

X ENCUENTRO INTERNACIONAL DE INVESTIGACIÓN EN ENFERMERÍA

The music and verbal message influence on the vital signs and face expression of the patients in physiological or induced coma.

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OBJECTIVES

- ➔ To verify the influence of music and oral message over the vital signs and the patients' facial expression in physiological or induced coma.
- ➔ To relate the existence of the patient's responsiveness with Glasgow Coma Scale or with Ramsay Sedation Scale.

CASUISTRY AND METHOD

Type of Study: Controlled Clinical Practice and Randomized

Place of Study: Units of Intensive Therapy of a hospital school in the city of São Paulo (Brazil)

Sample: 30 patients; 13 control group and 17 experimental group

Intervention:

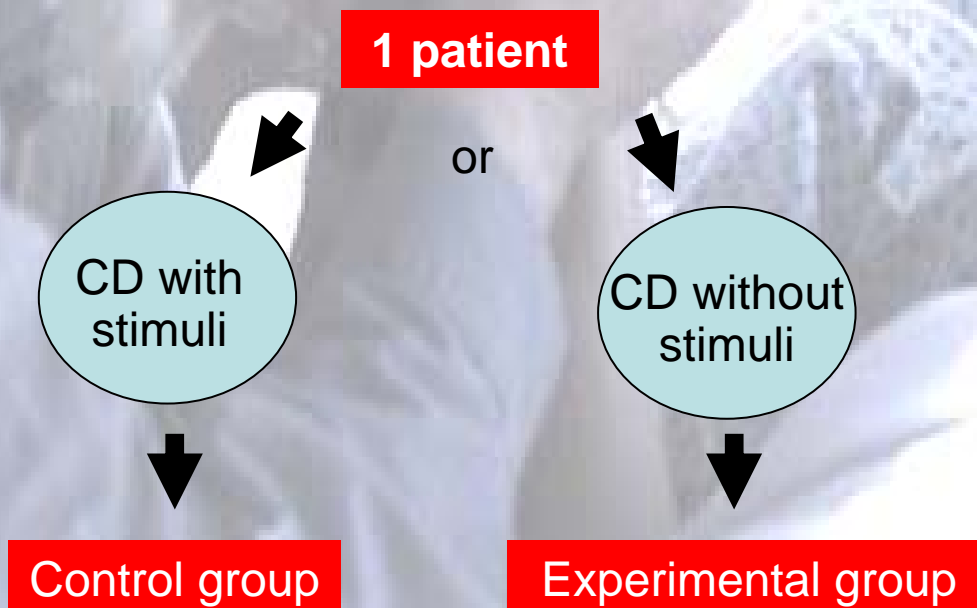
The **oral message** was used with two basic objectives: to expose the patient to a language incentive and to focus the patient's attention.

The **music** used in the present study was selected by a relative, considering the patient's preference for guaranteed him/her comfort.

The patients were randomly allocated in two groups (**experimental and control**) and just the experimental group received the intervention.

Collection of the data:

- The music and oral message were selected and elaborated by a relative;
- 2 Compact Disc were made for each patient. One with the resonant and the other with the same time of recording of the prior CD, but without resonant incentives;
- During the sessions the patients used head phones;
- The advisor was responsible for the random distribution of the groups, without the researcher knowing which CD was chosen;
- The volume of the resonant incentives was between 60 and 70 decibels;



Collection of the data:

- The evaluation according to Glasgow Coma Scale and Ramsay Sedation Scale was always accomplished before each session and before any stimuli;
- The patients were submitted to 3 sessions, being accomplished 1 a day, for 3 consecutive days;
- Was elaborated an instrument for collection of the data;
- The vital signs were evaluated after 60 seconds of each incentive and logged in a pre-established sequence: Pulse, Axillary's Temperature, Blood Pressure, Saturation of Oxygen and Breathing Frequency;
- All the patients included in the research were monitored with homodynamic monitor;
- The facial expression was recorded for future visualization.

