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The main dilemmas of taekwondo training of students with disabilities – analysis of the opinion of professional coaches

Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Manuscript Preparation
- E Funds Collection

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Abstract

- Background & Study Aim:** Inserted in the sporting context, people with disabilities are also part of martial arts and combat sports. In this study was addressed a specific sport, taekwondo for people with disabilities, also known as para-taekwondo, recently inserted in the Summer Paralympic Games program. The purpose of this study was knowledge of the professional qualification of coaches on taekwondo training of people with disabilities, as well as the knowledge related to this practice and how they perceive the student with disabilities in the sporting context.
- Material & Methods:** The participants chosen were physical education professionals (n = 17) who also act as taekwondo coaches in gyms or clubs in the state of Sao Paulo, Brazil. The coaches participated in a semi-structured interview and the data were analysed using qualitative content analysis method.
- Results:** The findings demonstrate that the study sample does not seem to be adequately prepared to teach students with disabilities in their taekwondo classes. Both level of knowledge about para-taekwondo and knowledge about disability specificities were shown below desirable level of preparation, even though more than half of the interviewed coaches have had or have students with disabilities in taekwondo classes.
- Conclusions:** The coaches do not seem to be adequately prepared to receive students with disabilities in their taekwondo classes. The results indicated that is fundamental, for the quality of the taekwondo classes toward students with disabilities, a good professional training for coaches who teach classes to this population, in order to avoid compromising their learning.
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Taekwondo – TAE means “to kick”, KWON means hands or “to strike with the hands” and DO means “discipline” or “art”, taken together taekwondo means: “the art of kicking and punching” or “the art of unarmed combat”. However, this would be a literal translation from Korean which only reveals a small idea of taekwondo real meaning in a context overcoming a motor development assumption [27].

Para-taekwondo – is the nomenclature adopted by the World Taekwondo Federation (WTF) and is being worldwide used to refer to taekwondo practiced by people with disabilities, specifically for upper limbs impairment [10].

Combat sport: a sport characterized by certain contact in which allows two people face a constant exchange of offensive and/or defensive actions, e.g. wrestling, boxing and the martial arts [28].

Martial arts for people with disabilities – combat sports played by persons with a disability, including physical, visual and intellectual disabilities. Are based on existing able bodied sports and modified to meet the needs of persons with a disability [28].

Paralympic Movement – is a global network of individuals and organisations brought together through their commitment to provide sporting opportunities for all para-athletes (from grassroots to elite) and through the belief to contribute to a better world with equal opportunities for all [29].

INTRODUCTION

For a long time the thought about a person with disability was isolation, both within their own home as well as limited to rehabilitation centers and hospitals. People with disabilities were put aside of society for quite some time, and the impairment was considered, only, as a synonym for disablement and incapacity [1-3].

Only over the past years that has been possible to find many people with disability in the sporting context, present and active in this environment covering a range of meanings [4]. The use of sport for people with disabilities, as an aid to recovery, was one of the most important points to demonstrate to society that many of these people are also predisposed to overcome barriers, challenges and, above all, are able to overcome their own limits [5, 6].

Wherefore, nowadays is noteworthy the evolution of the sports to people with disabilities, which has gone through the stage of rehabilitation to the point where the Paralympic Games is the most recognised sporting event for people with impairments, and then providing athletes with disabilities the opportunity of participation and insertion in the sporting context [4].

Inserted in the sporting context, people with disabilities are also part of martial arts and combat sports. At first, this may incur in a (pre)concept of inability and impossibility to its practice, especially when applied to people with disabilities [7]. Therefore, we should look at this issue as a knowledge ally, also, to physical education development and interventions and its pedagogical practices.

The person with disability, by seeking a specific type of martial art, looks for determining characteristics in each sport, in which some may be more attractive than others. In this searching for a specific sport, people with disabilities can be encouraged to believe on the possibility of also perform martial arts or combat sports movements, often including some traditional techniques. Then, the coach should act cautiously and professionally in order to minimize all the possible issues that may occur through a coherent and stimulated work [7-9].

In this study was addressed a specific sport, taekwondo for people with disabilities, also known

as para-taekwondo, which is an adaptation of Olympic taekwondo and follows the rules and regulations of the *World Taekwondo Federation* (WTF); taekwondo model that belongs to the Olympic program since Sydney 2000 Olympic Games, and now will also be part of the Paralympic program, debuting in the Tokyo 2020 Paralympic Games. For this study only para-taekwondo ‘*kyorugi*’ (sparring) for physical impairment is taking into consideration, likewise the Olympic counterpart, is the event that will be included in the Paralympic program starting in Tokyo 2020 Paralympic Games.

