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ORIGINAL ARTICLE

AURICULOTHERAPY FOR THE STRESS OF THE NURSING TEAM IN THE MEDIUM HOSPITAL COMPLEXITY

AURICULOTERAPIA PARA O ESTRESSE DA EQUIPE DE ENFERMAGEM NA MÉDIA COMPLEXIDADE HOSPITALAR

AURICULOTERAPIA PARA EL ESTRÉS DEL EQUIPO DE ENFERMERÍA EN LA MEDIA COMPLEJIDAD HOSPITALARIA

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ABSTRACT

Objective: to characterize the stress level of the Nursing team of a school hospital of medium complexity. ***Method:*** quantitative, field, descriptive, exploratory and correlational study, with a quasi - experimental design, before and after, with Nursing staff submitted to auriculotherapy applied by means of programming crystals at Shenmen and Brain Stem points. The instruments of data collection were the Inventory of Stress Symptoms and the Stress Scale at Work. Descriptive and analytical statistics were used with the sum of test points. The results were organized considering the characteristics of the sample in relation to the stress levels followed by the analysis of the effectiveness of the intervention. ***Results:*** half of the Nursing assistants and 16.67% of the nurses presented some level of stress. There was statistical difference in the stress levels of Nursing auxiliaries. ***Conclusion:*** the Nursing team is exposed to work factors that trigger stress to which auriculotherapy has demonstrated effectiveness. The expansion of the investigation of this context of the Nursing work process and the importance of auriculotherapy as a care strategy is recommended. **Descriptors:** Auriculotherapy; Burnout, Professional; Nursing, Team; Hospital Units; Complementary Therapies; Nursing Research.

RESUMO

Objetivo*:** caracterizar o nível de estresse da equipe de Enfermagem de um hospital escola de média complexidade. ***Método*:** estudo quantitativo, de campo, descritivo, exploratório e correlacional, de vertente com delineamento quase experimental, do tipo antes e depois, com trabalhadores da equipe de Enfermagem submetidos à auriculoterapia aplicada por meio de cristais de programação nos pontos Shenmen e Tronco Cerebral. Os instrumentos de coleta de dados foram o Inventário de Sintomas de Stress e a Escala de Estresse no Trabalho. Utilizou-se a estatística descritiva e analítica com o teste da soma de postos. Os resultados foram organizados considerando as características da amostra em relação aos níveis de estresse seguidos da análise da efetividade da intervenção. ***Resultados*:** metade dos auxiliares de Enfermagem e 16,67% dos enfermeiros apresentaram algum nível de estresse. Houve diferença estatística nos níveis de estresse de auxiliares de Enfermagem. ***Conclusão: a equipe de Enfermagem está exposta a fatores do trabalho que desencadeiam estresse ao qual a auriculoterapia demonstrou efetividade. Recomenda-se ampliar a investigação desse contexto do processo de trabalho da Enfermagem e a importância da auriculoterapia como estratégia de cuidado. ***Descritores*:** Auriculoterapia; Esgotamento Profissional; Equipe de Enfermagem; Unidades Hospitalares; Terapias Complementares; Pesquisa em Enfermagem.

RESUMEN

Objetivo: caracterizar el nivel de estrés del equipo de Enfermería de un hospital escuela de mediana complejidad. ***Método:*** estudio cuantitativo, de campo, descriptivo, exploratorio y correlacional, de vertiente con delineamiento casi experimental del tipo antes y después, con trabajadores del equipo de Enfermería sometidos a auriculoterapia aplicada por medio de cristales de programación en los puntos Shenmen y Tronco Cerebral. Los instrumentos de recolección de datos fueron el Inventario de Síntomas de Estrés y la Escala de Estrés en el Trabajo. Se utilizó la estadística descriptiva y analítica con la prueba de la suma de puestos. Los resultados fueron organizados considerando las características de la muestra en relación a los niveles de estrés seguida del análisis de la efectividad de la intervención. ***Resultados:*** la mitad de los auxiliares de Enfermería y el 16,67% de los enfermeros presentaron algún nivel de estrés. Hubo diferencia estadística en los niveles de estrés de auxiliares de Enfermería. ***Conclusión:*** el equipo de enfermería está expuesto a factores del trabajo que desencadenan estrés, al que la auriculoterapia demostró efectividad. Se recomienda ampliar la investigación de ese contexto del proceso de trabajo de la Enfermería y la importancia de la auriculoterapia como estrategia de cuidado. ***Descriptores:*** Auriculoterapia; Agotamiento Profesional; Grupo de Enfermería; Unidades Hospitalarias; Terapias Complementarias; Investigación em Enfermagem.

