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Profile of Health Professionals Who Apply Taping in Clinical Practice

Perfil dos Profissionais da Saúde que Aplicam Bandagem Elástica na Prática Clínica

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Abstract

Studies show the indication of the use of elastic taping in musculosketic and lymphatic disorders, and it has significant effects on pain, physical function, range of movement and muscle strength. Several health professionals are adopting the use of elastic taping as a complementary form of therapy, which speech therapy applies, as an adjunct in the treatment of orofacial motility, language, voice and dysphagia. In medicine, it is used in the post-surgical phase with the aim of reducing edema, pain and bruising. In sports, elastic taping affects athletes' performance in the form of injury prevention, muscle power and resistance. The objective of the research was to identify the profile of health professionals who apply elastic taping as a therapeutic resource in clinical practice. The data were obtained through the application of a semi-structured electronic form, access to the form was made available on the social media of groups of health professionals in the national territory.: There were a total of 75 health professionals who completed filling out the form, with a predominance of females (89.3%); health professionals aged 31 to 50 years (69.4%). The profession of health professionals, 50 physiotherapists, 18 occupational therapists and 7 speech therapists responded to the form, the objective of applying the elastic taping as a treatment resource, 26% used it to activate muscle, followed by pain relief (23.6%) . Health professionals use elastic taping in their clinical practice mainly for pain relief and neuromuscular activation.

Keywords: Exercise. Rehabilitation. Health Promotion.

Resumo

Estudos mostram a indicação do uso de bandagem elástica nas disfunções musculoesquéticas e linfáticas, e tem efeitos significativos na dor, na função física, na amplitude de movimento e força muscular. Vários profissionais da saúde estão aderindo ao recurso da bandagem elástica como forma complementar da terapia, a fonoaudiologia aplica, como coadjuvante no tratamento da motilidade orofacial, linguagem, voz e disfagia. Na medicina é utilizado na fase do pós cirúrgico com o objetivo de diminuir edema, dor e equimose. No esporte a bandagem elástica atua no desempenho dos atletas na forma de prevenção de lesão, na potência muscular e resistência. O objetivo da pesquisa foi identificar o perfil dos profissionais da saúde que aplicam a bandagem elástica como recurso terapêutico na prática clínica. Os dados foram obtidos através da aplicação de um formulário eletrônico semiestruturado, o acesso do formulário foi disponibilizado nas mídias sociais dos grupos de profissionais da saúde no território nacional.: Totalizaram 75 profissionais da saúde que finalizaram o preenchimento do formulário, tendo predominância no sexo feminino (89.3%); os profissionais da saúde com idade de 31 a 50 anos (69.4%). A profissão dos profissionais da saúde, 50 fisioterapeutas, 18 Terapeutas ocupacionais e 7 fonoaudiólogos responderam o formulário, o objetivo da aplicação da bandagem elástica como recurso do tratamento, 26% utilizaram para ativar músculo, seguido para aliviar a dor (23,6%). Os profissionais da saúde fazem o uso da bandagem elástica em sua prática clínica principalmente para alívio da dor e ativação neuromuscular.

Palavras-chave: *Exercício Físico. Reabilitação. Promoção em Saúde.*

1 Introduction

Chiropractic Kenzo Kase developed the method (Kinesio Taping®), in Japan in the 1970s, a technique applied with neurofunctional elastic taping of 100% cotton, water-resistant and hypoallergic material, adhesive term with longitudinal elongation was initially applied by orthopedic doctors and therapists with the objective of promoting muscle support without generating restriction of movement. After 1990, the method spread to Europe, Asia and America[1]. The application of elastic taping on the skin consists of increasing the space of the skin and muscle, removing the congestion of lymphatic flow and bruises[2]. During the application of elastic banding, skin receptors generate physiological effects in interstitial space, caused by tape circumvolutions when applied with tension[3].

Studies show the indication of the use of elastic taping in musculosketic and lymphatic disorders, and it has significant effects on pain, physical function, range of movement and muscle strength of quadriceps in patients with knee osteoarthritis. Elastic taping is considered a complementary therapeutic resource associated with kinesiotherapy to treat shoulder impact syndrome in the initial phase of treatment, helping to improve pain, range of motion and muscle strength[5]. One of the indications of elastic taping is the postoperative application of orthopedic surgeries with the objective of improving edema during rehabilitation[6]. Studies seeking to

prove the effect of elastic banding occurred after its onset, one of the first clinical trials was in patients with ankle sprains, aiming at measuring tape capacity in the support of tensions placed on it by a standardized exercise routine, and verified that the tape restricts the movements associated with ankle sprains by inversion[7].

