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RESEARCH

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The Japanese Scalp Acupuncture as an Instrument for Non-Specific Pain Treatment in Health Professionals

A Craniopuntura Japonesa como Instrumento para o Tratamento da Dor não Específica em Profissionais de Saúde

La Craniopuntura Japonesa como Instrumento para el Tratamiento del Dolor no Específico en Profesionales de Salud

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ABSTRACT

Objective: The study's goal has been to characterize the Japanese scalp acupuncture technique as an instrument for non-specific pain treatment in health professionals. **Methods:** It is a controlled before-and-after study. The scenario was a public health institution, which performs health assistance at the primary level. The data collection process was carried out over a period of 4 weeks, totaling 8 sessions. The Visual/Verbal Numeric Scale was used both before and after each session. Data were analyzed using the Bioestat 5.3 program. **Results:** It was encompassed by 7 subjects, approximately 41% of the total of the professionals of the team that comprises the studied scenario. The Japanese scalp acupuncture technique helped reduce pain ($p=0.009$) in 100% of the participants of this study. **Conclusion:** Japanese scalp acupuncture was effective in all sessions, therefore, reducing non-specific pain events in the participants under study.

Descriptors: Nursing, Occupational Health, Complementary Therapies, Acupuncture.

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RESUMO

Objetivo: Caracterizar a técnica de craniopuntura japonesa como instrumento para o tratamento da dor não específica em profissionais de saúde. **Método:** Estudo do tipo antes e depois. O cenário foi uma instituição pública de saúde, de assistência em nível primário. O processo de coleta dos dados ocorreu por um período de 4 semanas, totalizando 8 sessões. Foi utilizada a Escala Visual/verbal Numérica antes e após a sessão. Os dados foram analisados com auxílio do programa Bioestat 5.3. **Resultados:** Foi composto por 7 sujeitos, aproximadamente 41% do total dos profissionais da equipe que compõem o cenário do estudo. A técnica de craniopuntura japonesa auxiliou na redução da dor ($p=0,009$) em 100% dos participantes deste estudo. **Conclusão:** A craniopuntura japonesa foi eficaz em todas as sessões, na redução da dor não específica dos sujeitos do estudo.

Descritores: Enfermagem, Saúde do Trabalhador, Terapias Complementares, Acupuntura.

RESUMEN

Objetivo: Caracterizar la técnica de craneofaringe japonés como instrumento para el tratamiento del dolor no específico en los profesionales de la salud. **Método:** Estudio del tipo antes y después. El escenario fue una institución pública de salud, de asistencia a nivel primario. El proceso de recolección de datos ocurrió por un período de 4 semanas, totalizando 8 sesiones. Se utilizó la Escala Visual / verbal Numérica antes y después de la sesión. Los datos se analizaron con ayuda del programa Bioestat 5.3. **Resultados:** Fue compuesto por 7 sujetos, aproximadamente el 41% del total de los profesionales del equipo que componen el escenario del estudio. La técnica de craneopuntura japonesa ayudó en la reducción del dolor ($p = 0,009$) en el 100% de los participantes de este estudio. **Conclusión:** La craneopuntura japonesa fue eficaz en todas las sesiones, en la reducción del dolor no específico de los sujetos del estudio.

Descriptorios: Enfermería, Salud Laboral, Terapias Complementarias, Acupuntura.

INTRODUCTION

Integrative and Complementary Therapies in health care are understood as the techniques that aim at health care in prevention, treatment or cure, taking into account the balance between mind, body and spirit. It differs from the Western Medicine, known as allopathic, by the holistic view of the analysis of the individual as a whole, where the patient is always treated and not only the disease or the most debilitated part of the body.¹

Integrative and Complementary Therapies in health care are resources that aim to stimulate the natural mechanisms of promotion and recovery of health through effective technologies with emphasis on welcoming listening, promoting self-care, developing the therapeutic link and integrating the human being with the environment and society.²

The Integrative and Complementary Practices are still little explored in Brazil, but they demonstrate promising results that aim at the prevention of aggravations and recovery of health. The consolidation of the Integrative and Complementary Practices applicable to the *Sistema Único de Saúde (SUS)* [Unified Health System] were published

in the form of Ministerial Ordinance No. 971 on May 03rd, 2006, then initiating the National Policy of Integrative and Complementary (NPICP).³

The NPICP aims to integrate the human being with the environment and society. This policy describes Homeopathy, Medicinal Plants and Phytotherapy, Crenotherapy, Anthroposophic Medicine and Traditional Chinese Medicine/Acupuncture.³

We foresee that when we consider health professionals as users of health services, we bring up one of the most common situations in the sector, namely, the predisposition to illness due to occupational stress and, at the same time, the accumulation of employment relationships in which, due to the bad remuneration, the workers are subject.

