KunjungAshadi_Unesa_OralFull Paper.pdf

by

STUDENTS OF FACULTY OF SPORTS SCIENCE UNIVERSITAS NEGERI SURABAYA HAD FAIR CATEGORY ON GYM BALL KNOWLEDGE TEST

Conference Paper · April 2017

2 authors, including:

Kunjung Ashadi
Universitas Negeri Surabaya
48 PUBLICATIONS **62** CITATIONS

Some of the authors of this publication are also working on these related projects:

Buku Ajar Mahasiswa (BAM) Universitas Negeri Surabaya View project

Pola aktivitas olahraga sebelum dan selama masa pandemi covid-19 pada mahasiswa fakultas olahraga dan fakultas non-olahraga View project

STUDENTS OF FACULTY OF SPORTS SCIENCE UNIVERSITAS NEGERI SURABAYA HAD FAIR CATEGORY ON GYM BALL KNOWLEDGE TEST

Kunjung Ashadi[1], M Ali Machfud[2]

[1,2] Universitas Negeri Surabaya
[1]kunjungashadi@unesa.ac.id, [2]alimachfud18@gmail.com

Abstract

Gym ball is a sport tool that using to train part of the body such as the buttocks, thighs, lower back, abdominals, shoulders, and chest. Ideally, a student in the faculty of sports science have a very good knowledge about the gym ball. The purpose of this study to determine the knowledge of students of the Faculty of Sports Science, University of Surabaya on device characteristics, types of exercise, techniques and general knowledge about the gym ball. The method in this research was quantitative descriptive using questionnaire instrument covered by the Guttman scale. The samples were 60 people from the education of sports coaching, physical education and sports science department. It concluded that the average knowledge of gym ball equipment was 9,08 included in a good category, the type of exercise gym ball was 5,24 included fair category, knowledge of training techniques was 2,60 included in a fair category, and general knowledge of gym ball was 2,62 included in poor category.

Keywords: gym ball, knowledge, students

BACKGROUND

The development of sport in the world is growing very rapidly. Including the development of information, science, technology, art, culture, and human rights so rapidly that require readiness of all parties to be able to adapt to all conditions that exist (Kemenpora, 2014). This is particularly evident with their sports activities undertaken by the community, both from the bottom, middle or elite, is no exception ranging from children, teenagers, adults and elderly. Sport not only for recreation but also beneficial to reduce the likelihood of children grow into obese adults and less healthy (Cassidy et al 2009).

Many benefits are obtained through the sport, one of the benefits is to maintain health and improve physical fitness, a smooth blood flow and strengthens the muscles of the body, especially when exercise is done regularly. Regular exercise is beneficial for physical and mental health, and provides protective factor decrease onset of mental health problems, as well as strengthen the heart and muscles, prevents disease, contributes to weight loss and provide extra energy to accomplish everyday tasks (Nelson, 2016).

Based on observations at several lecturer of physical fitness in Faculty of sports science related to the use of sports facilities in the building Achilles Sport Science and Fitness Center (ASSFC) FIK Unesa it is known at a glance that students only use weight training machine, treadmill and aerobics exercises, but in fact there is one tool that still has not been used in the learning process is a gym ball. The gym ball is a sports tool commonly found in the centres of fitness exercises. Its use is very flexible. Can be done in a standing position, squatting, sitting, prone, and supine. The focus of the exercise on the part of the body such as the buttocks, thighs, back, abdominals, shoulders, chest up. Gym ball made of rubber latex and able to withstand loads up to 120 kg (Santoso, 2013). Use of the gym ball is very effective to train the muscles supporting posture, abdomen and back, so that makes a person look more upright and trained.

Swiss ball or gym ball is recommended as a means of exercise to improve joint position, posture, balance, and neural feedback. However, proper training intensity are difficult to obtain for wearing swiss ball work, while strengthening exercises on machines are usually done to encourage a high

level of muscle activation. (Sundstrup, et al, 2012). Swiss ball was shown to reduce back pain and disability when compared to core stability exercises on the floor. Thus, doing core stability exercises on a swiss ball reduces pain and low back pain disability (Balakrishnan et al, 2016).

