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Effects of resistance training on physical fitness of college players: A systematic review analysis

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Abstract
This study has been carried out to explore the impact of resistance training on physical fitness of college players. This study is review based. Accordingly, the researcher carried this study on the basis of secondary data. This study has been carried by taking assistance of previously established review of the review of the related. Accordingly, on the basis of same analysis the researcher found that there is significant impact of resistance training on all the components of physical fitness.

Keywords: Resistance training, physical fitness, college players

Introduction
Resistance training is a form of exercise that improves muscle strength and endurance. This is also known as strength training or weight lifting. During a resistance training workout, the athlete move limbs against resistance provided by own body weight, gravity, bands, weighted bars, or dumbbells. Some exercise machines can also be used for resistance training exercises. Resistance training is proven to be safe and effective for adolescents when it is properly designed and supervised. Established scientific organizations recommend resistance training for young people to enhance muscular strength, prevent sport injuries, improve performance in sports and recreational activities and affect health and lifestyle in a positive way. Several studies have shown that resistance training increases muscular strength more than natural growth in college students. Any exercise where we push, pull, or otherwise try to work against some type of resistance can be considered resistance or strength training (also sometimes called weight lifting or weight training). After participating in resistance training programs, sport performance of youth is expected to improve. Anecdotal comments on strength training suggested that this is enhanced. Definitely, sports performance is the outcome of multiple factors and it would be difficult to control and assess the net impact of resistance training. Nevertheless, Gorostiaga *et al*. (2010) found that handball throwing velocity in adolescent players increased after resistance training. Thus, it would be interesting to examine if strength training would have a positive impact on specific tasks of soccer involving fast running and effective handling of the ball at the same time. On the other hand, it is unknown whether a resistance training program incorporated with regular soccer training would enhance the physical capacity of adolescent players compared with soccer training alone. Soccer is a sport that requires acceleration, rapid change of direction and many powerful movements. Therefore, training of the sport itself may enhance muscular performance especially during the developmental period. It would have been interesting for physical educators and coaches to recognize if soccer training would have an effect on motor performance and if resistance training combined with soccer training would have an extra effect on motor performance. The purpose of this study was to investigate the effects of soccer training combined with resistance training as well as the effects of regular soccer training alone on physical capacities such as muscular strength, vertical jump performance, running speed, agility and flexibility and on soccer technique of male adolescent soccer players. muscular strength, jumping ability, running speed, agility, flexibility and specific technical skills of male adolescent players and (b) the effects of a combined soccer and resistance training program for 16 weeks on the above physical capacities. For these reasons, a team of male regional soccer players was divided into a strength soccer training group (STR) and a soccer training group (SOC).

Soccer training (5 times per week) for the development of technical and tactical skills was the same in both groups. The soccer training group group not only trained in soccer, but in a strength training program as well, using free weights and machines twice a week. No boy had regularly participated in any form of resistance training before this study. To assess the effect of natural growth on physical capacities, a control group (CON) was used with boys of a similar age and physical characteristics. The subjects of this group did not participate in any structured training program. Anthropometric characteristics, maximum strength, vertical jump performance, running speed, agility, flexibility and soccer-specific technical skills were measured at the beginning of the training program and after 8 and 16 weeks of training.

Locations of the research gap: The research findings concerning the effects of resistance training on physical fitness are either limited or inconclusive and further studies of the potential role of resistance training on physical capacities of adolescents are required to provide useful information to coaches. Besides, limited number of researcher studies has explored the impact of resistance training on the physical fitness of the adolescents. Accordingly, the researcher considers there is wide gap to explore the below mentioned research problem:

Statement of the research problem: The statement of the research problem is as under:
"Effects of Resistance Training on Physical Fitness of College Players: A Systematic Review Analysis".

Purpose of the study: The purpose of the study is to examine the impact of resistance training on physical fitness of college players.

Methodology: This study has been carried with the help of descriptive research method. Only secondary data has been collected for generalising the results.

Rationale of the study: Number of the researchers has explored the impact of resistance training on the physical fitness of respondents. Two of the three longitudinal studies found that body image significantly improved after resistance training compared with the active control group. The other study found that aerobic training was more effective than resistance training at reducing social physique anxiety and at improving appearance evaluation.

