The importance of functional taping in preventing wrist injuries in boxing: A medical view

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ABSTRACT

Background: Functional bandages are a therapeutic tool widely used worldwide, not only for treatment, but also for injury prevention. Preventing extreme ranges of motion and reducing abnormal joint movement is the most obvious function of functional taping. The wrist is frequently injured in boxing, which often forces the athlete to abandon training and competitions. The study is necessary because there are few studies in Brazil that seek to compare the importance of functional taping as a measure to prevent wrist injuries in boxers. Objective: To analyze the importance of functional wrist taping, as a measure for preventing injuries in practitioners of this activity, as well as to relate the incidence of injury, the time of practice and the use or not of the bandage. Methodology: This was a cross-sectional study of an experimental nature, where 34 practitioners were evaluated, among them, 9 had wrist injuries and 25 did not have wrist injuries. Results: The study found that 77.8% of the practitioners had some injury and did not use the functional bandage, while 72% of the practitioners who did not have any type of injury used the bandage. Conclusion: In view of the results presented, the importance of the use of functional bandaging as an instrument to prevent wrist injuries was highlighted, as well as the need to deepen the application of the technique by medical professionals who work in sports medicine.

Keywords: Boxing, Wrist injury, Functional taping, Sports medicine.

INTRODUCTION

Boxing is the physical ability to fight with your fists. It is believed to have originated as a sport around 800 BC.[1], with the first historical reference in the 23rd ancient Olympic Games in 688 BC. Modern sport has developed from established rules and norms since then and, despite the perception of brutality associated with sport, a minority of injuries affecting boxers are serious or disabling2.

Medical supervision was incorporated by the main world boxing associations from the 1950s onwards, with the aim of bringing improvements in the care provided to athletes and the adoption of prophylactic measures4. Measures such as the use of head, hand and wrist protectors were adopted in order to minimize the rates of injuries and sports absences5. Each sport has its own characteristics of space, time, dynamism and physical demand, which can determine the most frequent type of injury in each of them. In the case of boxing, physical contact predominates6.

Most pathologies that affect boxing athletes are of traumatic origin, mainly in the upper limbs, head and face. Sometimes, an athlete's career can be compromised due to the severity of these injuries7.

Injuries can be considered as the main factor that leads athletes to abandon their sport. This absence is detrimental, as it directly influences their physical and technical performance, as well as possible psychological damage, as recovery can be slow, requiring patience and caution to return to activity: and consequently, the team is also harmed6.

Functional bandages (BP) are therapeutic instruments widely used by healthcare professionals. Sports Medicine is a medical specialty that includes theoretical and practical segments of medicine with the aim of investigating the influence of exercise, training and sport on healthy or sick people, with the aim of preventing, treating and rehabilitating. In other countries, BFs are called Taping or Strapping (USA) or functional bandages (Portugal), Functional Bandages (Germany) and Contentions Souples (France and Switzerland)[8].

It can be defined as a technique that aims to modify the mechanics of altered and/or non-rigid segments, providing rest to damaged structures, reinforcing aspects with structural and/or physiological changes, improving the functionality of the segments, thus recovering function. deficit without cancelling out other natural mechanics linked to the segments treated with bandages9.

Many athletes use duct tape not only as a treatment, but also to prevent injury. It is very common to apply bandages, for example, to athletes before participating in their sport; This has been the subject of scientific scrutiny in a growing body of research that has aimed to investigate the effects and basis through its application10.

Preventing extreme ranges of motion and reducing abnormal joint movement is the most obvious function of functional taping11.

The hand and wrist are frequently affected by trauma in various sports, which often takes the athlete away from training and games, causing distress to the athlete and coaching staff. Therefore, although the diagnosis and treatment of sports injuries follows practically the same pattern as the injuries observed in the general population, it must be taken into account that the time of absence of the athlete is an important factor to consider. The incidence of hand and wrist injuries in sports varies from 3% to 9% of all sports injuries12.

The present study is necessary because there are few studies in South America that seek to compare the importance of functional taping as a measure to prevent wrist injuries in boxers. As well as observing the importance of functional wrist bandaging as a measure to prevent injuries in those who practice the activity. Since the wrist is a very vulnerable joint to injury. The assimilation of this study by boxing teachers, professors and practitioners may be useful in setting a precedent for the use of functional bandaging as a way to prevent injuries and remove practitioners from their activities.

METHODOLOGY

The research was carried out among boxers from the Pernambuco Federation of Independent Kick Boxing – FPKBI, based in the city of Recife – PE.

This is a cross-sectional study, with FPKBI boxing practitioners, who were practitioners at the levels; 1) beginners, 2) intermediate and 3) advanced.

The inclusion criteria were boxers who are duly registered in the FPKBI, who are beginners, intermediate and advanced in boxing and agree to participate in the study.