Many benefits are obtained through the gym ball exercise as it says (Ashadi, 2015), among others:

1. Increase the balance

Spherically round then make the ball easier to slide and easy to change position easily and unstable. Therefore, using gym ball for exercise requires the ability to balance themselves continuously and control the muscles of the body with gym ball well so that the ball remains in place.

2. Engaging the core muscles of the body to the maximum

In the gym ball exercises, abdominal and back muscles are forced to actively from time to time engaged in efforts to reach a balanced position and maintain the position of the body that does not move or fall. Very effective for abdominal and back muscles.

3. Reduce the risk of injury

Use of the gym ball can improve the stability of the spine and peripheral joints so as to minimise the risk of injury to the body.

4. Increase muscle strength

With some variations of movement and additional tools, example is a dumbell effective to train the muscles of the body besides the abdomen and back, the chest, arms and legs.

Based on observations at several lecturer that taugh fitness subject in Faculty of sports science related to the use of space Achilles Sport Science and Fitness Center (ASSFC) it is known at a glance that students only use weight training, treadmill and aerobics, but in fact there is one tool that is still not used in the learning process ie gym ball.

FIK Unesa students very likely will pursue internship experience or while working in the fitness centre or aerobics. In addition, they are required to master a variety of sports equipment such as the use of dumbbells, barbells and also gym ball even sports that do not use tools. The fact that there is FIK Unesa have facilities such as gym ball equipment that has not been optimally used in lectures of fitness and aerobics. While the gym ball gaining popularity and is widely used as tools in the areas of sports fitness centre and frightening gymnastics, and is not known how well the knowledge of FIK students about gym ball exercise and equipment. The impact of students do not have the basic knowledge and skills about physical exercises with the gym ball tools.

From the above explanation can be concluded that the problems that there are some students who do not understand about the exercise equipment gym ball, but the evidence was not strong enough to declare that the students do not know about the gym ball. It is the question of whether the condition is true in Nikken Unesa like that, not knowing the true facts and there is no real data about Nikken student knowledge about exercise equipment gym ball. Therefore it is necessary to study to get the facts about the real conditions of knowledge about the gym ball.Thus obtained solution found by the research conducted to obtain real data about FIK Unesa student knowledge about gym ball exercise and equipment so that research results can be used as a reference for follow-up in lectures.

METHOD

This study uses a quantitative research with descriptive approach. The method used in the retrieval of data this study is a survey research that seeks to uncover the facts and the actual conditions in a scope of a number of subjects and the research that takes a sample with the criteria that have been determined using a questionnaire as a means of collecting basic data using Guttman scale.

Subjects in this study were FIK students Universitas Negeri Surabaya of 2013 classes which have been programmed fitness courses. The study only took a few sample of the student population has been programmed fitness courses that some 60 people covering of sports coaching department of 20 people, 20 people majoring in physical education and sports science 20 people. Accordance with the opinion of Arikunto (2006), which states that if the subject is less than 100, better taken all to study

using population studies. If the amount of the subject is greater than 100 can be taken between 10-15% or 20-25% or more. In this study, samples were taken by using purposive sampling Sampling traits and characteristics are known in advance based on the characteristics and properties of the known (Infallible, 2012). Furthermore, the data in this study were analysed using mean and percentage calculations.

