

Comparison of social phobia in athletes with doping history in comparison with general population

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ABSTRACT

Background: Regarding increasing and concerning worldwide trends of doping and lack of definite information about contributing factors in this era, this study was performed to determine the frequency of social phobia in athletes with doping history in comparison with general population.

Methods and materials: In this case-control study 30 subjects were enrolled including two groups of professional athletes with doping history and general population. In each group 15 subjects were present. All subjects were interviewed according to DSM-IV criteria. The social phobia was assessed by social phobia inventory (SPIN).

Results: Ten subjects (including 7 men and 3 women) in athletes group and 6 subjects (including 4 men and 2 women) in normal population group had social phobia showing no significant difference between groups ($P=0.143$). The gender had no effect on having social phobia in none of the groups ($P=1.000$).

Conclusions: Totally, according to the obtained results in this study, it may be concluded that there is no significant difference between presence of social phobia in athletes with doping history and general population.

Keywords: Athletes, Doping, Social phobia

INTRODUCTION

Doping, defined as illegal use of energizing agents for better athletic performance and body figures. However, in legal setting the scientists are working for attaining this objective and it is required the athletes attain these abilities by special exercise and use of modern instruments and also respecting the nutritional considerations[1]. It is not recognized that why an athlete uses doping agents regarding loss of somatic health and decreased prominence[2].

Anxiety disorders are the third common psychiatric problems after major depression and alcohol dependence with a lifelong prevalence of 19.15 percent[3]. It has been reported that high rate of social phobia in athletes especially in individual sport fields would result in physiological alterations and decreased performance[4]. High pressure for attaining good athletic outcomes would result in increased anxiety in athletes and higher rate of doping among them[5].

Among different evaluated items in athletes, lower self-esteem and higher anxiety are two related factors for doping in adolescent athletes. However higher self-esteem and lower anxiety levels are seen in older athletes[6]. Mudrak et al also reported lower self-esteem and higher anxiety level among athletes performing doping and these disorders were also interrelated with high-risk behaviors including cannabis and alcohol abuse. The doping was defined in their study as use of illegal drugs for achieving enhanced performance in challenging with subjective and objective problems[7]. Cannabis is used by athletes to reduce the anxiety level to attain better sleep quality and better muscular tonicity[8]. Also the beta-blockers are widely used by athletes to reduce the heart rate and anxiety among them[9].

Social phobia is recognized as fear of negative evaluation and loneliness in social situations that is especially seen in athletes and musicians[10]. The social phobia is against the successful confronts and also if be

sustained, it would result in less positive attitudes and decreased control on personal life. The attitudes and beliefs in about doping along with behaviors are main contributing factors for doping among athletes[11]. Personal beliefs and health-related concerns are among the most important preventive factors but abstinence and limitation of drugs use by athletes would have low effects in prevention of doping[12]. Regarding increasing and concerning worldwide trends of doping and lack of definite information about contributing factors in this era, this study was performed to determine the frequency of social phobia in athletes with doping history in comparison with general population.

MATERIALS AND METHODS

In this case-control study 30 subjects were enrolled. The inclusion criteria were having professional athletic activity and doping history in case group and lack of such histories in control group. Lack of interest for incorporation in study was the only exclusion criterion.

For selection of doping subjects, the secret list of athlete's names that had doping history was received from Sport Medicine Federation and the students were selected from three universities in a random manner. All the subjects were ranged from 20 to 45 years. In each group 15 subjects were present that four and five individuals were female in athletes group and normal population, respectively. However one of the females in athlete's group had successful suicide and the required data were collected from her mother. All subjects were interviewed according to DSM-IV criteria.

The social phobia was assessed by social phobia inventory (SPIN) consisting 17 questions with cut-off value of 17 points and total score of 68 points. The SPIN questions had a likert pattern with five subscales that had points ranging from 0 (never) to 4 (very much). Total scales were in three groups including fear, avoidance, and physiological alterations. The test-retest reliability

coefficient with two-week interval was 0.78 that was significant ($P=0.001$) and total Cronbach's alpha coefficient was 0.94.

Data analysis was performed by SPSS (version 13.0) software [Statistical Procedures for Social Sciences; Chicago, Illinois, USA]. Exact-Fisher, and Chi-Square tests were used for comparison between two groups and were considered statistically significant at P values less than 0.05.

RESULTS AND DISCUSSION

Ten subjects (including 7 men and 3 women) in athletes group and 6 subjects (including 4 men and 2 women) in normal population group had social phobia showing no significant difference between groups ($P=0.143$) (Figure 1). The gender had no effect on having social phobia in none of the groups ($P=1.000$).