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INTRODUCTION

In 2006, the National Health System established, through Administrative Rule 971, the National Policy on Integrative and Complementary Practices, advancing the implementation and implementation of a set of complementary practices and medical rationalities in the scope of prevention and promotion of health in the context of multiprofessionality. Subsequently, Ordinance No. 145, published in January 2017, expanded the procedures available in the public health system for care in Primary Care, giving specificity to the auriculotherapy offer.[1]

Auricular acupuncture is included in the principles of Traditional Chinese Medicine. Its expansion in the West has shown to be effective in the treatment of various health conditions and diseases[2-3] and has electrical, histological and physiological repercussions. The use of the auricle for diagnosis and therapeutic appeal is based on its peripheral innervation and central neural interference in distinct sensory fibers originating from the brainstem and thalamus releasing endorphins that will act in the body system and acting on the individual's behavior.[4-5]

Auriculotherapy is an intervention that has been explored to provide the Nursing staff with a form of care, especially in the approach to the control of anxiety and psychic disorders.[4,6-7] In a survey carried out in a public hospital in São Paulo, to evaluate the decrease in stress levels in Nursing professionals, it was possible to observe that 85.4% of the participants presented a reduction in the characteristic symptoms after eight auriculotherapy sessions.[7]

Primary studies indicate that eight auriculotherapy sessions have been sufficient to detect efficacy in outcomes for stress and anxiety.[5-6] Regarding the organization of the intervention, individualized treatments present better results when compared to the protocols considering the stress outcomes and physical and mental dimensions of quality of life.[4] There was a study that investigated coping as a strategy used by Nursing professionals to deal with stress, with auriculotherapy being an intervention that, in addition to reducing stress indexes, implemented more effective coping strategies.[6]

Although each individual experiences stress in a singular, positive or negative way, according to cultural and social influence, when levels remain persistent and intense, changes in adaptive physiological processes occur.[5] In the context of work, the stressor must be identified by the worker. Thus, the definition of occupational stress corresponds to a process in which the individual conceives demands as stressors and, when the coping ability is exacerbated, negative reactions are formed.[8]

There is an interest in the relationship between occupational stress, the experience of the Nursing worker in sectors with high technological density and the effectiveness of auriculotherapy as a therapeutic resource.[4-5] The restlessness of this research is in the focus of occupational stress of the Nursing team who it acts in hospital sectors of medium complexity and auricular acupuncture in reducing the stress levels of this population. Therefore, it is proposed to characterize the stress level of the Nursing team of a hospital of medium complexity and to discuss the effectiveness of auriculotherapy as a strategy to reduce the stress of this population.

OBJECTIVES

- To characterize the stress level of the Nursing team of a school hospital of medium complexity.
- To discuss the effectiveness of auriculotherapy as a stress reduction strategy of the Nursing team of a middle-complexity school hospital.

METHOD

A quantitative, field, descriptive, exploratory and correlational study, with a quasi-experimental design, of the before and after type.[9] It was carried out in one of the units of a care complex in the interior of the State of São Paulo. The unit works with 18 operational beds intended for psychiatric hospitalization and 40 for clinical-surgical care of medium hospital complexity totaling 58 beds.