Discussion

The purpose of this review was to systematically identify and appraise the currently published peer-reviewed literature that has tested the independent effects of resistance training on body image in adults. Eleven studies were included in this review and the majority (8 of 11) of studies concluded that resistance training can significantly improve multiple dimensions of body image. Importantly, researchers must also be aware that several limitations of this literature exist. First, there remains a heavy focus on women, as the aggregate sample in this review was 80% female. Such a bias skews the results and prevents a clear understanding of how resistance training might be effective for improving the above mentioned longitudinal studies of image in men. This is not just a limitation of the research done on resistance training and body image, however, as it is more widespread and extends reproduction of this article is prohibited. Given that rates of poor body image in men are increasing and may be as high as 61% in the male population, it will be important to expand the research in this area and conduct more studies targeting and including men. Second, only 3 studies in this review included middle-aged and older adult and all 3 used a female-only sample. Similar to the poor inclusion of men, the current research is biased by a strict focus on young adults, despite the research that suggests that middle-aged and older adults can also experience poor body image as a result of changes in their physical appearance (e.g., skin wrinkling, body fat redistribution, muscle loss), physical functioning (e.g., decline in mobility, muscular strength) and overall health. Specifically, research suggests that as individuals age, women's body image is more likely to decrease as a result of changes to their physical appearance, whereas men's body image is more likely to decrease as a result of a decline in their physical functioning. Regardless, given the lack of research in this area, it is not clear how or if age is a factor and whether resistance training could be helpful for improving the body image of older populations. Additional limitations of the studies in this review include the use of a weak study design, a lack of rigorous sampling methodology and the lack of theory-guided interventions. In addition, 2 studies used convenience samples, such that participants currently enrolled in university weightlifting courses were recruited to make up the resistance training groups. Finally, only 1 study tested a theoretical model. Martin Ginis *et al*. (2012) [31] applied the Exercise and Self-Esteem Model as a conceptual framework in an effort to examine the potential mechanisms of action (e.g., changes in physical fitness, self-efficacy and self-perceptions) that likely support the positive relationship between resistance training and body image. Future research should first address the several limitations that consume the current literature. Specifically, more theoretically driven, tightly controlled, randomized controlled trials that focus on, or at least include, adult men of all ages are needed. In addition, researchers should target other understudied populations who may also benefit from resistance training. For example, the rates of poor body image and body dissatisfaction are particularly high among a subset of gay men. Research suggests that these men place a greater emphasis on physical attractiveness and more specifically, on levels of muscularity, making them an ideal target for a resistance training intervention. Similarly, transgendered individuals and in particular female to male transgendered individuals, could also benefit from resistance training, as objective improvements in muscle strength and subjective improvements in muscle size resulting from resistance training could compliment their existing habits aimed at achieving a more masculine body (24). Resistance training might also be helpful for individuals living with chronic disease (e.g., cancer, HIV/AIDS) who experience poor body image in response to negative physical side effects associated with their disease (e.g., scarring, lipodystrophy. In addition to reducing some of these negative physical side effects, resistance training can improve multiple aspects of mental health (e.g., quality of life, mood), which could ultimately lead to an improvement in body image via enhanced self-perceptions.

Conclusion

Results of this review suggest that resistance training has the potential to improve body image in adults. However, much more work will be needed before effective prescriptions can

be recommended. More specifically, a better understanding of the mechanisms of action underlying the effects of resistance training on body image is required to move the field forward. Currently, some evidence suggests that subjective improvements in perceived body composition after resistance training may provide the most influential impact on body image in men. In contrast, it seems that subjective improvements in body composition and objective improvements in muscular strength and endurance are particularly important to women. As such, resistance training programs structured to support and promote increases in muscle size may be most effective to improve body image in men, whereas training programs targeting physical function may be the most effective to improve body image among college students. Moreover, significant concerns about body image can ultimately become a distraction, leading to a reduction in performance, a cessation in participation, or an increase in risky health behaviour (e.g., extreme dieting. Therefore, coaches should be aware of their organization or institution's guidelines on how to properly identify the signs and symptoms of poor body image and the process of providing support. Finally, fitness professionals should consistently assess their clients' motivations for exercise, as individuals who primarily exercise to improve physical appearance are more likely to have poor body image.

Conflict of interest: No any conflict of interest has been declared.

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