, the anxiety caused by the expectation of adequate performance, ethical issues, the patient's and the family's stress, aggravated by the high demand, requiring better abilities from the professional to control the situation, inadequate working conditions related to the environment, material and technological resources[5-6].

Therefore, we conclude that investing in the professional's physical and mental health is essential for the quality of the delivered care, and that controlling the work environment and relationships can significantly contribute to the well-being of the team.

Studies in the emergency area that present complementary therapies aiming to improve the patient's therapeutic approach are limited. As for the health team, despite realizing the extreme importance of the behavioral area and relationships for its development, little research has been developed in order to intervene in favor of the nursing professional, whether in the field of complementary therapy, communication or even quality of life.

Adopting the perspective of taking care of caregivers and considering the evidence that research has demonstrated over the years, that music relieves patients' pain[7] and has so many other favorable effects, such as diminished anxiety and relaxation, already used in other hospital areas, we believe that music could also be implemented in the emergency sector. The argument is that it can positively affect several aspects of the environment, diminishing not only the patients but also the health team's stress.

In the nineteen century, Florence Nightingale had already identified the manipulation of the physical environment as a main component in nursing care. Through the control of ventilation, noise, illumination, temperature, cleanness and nutrition, the nurse could intervene in order to contribute to the patient's treatment. She believed that, when one or more aspects of the environment were unbalanced, the patient would use more energy to counterbalance the environmental stress. One of the characteristics of her theory was the simplicity and the ability to generalize, including its permanent applicability until today[8].

Martha Rogers, another nursing theorist, makes us think of the human being as an individual integrity who is constantly exchanging energy with the environment, irreversibly evolving in space and time – the principle of integrality. Based on this assumption is the energy field, a unifying concept for both animated and unanimated environments, which have no limits, are indivisible and dynamic, manifesting different but integrating characteristics, of the person – principle of resonance. The author defines nursing as a science in the study of the human and environmental fields, directed at the description of humanity's life processes, guides professional Nursing practice in the search for harmonious integration of the human being with the environment, directs the standardization of the human and environmental areas, with a view to the maximum realization of health[8].

According to the resonance principle, described before, the change in the pattern of human beings and environments is propagated by waves that move between long low-frequency waves and short high-frequency waves. The sound, like light and color, is also transmitted through vibrations, perceived by the human being in the frequency between 20 and 20,000 Hz[9].

Getting to know ambient music through the principles of integrality and resonance allows for the improvement of the environment at the emergency service and can greatly contribute to the healthier development of work at this service.

Through the rhythmic vibration of sound waves, music permits the creation of a receptive state, through the relaxation of the human senses, especially regarding emotions, allowing for the assimilation of the content transmitted by music or any other element close to it at the moment the music is heard[10].

It prompts the induction phenomenon, which is a technique that can be used to program life itself, control environments or regulate actions, thoughts and emotions. Music can help to eliminate pain, working as an imaginary sanctuary – a safe refuge – against pain. It helps to reduce stress and tension and induces relaxation. It also activates the production of endorphin and helps the mind to create images, allowing the human being to temporarily escape to a "painless world", sheltered by imagination. Music acts as an "interpreter", translating "waves" of pain (sensations) in energy or healthy vibration, sound. It helps to reinforce spatial thinking, the capacity to perceive objects with precision, to develop imagination and to distinguish among available options. Since anxiety usually interferes in the clarity of thinking, the use of music to reduce tension is extremely effective, improving concentration and retention of the material learned. However, it is necessary to choose an appropriate repertoire. The principle of induction is closely linked to the "iso" (isomorphic) principle, which suggests that a person's mood adjusts to the mood of the music and is gradually moved to the desired direction[11].

Music was initially used in hospitals in the nineteen century, as a recreational resource for psychiatric patients. At the time, rhythms that could have a favorable or harmful effect had already been distinguished and it was observed that soft melodies calmed down agitated patients. The music focused on to improve work capacity was identified on the occasion of World War II, in British and North American plants producing war weapons, in order to raise the workers' disposition and make them more efficient[12]."Like good illumination, music should go by almost unnoticed to the workers. Functional music, music at the service of the improvement of human activities must not be heard, but only sensed". The rhythms get to the unconscious, create a feeling of well-being and eliminate the tension of the spirit. The general rule is to use music during short periods, up to 2 hours and half, avoiding prolonged periods[12].

In the beginning of the twentieth century, the use of music as a therapeutic resource started to gain power and, in 1941, the National Foundation of Musical Therapy was created to expand studies in this area[12], though the therapeutic use of music became more disseminated and differentiated only at the end of the century. Like art, music involves the environment and the person as a whole, the musical *form* acts on the human sensitivity and the *content* is the message that will be transmitted, *form* and *content* are mixed in an indivisible whole[10].

Erudite music presents this content in an artistic form through the rhythm, melody, harmony and timbre of the instruments, and reaches an elevated level of art, whose aim is not only the esthetic sense, but also the transmission of something significant and true, using the sensorial relation with the listener[10].