Results and Discussion

The first part is the knowledge gym ball sports equipment consisting of 14 questions, for the second part namely the knowledge types of gym ball exercise consists of 12 questions. Part three about knowledge of gym ball exercise technique consists of 6 questions and part four is common knowledge that studies gym ball consists of nine questions. Thus, the overall total as much as 41 question questionnaire questions. Each number in the corresponding number of respondents in each part and criterion scores has been determined, then the total number of parsed using the formula mean scores and percentages. The number of respondents in this study were 60 respondents are 2013 students from FIK Universitas Negeri Surabaya these include:

Table 1. Profile of the sample research

Department	Responden	∑ Male	∑ Female
Sport Coaching	20	16	4
Physical Education	20	17	3
Sport Science	20	20	0
Total	**60**	**53**	**7**

Samples were taken in this study who is a student who has been programmed fitness courses from three courses that exist in the environment in FIK Unesa. Based on the above table it is known that the majority of the samples in this study male sex with a percentage of 88.33%. While 11.67% were female. It corresponds to the fact that in the environment that the majority of students FIK Unesa male sex. Furthermore, based on the answers obtained from the sample, it can be divided into four parts: the knowledge of students about the tools gym ball, student knowledge about the type of exercise gym ball, the student's knowledge of training techniques gym ball and a general knowledge of students on the gym ball. First, it will show the results of the student's knowledge about the tools gym ball in table 2.

Table 2. Students knowledge of gym ball tool

Category	Score	Frequency	Amount	Mean	Percentage
Very Good	11,3 - 14	6	77	1,28	10,0
Good	8,5 – 11,2	33	322	5,37	55,0
Fair	5,7 – 8,4	19	137	2,28	31,7
Less	2,9 – 5,6	2	9	0,15	3,3
Poor	0 – 2,8	0	0	0	0
Total		**60**	**545**	**9,08**	**100%**

Based on the answers of 14 questions on the sub student knowledge about the tools gym ball in Table 2 it is known that the average student knowledge FIK Universitas Negeri Surabaya on gym ball equipment for 9.08 included in both categories with a percentage of 55%. Furthermore, will be shown the results of the student's knowledge about the type of exercise gym ball is shown in Table 3.

Table 3. Students knowledge of exercise types on gym ball

Category	Score	Frequency	Amount	Mean	Percentage
Very Good	9,7 – 12	1	10	0,16	1,7
Good	7,3 – 9,6	3	25	0,41	5,0
Fair	4,9 – 7,2	37	224	3,73	61,7
Less	2,5 – 4,8	14	50	0,83	23,3
Poor	0 – 2,4	5	7	0,11	8,3
Total		**60**	**316**	**5,24**	**100%**

Based on the answers to 12 questions on the sub student knowledge about the tools gym ball in table 3, it is known that the average student knowledge FIK Universitas Negeri Surabaya on types of exercises on the gym ball for 5.24 included in the category enough with a percentage of 61.7%. Furthermore, will be shown the results of the student's knowledge of training techniques gym ball is shown in Table 4.

Table 4. Students knowledge of exercise technique on gym ball

Category	Score	Frequency	Amount	Mean	Percentage
Very Good	4,9 – 6	2	10	0,17	3,3
Good	3,7 – 4,8	14	56	0,93	23,3
Fair	2,5 – 3,6	17	51	0,85	28,3
Less	1,3 – 2,4	16	32	0,53	26,7
Poor	0 – 1,2	11	7	0,12	18,3
Total		**60**	**156**	**2,60**	**100%**

Based on the responses of six questions on sub student knowledge about the tools gym ball in table 4 it is known that the average student knowledge FIK Universitas Negeri Surabaya on technique exercises on the gym ball 2,60 included in the category enough with a percentage of 28.3%. Furthermore, will be shown the results of the general knowledge of students on the gym ball is shown in Table 5.

Table 5. Students general knowledge of gym ball

Category	Score	Frequency	Amount	Mean	Percentage
Very Good	7,3 - 9	1	8	0,13	1,7
Good	5,5 – 7,2	2	13	0,22	3,3
Fair	3,7 – 5,4	15	64	1,07	25,0
Less	1,9 - 3,6	23	58	0,97	38,3
Poor	0 - 1,8	19	14	0,23	31,7
Total		**60**	**157**	**2,62**	**100%**

Based on the responses of nine questions on the sub student knowledge about the tools gym ball in table 5 it is known that the average general knowledge of students FIK Universitas Negeri Surabaya on the gym ball of 2.62 included in the poor category with a percentage of 38.3%. The first question is based on variable data (14 questions), variable second question (12 questions), variable third question (6 questions), and variables to the four questions (9 questions) at getting the results as follows:

Table 6. Perbandingan Beragam Pengetahuan mahasiswa tentang Gym Ball

Aspect	Mean	Percentage	Category
Knowlegde of gym ball tool	9,08	55,00 %	Good
Knowledge of exercise types on gym ball	5,24	61,70 %	Fair
Knowlegde of exercise technique on gym ball	2,60	28,33 %	Fair
	2,62	38,33%	Less

Based on table 6 it is known that the general level of knowledge of students on the gym ball into the category enough. This shows that students still need to increase their knowledge about the gym ball. Overview average yield of knowledge tools, types, techniques and general knowledge is more clearly seen in figure 1.
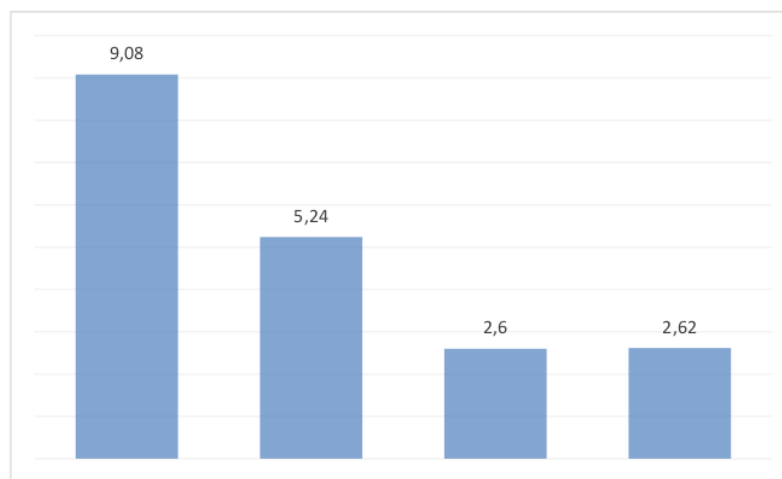

Figure 1. Comparison of the average value of student knowledge about the gym ball

Furthermore, based on the results of the data in Figure 1 which includes the student's knowledge about the tools gym ball (1), the student's knowledge about the type of exercise gym ball (2), the student's knowledge of training techniques gym ball (3) and the general knowledge of students on a gym ball (4) it is known that the highest level of knowledge about the knowledge of the tools gym ball, whereas the lowest knowledge possessed by students is common knowledge about the gym ball. Next will be discussed one by one as shown in the next article.

The gym ball is a sports tool which is used in many different areas of the body that are used for strength training, balance, orthopaedic rehabilitation, physical fitness, flexibility, physical education, special education, and childbirth (CUG, 2012). Based on the results of the category, it can be concluded that the average knowledge of FIK student on gym ball equipment belongs to the category "Fair" with an average of 3.71 and a percentage of 40.00%. The impact of the fact that if the 7th semester of FIK student that will soon pass not know sporting goods gym ball in detail feared during an internship or working on the fitness then he will not master and difficulty answering the questions being asked members about gym ball equipment. This will decrease the sense of trust and questioned the competency of the graduates.

Gym ball was shown to reduce back pain and disability when compared to core stability exercises on the floor. swiss ball or gym ball exercises in reducing pain and low back pain disability (Balakrishnan, et al, 2016th). Based on the results of the inferred category average the knowledge of FIK student on the type of exercise gym ball belongs to the category "Fair" with an average of 2.45

and a percentage of 43.33%. The impact is that if students want to work in a gym or aerobics studio did not know about the type of exercise gym ball is feared later on when giving examples of exercises do not understand about the type name of the exercise so that members underestimate his capabilities.