The sport is an adaptation of the traditional Korean martial art to enable the practice of people with disabilities; more specifically people with upper limbs impairment, guaranteeing them access to the sport and also chances to compete equally according to their disability [3].

In the path taken when trying to join the Paralympic Movement, in its recent history, were organized six Para-Taekwondo World Championships, the first was in Baku, Azerbaijan in 2009, with 40 athletes and 20 participating nations; The second was held in the city of St. Petersburg in Russia in 2010 and participated a total of 66 athletes from 22 countries; Aruba hosted the Third World Championship and received a total of 44 participants from 14 countries in 2012; The fourth championship was held in 2013 in Lausanne, Switzerland with a total of 82 participants from 25 countries; The fifth edition of the world championship was held in Moscow, Russia in 2014 with 111 participants from 37 countries. The sixth and latest event was held in Samsun, Turkey in 2015 and drew a record number of participants as the sport gears up for its first Paralympic appearance: 118 athletes from 34 countries [10, 11].

This significant increase in the number of participants in para-taekwondo competitions is a result from the remarkable development and professionalization that the sport has reached in recent years, mainly due to the work towards it becoming a Paralympic sport, merit officially achieved on January 22nd, 2015 [12].

The purpose of this study was knowledge of the professional qualification of coaches on taekwondo training of people with disabilities, as well as the knowledge related to this practice and

how they perceive the student with disabilities in the sporting context.

MATERIAL AND METHODS

Participants

The participants of this study were 17 physical education professionals who also act as taekwondo coaches (affiliated with the World Taekwondo Federation) in gyms or clubs in the state of Sao Paulo, Brazil. The coaches were purposefully selected in order to include individuals with high level of expertise on the sport [13]. Data were collected during their participation in national taekwondo events held in the cities of Sao Paulo and Campinas.

The inclusion criteria to participate in this study were: have a degree in physical education; have a taekwondo black belt and being an active coach in the sport. All participants agreed to participate voluntarily in the study and signed the consent form in which all ethical aspects were assured and obtained from the institution authorising this research. In order to protect coaches' anonymity random numbers (e.g. Coach 7) were allocated and they were aware that the reported data would be exclusive used for studies.

Data collection

For the purposes of this qualitative study, semi-structured in-depth interviews were conducted with each coach. A semi-structured interview technique was used in order to allow the researchers to probe the interviewees for more detail and seek further information where uncertainty existed [14, 15].

Open-ended questions were shaped to acquire detailed data from the interviewees on the knowledge about self-reported level of preparation to teach taekwondo to people with disabilities, their experience with people with disabilities and about level of overall knowledge about para-taekwondo. All interviews were audio recorded on electronic media ranged in length from 30 to 40 minutes. Was used a photographic camera Samsung model *Digimax D53*. Only the audio (voice) recorder was used, without images. Recordings were manually verbatim transcribed.

The questions referred to the way in which coaches perceive the implications that taekwondo, when practiced by people with disabilities, can

bring and on the importance and the need for better professional training, which is essential for the implementation of a coherent work.

We structured the interviews with specific topics corresponding to the assumptions defined for this group, hoping thus, to obtain the most of their knowledge. Therefore, 3 pre-established themes were settled:

- (1) *Knowledge on para-taekwondo development in Brazil;*
- (2) *Disability specific issues;*
- (3) *Taekwondo as Paralympic sport.*

Theme 1, deals with the knowledge of coaches, who are directly involved with taekwondo in Brazil, about development of para-taekwondo. Consequently, aspects such as professional training/qualification are also part of this category. The second addresses the coaches' knowledge on specific aspects of disability context. At first, it deals with the types of disabilities that might be reachable to practice taekwondo and then, their practical experience with students with disabilities in their taekwondo classes. The last topic addressed in this study deals with knowledge and opinion of coaches on the attempt to include para-taekwondo at the Paralympic Games.

Data Analyses

Data collected were analysed using the content analysis method. Among the different techniques of content analysis was chosen the enunciation analysis for a more complete understanding of the topic that a researcher is studying. This analysis considers the speech not as a finished product, but as a preparation process with all the contradictions, inconsistencies and interpretations [13-15].