The relation of health professionals to their work can be understood as a source of happiness and pleasure that is evidenced by their own professional and personal growth, but the same work that may provide happiness might also cause physical or psychological wear, even related to diseases and accidents.⁴

In several countries, regardless of their economic development, musculoskeletal wear and tear on workers in various sectors of the economy, more specifically in nursing, has been increasing in recent years.⁵

Within the MTC, there are microsystems, which are small areas with representation of the body's topography. Within this logic are techniques such as auriculotherapy, reflexology, both Chinese and Japanese scalp acupuncture, among others.⁶

The Japanese Scalp Acupuncture, Yamamoto New Scalp Acupuncture (YNSA) was created in 1973 by the physician Toshikatsu Yamamoto, where its application proved to be effective, mainly for pain treatment. It is a microsystem whose action occurs through the puncture of points in the skull that stimulate reflex areas of the body. They are currently used frequently for the treatment of neurological disorders, chronic and acute pain and functional disorders. This technique has no side effects and has great potential for reducing drug use.⁷

The accomplishment of this study is justified due to the scarce specific literature on the YNSA and the studied population, and the possibility of professional engagement for nursing professionals considering that in Brazil the Integrative and Complementary Practices are not systematically implemented in the *SUS* yet.

The study's aim was to characterize the Japanese scalp acupuncture technique as an instrument for non-specific pain treatment in health professionals.

METHODS

It is a controlled before-and-after study. Studies with this design imply in the accomplishment of an intervention, nevertheless, unlike the experimental studies, they do not

require the randomization of the research subjects, and there is no control group.⁸ In this methodological framework and for the purpose of evaluating the effectiveness of the intervention, each subject is its self-control.⁹

The scenario was a public health institution, which provides assistance at the primary level, located in the central region of *Rio de Janeiro* State.

The subjects are health professionals of a Family Health Strategy, who accepted to participate in the study, after signing the Free and Informed Consent Term. This fact corroborates with the precepts of the Resolution No. 466/2012 that states the Directives and Norms Regulating Research Involving Human Beings from the National Health Council, based on the principles of autonomy limited to human dignity, non-maleficence, beneficence, justice and equity, which are: guarantee of anonymity; subscription of the free and informed consent term, absence of liens or bonuses, right to withdraw at any time from the research, etc.¹⁰ Accordingly, the ethical and legal precepts that circumscribe research involving human beings were met.

It is worth mentioning that this research was duly registered and appreciated by the Ethics and Research Committee from the *Universidade Federal Fluminense (UFF)* through the *Certificado de Apresentação para Apreciação Ética (CAAE)* [Certificate of Presentation for Ethical Appraisal] No. 56278016.0.0000.5243.

The inclusion criteria were as follows: to be a health professional working at a Family Health Strategy and to have some complaint of pain.

It should be noted that the recruitment of subjects to participate in the study occurred in the work space, after the end of their activities, where they were invited to participate in the study, and those who authorized their participation, filled the instrument of data collection in this space.

The reason for choosing the research subjects is due to the fact that they are individuals who have great responsibility for the exercise of their profession and for feeling pain, related or not to their profession. In addition to occupying the place where soon, the NPICP, should be implemented.

Data collection was carried out over a period of 4 weeks, where 2 YNSA sessions were performed per week, on different days, then totaling 8 sessions. Each study participant remained with the needles for 30 minutes in each session. This strategy is in line with what was demonstrated in a study titled "Assessment of the control of chronic myofascial pain in the head and neck using the Yamamoto New Scalp Acupuncture" technique during 8 weeks of follow-up " , where good results were obtained.⁶

Application of the YNSA and pain assessment in all 8 sessions was performed using the Visual/Verbal Numeric Scale, with the objective of measuring pain intensity through the scale of 0 to 10, where 0 corresponds to an absence of pain and 10 equals intolerable pain. It is appli-

cable in oriented individuals, not requiring visual contact with the scale; in other words, it can be spoken to the individual.¹¹ The Visual/Verbal Numeric Scale was applied before and after the YNSA session.