The gym ball equipment shaped round balls made of rubber with a diameter between 45-85 cm (22-34 inches), known by another name, namely the exercise ball, exercise ball, pilates ball, swiss ball, exercise ball, fitness ball, therapy ball, yoga ball, balance ball, or the ball body (Walter, 2012). Based on the results, we conclude category average FIK student knowledge on the gym ball exercise techniques including the category of "Fair" with an average of 0.85 and a percentage of 28.33%.The impact is that if students want to work in a gym or aerobics studio did not know about the training techniques gym ball is feared later on when giving examples of exercises do not understand about the movement of even the correct order at the time of exercise gym ball so that members underestimate his capabilities. Historically, gym ball was first invented in Italy in 1963 as a toy gymnastics by an engineer Aquilino Cosani during the early 1990s, used as a rehabilitation and then moved into the arena of fitness and commonly used by physical therapists, athletic trainers, coaches and other health professionals to exercise, sit down, stretch, sport specific training, and much more (exercise ball, 2016).

Based on the results inferred category average FIK student knowledge on general knowledge that studies gym ball belongs to the category "Poor" with an average of 0.97 and a percentage of 38.33%. The impact is if the student is not a lot to read about knowledge gym ball is feared there are people around or at the time of the internship or work in the area of fitness were asked about the gym ball and he can not answer if not embarrassed when he graduated from the sport did not know about the update sport tools. It is also caused by several factors, one of which can be seen is a lack of curiosity to know, deepen and many students who do not know the functions and benefits that exist on gym equipment ball if used sport when the tool was very useful to improve dynamic balance, flexibility, reaction time and muscle strength and reduces the tendency to fall in older women (Irez, 2011). In terms of the role of the lecturer is highly recommended to fix a way to motivate students to improve the quality of learning tools gym ball.

Conclusion

Results of research on student knowledge of FIK Universitas Negeri Surabaya on gym ball sports equipment, it will be concluded that:

1. Knowledge of gym ball tool found to have an average of 9,08 and a percentage of 55,00% based on the classification criteria included in the good category.
2. Knowledge of the type of gym ball exercise found to have an average of 5,24 and a percentage of 61,70% based on the classification criteria included in the fair category.
3. Knowledge of gym ball techniques found to have an average of 2,60 percentage amounted to 28.33% based on the classification criteria included in the fair category.
4. General knowledge of gym ball found to have an average of 2,62 percentage amounted to 38,33% based on the classification criteria included in the less category.

Suggestion

Based on the description of the research, the findings and conclusions of the above, it can be put forward the following suggestions:

1. In general, many students who know about the sporting goods gym ball but these tools have not been used by FIK students to exercise, especially during the lecture, the lecturer is expected to provide knowledge about the gym ball so that when students are working in the gym or gymnasium may have qualified experience.
2. FIK Unesa Students is still much less know about the types of exercise gym ball, feared after graduating from college to work in the fitness have not qualified experience will make students not confident to work on the fitness.

3. Many students are confused in the gym ball exercise techniques due to the lack of gym ball knowledge through lectures and reference books no gym ball Indonesian language that makes the students more and more lazy to read a foreign language.
4. Enthusiastic students in learning the gym ball very little because many students who do not know about the uses and benefits of using the gym ball sports equipment, there are some professors who are expected to provide knowledge gym ball so that students can at least know and depth.

References

Aagaard, M. Aarhus, MFE. Denmark. 2011. *"Stability Ball Exercises Fitness and Performance Exercises For Strength, Stability and Flexibility"* Publizon.

Anggraini, Dian. Dkk, 2014. *Jurnal Olahraga Pendidikan.* Asisten Deputi Olahraga Pendidikan Deputi Bidang Pembudayaan Olahraga Kementerian Pemuda dan Olahraga Republik Indonesia. Volume 1, Nomor 1, Mei 2014, Hal 32 – 46.

Arikunto, Suharsimi. 2006. *Prosedur Penelitian Suatu Pendekatam Praktik (Edisi Revisi VI)*. Jakarta : PT. Rineka Cipta.

Arikunto, Suharsimi. 2010. *Prosedur Penelitian Suatu Pendekatam Praktik (Edisi Revisi 2010)*. Jakarta : PT. Rineka Cipta.