The exclusion criteria were being boxers not registered in the FPKBI, clinical instability or discomfort on the day of the evaluation, lack of collaboration at the time of the analysis and not agreeing to participate in the study.

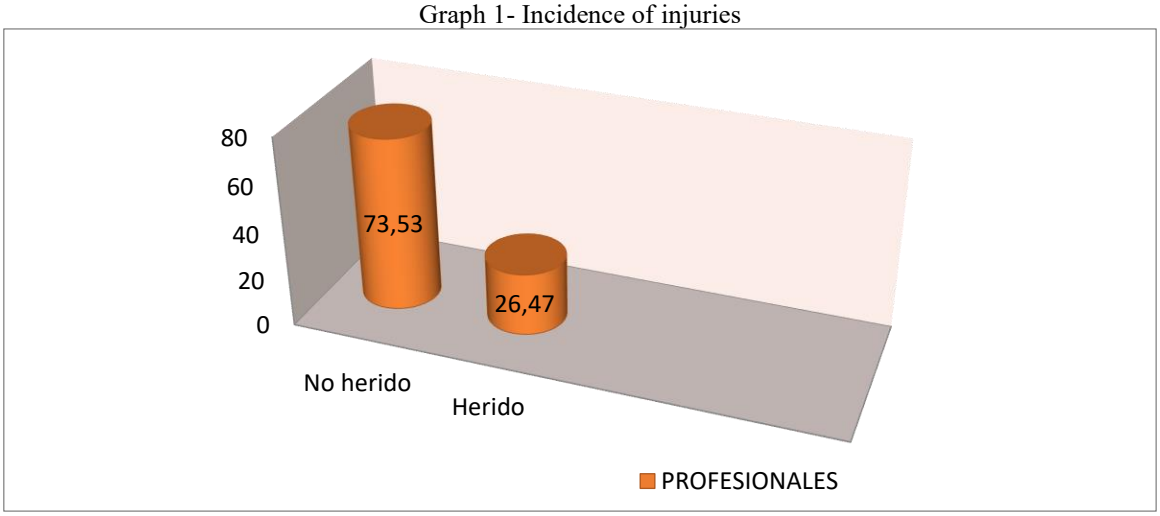
All volunteers were subjected to the questionnaire, which aimed to: 1) the incidence of wrist injuries; 2) verification of the practitioners who suffered and did not suffer wrist injuries and their relationship with the use or not of functional bandages; 3) the incidence of the injury related to the time of practice and the use or not of functional bandage.

To analyze the results, descriptive statistical techniques were used, where the calculations were analyzed by the researcher himself using Microsoft Office Excel 2024.

RESULTS

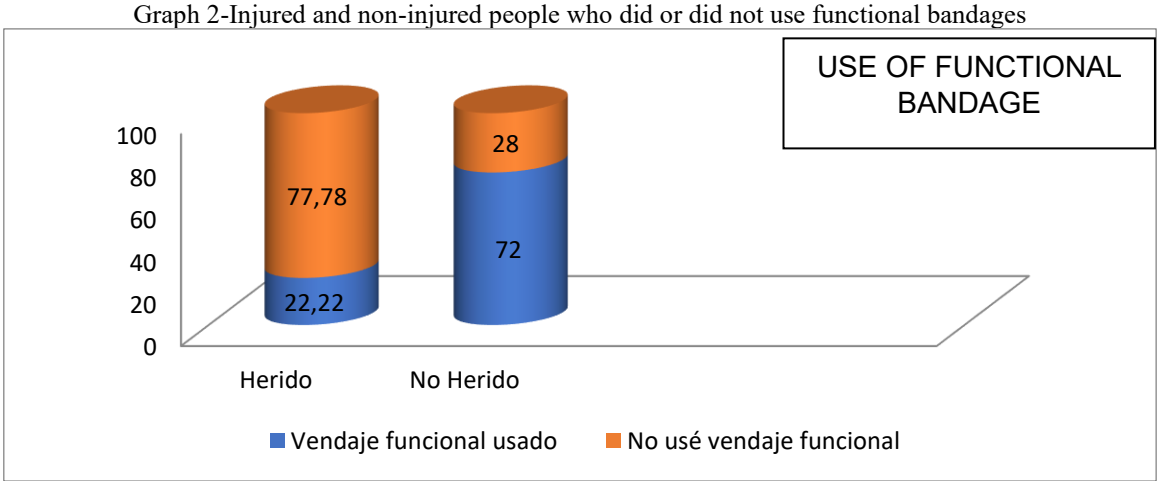
A total of 34 boxers aged between 14 and 49 years were studied, with 9 (26.47%) having some type of wrist injury and 25 (73.53%) not having an injury (Figure 1).

