P-ISSN: 2204-1990; E-ISSN: 1323-6903 DOI: 10.47750/cibg.2020.26.02.218

### Awareness on Use of Anabolic Steroids Among Basketball Players in Tirupur- A Survey

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Abstract: Anabolic steroids, also known more properly as anabolic-androgenic steroids (AAS) are steroidal androgens that include natural androgens like testosterone as well as synthetic androgens that are structurally related and have similar effects to testosterone. Health risks can be produced by long-term use or excessive doses of AAS. Therefore, the aim of this present survey was to create awareness about usage of anabolic steroids among basketball players in tirupur. Self administered questionnaire was designed about awareness of usage of anabolic steroids among the population of basketball players. The questionnaires were distributed through a survey planet link and 172 subjects answered this survey. Data was collected and results were represented in pie charts. Results showed that 58.70% participants were aware that usage of anabolic steroids leads to a compensated life and 41.30% of the participants were not aware about it. Majority of participants 72.70% were not aware about different methods of intake of anabolic steroids and About 52.70% participants are not aware that anabolic steroids cause cardiac and liver disorders. It concludes that there is a moderate awareness about use of anabolic steroids and its complications among the participants. So, more awareness might be required about anabolic steroids in further studies among the general population to lead a healthy life.

Keywords: Awareness, steroids, sports, doping, performance enhancements

#### **INTRODUCTION**

Anabolic steroids are synthetic, or human-made, variations of the male sex hormone testosterone. The proper term for these compounds is anabolic-androgenic steroid (Fayyazi Bordbar et al., 2014). "Anabolic" refers to muscle building, and "androgenic" refers to increased male sex characteristics. Anabolic steroid usage by sportsmen may be a serious health and moral downside recreational athletes conjointly use steroids to boost performance various studies indicate that steroid usage typically starts in adolescence(Kopera, 1976). A person will consume these substances for seeking higher performance without worrying or even knowing regarding their negative effects (Alsaeed and Alabkal, 2015). This paper examines the potential impact that adolescents enjoying basketball believe that steroids would have on their levels of self-efficacy. Steroids and drug modifications are considered dangerous to your health, but improved efficiency can bring certain advantages to the patient (Friedl and Yesalis, 1989). Professionals use drug additives to improve their performance, disregard safety risks and flout checks because most monitoring methods are shockingly ineffective to identify professional sports users(McPherson, 2016). The use of drugs has long-term implications(Hoffman and Ratamess, 2006; McPherson, 2016). Due to lax drug testing regulations at the non-professional level, it's unclear how many high school athletes use steroids. However, prominent steroids researcher Dr. Charles Yesalis and sports psychologist Dr. Michael S. Bahrke write: "Most studies report that 3-12% of adolescent males admit to using [anabolic steroids] at some time during their life. Among adolescent females, studies find that 1-2% report having used steroids. The main objective of this study is to bring an Awareness on use of anabolic steroids among basketball players in Tirupur. Previously our department has published extensive research on various aspects of prosthetic dentistry ('Evaluation of Corrosive Behavior of Four Nickel-chromium Alloys in Artificial Saliva by Cyclic Polarization Test: An in vitro Study', 2017; Ganapathy, Kannan and Venugopalan, 2017; Jain, 2017a, 2017b; Ranganathan, Ganapathy and Jain, 2017; Ariga et al., 2018; Gupta, Ariga and Deogade, 2018; Anbu et al., 2019; Ashok and Ganapathy, 2019; Duraisamy et al., 2019; Varghese,

Ramesh and Veeraiyan, 2019), this vast research experience has inspired us to research about Awareness on use of anabolic steroids among basketball players in Tirupur

Lacunae is that there is no awareness of anabolic steroids among the basketball players in Tirupur. Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Gupta, Ariga and Deogade, 2018; Jeevanandan and Govindaraju, 2018; J et al., 2018; Menon et al., 2018; Prabakar et al., 2018; Rajeshkumar et al., 2018; 2019; Vishnu Prasad et al., 2018; Wahab et al., 2018; Dua et al., 2019; Duraisamy et al., 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu et al., 2019; Mehta et al., 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran et al., 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma et al., 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi et al., 2020; Samuel, Acharya and Rao, 2020) So, the aim of this current survey was to create awareness on anabolic steroids among basketball players in Tirupur.