The first stage of analysis was the initial reading of each speech, searching for the emerging themes in the speeches, related to the way the participants feel before the inclusion of students with disabilities in taekwondo classes and the current worldwide Para-taekwondo Movement, and consequently, the way they develop their thinking on the subject.

Once detected the congruent thematic in each speech, the researchers identified codes and themes that emerged from the data and gathered

Table 1. General overview of contextual themes and sub-themes emerged from the content analysis 17 Brazilian taekwondo coaches who took part in a semi-structured interview.

Theme	Sub-theme	Emerging themes
1. Knowledge on para-taekwondo development in Brazil	Specific knowledge on para-taekwondo	Lack of awareness about the possibility to include people with disabilities on taekwondo context (n = 13). Awareness about the possibility to include people with disabilities on taekwondo context (n = 4).
	Professional training/qualification	Little training/qualification opportunities in Brazil for the coaches (n = 15). Lack of studies on practical applications of taekwondo for people with disabilities (n = 4).
	Dissemination of information	Lack of awareness about development of the sport in Brazil (n = 13).
2. Disability specific issues	Professional experience on disability athletes/sports	Do not consider themselves well-prepared coach to work with disability athletes/sports (n = 14).
	Difficulties on work with students with disability	Lack of awareness about disability specific implications and concepts (n = 15).
	Have or have had students with disabilities in taekwondo classes	Current have students in taekwondo classes (n = 9). Have had students at some point (n = 2).
3. Taekwondo as Paralympic sport	Knowledge on para-taekwondo bidding	Awareness about inclusion process in the Paralympic Games (n = 4). Lack of awareness about inclusion process in the Paralympic Games (n=13).
	Positioning on para-taekwondo bidding	Favour position of the inclusion in the Paralympic Games (n = 17).

examples from the transcripts to illustrate the key findings. In this process we sought each participant positioning on the subject of study, taking into account their social position and experience.

Two of the authors coded and analysed the data separately, followed by meetings to compare and discuss the results [16]. If there was discrepancy regarding the coding of the data, the authors assessed the data together to arrive at mutual consensus [14, 16]. This process provided confirmation that the data were consistently analysed and that the process could be reliably duplicated [16].

RESULTS

In order to present the results on the interviewees knowledge on each proposed theme, from their thought regarding the inclusion of students with disabilities in taekwondo classes, to practices related to the Para-taekwondo Movement in general, the remainder of this section details the themes and sub-themes that emerged from the content analysis, and for better understanding of the categorization process, the detailed information concerning the results is presented in Table 1.

The numbers in brackets in column 3 indicate the number of coaches who referred to each emerging theme during the interview.

Knowledge on para-taekwondo development in Brazil

Despite the fact that the interviewees are coaches directly linked and active in the Brazilian taekwondo universe, more than half of the group (n = 13) stated that are not aware of the Para-taekwondo Movement, neither its structure or rules and regulations. The coaches specifically noted that “*I don’t have knowledge. Not enough*” (Coach 11), “*very little. Really, quite nothing*” (Coach 6), “*no. I never seen anything concrete about it yet*” (Coach 17).

Additionally, the speeches alluded to the lack of professional training/qualification opportunities offered for coaches in Brazil. For example, one coach highlighted the following: “*First thing: it has to be disclosed... in the media, radio, magazine, along with social programs, and second: qualified coaches working in this area, I think that’s what is missing, I think that among all taekwondo coaches, I think about 10% are trained in physical education,*

and I think that's a problem, and yet not all of these coaches are trained to deal with this population in particular. If there were more training on this issue, certainly, taekwondo could've been already one step ahead" (Coach 5).

One of the biggest concerns in the interviewees' speech is training and qualification of professionals who would work with people with disabilities in taekwondo classes. Their speeches pointed out the concern for specialized training to teach students with disabilities, as well as the importance of the development of more studies on practical applications of taekwondo, which is the basis for working with a different public, whether in school, clubs and gyms, as stressed by Coach 4: "I think it should have a little more incentive to practice, a little more publicity and studies on this regard. Studies that actually explain the practice by disabled and specially the standardization of training methods. [...] For example, I do a particular work with students with down syndrome, but it would be interesting to see some work done by someone who actually study this kind of disability, they might have a better answer for which exercises in the classes they will respond in a more pleasant way and to have a better performance. Because I feel like what we do is some kind of amateur work yet, and it would be interesting to have a study including several disabilities".