Graph 1- Incidence of injuries



Regarding the practitioners studied who had a wrist injury, 77.8% did not use the functional bandage in training, while 22.2% did. As for the practitioners who did not have any type of wrist injury, 28% did not use the functional bandage in training, while 72% did use it (graph 2).

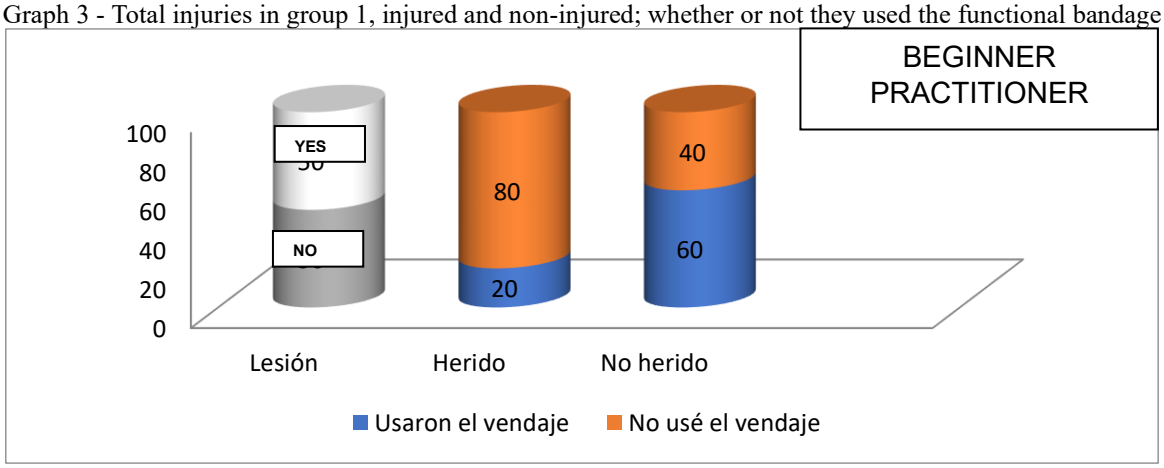
Graph 2-Injured and non-injured people who did or did not use functional bandages



As for the population of practitioners evaluated, it was classified into three groups; 1) beginner (up to 6 months), 2) intermediate (up to 12 months) and 3) advanced (from 12 months).

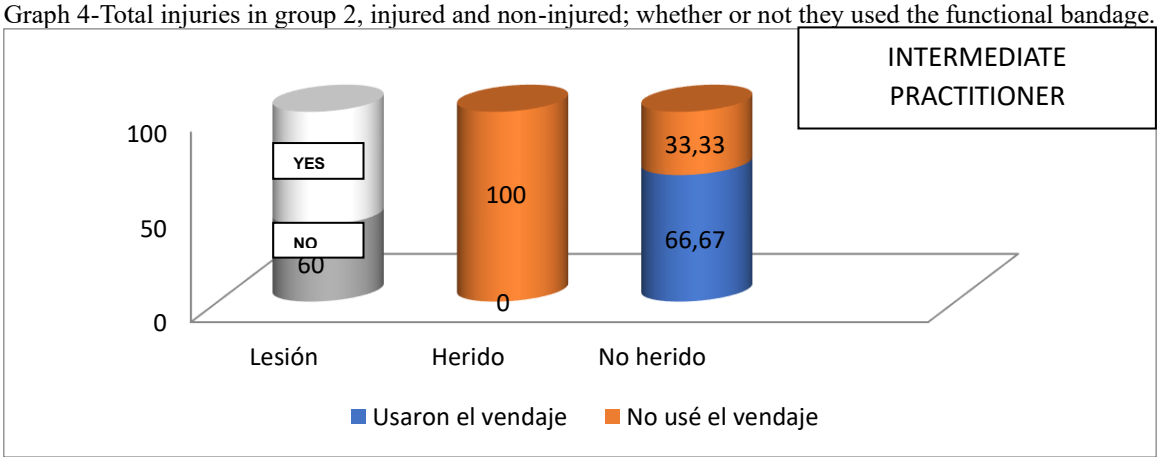
In the first group (n=10) it was observed that 50% of the practitioners had some type of wrist injury and 50% had no type of injury. Of those who suffered injuries, 20% used functional bandages and 80% did not. Of those who did not have an injury, 60% used bandages and 40% did not (Graph 3).