#### MATERIALS AND METHODS

Self administered questionnaire was designed about awareness of usage of anabolic steroids among the population of basketball players. The questionnaires were distributed through a survey planet link and 172 subjects answered this survey. The participants were explained about the purpose of the study in detail .The questions were carefully studied and the corresponding answers were marked by the participants. Data was collected and results were represented in pie charts.

#### **RESULTS AND DISCUSSION**

The questionnaire was attended by 112 participants and the result was presented as follows, Figure 1 shows the awareness of the fact that usage of anabolic steroids leads to a compensated life in which 58.70% participants are aware and 41.30% of the participants were not aware. In Figure 2, the pie chart explains the disorder which leads to decreased life expectancy among men on steroids about 47.40% participants have claimed it to be heart disorder and 41.30% of the participants have claimed it to be liver disorder. Figure 3 explains the knowledge of the most preferred anabolic steroid in sports which shows that 46.20% participants has claimed it to be testosterone, 24.20% participants has claimed it to be stanozolol, 16.50% participants has claimed it to be mesterolone, 13.20% participants has claimed it to be holotestin.

Figure 4 describes the awareness of side effects due to anabolic steroids which shows that 63.60% participants were aware and 36.40% participants were not aware. Figure 5 describes awareness of the fact that anabolic steroids have gender related side effects which shows that 63.60% participants were aware and 36.40% participants were not aware. In Figure 6 explains the knowledge of the commonly used anabolic steroids intake method which shows that 50.50% participants claimed it to be through injection, 41.90% participants claimed it to be in the method of pills, 5% participants claimed it to be through snorting, 4% participants claimed it to be through gels. Figure 7 describes the awareness of different methods of intake of anabolic steroids, about 72.70% participants are not aware and 27.30% participants are aware. Figure 8 explains the awareness of the fact that anabolic steroids cause cardiac and liver disorders in which 52.70% participants are not aware and 47.30% participants are aware. Figure 8 explains the awareness of the fact that anabolic steroids cause cardiac and liver disorders, about 52.70% participants are not aware and 47.30% participants are aware. Figure 9 describes the awareness of the components used in steroids in which 77.10% participants are not aware and 22.90% participants are aware. Figure 10 explaining the knowledge of steroids improves performances without any side effect, about 89.90% participants disagreed and 10.10% participants agreed that steroids improves performance without any side effect. Our institution is passionate about high quality evidence based research and has excelled in various fields ( (Pc, Marimuthu and Devadoss, 2018; Ramesh et al., 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai et al., 2019; Sridharan et al., 2019; Vijayashree Priyadharsini, 2019; Chandrasekar et al., 2020; Mathew et al., 2020; R et al., 2020; Samuel, 2021)

#### Limitation

This is an online survey were bias can be expected from respondents, sampling and selection error, less sample size

#### **Future Scope**

In future this study can be conducted on different sports persons which involves different physical energy levels to assess the prevalence of anabolic steroid usage in different professional sports.

#### CONCLUSION

The present study concludes that there is a moderate awareness about use of anabolic steroids and its complications among the participants

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#### ACKNOWLEDGEMENT

This research was done under the supervision of the Department of Research of Saveetha Dental College and Hospitals. We sincerely show gratitude to the corresponding guides who provided insight and expertise that greatly assisted the research.

#### **CONFLICTS OF INTEREST**

None to declare

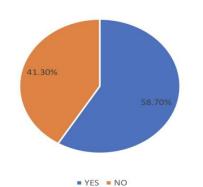
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Are you aware of the fact that usage of anabolic steroids later lead to a compensated life?