The initial sample consisted of 27 participants, of which 16 were Nursing Assistants and 11 were nurses who met the following inclusion criterion: being a daytime Nursing staff worker. As exclusion criteria were adopted: the development of side effects, use of other complementary therapies during the intervention and gestation. Six Nursing assistants and five nurses were excluded from the study because they had discontinued sessions due to medical leave or vacations. Thus, the final sample analyzed had ten Nursing assistants and six nurses, totaling 16 participants.

The intervention consisted of eight applications of auricular acupuncture, distributed weekly, using programming

crystals at the Shenmen and Brain Stem points located in the triangular fossa of the auricle and at the upper edge of the interbody, respectively. The first with the indications analgesic, sedative and anti-inflammatory, and the latter, sedation. It is worth considering that the intervention was based on a previous study that showed effective results in reducing stress in a similar population.[5] The two points of this study were identified with a spot locator and before the application of the crystals, the auricle was cleaned with cotton and 70.0% alcohol.

The intervention was carried out from October / 2015 to January / 2016 by the first author of the research. Initially, there was a reserved room for the procedure, but considering the difficulty of the participants leaving the workplace to undergo the intervention, the applications were held in a room in the sector where they were allocated that also allowed privacy and positioning adequate for the development of the technique and brief listening of the participant.

Three instruments were used to collect data: (i) Sociodemographic questionnaire, prepared by the authors, with the purpose of describing the participants' social and occupational life habits; (0), I disagree (1), agree in part (2), agree (3), and agree totally (4) [8] and (iii) Inventory of Stress Symptoms of Lipp, consisting of a set of symptoms of which 37 are of a somatic nature and 19, psychological, distributed in three frames referring to the phases of stress. The first table, composed of 15 items, refers to the physical or psychological symptoms that the person has experienced in the last 24 hours; the second, composed of ten physical and five psychological symptoms, related to the symptoms experienced in the last week; and the third table, composed of [12] physical and [11] psychological symptoms, refers to symptoms experienced in the last month. With its application, five phases are characterized: without stress, alertness, resistance, almost exhaustion and exhaustion.[10]

The data collection took place in four moments. The first one occurred immediately before the intervention (baseline), and the sociodemographic questionnaire, the Work Stress Scale and the Lipp Stress Symptom Inventory were applied. The second and third samples were collected, respectively, in the fourth and eighth weeks from the start of the intervention and the Stress Scale at Work and the Lipp Stress Symptom Inventory were applied. Finally, the fourth sample occurred 15 days after the end of the intervention (follow-up) in which the same instruments of the previous collection were applied.

Statistical Package for the Social Sciences (version 22.0) was used to analyze the data, adopting the Confidence Interval 95.0% and p-value 0.05. Since the sample did not assume a normal distribution, the sum of the posts test[11] was performed to verify the effectiveness of the intervention considering the data from the Lipp Stress Symptom Inventory.

The Work Stress Scale was analyzed from the descriptive statistics with the sum of the scores obtained by the study participants and their respective means. In addition, tests of associations between the stress phases from the Lipp Stress Symptom Inventory and the variables smoking, employment bonds and hours of sleep were performed. For this purpose, the Mann-Whitney test (U) was applied, whose calculation of the U-coefficient analyzes the degree of interweaving of two groups of variables, rejecting the association from the equality of the medians.[11]

The study was submitted to the Ethics Committee for Research Ethics of the School of Medicine of Marília under the Certificate of Presentation for Ethical Assessment No. 49213715.3.0000.5413 and approved on October 1, 2015 under Protocol No. 1,254. 626.

RESULTS

There was a predominance of females, with 15 participants. The age was 25 years for the male participant and the mean age of the women was around 35.33 years. Among the nurses, 50.0% declared more than one employment relationship. Regarding sleep quality, 33.0% classified as optimal; 50.0%, good and 17.0%, regular. The average family income was 3.8 minimum wages. In the Nursing auxiliary category, 40.0% reported more than one employment relationship; 50.0% reported optimal sleep; 10.0%, good; 30.0%, regular and 10.0%, poor and the average family income was around 3.1 minimum wages.