Several health professionals are adopting the use of elastic taping as a complementary form of therapy, and speech therapy applies the elastic banding in their practice, as an adjunct in the treatment of orofacial motility, language, voice and dysphagia. In medicine, it is used in the post-surgical phase with the aim of reducing edema, pain and bruising. In sports, elastic taping affect athletes' performance in the form of injury prevention, muscle power and resistance.[9,10]. Injury prevention in physical activity practitioners or athletes includes identifying modifiable risk factors, offering effective preventive training programs and establishing safe criteria to return to sport. Several programs are used to prevent injury developed by health professionals with the combination of strength training, agility, flexibility exercises, balance, neuromuscular exercises[11]. With the advancement of technology to rehabilitate athletes, physical therapy has used the method of using taping to improve the function of the extremities and correct muscle imbalances that could lead to possible injuries.

The way of applying tape to the skin has different ways both to activate or inhibit the neuroreceptors present at the application site, tension is also inserted in the tape ranging from 10% to 100%[13.] All of these technical details are acquired in specialized courses of the application of elastic taping, in view of this, this research aims to identify the profile of health professionals who apply elastic taping as a therapeutic resource in clinical practice.

2 Material and Methods

This is a descriptive, cross-sectional study of primary source, through the collection of data obtained from the application of a semi-structured electronic form, allocated in the researcher's google drive, consisting of 15 objective questions regarding personal data, professional training, academic training and application of elastic taping.

The link to the access of the form was made available to the regional councils of physiotherapy, medicine, speech-language, nursing and physical education, and made possible in the social media of the groups of health professionals in the national territory. The link access period was July to September 2022.

The participant to confirm the completion of the form, had to read the TCLE (Informed Consent Corm) which contained the main information on the study, objectives, methodologies, risks and benefits, among other information and after selecting the corresponding option at the end "I accept" or "I do not accept" to participate in the search, before beginning to complete the form.

The inclusion criteria were health professionals and exclusion criteria participants who did not complete the completion of the form and sending duplicate responses.

They totaled 75 responses from health professionals. The research was approved by the Committee on Ethics in Research (CEP) of Universidade Norte do Paraná, CAAE number 56269522.8/0000.0108.

3 Results and Discussion

The statistical analysis was made in the Software Statistical Package for the Social Sciences 20.0 for Windows. The descriptive analysis of the qualitative variables was described by absolute frequency and relative frequency and cross table of the variables.

There were a total of 75 health professionals who completed filling out the form, with a predominance of females (89.3%); health professionals aged 31 to 50 years (69.4%).

Regarding the profession of health professionals, 50 physiotherapists, 18 occupational therapists and 7 speech therapists answered the form, 33 physiotherapists with more than 10 years of profession and 33 of them are titrated as a specialist, 11 with a master's degree and 6 with a doctorate (Chart 1).

Table 1 – Cross table of the profession with professional time of the health professionals who answered the online questionnaire from July to September 2022

		Time /Profession				Degree		
		Newly graduated	**1 to 5 years**	**6 to 10 years**	**over 10 years**	**Specialist**	**Master**	**PhD**
Profession	Physiotherapist	1	9	7	33	33	11	6
	Occupational Therapist	1	9	0	8	14	4	0
	Phono audiologist	0	1	0	6	3	2	2
Total		2	19	7	47	50	17	8

Source: research data.

In questioning whether the professional had made the elastic taping course, only one did not take the course, and 74 professionals have three to six years of course time.

Regarding the objective of applying elastic taping as a treatment resource, 26% used to activate muscle, followed to relieve pain (23.6%), stabilize joint (22.6%), decrease edema (14.4%), according to Chart 2.