Ashadi, Kunjung, dkk. 2015. *Cara Mudah latihan Gym Ball*. Surabaya: CV RIZKI AULIA GROUP.

Aspuah, Siti. 2013. *Kumpulan Kuisioer Instrumen Penelitian Kesehatan*. Yogyakarta : Nuha Medika.

Balakrishnan, R. yazid, E. Mahat, MFB. 2016. Effectiveness of the core stabilization exercise on floor and Swiss ball on individual with non-Specific low back pain. *International Journal of Physical Education Sports and Health*. Volume 2, Number 1. Page 347-350.

Bryden, Lincoln. 2009. *Stability Ball Exercises. Canterbury Road.* Bapchild.

Cassidy, Tania. Jones, Robin. Potrac, Paul. 2009. *"Understanding Sports Coaching".* London andNew York. British Library.

Cug, Mutlu. 2012. *Efferts Of Swiss Ball Training On Knee Joint Reposition Sense, Core Strength And Dynamic Balance In Sedentary Collegiate Students*. The Graduate Schooll Of Social. Sciences Of Middlee East technical University.

Escamilla-Rafael, dkk. 2010." Core Muscle Activation During Swiss Ball and Traditional Abdominal Exercises". *Journal of orthopaedic & sports   physical therapy*. Vol. 40 (5): hal. 268.

Irez, G,B. Ozdemir, R, A. Evin, R. Irez, S, G. Korkusuz, F. 2011.   "Integrating Pilates exercise into an exercise program for 65+ year-old women to reduce falls". *Journal of Sports Science and Medicine*. Vol. 10. Hal 105-   111.

Mahardika, I Made Sriundy. 2010. *Pengantar Evaluasi Pengajaran*. Surabaya : UNESA University Press.

Maksum, Ali. 2007. *Buku Ajar Statistik. Surabaya.* UNESA University Press.

Maksum, Ali. 2012. *Metodologi Penelitian Dalam Olahraga. Surabaya.*   FIK Universitas Negeri Surabaya.

Nelson, C. Cromwell, S. 2016. *Benefits of Exercise on Mind Function*. Utah State University.

Ratmawati,Y. Setiawan. Kuntono, H.P. 2015. *Pengaruh latihan Swiss Ball Terhadap Peningkatan Fleksibilitas Trunk Pada Remaja Putri Usia 17-21 Tahun*. Jurnal Terpadu Ilmu Kesehatan, Volume 4, Nomor 1, hlm. 19–22.

Siregar, Sofian. 2013. *Metode Penelitian Kuantitatif*. Jakarta. Kencana, PT.Fajar Interpratama Mandiri.

Sugiyono, 2010. *Statistika Untuk Penelitian*. Bandung : Penerbit Alfabeta.

Sugiyono, 2013. *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung. Alfabeta.

Sugiyono, 2015. *Statistika Untuk Penelitian*. Bandung : Penerbit Alfabeta.

Sundstrup, Emil. 2012. Original Research Swiss Ball Abdominal Crunch With Added Elastic Resistance Is an Afeective Alternative To Training Machines. *The International Journal of Sports Physical Therapy*. Volume 7, Number 4. Page 372.

Tim Penyusun. 2014. *Pedoman Penulisan dan Penilaian Skripsi*. Surabaya: Unesa Press.

Walter, R. Thompson. 2012. Worldwide Survey Of Fitness Trends For 012. *ACSM's Health & Fitness Journal*. VOL. 15/ NO. 6. Hal 16.

KunjungAshadi_Unesa_OralFullPaper.pdf

10	etd.lib.metu.edu.tr Internet Source	<1 %
11	www.iiste.org Internet Source	<1 %
12	digilib.unisayogya.ac.id Internet Source	<1 %
13	jurnal.untagsmg.ac.id Internet Source	<1 %
14	Marshall, P.W.. "Core stability exercises on and off a Swiss ball", Archives of Physical Medicine and Rehabilitation, 200502 Publication	<1 %

| Exclude quotes | On | Exclude matches | < 3 words |
| Exclude bibliography | On | | |