When considering the Occupational Stress Scale applied at the baseline, nurses present a higher level of stress in the affirmations "the lack of autonomy in the execution of my work has been exhausting", "I am annoyed at the deficiency in the dissemination of information about decisions organizational, "" I have been bothered by disability in training for professional training, "" the few prospects for career growth have left me distressed, "and" the lack of understanding about my

responsibilities in this job has caused irritation. "

In aligning with nurses, the statements "I feel irritated by the lack of disclosure of information about organizational decisions" and "I have been bothered by disability in training for professional training" appear to be more stressful factors for Nursing assistants accompanied by "The few prospects for career growth have left me distressed."

Comparatively, the category of nurses presents a higher level of stress than the one of the Nursing auxiliaries, as it shows the average of the score of thirteen of the fourteen affirmative that compose the Scale of Work Stress. Figure 1 shows the averages obtained:

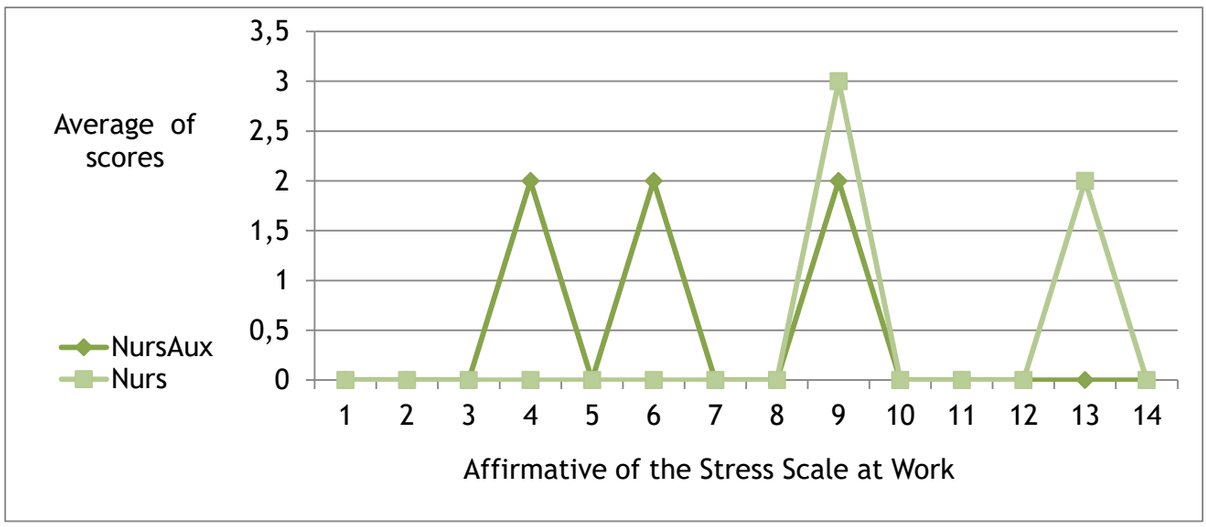

Figure 1. Distribution of the mean scores of the Work Stress Scale in the baseline between the categories of Nurses (Enf) and Nursing Assistants (AuxEnf). Marília (SP), Brazil. 2016.

When compared after the intervention, the baseline and the follow-up of Nursing Assistants pointed to a decrease in the score of 12 of the 14 affirmations of the Work Stress Scale. There have been exceptions "I have been bothered by my superior's lack of confidence about my work," which did not change, and "The lack of understanding about my responsibilities in this work has caused irritation" had an increase in punctuation at follow- up.

In the same situation, in the portion of the population made up of nurses, a decrease was identified in 11 of the 14 affirmations of the scale. Among the statements that did not follow the same behavior and maintained the same score are: "I'm in a bad mood because I feel isolated in the organization", "I have been uncomfortable working on tasks below my level of ability" and " strategies used to introduce new technologies make me anguished. "

According to the categories of the Lipp Stress Symptom Inventory, applied before the beginning of the intervention, 50.0% of the Nursing auxiliaries population were in the stress-free phase; 40.0% in the resistance and 10.0% in the exhaustion. Regarding the nurses, of the six participants, only one was in the resistance phase. In turn, the remainder (n = 5) showed no stress.