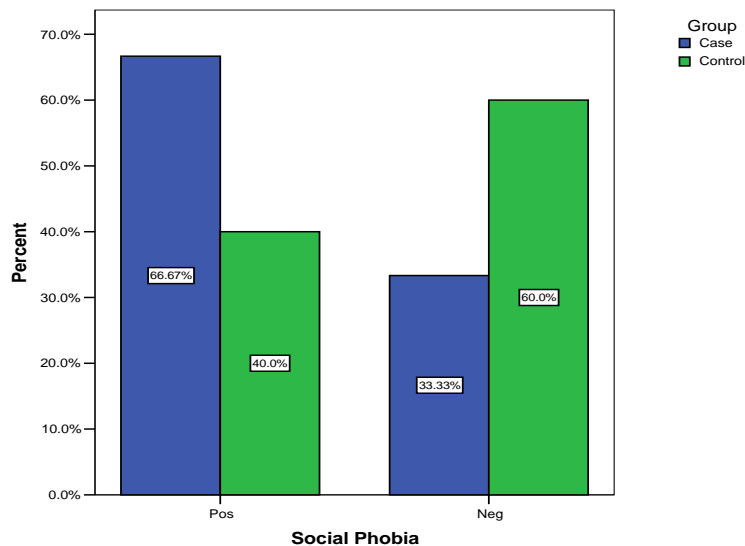


Figure 1- Frequency of Social phobia in both groups

The association of social phobia with use of doping agents was evaluated in this study and it was seen that the frequency of social phobia was higher in athletes with doping history compared with related frequency in general population but there was no significant difference between groups. The gender also had no effect on presence of social phobia in both groups. Lack of statistically significant difference despite higher frequency of social phobia among athletes with doping history may be due to some reasons; first the sample size is low and the calculated power of the study is not enough for maintaining and demonstrating significant difference between two groups; second it may be postulated that selection bias is a cause of this matter and selection of subjects in control group from university students may result in decreased difference between groups; third existence of some neglected confounding variables in this study may result in this lack of difference between groups.

Previous reports have no representative aspect about social phobia in professional athletes but in some reports in non-expert subjects in different levels have shown that there are some relationships between social phobia and using doping agents that is especially in positive manner[13]. However some studies have also shown reverse association and even in some similar studies, no relationship is reported between social phobia and use of

doping agents[14]. Of course, vast majority of these studies are lacking a good structured design and their results are not so reliable. This matter shows the importance of performing some other similar studies especially with good design to attain better and more reliable outcomes. The study by Kavussanu et al (14) demonstrated that sports person-ship or moral orientations are relevant to doping intentions among athletes with no prior experiences with doping[15], while achievement goals and situational temptation are relevant to both never and ever dopers. The study by Mazzeo and colleagues [16] revealed that use of doping substances would result in less social phobia in athletes. Another study by García et al [17] showed that attitudes, normative beliefs, situational temptation, and behavioral control significantly predicted doping intentions that all these were as a social cognition.

Despite lack of association between social phobia and doping existence of such relationship may be rational due to some etiologies and represents a matter of debates. One cause of this association may be the phobia from failure in their competition with other athletes that would result in use of doping agents for better performance. It may be also seen in other different aspects of personal life such as relationships with family members, reflections in emotions, and also some financial and educational features. All these topics may be another interesting matter for more

researches in future studies. However, the role of confounding factors should be remembered and the justification for such variables is a necessity to obtain definite results.

Totally, according to the obtained results in this study, it may be concluded that there is no significant difference between presence of social phobia in athletes with doping history and general population. However further studies with larger sample size are needed to be carried out to obtain more accurate results especially if confounding variables be respected.