In order to explain the YNSA were used the words of Toshikatsu Yamamoto; so, to perform the technique one must choose the side to be treated, for that it is necessary find the acupoint IG-4 (*Hegu*), where both sides were touched with the objective to identify the stiffer or sensitive side. The side where the patient reports more sensitivity to the touch will define the side of the skull to be worked on. After this step, the IG-4 point should be touched to check if there was a change in sensitivity and if it occurs, the other side should also be treated.⁷

Nonetheless, the material used in this art was only the filiform disposable needles of 0.25 x 30 mm stainless steel.

After data collection, they were compiled and analyzed with the help of the program Bioestat 5.3, with a free license available online. They will be presented descriptively, using the following parameters: average, median, standard deviation, interquartile range, maximum, minimum and simple frequency. The next step was the presentation of the nonparametric hypothesis test, due to the small sampling (n=7), which compares data obtained in a pairing scheme, and uses statistical concepts to either reject or not a null hypothesis.

RESULTS AND DISCUSSION

The study was encompassed by 7 subjects, approximately 41% of the total of the professionals of the team that comprises the studied scenario, out of a total of 17 professionals. The non-participation of the other members in the study was due to the two following reasons: absence of pain or not feeling comfortable to participate in the research.

The data collection process occurred for a period of 4 weeks, where 2 sessions of scalp acupuncture were performed per week, in different days, then totaling 8 sessions. Each study participant remained with the needles for 30 minutes in each session.

An average age of 39 years old was observed, short stature (1.56 meters) and mass of 66.6 kg on average, showing a high BMI in the range of 27.48, which according to the Brazilian Guidelines for Obesity 2009/2010, from the Brazilian Association for the Study of Obesity and Metabolic Syndrome, classifies the sample as Overweight/Pre-Obesity (25.0 - 29.9).¹²

The pain reported by the participants was, as follows: 23% felt shoulder pain, 19% in the lumbar, 19% in the head, 15% in the neck, 12% in the foot, 8% in the knee, 4% in the legs.

In order to verify the statistical difference between the variables measured in the pre- and post-intervention moments, and also to verify if the Japanese scalp acupuncture technique has an impact on the body of the professionals, the Wilcoxon Non-Parametric Hypothesis Test was performed, and the results are found in **Table 1**.

Table 1: Comparison of the Pain, before and after, by using the Japanese scalp acupuncture treatment. Rio de Janeiro, 2016.

Wilcoxon Test	p
Pain Before	
Pain After	0.009*

Note: $p \leq 0.05$.

The table showed a significant difference in pain ($p=0.009$) where it can be identified that the Japanese scalp acupuncture technique obtained physiological influence, acting not only in the reduction of pain.

After statistical observation of the reduction of pain before and after treatment with the Japanese scalp acupuncture, aiming to contemplate the second objective of the present research, we will now present a description of the evolution of pain throughout the eight sessions that comprises the treatment.

It is worth mentioning that the values shown are the results of the averages of all the subjects, in each one of the sessions.

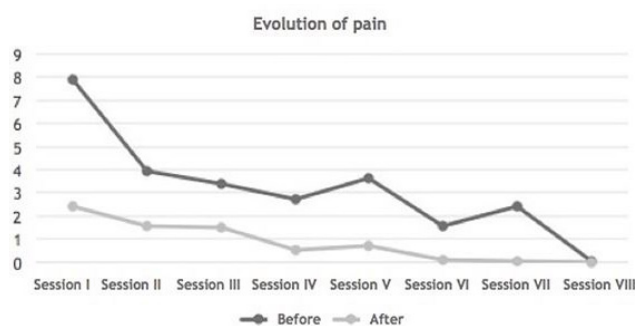


Figure 1: Evolution of pain throughout the Japanese scalp acupuncture treatment. Rio de Janeiro, 2016.