In general, relaxing music must have rhythmic synchronicity, and baroque music, if compared to other musical forms, is significantly effective in the induction of "alpha states", that is, a state of relaxed alertness accompanied by the feeling of well-being in the listener[11].

In the musical area, the baroque manifests itself through the concert style by which all instruments are combined; the style develops virtuosity, a genuine and indispensable element of musical scores from the seventeen and eighteen century. Baroque music also

presents itself by its imposing sound and, hence, the great development of the technique and musical construction. Johann Sebastian Bach is a perfect example of baroque art in music history; the development of the concert style, the colorful and ornamental decoration of the imposing sound are eloquent testimonies of the baroque spirit of Bach's work[13].

Expecting that the erudite music of Johann Sebastian Bach could positively influence the work environment, we proposed to work with a musical selection of this composer as ambient music for an emergency service.

Therefore, this study aimed to get to know the perception of professionals from an emergency service regarding the use of erudite ambient music.

METHOD

The study was developed at an adult emergency medical service of a medium-sized private hospital in the city of São Paulo, Brazil. On the average, the 24-hour service attends 5,800 patients/ month in all specialties.

A total of 49 professionals, among physicians, nurses, administrative aids, pharmacy aids, cleaning aids and nursing aids and technicians who worked in the morning and afternoon shifts in the emergency sector were included in the study. The morning and afternoon shifts were chosen because they represent the highest percentage of care delivered in the 24 hours, hence, with the heavier work load. In addition, the night period is when, physiologically, rest is most needed and ambient music is not adequate. Therefore, the first six hours of work were considered for data collection.

After the approval by the institutional review board, data collection was initiated in the period between April and May, 2005. A questionnaire was used, elaborated by the researchers, with ten open and closed questions. This questionnaire was not submitted to a pilot test as the questions were short and direct. Questions 1 and 2 characterized the population according to the profession (time of work and work load/day). Questions 3 and 4 investigated the musical preference and the habit of listening to music, while questions 5 to 7 inquired about the perceived effects of music on the work environment and on personal performance and, finally, questions 8 to 10 asked if the professional approved the intervention and would like to suggest another kind of music. In order to define the musical selection, three CDs of Johann Sebastian Back were used: 1) BACH for RELAXation, 2) Royal Philharmonic Orchestra BACH, 3) Crazy for BACH, and 24 songs were selected with a total duration of 1 hour and 28 minutes.

Data were collected by one of the researchers at the emergency sector and during the participants' shift. First, the subject received individual explanation regarding the research, in a reserved room, and the free and informed consent term was read.

In the first week, the ambient music was kept for 1 hour and 28 minutes, with intervals of 1 hour and 30 minutes without music, so that the professionals heard the same musical sequence twice during their work shift. Soft instrumental songs by Johann Sebastian Bach were chosen randomly, taking care to avoid a sequence of songs of the same musical form, so as not to bore the listeners, intercalating adagios, sonatas, cantatas, suites and concerts in the tracks. In the second week, the subjects were asked to fill out a questionnaire while taking a break from their activities and, after doing so, to hand it personally to the researcher. Descriptive statistics was used for data analysis.

RESULTS

Characterization of the population according to sociodemographic variables

Table 1 – Distribution of sociodemographic and profession/activity variables of emergency professionals. São Paulo, 2005

Variables	Frequency	Percentage
Gender		
Male	25	51
Female	24	49
Age		
18 to 29 years old	17	34.7
30 to 41 years old	21	42.9
42 to 53 years old	9	18.4
54 to 65 years old	2	4
Profession		
Physician	14	28.6
Nursing Technician	12	24.5
Administrative Aid	12	24.5
Nurse	6	12.2
Nursing Aid	3	6.1
Pharmacy Aid	1	2
Cleaning Aid	1	2
Experience in the area		
Less than 1 year	6	12.3
1 to 5 years	7	14.3
6 to 17 years	26	53
18 to 29 years	9	18.4
30 years or more	1	2
Work load/day		
6 to 8 hours	20	40.9
10 to 12 hours	26	53
More than 12 hours	3	6.1

In Table 1, we can observe that the frequency of men and women participating in the study was proportional, with a higher percentage of individuals, 21 (42.9%), between 30 and 41 years old. Regarding experience in the emergency area, 26 (53%) professionals have worked in the area for between 6 and 17 years. The participation of the nursing group stands out when the three professional categories were grouped together, with 21 individuals (42.8%). Experience in the emergency area corresponds to the predominant range of age, which indicates that the group is composed of experienced professionals.

The work load per day is 10 to 12 hours for 26 individuals (53%) and more than 12 hours for three professionals (6%).

Characterization of the professional's musical preference

As observed in Table 2, there was a predominance of Brazilian Popular Music (MPB) (38%) as the musical preference. Although classical music (13%), which was used in this study, has not been indicated as the predominant preferred style, it does not seem to have influenced the results presented below, indicating that the preferred style is not a *sine qua non* condition to the achievement of the musical effects.