The reduction of the level of stress among the Nursing auxiliaries can be observed in table 1.

Table 1. Distribution of the absolute and relative frequencies of the phases of the Lipp Stress Symptom Inventory (LSSI) in the four moments of data collection of Nursing assistants. Marília (SP), Brazil, 2016.

	Baseline		4th week		8th week		Follow-up	
Phases of LSSI	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Without stress	5	50.0	7	70.0	8	80.0	10	100.0
Resistence	4	40.0	2	20.0	2	20.0	-	-
Exaustion	1	10.0	1	10.0	-	-	-	-
Total	10	100.0	10	100.0	10	100.0	10	100.0

Thus, a statistically significant reduction was observed between baseline and follow-up, as shown in table 2.

Table 2. Statistical analysis between the phases of the Inventory of Stress Symptoms of Lipp (LSSI) in the four moments of data collection of Nursing assistants. Marília (SP), Brazil, 2016.

Test	4th week- Baseline	8 th week - Baseline	Follow-up – Baseline	8 th week - 4 th week	Follow-up – 4 th week	Follow-up – 8 th week
Z	-1.414	-1.633	-2.121	-0.816	-1.633	-1.414
p-value	0.157	0.102	0.034*	0.414	0.102	0.157

* statistically significant difference by the Wilcoxon test ($p<0.05$)

Differently, nurses did not present a stress reduction considering the Lipp Stress Symptom Inventory. At the baseline, there were five participants (83.3%) in the stress-free phase and one (16.6%) in the resistance; in the 8th auriculotherapy application, all the nurses were allocated as without stress. At the follow-up, however, one participant returned to the resistance. The statistical analysis of the stress reduction showed a value of p = 0.317.

In order to verify the influence of confounding biases, association tests were performed at the four moments of data collection between the stress phases of the inventory and the variables smoking, hours of sleep and employment links. In both categories, associations between the aforementioned variables were not identified. It should be emphasized that among the nurses, there was no smoking.

DISCUSSION

Regarding the characteristics of the participants, the female predominance was observed, a phenomenon that has been discussed in the field around the profession in several studies.[12-15] Its importance is in the psychosocial aspects inherent to the gender that directly influence health, such as the association of the day professional and domestic work exposing this group of professionals to the development of psychic problems related to work. One example is Burnout Syndrome.[14]

When considering the result of the intervention on the stress of Nursing workers, the study indicates a decrease with statistical significance for the category of Nursing auxiliaries, which aligns with the results of previous researches done previously.[5-7,12,15] Regarding the category of nurses, the restricted number of participants negatively influenced the statistical analysis of the results. Another factor that was associated was a delay in the payment of the second installment of the 13th salary in the period of data collection. This event may have represented a stressful external situation and increased the level of stress of the participants, as reported by other authors.[7]

Still on the effectiveness of the intervention, in the Nursing auxiliaries category, it is observed that the result of this study occurred later, that is, it was only identified in the last evaluation (follow up). This behavior disagrees with the primary studies used in the discussion where there is a strong claim about effectiveness at the eighth session of auricular acupuncture.[5-7] In part, this is due to the restricted sample size that may have influenced the analysis of the results.

It was possible to identify that the stress level of the Nursing auxiliaries category in this study is lower. While 40.0% were in resistance and 10.0% in exhaustion, similar research found 64.7% in high stress[5] or, still, 41.3% in the same level in another investigation[7]. This implies the necessary consideration of the context in which the work process takes place in the discussions about care strategies in the health care of the worker. It is already known that variables such as the high technological density and the care of critical patients increase the stress of the worker, [13,16] but, as regards the factors of the Nursing work process in the medium hospital complexity, a knowledge gap is identified.