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REFERENCES

- [1] D. J. Handelsman, "Performance Enhancing Hormone Doping in Sport," *Endotext*, Feb. 2020, Accessed: Jul. 18, 2021. [Online]. Available: <https://www.ncbi.nlm.nih.gov/books/NBK305894/>.
- [2] D. Davani-Davari, I. Karimzadeh, and H. Khalili, "The potential effects of anabolic-androgenic steroids and growth hormone as commonly used sport supplements on the kidney: a systematic review," *BMC Nephrol.* 2019 201, vol. 20, no. 1, pp. 1–12, May 2019, doi: 10.1186/S12882-019-1384-0.
- [3] M. Taquet, J. R. Geddes, M. Husain, S. Luciano, and P. J. Harrison, "6-month neurological and psychiatric outcomes in 236 379 survivors of COVID-19: a retrospective cohort study using electronic health records," *The Lancet Psychiatry*, vol. 8, no. 5, pp. 416–427, May 2021, doi: 10.1016/S2215-0366(21)00084-5.
- [4] B. A. Thompson and D. P. Schary, "Well-Being Therapy: An Approach to Increase Athlete Well-Being and Performance," <https://doi.org/10.1080/21520704.2020.1750516>, vol. 12, no. 1, pp. 1–10, 2020, doi: 10.1080/21520704.2020.1750516.
- [5] S. Scoffier-Mériaux, F. d'Arripe-Longueville, T. Woodman, V. Lentillon-Kaestner, and K. Corrion, "High-level athletes' motivation for sport and susceptibility to doping: The mediating role of eating behaviours," <https://doi.org/10.1080/17461391.2020.1736642>, vol. 21, no. 3, pp. 412–420, 2020, doi: 10.1080/17461391.2020.1736642.
- [6] K. Wang, L. Xu, J. Zhang, D. Wang, and K. Sun, "Relationship between perfectionism and attitudes toward doping in young athletes: the mediating role of autonomous and controlled motivation," *Subst. Abus. Treat. Prev. Policy* 2020 151, vol. 15, no. 1, pp. 1–8, Feb. 2020, doi: 10.1186/S13011-020-00259-5.
- [7] J. Mudrak, P. Slepicka, and I. Slepickova, "Sport motivation and doping in adolescent athletes," *PLoS One*, vol. 13, no. 10, Oct. 2018, doi: 10.1371/JOURNAL.PONE.0205222.
- [8] J. Exner et al., "Use of psychotropic substances among elite athletes – a narrative review," *Swiss Med. Wkly.* 2021 1510708, vol. 151, no. 0708, p. w20412, Feb. 2021, doi: 10.4414/SMW.2021.20412.
- [9] E. Ergen et al., "Effects of beta-blockers on archery performance, body sway and aiming behaviour," *BMJ Open Sport — Exerc. Med.*, vol. 7, no. 2, p. 1071, May 2021, doi: 10.1136/BMJSEM-2021-001071.
- [10] C. Li, R. Fan, J. Sun, and G. Li, "Risk and Protective Factors of Generalized Anxiety Disorder of Elite Collegiate Athletes: A Cross-Sectional Study," *Front. Public Heal.*, vol. 0, p. 11, Feb. 2021, doi: 10.3389/FPUBH.2021.607800.
- [11] S. M. Rice et al., "Determinants of anxiety in elite athletes: a systematic review and meta-analysis," *Br. J. Sports Med.*, vol. 53, no. 11, p. 722, Jun. 2019, doi: 10.1136/BJSPORTS-2019-100620.
- [12] J. Morente-Sánchez, T. Zandonai, and M. Zabala Díaz, "Attitudes, beliefs and knowledge related to doping in different categories of football players," *J. Sci. Med. Sport*, vol. 22, no. 9, pp. 981–986, Sep. 2019.
- [13] A. Alsini et al., "A National Survey of Self-Prescription of Beta-Blockers and Their Relation to Undiscovered Anxiety Among Medical and Pharmacological Students in Saudi Arabia," *Neuropsychiatr. Dis. Treat.*, vol. 17, p. 797, 2021, doi: 10.2147/NDT.S289833.
- [14] I. Jystad, O. Bjerkeset, T. Haugan, E. R. Sund, and J. Vaag, "Sociodemographic Correlates and Mental Health Comorbidities in Adolescents With Social Anxiety: The Young-HUNT3 Study, Norway," *Front. Psychol.*, vol. 12, Apr. 2021, doi: 10.3389/FPSYG.2021.663161.
- [15] M. Kavussanu et al., "A Moral Intervention Reduces Doping Likelihood in British and Greek Athletes: Evidence From a Cluster Randomized Control Trial," *J. Sport Exerc. Psychol.*, vol. 43, no. 2, pp. 125–139, Dec. 2020, doi: 10.1123/JSEP.2019-0313.
- [16] F. Mazzeo, "Attitude and practice of substance misuse and dietary supplements to improve performance in sport," <https://doi.org/10.1080/14659891.2019.1642410>, vol. 24, no. 6, pp. 581–586, Nov. 2019, doi: 10.1080/14659891.2019.1642410.
- [17] E. García-Grimau, R. De la Vega, R. De Arce, and A. Casado, "Attitudes Toward and Susceptibility to Doping in Spanish Elite and National-Standard Track and Field Athletes: An Examination of the Sport Drug Control Model," *Front. Psychol.*, vol. 0, p. 2136, Jun. 2021, doi: 10.3389/FPSYG.2021.679001.