The pain-related average before the first session was 7.92 and after the eighth session this average was reduced to 0. Statistical analysis was performed and there was statistical verification because the value of $p=0.009$.

Based on the aforementioned, it can be affirmed that all the participants reported significant and immediate improvement of the pain after the Japanese scalp acupuncture. The average values of pain before all sessions are larger than the average values after the procedure. Another important finding in this study is the absence of pain from all participants before the eighth session.

The indication of overweight through high BMI in workers at a hospital with musculoskeletal symptoms in their study was observed in other articles.¹³ Overweight might be correlated with pain in the lumbar spine and knees.¹⁴

The most prevalent pain in the health professionals of a charity institution refers to the lumbar spine.¹⁵ Other study has shown that the most prevalent musculoskeletal symptoms were, as follows: shoulders, knees and lumbar spine.¹³ Another work reinforces the previous findings reporting in their study with professional nurses working in the hospital field, the predominance of musculoskeletal disorders in the shoulder and lumbar spine regions.¹⁶

This pain reduction is in line with the findings of another study, which used a case study of a patient with knee osteoarthritis in order to demonstrate that the Japanese scalp acupuncture technique was effective both in pain relief and in range of motion, and also quality of life, among other features reported by the patient under study.¹⁷

The YNSA was effective in women suffering from cervical and lumbar osteoarthritis in terms of immediate pain relief.¹⁸

Another study confirms the reduction of pain, which points to the effectiveness of the technique for the relief of pain symptoms, mainly in the immediate reduction of pain through the Japanese scalp acupuncture technique.⁷ There was reduction of pain in all the subjects tested in a study that evaluated the life quality and chronic pain of people, in which 8 people were evaluated, of whom 7 were female and only 1 was male.¹⁹

As a form of treatment for chronic low back pain, the techniques of Ai Chi aquatic and Japanese scalp acupuncture were used, the techniques were compared with each other and with a control group, it was verified that in ten visits to a program of aquatic physiotherapy with a frequency of pain reported by the participants was significantly reduced in relation to the control group and there was improvement in the functionality of the participants' lumbar spine.²⁰

Compared with acupuncture, the YNSA was equally effective in reducing the intense symptoms of a migraine in a study with 80 subjects, in which it was statistically possible to observe this alteration.²¹

This overall pain reduction is in line with another study where 100% of participants also reported improvement in pain after needle application.⁶

Some factors may contribute to the variation of analgesia observed by the technique tested, such as the beginning of the menstrual cycle, psychological factors, emotional instability, whether or not linked to work, among others.⁶

CONCLUSIONS

It is noteworthy that the particular literature regarding the Japanese scalp acupuncture technique is extremely scarce, considering that there is no specific descriptor for this technique. This study aims to stimulate and demonstrate a small portion of the potential of this technique that has not yet been studied focused on the workers' health. It is estimated that the technique might be further studied and applied independently of the involved scenarios.

Finding the literature about occupational health and its interventions to improve this public was also a challenge due to the scarcity of studies related to primary care professionals since most of the articles are about hospital care.

The area of Integrative Practices in Health becomes an open field for all health professionals aiming to act and innovate their interventions. Especially to the nursing professional, whose objective is always to guarantee the well-being and the care to the patients, this technique may be very useful to them. It can boost their action and increase the autonomy and professional recognition.

Considering that the nurses deal directly with the patient and their interurrences in several scenarios, so, they should occupy this new space, making it a new area of action for the nursing professional towards improving the wellness of

health professionals with the use of Integrative Practices in Health, thus improving patient care.

From the realization of this research, it was possible to observe the lack of care programs for health professionals and interventions to prevent work-related diseases. It should be emphasized that the service provided to the patients of any health unit depends directly on the health of the professionals allocated there. The physical and mental exhaustion caused by the work is extremely understandable, but there is always a need to seek interventions so that their health is preserved. Caring for the caregiver becomes essential for providing better care services.

The present study was able to conclude that YNSA was effective in all sessions in reducing non-specific pain in 100% of the participants.

We hope that this work will serve as a stimulus for new productions and studies that aim at improving the technique and better understanding about its physiological effects, and that can ally the natural techniques to interventions directed to the health of the worker.

In spite of the described results, other studies are necessary to further assess the Japanese scalp acupuncture technique and its potentialities.

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