With this, this study helps to identify the main factors inherent to the development of stress in Nursing workers of medium complexity. Through the use of the Work Stress Scale, the lack of organization in the work process and the need for updating, without providing training opportunities, influenced nurses and auxiliaries. For the latter category, the absence of growth prospects has also been recognized as a stressful factor and, given institutional immobility, this factor is critical. The need for change in the work process is defended based on the objective of moving forward in organizations that propose horizontal relationships and where the worker exercises his protagonism and co-responsibility.[17]

In the comparison between the average scores of the Work Stress Scale at the baseline of the categories of workers in this study it was verified that the level of stress is higher among the nurses than among the Nursing auxiliaries. During the data collection,

however, the spontaneous reports of Nursing auxiliaries more often referred to stressors, which was confirmed by the stress indexes found in the Lipp Stress Symptom Inventory. The incoherence between the descriptive results seized between the two collection instruments used in this research justifies the development of new investigations that specifically work the characteristics of the context of the work process in units of medium hospital complexity and its interface with the development of stress in the worker of Nursing.

The statement about the decrease in stress level and the importance of intervention for the promotion of valorization at work was observed. This can be confirmed by the participants' commitment when they became available for intervention and distance themselves from the partial effectiveness observed in the statistical analysis, which, in turn, leads to the reflection that, although the protocol is an important step in conducting the research (12), its rigor does not always seem to be in line with the holistic perspective of complementary practices and with the possibility of apprehending the experience of participants who submit to interventions.[4]

Participants' perceptions favored the implementation of measures at work that promote self-care, a subject that has been widely discussed among authors as fundamental for professionals who exercise care as an occupational attribution.[15] Thus, the provision of concrete measures for the care of the Nursing worker comes to attend to research notes that certify their neglect[18] and the conception that caring for oneself implies practices that provide it.[19] Auriculotherapy meets this need considering its low cost, prevention of health problems and promotion. In addition, the dissemination of the therapeutic resources of the National Policy of Integrative and Complementary Practices is of fundamental importance for the expansion of access.[20] In this sense, it is worth mentioning that for all the participants, it was the first experience with therapy.

It was decided to investigate possible associations between stress and the occurrence of smoking, number of hours of sleep and employment ties in both categories, but there were no statistically significant results, which may indicate that the participant is smoker, have more than one and more or less hours of sleep did not influence stress. This finding, however, may have been influenced by sample size and time of intervention. The need for performing longitudinal studies of individualized and protocolary auriculotherapy has already been observed to prove its efficacy.[4]

The challenge of this study occurred during the application of auricular acupuncture, since the participants had difficulty leaving the work routine to go to the room reserved for the intervention leading the researcher to perform the applications in the wards. The presence in the context of the work allowed the observation about the excess of professional assignments exhausting the Nursing worker and preventing it from participating in the strategy of caring for oneself at work.

Regarding the limitations of the research, the sample size and the amount of exclusion for follow-up loss influenced the analysis of the results. In addition, no research was done to investigate the level of stress of Nursing workers in units of medium hospital complexity, which restricted the discussion with the scientific literature and suggests the importance of performing other investigations that take, as object, the magnification of access to integrative and complementary practices as tools for workers' health, making it possible to discuss the effectiveness of this set of therapies in the various applications in the field of health.

CONCLUSION

It was possible to identify that the organization of the work process, inadequate conditions for updating and lack of prospects for professional growth are factors that characterize and trigger stress for the Nursing team that acts in the medium hospital complexity. In this sense, the use of auriculotherapy had its effectiveness demonstrated in the decrease of the level of stress, with statistical significance, in the category of Nursing assistants.

Considering these results, it is necessary to investigate the peculiarities of the work process of the Nursing team in the medium complexity of the hospital, since it is distinct from other hospital sectors where the stress levels and their variables are already known, as well as the effectiveness auriculotherapy. Thus, the importance of the operationalization of other researches that quantitatively and qualitatively discuss the context of this object of study including all the categories that compose the Nursing team.

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