Treatment of the data:

For the comparison of the variables we used the Exact Test of Fisher, Test of Mann-Whitney and the Test t. The probability of occurrence of the tests statistics (p) was classified in:

- The difference was considered as significant if p inferior to 0.05
- The difference was considered as significant if p inferior to 0.10
- The difference was considered as significant tendency if p between 0.10 and 0.20

RESULTS AND DISCUSSION

Characterization of the sample:

Comparing the two groups, experimental and control, according to the Exact Test of Fisher, in relation to age group ($p=1.00$), causes of the lowering of the level of conscience ($p=0.46$) and days of internment ($p=0.81$) these don't differ statistically among themselves, in other words, they can be considered homogeneous.

Characterization of the units:

The UTI of the Trauma has a total of 21 patients and takes care of victims of trauma. The Clinical UTI has 15 patients, where they are interned patient with diverse pathologies, in general, aged and chronic illnesses.

The chosen songs:

The chosen songs were very varied, because, according to the age group, social level and even ethnologic origin, the patients were very different.

The messages recorded by relatives:

All of the messages, one way or another, demonstrated longing and affection for the patients. In most of them, 27 of the 30 messages (90%), independent on the relatives' religion there was a strong religiosity expression; words as God, Jesus and prayer were very present.

Vital Signs:

We compared statistically the groups in relation to the differences among the values before and during each of the incentives (or silence in the controls) in the 3 sessions.

In spite of the averages of the vital signs of the experimental group during the music and the message being altered in the great majority of the time in relation to basal average.

However, when compared with the control group, we found significant differences statistically in just some moments.

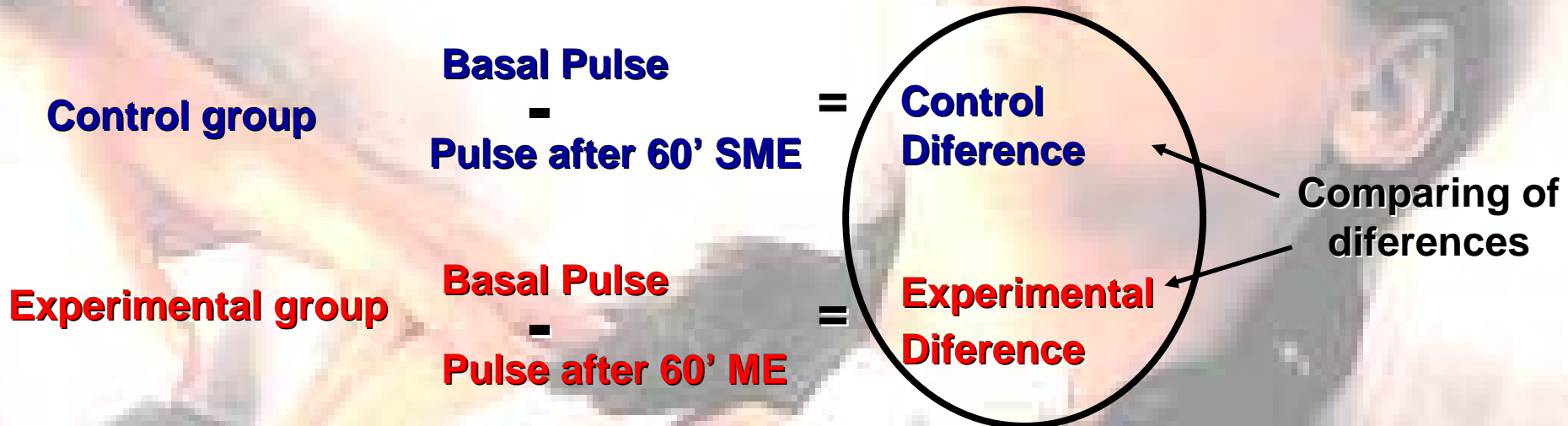


Table 1 – Normal approach (Z) of the Mann-Whitney test and value of probability of statistic occurrence (p) for the difference of the vital Signs among the groups, control and experimental, during the three sessions. Brazil, São Paulo, 2006.

