



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 8.4
IJAR 2021; 7(6): 110-113
www.allresearchjournal.com
Received: 25-04-2021
Accepted: 27-05-2021

Guljar Ismail Shaikh
Research Scholar, Department
of Physical Education, JJTU,
Jhunjhunu, Rajasthan, India

Dr. Balwant Singh
Professor, Department of
Physical Education, JJTU,
Jhunjhunu, Rajasthan, India

Impact of gymnastic training on health related physical fitness of women softball players

Guljar Ismail Shaikh and Dr. Balwant Singh

Abstract

The present study was undertaken to explore the 'Impact of Gymnastic Training on Health Related Physical Fitness of Women softball players'. In pursuance to same, 200 women softball players were selected by using convenient sampling technique. The respondents were selected with the age level of 18-23 years. The present study was carried with the help of "one group pre-test post-test design". Maximum efforts were made to control the impact of extraneous variables in the study. Gymnastic training was provided as treatment for all respondents before conducting post-test. The collated data was analysed with the help of mean S. D and 't' value. The results of the study indicate that there exists significant impact of gymnastic training on the flexibility of the respondents.

Keywords: gymnastic training, flexibility, women softball players

Introduction

Gymnastics is an effective procedure for teaching fundamental motor skills and increasing health-related fitness in players who participate in virtually all forms of games. Gymnastics is a term that refers to exercises that require balance, strength, flexibility, agility, coordination, and endurance in athletes. Gymnastics training helps improve the muscles in the arms, legs, shoulders, back, chest, and abdomen. Gymnastics training has a good effect on an individual's psychological profile; it helps develop numerous characteristics such as self-confidence, self-discipline, self-esteem, and curiosity. Gymnastics training had the greatest effect on respondents' health-related physical fitness. Experts urge that each individual engage in at least a half-hour of physical activity per day to maintain a healthy lifestyle. The importance of physical fitness for gymnastic training is so evident that coaches and athletes devote a significant portion of gymnastic training spells to physical fitness development, as well as performance of the athlete in any sport. Physical fitness is a term that refers to an individual's functional capacity to do specific types of tasks that require muscular activity. Physical fitness refers to the body's capacity for adapting to and recovering from intense exercise. It is the relationship between an individual's capacity to work and play vigorously and happily without undue exhaustion and with the energy to deal with unforeseen problems. Physical fitness refers to the capacity to endure, to withstand, and to persevere in the face of adversity where an unfit person would give up. It is the polar opposite of being exhausted by routine tasks. However, in the context of Mumbai, there is a moderate preference for gymnastic training. Additionally, some researchers have examined the substantial effects of gymnastic training, with remarkable responses from responders such as, Besides, some researcher have explored the impact of gymnastic training significant, notable are; respondents like, Craftysman, D., & Tumb, I. (1999), Hoff, J., Helgerud, J., & Wisloeff, U. (1999) [6], Halin, R., Germain, P., Buttelli, O., & Kapitaniak, B. (2002) [4], Kaj, M., Németh, J., Tékus, E., & Wilhelm, M. (2013) [12], Violan, M. A., Small, E. W., Zetariuk, M. N., & Micheli, L. J. (1997) [32] and James, *et al.* (2012)". In context to same, the investigator considers it vital to explore the study on below mentioned research problem:

Research problem: The statement of the researcher problem of the study is as under:
Impact of gymnastic training on health related physical fitness of women softball players

Objectives: The present study consists of below mentioned objectives:

Corresponding Author:
Guljar Ismail Shaikh
Research Scholar, Department
of Physical Education, JJTU,
Jhunjhunu, Rajasthan, India

- **Objective-I:** To study the impact of gymnastic training on the level of flexibility of the women softball players.
- **Objective-II:** To study the impact of gymnastic training on the level of cardiovascular endurance of the women softball players.

Hypothesis: The present study consists of below mentioned hypothesis:

- **Hypothesis-I:** There exists significant impact of gymnastic training on the level of flexibility of the women softball players.
- **Hypothesis-II:** There exists significant impact of gymnastic training on the level of cardiovascular endurance of the women softball players.