Disability specific issues

The fundamental point of this aspect seems to reveal a way, often mistaken, to perceive the person with disability, which still seen as an ideology ruled in the medical disability model, advocating the limitations and the integration of these individuals.

The participants admit, in general, that the participation of students with disability in taekwondo classes can bring contributions to their work; however they do not clarify which contributions would be. Even though results has shown that they manifest doubts about the role of the acting teacher in this process, such as what would be the best way to act, and how the coach contribution would result in student achievement, they eager to develop themselves in a future to meet the requirements to teach people with disabilities: "I want to improve myself in this area, which is a new area that is coming to us now. I've had the opportunity to have some students with impairments, but still, we have no specific knowledge to be able to provide a better quality work, to understand their

needs by giving priority to their qualities instead of their impairment and also learn how to deal with their disabilities" (Coach 10).

The speeches point out to the lack of knowledge and, again, the lack of coaches' preparation. Most coaches acknowledged that there is a lack on the knowledge about the disabilities, mainly on the issue of nomenclature, disability specific implications and concepts.

When asked whether they think that people with disabilities could practice taekwondo, most of the participants (n = 15) were unbelieving, according to the following:

"Impossible, I mean, not impossible, but I can't think about a blind student on taekwondo classes, it would have limitations, I think it couldn't be possible to work within the limitations" (Coach 6);

"I can't tell you that because I never had any case, I don't know how to deal with their limitations" (Coach 16);

"I do not know much of this area, even biomechanics, what a disabled who do not have a leg or an arm, what can they do?" (Coach 15).

With regard to practical experience on teach students with disabilities, it is remarkable the lack of experience reported by coaches, even when the results show that 53% (n = 9) and 11.7% (n = 2) of the interviewed coaches, respectively, have or have had students with disabilities in their taekwondo classes at some point of their career:

"Yes, where I work I have a teenager with cerebral palsy and an adult student with intellectual disability" (Coach 12);

"I have students with physical and mental disability" (Coach 9);

"Yes, but was a long time ago and was physical disability, he had lost a part of his foot in an accident" (Coach 1).

Taekwondo as Paralympic sport

The findings of this study demonstrate that only 23.5% (n = 4) of coaches stated that they had knowledge of the whole bidding process which was happening in the Para-taekwondo Movement (attempt to inclusion the in the Paralympic

program for Rio 2016), as following indicated by the four coaches:

“Yes, I’ve heard that they are investing in the Paralympics, because in other sports athletes with disabilities are bringing a lot of medals and I believe that taekwondo can do that too” (Coach 3);

Yes. For us here in Brazil this information is coming now, I think this is very good, because there is already other sports, such as judo, which is Olympic and Paralympic sport and taekwondo is heading towards that path (Coach 10);

“I’ve read some information on the Internet” (Coach 2);

“I heard it about a month; they want to include taekwondo already in the Games in Rio. I am noticing a very strong movement outside Brazil” (Coach 4).

However, there was consent among the participants where 100% (n = 17) of the sample was completely in favour of para-taekwondo inclusion in the Paralympic Games (it is important to highlight that in the year in which the research was conducted the sport was not included in Rio 2016 Paralympic Games; however, the World Taekwondo Federation resubmitted the proposal and on January 31, 2015 received the historic news that the IPC Governing Board had decided that taekwondo should be included on the 2020 Tokyo Paralympic Games program), demonstrating fully support to the inclusion *“Yes! I think this is a lot valid”* (Coach 15) and *“this will only further enhance the sport”* (Coach 10).

Some coaches also noted that this inclusion can bring the media closer to the sport and highlighted its benefits stating: *“This is good not only for the athletes who will participate, but also for the sport, that will grow the number of athletes practicing, and will put taekwondo even more in the media, which I think is not enough today if you compare with other sports such as volleyball and gymnastics. I think that being in the Paralympics and having good results and good athletes, the return is immense, especially media and sponsorships”* (Coach 16).

DISCUSSION

Over time, physical education is breaking old paradigms in favor of building an area of knowledge dedicated to individuals’ global needs and their interaction in society, with new theories and

knowledge produced in search of care for people with disabilities as part of this process [17].

It is essential, therefore, to changing to a new perception in physical education through the need to implement disciplines that were previously not part of the curriculum and are now included as subjects of adapted physical education, which aim the best preparation in teachers training, who in the future should work directly with people with disabilities in their practices.

