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ORIGINAL ARTICLE

The Place of Bosu Ball in Thesis Studies in Turkey: The Field of Sports Sciences

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ABSTRACT

Background: When the literature on Bosu exercise applications is examined, it is seen that Bosu exercise applications are used for balance development, strength and postural control development, and development of motor skills. In addition, the Bosu ball, which has a wide usage area, can be used not only by standing on it in a vertical position, but also by standing in a horizontal position. Reporting of the positive effects of Bosu exercises on sportive performance by many researchers has attracted the attention of trainers and athletes and has made it a frequently used material in training programs.

Aim: The aim of this research is to determine for what purpose the Bosu ball, which has a global popularity, is a research topic in postgraduate theses published in the field of sports sciences in Turkey.

Methods: This research was designed using the systematic review method. Between 11.03.2022 and 07.04.2022, a total of 9 theses were reached as a result of the search made by searching the keyword "Bosu" in Turkish-English language by filtering the word "Spor" on the database of the National Thesis Center. As a result of the first evaluation made within the framework of inclusion criteria, it was determined that 1 thesis was outside the field of sports sciences and this thesis was not included in the research within the scope of exclusion criteria. Within the scope of inclusion criteria, it was determined that there were 8 postgraduate theses and these theses were included in the research and the data of the research were obtained.

Results: When the theses included in the study were examined in terms of their levels, it was determined that five theses were at the master's level and three theses were at the doctoral level. When the theses included in the research are examined in terms of the number of publications by years, it is seen that only studies on the relevant subject have been published in the last six years. As a result of the research, it was determined that Bosu exercise material, which is the subject of research in the field of Physical Education and Sports Sciences, has been researched specifically to increase balance performance. The effects on performance parameters such as body composition, aerobic capacity and agility were also investigated in some theses. In addition to these, there is also a study examining whether it has effects on body image, self-design and stress level.

Conclusion: It has been deduced that Bosu exercise practices, which are the subject of research in postgraduate theses in the field of Physical Education and Sports Sciences, have a positive effect on body composition, sportive performance and psychological aspects.

Keywords: Bosu ball, Bosu exercises, Physical Education and Sports Sciences

INTRODUCTION

The Bosu ball is a hemispherical exercise material designed by David Weck in 1999. One side consists of hard and flat plastic, while the other side consists of flexible and inflatable plastic[1,2]. In general, the Bosu ball can withstand a maximum weight of 300 kg, weighs 4.54 kg and has a diameter of 65 cm^3, but it should be noted that these dimensions may vary.

The word Bosu is derived from the expression "Both Sides Up" in English and means that it can be used on both sides[1,2]. The bosu ball, which can be used on both sides, is frequently used in exercise programs for different purposes and its popularity is increasing. The Bosu ball has been the subject of many studies since the day it was designed and its effectiveness has been examined.

The flat side of the Bosu ball is often used for improving muscle tone, correcting posture and improving balance. The spherical side is mostly used to improve reaction speed and motor control[2]. However, it is thought that more research is needed on this subject. A clear demonstration of the effectiveness of Bosu exercises may be possible with new studies. In this context, new exercise

applications that will be developed using the Bosu ball are very important.

When the literature on Bosu exercise applications is examined, it is seen that Bosu exercise applications are used for balance development[4,5], strength and postural control development[6,7], development of motor skills[8]. In addition, the Bosu ball, which has a wide usage area, can be used not only by standing on it in a vertical position, but also by standing in a horizontal position[9]. Reporting of the positive effects of Bosu exercises on sportive performance by many researchers has attracted the attention of trainers and athletes and has made it a frequently used material in training programs. It is known that this exercise material, which has a global popularity, has been the subject of postgraduate theses in Turkey.

There have been many studies compiled from postgraduate theses in the field of sports sciences in Turkey[10-12,15,16]. However, no research has been found on Bosu exercise practices.

Aim of the study: The aim of this research is to determine for what purpose the Bosu ball, which has a global popularity, is a research topic in postgraduate theses published in the field of sports sciences in Turkey.