Variáveis comparadas	Sessão	Mensurações	Z	p
PULSE (bpm) (beats per minute)	1	Music Message	-0.23 -0.08	0.82 0.93
	2	Music Message	-0.59 -0.25	0.55 0.80
	3	Music Message	-0.52 0.52	0.60 0.60
TEMPERATURE (°C)	1	Music Message	-0.07 -0.23	0.94 0.82
	2	Music Message	0.90 -0.73	0.37 0.47
	3	Music Message	-0.38 1.28	0.70 0.20
SISTOLIC BLOOD PRESSURE (mmHg)	1	Music Message	1.15 0.84	0.25 0.40
	2	Music Message	-0.02 -0.38	0.98 0.71
	3	Music Message	1.43 -1.17	0.15 0.24

Variáveis comparadas	Sessão	Mensurações	Z	p
DIASTOLIC BLOOD PRESSURE (mmHg)	1	Music Message	0.65 0.06	0.51 0.95
	2	Music Message	-0.36 -1.01	0.72 0.31
	3	Music Message	1.09 -1.56	0.27 0.12
SATURATION OF O2 (%)	1	Music Message	1.05 2.09	0.29 0.04
	2	Music Message	-0.78 -0.54	0.44 0.59
	3	Music Message	-1.07 -1.82	0.28 0.07
BREATHING FREQUENCY (rpm)	1	Music Message	1.07 0.49	0.28 0.63
	2	Music Message	-1.48 -1.35	0.14 0.18
	3	Music Message	1.26 2.30	0.21 0.02

■ Difference significant

■ Significant tendency

We found different significant in saturation, sessions 1 and 3, both with message and in breathing frequency, session 3 with message as well.

Facial Expression:

The registered facial alterations were only those not previously presented by the patient and due to great diversity of data, we joined them in: occurrence or not of alteration of the facial expression during the intervention compared to the basal expression.

Table 2 – Value of the probability of statistic occurrence (p) for the difference of the facial Expression among the groups, control and experimental. Brasil, São Paulo, 2006.

Session	Observations	<i>P</i>
1	Music Message	0.01 0.00
2	Music Message	0.17 0.16
3	Music Message	0.23 0.34

■ Difference significant

■ Significant tendency

We found difference significant in facial expression, session 1, with music and message

CONCLUSIONS

We found alterations statistically significant in the variables Saturation of Oxygen, Breathing Frequency and Facial Expression.

Considering only the alterations statistically significant, we can observe that apparently the **message** was a stronger incentive than the music in relation to the capacity to produce suggestive physiological answers of hearing.

However when we consider the alterations in indicative of tendency have a certain balance between the stimuli musical and verbal; suggesting that the **musical stimulus** can also be considered a significant stimulus.

CONCLUSIONS

We observed response to the hearing incentives in all of the punctuations of the Glasgow Coma Scale in the patients of the experimental group when we obtained differences statistically significant; therefore, we can affirm that this variable influenced only a little the answers in this study.

As for Ramsay Sedation Scale, only 1 of patients with differences statistically was evaluated with this scale, what makes any analysis more difficult.

We can not affirm how much these patients are capable to hearing us, but considering these results we need to at least worry about what to say around them.

FINAL CONSIDERATIONS

The moment of the collection of data when we had a direct contact with the relatives was an interesting experience. The chosen music is part of specific moments of the story of that patient's life, most of the time of happiness. The sayings of the message are not only demonstrations of affection, but they tell the every-day life of these patients.

The moment with the relatives was always involved in a lot of emotion. It was interesting to observe some things: children that had difficulties saying they love the parents, parents that didn't know the children's musical taste and at that moment they noticed their fault, children apologizing and promising a lot of things, spouses swearing eternal love...

FINAL CONSIDERATIONS

The messages also bring something very interesting: the attachment to something divine to overcome the difficulties, even if that attachment was weak for a long time. The research, for many relatives, seemed to represent a new opportunity to talk to their dear ones, many were touched and cried.

In regards to the hearing of the patients in the state of coma there are many questions to be asked and to many of them we still don't have answers. What we cannot stop believing is that it does exist a certain perception of these patients and that we cannot say anything thoughtless or inadequate by their bed; we must instead, take certain precautions and always be ethical. This is exactly the applicability of this study, to always be ethical.