Conceptualisation of terms and variables: The conceptualisation of terms and variables are as under:

- 1) **Gymnastic treatment (GT):** Gymnastic treatment (GT) in the present study refers the score obtained by the respondents on post-treatment assessment.
- 2) **Women softball players (BP):** Women softball players (BP) in the present study refers those players who are playing badminton since last three years. However, it is imperative to mention here that only 18 years players were selected for minimising the effect of extraneous variables. However, all these adolescents were selected from Anantnag District.

Delimitation of the study: Keeping nature, time and budget complexities under consideration, the research delimited the present study to following domains:

- 1) The study will be delimited to only players within the age 18-23 years of respondents.
- 2) The study will be delimited to women softball players of selected areas of Mumbai.
- 3) This study was delimited to flexibility component of physical fitness only.

Methodology and procedure: The methodology and procedure involved in the present study is reported as under:

- **Minimisation of extraneous impact:** The investigator left no stone unturned in minimising the effect of extraneous variables. Accordingly, the investigator made the proved of randomisation for “Minimisation of Extraneous Impact”. Initially randomisation was made on the basis of selection of sample. In addition to this, it is imperative to mention to here that efforts have been made by investigator to minimise the effect of exterior variables, besides all participants were selected male. They were informed of the nature and possible inconveniences associated with the experiment. Prior to data collection parental consent and child assent was obtained. No respondent had any reported history of learning difficulties or any behavioural, neurological or orthopaedic problems that would qualify as exclusionary criteria for this study. Children participated in 45 minutes per session of sport gymnastics training that included activities based on fundamental movement skills.
- **Design of the study:** The study was carried out with the help of “one group randomised matched pre-test post-test design”.
- **Sample:** The total sample for the present study consists of 200 women softball players. The players were

selected within the identical age group of 18-23 years. Respondents were selected from specific areas of Mumbai.

- **Instruments used:** “Sit and reach test apparatus” were used to determine the flexibility of the respondents.
- **Collection of the data:** Keeping the design of the study under consideration data was collected during “pre-test post-test intervals”. Data was collected during two tests, before and after the eight-week gymnastics training programme. 200 Women softball players (BP) were selected with minimising the effect of extraneous variables.
- **Treatment involved in the study:** As mentioned earlier 200 Women softball players were selected with minimising the effect of extraneous variables.
- **Sampling Technique (ST):** The required data was gathered with the help of convenient sampling technique.

Analysis of the data: The collected data was processed with the help of SPSS. Frequency Distribution, Mean, S.D. and ‘t’ value was used for the collected data. The detailed analysis is reported as under:

Table 1: Showing significance of mean difference of women softball players on pre-experimental and post experimental design on their level of flexibility

Flexibility	Mean	SD	N	“t” value
Pre-experimental (P ₁)	7.84	2.27	100	3.22***
Post experimental (P ₂)	12.18	1.99	100	

Index

- ***= Significant at 0.01 level of confidence.

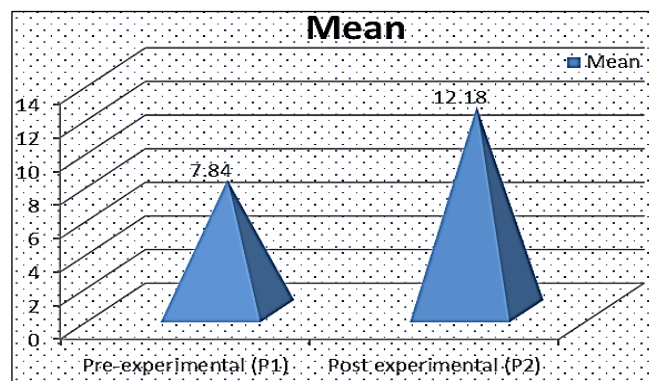


Fig 1: Showing graphical representation of women softball players on pre-experimental and post experimental design on their level of flexibility

Discussion of Table 1 (Fig. 1): The results in Table 1 (Please see Fig. 1) indicate the mean significant difference between pre-and post-test flexibility levels of female softball players. The obtained data reveal that the mean post-test value was significantly greater (M=12.18) than the mean pre-test value (M=7.48). When the groups were statistically analysed, it was discovered that there is a substantial variation in their level of flexibility between pre-and post-test observations. The computed 't' value was 3.22, which is statistically significant at the 0.01 level of confidence. Thus, the effect of therapy (Gymnastic Training) appears to have a substantial effect on the respondents' level of flexibility. As a result, the hypothesis's status is as follows:

Hypothesis-I: “There exists significant impact of gymnastic training on of flexibility level of the women softball players”.