MATERIAL AND METHODS

Research model: In the literature, review studies are generally examined by three different methods: systematic review, traditional review and meta-analysis[13]. This research was designed using the systematic review method.

The systematic review consists of synthesizing the findings obtained from the studies included in the research by examining all the studies published in the relevant field within the framework of various inclusion and exclusion criteria in order to answer a question or find a solution to a problem [14,17,18,19].

Inclusion criteria for the study: It is a postgraduate thesis published in the field of Sports Sciences in Turkey and a research on Bosu. Exclusion criteria from the study; The reason is that there is no postgraduate thesis published in the field of Sports Sciences in Turkey and there is no research on Bosu.

Scanning Strategy and data collection: A total of 9 theses published between 11.03.2022 and 07.04.2022 were found by searching the Turkish-English keyword "Bosu" by filtering with the word "Spor" on the database of the National Thesis Center. As a result of the first evaluation made within the framework of inclusion criteria, it was determined that 1 thesis was outside the field of sports sciences and this thesis was not included in the research within the scope of exclusion criteria. Within the scope of the inclusion criteria of the study, it was determined that there were 8 postgraduate theses and these theses were included in the research and the data of the research were obtained (Figure 1).

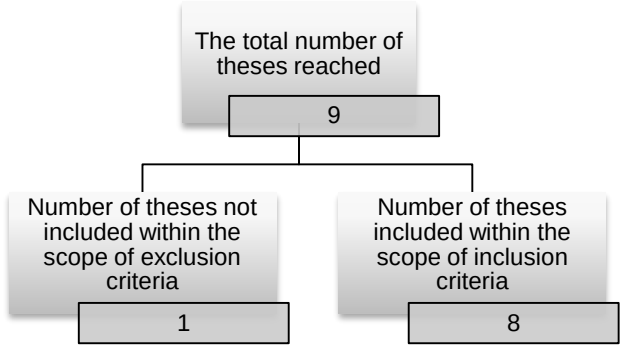

Figure 1: Number of theses reached, excluded and included within the scope of the research

RESULTS

When the theses included in the study were examined in terms of their levels, it was determined that five of my theses were at the master's level and three of them were at the doctoral level (Figure 2).

When the theses included in the research are examined in terms of the number of publications by years, it is seen that only studies on the relevant subject have been published in the last six years. In this context, while three theses were published in 2019, it was determined that only one thesis was published in other years (Figure 3).

The findings obtained from the postgraduate theses published in the field of sports sciences reached within the scope of this research are given in Table 1.

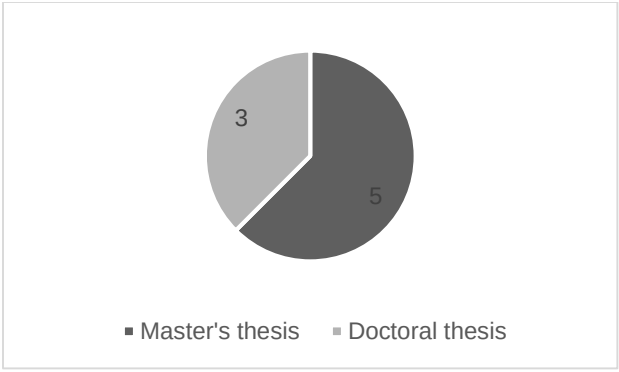

Figure 2: Published postgraduate thesis levels in the field of Sport Sciences

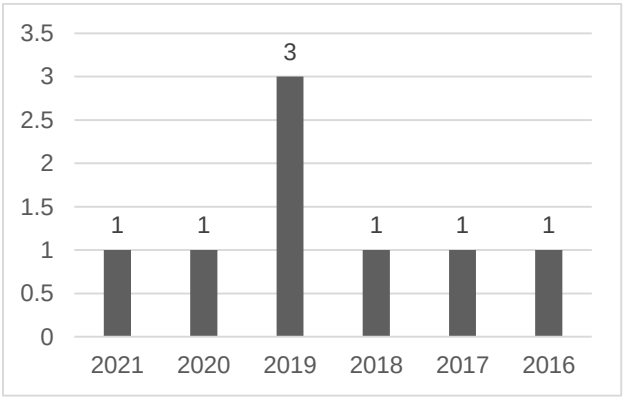

Figure 3: Distribution of the number of postgraduate theses published in the field of Sports Sciences by years