Table 2 – Objective of the application of elastic taping of the health professionals who answered the online questionnaire from July to September 2022

		Frequencies	(%)
Objective	To activate muscle	54	26.0
	To relieve pain	49	23.6
	To stabilize joint	47	22.6
	To decrease edema	30	14.4
	others	14	6.7
	To decrease ecchymosis	12	5.8
	none	2	1.0
	Total	208	100.0

Source: research data.

Another item questioned was the indication of the application of elastic taping in the treatment, the most frequently mentioned indications were: muscle tension (18.1%), shoulder instability (16.8%), postoperative (16.5%), as described in table 03.

Table 3 – Indication of the application of elastic taping of the health professionals who answered the online questionnaire from July to September 2022

		Frequency	(%)
Most cited indications	Muscle tension	69	18.1
	Shoulder instability	64	16.8
	Postoperative	63	16.5
	Lymphedema Mastectomy	44	11.5
	Knee osteoarthritis	40	10.5
	Esthetic	35	9.2
	Scar	35	9.2
	Post delivery	31	8.1
	Total	381	100.0

Source: research data.

Regarding the scientific evidence on the application of elastic taping, the health professionals in the majority (82.7%) have knowledge about the scientific publications on the use of elastic taping as a therapeutic resource.

The objective of the research was to know the profile of health professionals who apply elastic taping as a therapeutic resource in clinical practice and verified that physiotherapists use the elastic taping technique in several therapeutic indications, corroborating with the study. the systematic review of Graf[14] with current studies on the efficacy of physiotherapy and of the therapeutic sports interventions for the treatment of carpal tunnel syndrome in the reduction of symptoms and in the improvement of manual function showed the use of elastic taping associated with therapy manual. Whereas Romero-Morales[15] studied the efficacy of the elastic taping at the ankle sprain to decrease the range of motion. Kuyucu[16] conducted a randomized controlled prospective study with 22 patients with calcaneus apophysitis using elastic taping, the study by Lietz-Kijak[17] in chronic facial pain syndrome, applying elastic taping at the trigger points of masticatory muscles. The phono audiology professional also makes the use of elastic taping as a therapeutic resource in its treatments, corroborating the study by Mezzedimi[18] evaluates the effect of elastic taping on dysphonic singers. Gupta[19] reported a case of an occupational therapist who applied elastic taping for chemotherapy-induced peripheral neuropathy.

The objective of the application of elastic taping, most health professionals apply elastic gaping for pain relief, corroborating with Oliveira's data[20] in their controlled study with 52 patients with rotator cuff-related pain, elastic taping was associated with physiotherapy, and improved the pain. Another study by Ordahan[21] used elastic taping in pregnant women to relieve pain in sacroiliac joint. Li[22] in his meta-analysis of the effects of elastic taping on pain and disability in individuals with chronic lumbar pain, concluded that the application of elastic bandage can be used for individuals with chronic low back pain in some cases, especially when patients cannot receive other physiotherapy. Mengi[23] in the double-blind study, compared different techniques of elastic taping in patients with lumbar pain relief and suggested the application of elastic taping in pain relief.

The application of elastic taping on the skin consists of increasing the space of the skin and muscle, removing the lymphatic flow congestion and bruises[(2)], in the study, were cited by health professionals as an indication in the postoperative period and as an objective of reducing edema, and ecchymosis when applied to elastic banding, corroborating, Tornatore[24] concludes in his study that the treatment combining kinesiotaping and lymphatic drainage in the postoperative period of total knee arthroplasty provided better results in pain and edema observed in the first days after the intervention, it can therefore be considered a valid support for standard rehabilitation. In the study by Basoglu[25], who compared complete decongestive therapy and kinesiological banding for lymphedema related to unilateral upper limb breast cancer, concluded that it significantly reduced the volume and circumference of the limb individually in four weeks and followed up by one month associating the two techniques.

Also mentioned as an indication, patients with postmastectomy lymphedema, elastic banding is a low-cost resource and helps reduce edema and pain. In the study by Tantawy[26], who compared the effects of elastic bandage and pressure clothing on the upper extremity secondary lymphedema and on the quality of life after mastectomy, it was found that there were significant changes in the circumference of the affected limb.

4 Conclusion

Health professionals use elastic taping in their clinical practice mainly for pain relief and neuromuscular activation. The indications of the use of elastic taping are diversified, but all based on the scientific knowledge and qualification and training of the professional applying the elastic taping.

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