- **Accepted:** The hypothesis stands accepted. Indeed, impact of gymnastic training was reported significant on the level of flexibility of the respondents. So the previously speculated assumption stands accepted.

Conclusions of the study: The present study was explored with a view to explore the impact of gymnastic training on the selected health related physical fitness of the women softball players. Accordingly, the study revealed that there exists significant impact of gymnastic training on the flexibility of women softball players. Thus the results are carried in consonance of the host of the researchers like, “Hoff, J., Helgerud, J., & Wisloeff, U. (1999) ^[6], Halin, R., Germain, P., Buttelli, O., & Kapitaniak, B. (2002) ^[4], Kaj, M., Németh, J., Tékus, E., & Wilhelm, M. (2013) ^[12], Violan, M. A., Small, E. W., Zetariuk, M. N., & Micheli, L. J. (1997) ^[32] and Werner, P. H., Williams, L. H., & Hall, T. J. (2012) ^[33]”

Conflict of interest: During the entire research process no any conflict of interest has been reported by investigator

References

1. Ahel CH. Motor fitness in pre-primary school children: The EUROFIT motor fitness test explored on 5-7-year-old children. *Pediatric Exercise Science* 2010, 12(4).
2. Freedson PS, Cureton KJ, Heath GW. Status of field-based fitness testing in children and youth. *Preventive medicine* 2000;31(2):77-85.
3. Grice T. The development of Kid Test 2002 update: A talent identification inventory for predicting success in sports for children. *Applied Research in Coaching and Athletics Annual* 2003, 228-246.
4. Halin R, Germain P, Buttelli O, Kapitaniak B. Differences in strength and surface electromyogram characteristics between pre-pubertal gymnasts and untrained boys during brief and maintained maximal isometric voluntary contractions. *European Journal of Applied Physiology* 2002;87(4-5):409-415.
5. Hastad DN, Lacy AC. Measurement and evaluation in physical education and exercise science. Champaign: Human Kinetics 1998.
6. Hoff J, Helgerud J, Wisloeff U. Maximal strength training improves work economy in trained female cross-country skiers. *Medicine and Science in sports and Exercise* 1999;31:870-877.
7. Hopkins W, Marshall S, Batterham A, Hanin J. Progressive statistics for studies in sports medicine and exercise science. *Medicine Science in Sports Exercise*. 2009;41(1):3.
8. Hunsicker PA, Reiff GG. AAPER Youth fitness test manual. American Alliance for Health, Physical Education and Recreation, Washington D.C. 1976.
9. Ismail SH. Correlation between cognitive, motor and conative characteristics. *Kineziologija* 1976;1(2):7-28.
10. Jayanthi N, Pinkham C, Dugas L, Patrick B, La Bella C. Sports specialization in young athlete’s evidence based recommendations. *Sports Health: A Multidisciplinary Approach* 2013;5(3):251-7.
11. Jemni M, Sands WA, Friemel F, Stone MH, Cooke CB. Any effect of gymnastics training on upper-body and lower-body aerobic and power components in national and international male gymnasts? *The Journal of Strength & Conditioning Research* 2006;20(4):899-907.
12. Kaj M, Németh J, Tékus E, Wilhelm M. Physique, body composition and physical fitness of Finish, Hungarian and American adolescents. *Exercise and Quality of Life* 2013;5(1):19-29.
13. Kalinski SD, Miletić Đ, Božanić A. Gender-based progression and acquisition of gymnastic skills in physical education. *Croatian Journal of Education* 2011;13(3):4-24.
14. Katić R. Motor efficacy of athletic training applied to seven-year old schoolgirls in taching physical education. *Biology of sport* 1995;12(4):251-256.
15. Kioumourtzoglou E, Derri V, Mertzaniidou O, Tzetzis G. Experience with perceptual and motor skills in rhythmic gymnastics. *Perceptual and motor skills*. 1997; 84(3):1363-1372.
16. Kvaavik E, Klepp KI, Tell GS, Meyer HE, Batty GD. Physical fitness and physical activity at age 13 years as predictors of cardiovascular disease risk factors at ages 15, 25, 33 and 40 years: Extended follow-up of the Oslo Youth Study. *Pediatrics* 2009;123(1):80-86.
17. Lissau I, Overpeck MD, Ruan WJ, Due P, Holstein BE, Hediger ML. Body mass index and overweight in adolescents in 13 European countries, Israel, and the United States. *Archives of paediatrics & adolescent medicine* 2004;158(1):27-33.
18. Lovecchio N, Casolo F, Invernizzi P, Eid L. Strength in young Italian students: results from Eurofit test and comparison among European data. *Polish Journal of Sport and Tourism* 2012;19(1):13-15.
19. Madić D, Popović B, Tumin D. Motor abilities of girls included in program of development gymnastics. *Glasnik Antropološkog društva Srbije* 2009;44:69-77.
20. Maffulli N, King JB, Helms P. Training in elite young athletes (the Training of Young Athletes (TOYA) Study): injuries, flexibility and isometric strength. *British journal of sports medicine* 1994;28(2):123-136.
21. Matvienko O, Ahrabi-Fard I. The effects of a 4-week after-school program on motor skills and fitness of kindergarten and first-grade students. *American Journal of Health Promotion* 2010;24(5):299-303.
22. Millet GP, Jaouen B, Borrani F, Candau R. Effects of concurrent endurance and strength training on running economy and VO₂ kinetics. *Medicine and science in sports and exercise* 2002;34(8):3511-3519.
23. Ortega FB, Artero EG, Ruiz JR, España-Romero V, Jiménez-Pavón D, Vicente-Rodríguez G *et al*. Physical fitness levels among European adolescents: the HELENA study. *British journal of sports Medicine* 2011;45(1):20-29.
24. Ortega FB, Artero EG, Ruiz JR, Vicente-Rodríguez G, Bergman P, Hagströmer M *et al*. Reliability of health-related physical fitness tests in European adolescents. The HELENA Study. *International journal of obesity* 2008;32:S49-S57.
25. Rodríguez PL, Santonja FM, López-Minarro PA, Baranda PS, Yuste JL. Effect of Physical Education Stretching Programme On Sit-And Reach Score In School Children. *Science & Sports* 2008;23(3):170-175.
26. Ruiz JR, Rizzo NS, Hurtig Wennlöf A, Ortega FB, Wärnberg J, Sjöström M. Relations of total physical activity and intensity to fitness and fatness in children:

- the European Youth Heart Study. *The American journal of clinical Nutrition* 2006;84(2):299-303.
27. Sawczyn S. Physical development and physical fitness of artistic gymnasts aged 10-15 years (in Polish). PhD thesis, AWF, Poznań 1985. Sawczyn S. Training loads in artistic gymnastics for many years of preparation system (in Polish). AWFIS, Gdańsk 2000.
 28. Semenick DM. Testing Protocols and Procedures. In: Baechle TR (Ed): *Essentials of strength training and conditioning*. Human Kinetics, Champaign 1994, 258-273.
 29. Silva DAS, Petroski EL, Gaya ACA. Anthropometric and physical fitness differences among Brazilian adolescents who practise different team court sports. *Journal of Human Kinetics* 2013;36:77-86.
 30. Sloan S. An investigation into the perceived level of personal subject knowledge and competence of a group of pre-service physical education teachers towards the teaching of secondary school gymnastics. *European Physical Education Review* 2007;13(1):57-80.
 31. Vaid S, Kaur P, Lehri A. A study of Body Mass Index in Boys of 10-17 years in age. *Journal of Exercise Science and Physiotherapy* 2009;5(2):132.
 32. Violan MA, Small EW, Zetariuk MN, Micheli LJ. The effect of karate training on flexibility, muscle strength, and balance in 8 to 13-year-old boys. *Paediatric Exercise Science* 1997, 55-64.
 33. Werner PH, Williams LH, Hall TJ. *Teaching children gymnastics* (3rd ed.). Champaign, IL: Human Kinetics Publishers, Inc 2012.
 34. Yadav SKS, Yadav M, Kerkata K. Comparison of selected physical fitness variables of school level basketball and volleyball male players. *International Journal Physical Education & Sports* 2016;1(3):21-23.
 35. Ziv G, Lidor R. Physical Attributes Physiological Characteristics, On-Court Performances and Nutritional Strategies of Female and Male Basketball Players. *Sports Med* 2009;39:547-568.