Table 1: Findings Obtained from Postgraduate Theses Published in the Field of Sport Sciences

1	Thesis level	Master's thesis
	Participant Group	14-16 age group female volleyball players
	Aim	To determine the effect of 8-week Bosu exercise program on body composition, anaerobic power and balance ability
	Conclusion	8-week Bosu exercise applications do not affect the height, body weight and body mass index of the athletes. However, it positively affects flamingo balance right foot test, flamingo balance left foot test, standing long jump, vertical jump and anaerobic power performances.
2	Thesis level	Master's thesis
	Participant Group	Individuals between the ages of 18-35 who exercise regularly
	Aim	The effect of power plate and Bosu exercises applied to individuals who exercise regularly in the fitness center on the development of balance was investigated.
	Conclusion	Power plate and Bosu exercises applied to individuals who exercise regularly in the fitness center not only improve balance performance, but also reduce body fat.
3	Thesis level	Doctoral thesis
	Participant Group	Hearing impaired students aged 7-12
	Aim	To reveal the effect of Bosu exercises on balance skills of hearing impaired children.
	Conclusion	It was concluded that Bosu exercises applied for 12 weeks had a positive effect on the development of balance skills of hearing impaired children.
4	Thesis level	Master's thesis
	Participant Group	10-14 age group male volleyball players
	Aim	To investigate the effects of Bosu exercises on balance in 10-14 age group male volleyball players.
	Conclusion	It was concluded that Bosu exercises applied to 10-14 age group male volleyball players improve balance performance.
5	Thesis level	Doctoral thesis
	Participant Group	Hearing impaired female students aged 14-22
	Aim	To examine the effects of Nintendo-wii, Kangoo Jump and Bosu training on agility and dynamic balance variables of hearing impaired female sedentary women.
	Conclusion	It has been determined that Nintendo-Wii, Kangoo Jumps and Bosu equipment contribute positively to the development of dynamic balance and agility performance.
6	Thesis level	Doctoral thesis
	Participant Group	Children aged 6-13 years
	Aim	The effects of swimming exercises and Bosu exercises on dynamic and static balance were investigated in children aged 6-13 years.
	Conclusion	It was concluded that Bosu ball exercises for static and dynamic balance improve balance and increase performance.
7	Thesis level	Master's thesis
	Participant Group	Physical Education and Sports School students (average age 22.91)
	Aim	The effects of strength exercises with Bosu on balance and anaerobic performance were investigated.
	Conclusion	It has been determined that Bosu training has a positive effect on balance and anaerobic power values.
8	Thesis level	Master's thesis
	Participant Group	Sedentary women aged 25-45
	Aim	It was aimed to determine the effect of 3-month regular Bosu exercise applied in sedentary women on physical fitness levels on body image, self-design and stress level.
	Conclusion	It has been determined that 3-month regular Bosu exercise in sedentary women reduces depression levels and positively affects body image.

CONCLUSION

As a result of the findings obtained in the research, it was determined that the Bosu exercise material, which was the subject of research in the field of Physical Education and Sports Sciences, was used especially in researches aimed at increasing balance performance.

It has been deduced that Bosu exercise practices, which are the subject of research in postgraduate theses in the field of Physical Education and Sports Sciences, have a positive effect on body composition, sportive performance and psychological aspects.

It has been determined that the number of theses made on Bosu exercise applications, which is the subject of research in postgraduate theses in the field of Physical Education and Sports Sciences, is quite low. In this context, it can be recommended to conduct research on Bosu exercise material in the field of Physical Education and Sports Sciences.

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