Data from this study show that despite all the coaches interviewed are graduated in physical education and have become coaches involved in the Brazilian taekwondo universe, with involvement and experience in at least national sport events, and the fact that many schools of higher education now offer courses in their curricula addressing adapted physical education, the coaches seem to have many questions when faced with students with disabilities in their practices and in inclusive classes. This findings show a gap between theoretical and practical knowledge, especially when acknowledged the lack of existing studies on the subject (people with disabilities and practice of taekwondo) on teaching methods, on the different types of disabilities and the practical applications for taekwondo classes.

Adapted physical education in Brazil appears officially in physical education undergraduate course at the beginning of the 90s, through *Resolution No. 03/87 of the Federal Board of Education*, foreseeing the performance of a physical education coach with students with disabilities and special needs [18]. However, despite physical education great advances, when dealing with the implications of teaching practice and even adapted physical education subjects as part of the academic curricula, the area still suffers lack of professionals’ preparation and often lack of interest and knowledge of professionals [19].

According to the results found in this study, the coaches attributed the lack of knowledge on the development of para-taekwondo in Brazil to the lack of training and qualification of professionals in the field, since they do not consider themselves qualified enough to receive and coach this population in their taekwondo classes. Consequently, is well known that the formation of physical education professional has a very important and fundamental key role in its performance and is directly related to the development of students’ learning process.

Another important issue which is clearly shown in the results is the fact that, despite the lack of professional training, more than half of coaches affirmed they have or have had students with disabilities participating in taekwondo classes, whether in gyms, clubs or schools. This can be important data for elucidating the importance of professional qualifications and on the contents surrounding their formation; it also makes us think that the person with disability is now part of all society environments, increasingly incorporated in the sporting context and the demand for better trained professionals becomes relevant [20].

As a consequence, it is important to highlight that the coach training becomes vital for the educational process of students with disabilities, and hence, to their learning. Therefore, studies in the literature discuss about the pedagogical training of physical education coaches and state that it, in recent years, has been neglected, when issues involving physical skills, technical gestures and performance are prioritized, and the educational methods are put in secondary plan [21, 22].

This study finding is in line with literature which found that the main difficulties for carrying out the work with people with disabilities were related to some flaws in these coaches training, as well as better professional training and qualification [23, 24]. In another study, were found that about 97% of its interviewed coaches did not have sufficient expertise to include students with disabilities in their practices related to physical education [22].

Another important aspect of the participants' speech is how they perceive the student with disabilities in taekwondo practices. The analysis shows that the coaches' speech is still guided by ideals of the integration movement, and the concepts presented on disability reflect those of common sense.

For a positive attitude and total mobilization of coaches before the possibility of inclusion and education of a person with disability, it is necessary that all their acquired knowledge on the subject exert an influence on these professionals, namely the knowledge they acquired should be consistent with the work they wish to perform [25].

Emphasizing the idea of the importance of professional training, existing researches suggest that many difficulties related to working with people with disabilities in teaching and learning process

are part of the majority reality of coaches working today and corroborate the idea that supporting and continuing education programs are relevant for coach training process and should be linked to practice, being, thus, a starting point [19, 25, 26].

Wherefore, coaches, after having gone through training with both practical and theoretical experiences, are able to formulate and organize their classes to better meet the needs of their students, respecting their specificities [19].

CONCLUSIONS

Given the information found in this study, is possible to state that the coaches do not seem to be adequately prepared to receive students with disabilities in their taekwondo classes, even though more than half of the interviewed coaches have had or has students with disabilities in taekwondo classes. Consequently, taekwondo classes toward this population may be compromised as the methodological aspects, because the coach would not feel safe enough to teach classes to students with disabilities, thus their learning may be compromised.

We also observed that the literature results were similar to the results found in this study, confirming that the inclusion reality in sports of students with disabilities, and which involve knowledge and physical education professionals is far from being the ideal, since it is very important that profound changes are considered in social conceptions, as well as in professional' training process and improvement and deepening of this knowledge.

This study shows that it seems that the coaches do not reflect on their actions and knowledge related to their practices. Therefore, it becomes important to understand the implications of formative processes in pedagogical practice, identifying how and at what time they are being put into practice.

In this sense, future research is required to examine the professional training, aiming to approach theoretical and practical content, which would assist coaches to acquire knowledge and experience, essential to perform a better work, specifically with taekwondo, sport that can be used as an educational tool linked to the overall development of the student, bringing the martial arts values, philosophies and benefits.

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