Table 2 – Musical Preference of professionals at an emergency service. São Paulo, 2005

Preferred Musical Styles	Nursing	Physician	Administrative	Cleaning/ Pharmacy	Total	(%)
MPB	17	7	11	1	36	38
Classical	6	6	-	-	12	13
Rock	6	8	3	-	17	18
Jazz/blues	6	10	2	-	18	19
Country	4	-	-	1	5	5
Others (opera, celtic, soul)	2	2	1	-	5	5
Samba/pagode	1	-	1	-	2	2
Total	42	33	18	2	95*	100

* The number of musical styles exceeds the n of the study because the participants indicated more than one style.

According to the professional's perception, the effects produced in the environment were classified as positive (76%), such as: harmony, relaxation, calm, tranquility, attention, lightness, diminished stress and happiness – in their words; and negative (10.5%), such as: irritability and anxiety.

Regarding the perception of alteration in the activity, 41% of the professionals believed the music was responsible for altering their personal performance, reporting higher concentration, good mood, enthusiasm, order, stress relief, calmness, relaxation and joy as positive effects (85%) and irritability and sleepiness as negative effects (15%).

Regarding the patients' manifestation, 26 (53%) professionals reported having heard some spontaneous comment, of approval with 15 mentions, disapproval with six mentions and both with five mentions, that is, a large part of the patients did not express whether they perceived the ambient music, which was expected to some extent, since there was no active search for this information.

Regarding the musical selection, 61% of the professionals appreciated the selection and mentioned characteristics like softness, tranquility, relaxation, lightness, appropriate music and universal; on the opposite, 39% did not like it, arguing it was a boring, repetitive, gloomy and sad selection.

Other kinds of music were suggested by 37 (76%) professionals, with emphasis on MPB, chosen by 12 (24%) professionals. Among the suggestions are radio stations, jazz, blues, new age, celtic and nature sounds. Keeping the ambient music was the opinion of 47 (96%) professionals, which shows the group's approval of the intervention.

DISCUSSION

The professionals' willingness to participate in the research was a very stimulating factor, especially in the nursing and administrative areas. There was only one refusal by one member of the medical team. It is important to take into account that one of the researchers is head of the nursing department, which may have influenced the acceptance to participate in data collection, although there were countless enthusiastic and anxious comments for the ambient music to start.

The work load of 10 to 12 hours for most professionals called our attention. An analysis of the sociological aspects of health professionals in Brazil describes a scenario in which the extended work journey and multiple occupations occur as a mechanism to compensate for income losses. Frequently, the work load totalizes more than 50 hours/ week, characterizing an unhealthy occupational state that entails significant psychological repercussions for the professionals' health and their relationship with

patients, resulting in an unsatisfactory situation for both sides[14].

In view of an inevitable situation, the institutions only have one way to intervene, so that care quality is not compromised.

The choice of the musical selection is an extremely relevant factor when the aim is to cause an effect besides the esthetic sense the music offers. In this study, we only worked with one musical style and one specific composer, justifying the need to develop further research and use other composers in order to expand the repertoire possibilities. In addition, the evaluation of the patients' perception in a characteristic emergency situation is suggested in order to find out about how music influences them.

The person's preferred musical style does not seem to be determinant for obtaining positive results in the decrease of anxiety or relaxation. In a study that used three different musical genres (classical, popular and new age) to evaluate the reduction of stress, regarding the musical preference of the listeners, popular music, like in our sample, was chosen by 45% of the listeners as the preferred style (n=58), a factor that can be related to the habit of listening to popular music on the radio more frequently. After the statistical analysis of the results, it was observed that classical and new age music exerted a positive significant effect on the reduction of stress, as opposed to the preferred music, which did not exert this effect[15].

Listening to Bach's classical music and rock was also evaluated in order to clarify whether the preferred musical style interferes with the benefic effect of music to minimize anxiety. Two groups of music students preferred the classical music genre; the first group listened to Bach and the second to rock. The group that had listened to rock got uncomfortable, dispirited and there was no alteration of pressure levels; on the other hand, the group that had listened to Bach got relaxed and arterial pressure significantly diminished[16].

We considered that musical style adopted in this study (rock) to oppose the preferred music (Bach) was not indicated to provide relaxation and to diminish anxiety. Thus, it is questionable what the result would if the second group had listened relaxing music, even if not the preferred one.

In this study, most professionals enjoyed the musical selection and, curiously, only 24% had reported the habit of listening to classical music. For 39% of those who did not, the factors mentioned, such as the tiresome and repetitive selection, make us think that it might be related to the way they were exposed to the music and not to the selection per se.

Although the preference for MPB has been highlighted, we identified that, at the moment of suggesting another repertoire, the styles were very diverse.

Through the different approaches, the study of music has benefited the development of a more holistic and humanized nursing care, implementing alternatives of care that complement the biomedical model. The care with the health professional is a responsibility all of us should assume in order to provide for a better work environment, compensating for the inevitable requirements of the profession. In this context, music can be an ally.

CONCLUSIONS

We can conclude through this study that the professionals' perception regarding the effect of music, both on the environment and on his(er) own performance, is very positive. The majority enjoyed the musical selection (61%), perceived the effect on the environment (77.5%) and perceived alteration in individual activity (41%). This kind of intervention can contribute to the organization of emergency services, improving the environment and minimizing the effects of the stress at work.

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