Graph 3 - Total injuries in group 1, injured and non-injured; whether or not they used the functional bandage



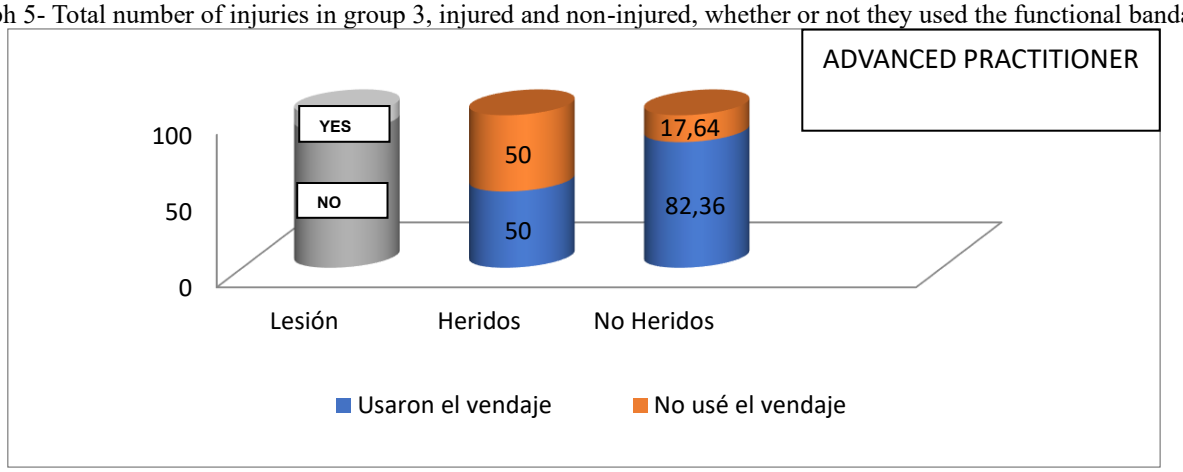
In the second group (n=5) it was observed that 40% of the practitioners had some type of wrist injury and 60% had no type of injury. Those with 100% lesions did not use bandages. Of those who had an injury, 66.67% used functional bandages and 33.33% did not (Graph 4).

Graph 4-Total injuries in group 2, injured and non-injured; whether or not they used the functional bandage.



In the third group (n=19) it was observed that 10.52% of the practitioners had some type of wrist injury, and 89.48% did not have any type of injury. Of those who suffered injuries, 50% did not use bandages and 50% did. Of those who did not have an injury, 82.36% used functional bandages and 17.64% did not (Graph 5).

Graph 5- Total number of injuries in group 3, injured and non-injured, whether or not they used the functional bandage



DISCUSSION

According to the first specific objective of the study presented in the result of graph 1, we note that most of the practitioners found did not present any type of wrist injury, indicating that they, based on the knowledge acquired, established prophylactic measures to avoid the injury and consequent withdrawal from the sport. It was also necessary to identify within the sample which practitioners had or did not have an injury.

Analysing graph 2, we observe that most of the professionals who suffered injuries did not use functional bandages. Most of those who did not present injury used functional bandaging, corroborating the study by David Thompson13, who states that the use of the appropriate bandaging technique aims to change certain parameters of application and distribution of forces to avoid overloading the tissue, thus avoiding injuries13.

Regarding the time of practice and the third specific objective of the study, we defined the practitioners in three groups, we found in the 1st group (beginners) a greater number of injuries, compared to the other groups, since, in order to have a significant technical knowledge, the practitioner needs the automation of the movement, which, according to Robert14, It only occurs after systematic training of several consecutive years, which encompasses several factors including physical, technical and tactical preparation. This factor is the likely cause of the increased number of injuries in this group. The process of teaching a sports movement (technical gesture) to a beginner must be applied with care, since the consequences of faulty learning can result in problems in the mastery and variation of technique, resulting in a greater possibility of injury15.

In group 3, analyzing graph 5, the majority of the sample (n= 19) can be observed, where the vast majority (89.48%) did not present wrist injury. The technical and tactical level and a longer practice time, combined with greater learning of the sporting gesture, knowledge and performance of the modality, cause the practitioner to use less force in the application of the blows, as well as a greater awareness in the use of preventive measures. thus reducing the number of injuries15.

It was also observed that in group 3 most of the practitioners did not present injury, however, they used functional bandaging (82.36%). Since group 3 had the lowest injury rate (89.48%) and used functional bandage. Although these data are not conclusive, taking into account the multifactorial nature of injuries, it is suggested that injury rates are related to those who have not used protective equipment16.

FINAL CONSIDERATIONS

According to the results of the present study, the importance of the use of functional bandages in the prevention of wrist injuries is confirmed, since practitioners with less time practicing sports, and who did not use functional bandages, were more likely to suffer injuries, while practitioners with more sports practice. time and who used functional bandaging had a lower incidence of injuries.

It is also necessary to delve into the technique of applying functional bandaging for practitioners, and the need for the presence of a qualified professional to apply the technique, a doctor's work focused on the prevention of sports injuries, thus configuring an important base for coaches. and athletes.

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