Fig.1: The pie chart depicts the percentage distribution of awareness of the fact that usage of anabolic steroids leads to a compensated life. 58.70% participants (blue) are aware and 41.30% (orange) of the participants are not aware

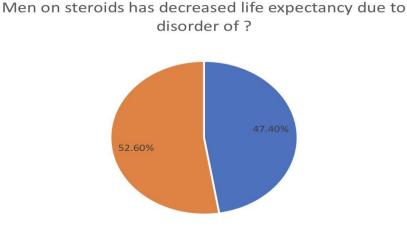
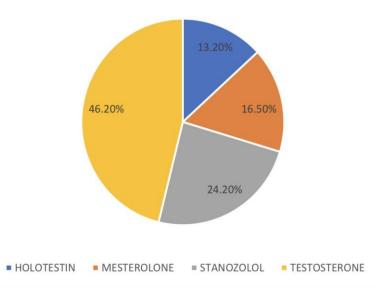


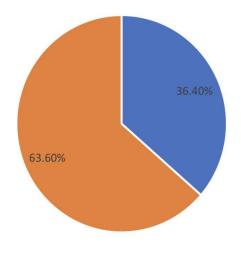


Fig.2: The pie chart explaining the disorder which leads to decreased life expectancy among men on steroids. 47.40% participants (blue) has claimed it to be heart disorder and 41.30% (orange) of the participants has claimed it to be liver disorder



Which anabolic steroid is preferred more in sports?

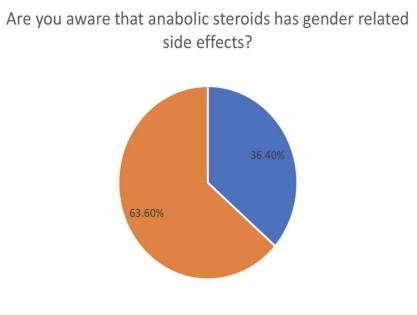
Fig.3: The pie chart explaining the knowledge of the most preferred anabolic steroid in sports . 46.20%(yellow) participants has claimed it to be testosterone, 24.20% (grey)participants has claimed it to be stanozolol,16.50%(orange) participants has claimed it to be mesterolone,13.20%(blue)participants has claimed it to be holotestin



Are you aware of side effects due to anabolic steroids?

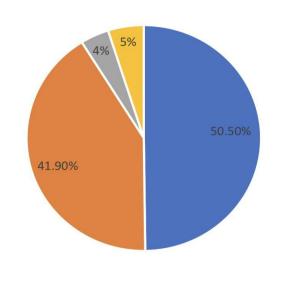


Fig.4: The pie chart depicts the percentage distribution of awareness of side effects due to anabolic steroids.63.60%(orange)participants are aware and 36.40%(blue) participants are not aware.



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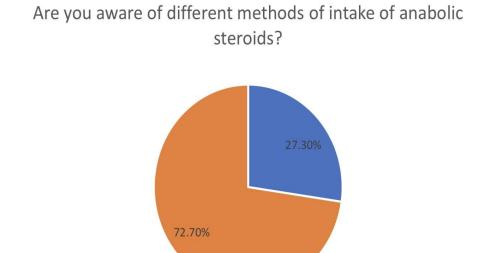
# Fig.5: The pie chart depicts the percentage distribution of awareness of fact that anabolic steroids have gender related side effects.63.60%(orange)participants are aware and 36.40%(blue) participants are not aware.



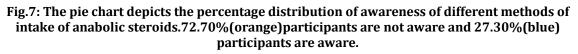
Which intake method is used the most?

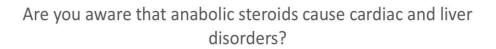
Fig.6: The pie chart explaining the knowledge of the commonly used anabolic steroids intake method.50.50%(blue)participants claimed it to be through injection,41.90%(orange) participants claimed it to be in the method of pills,5%(yellow)participants claimed it to be through snorting,4%(grey)participants claimed it to be through gels

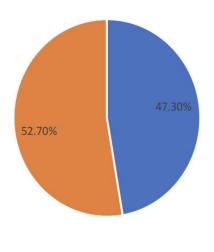
INJECTION PILLS GELS SNORTIN





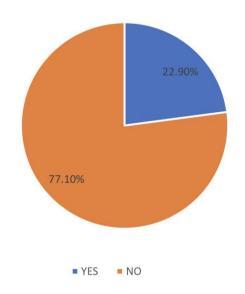






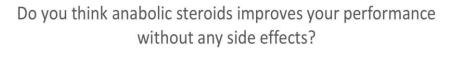
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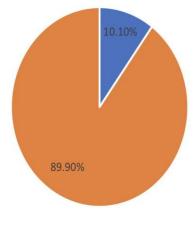
Fig.8: The pie chart depicts the percentage distribution of awareness of the fact that anabolic steroids cause cardiac and liver disorders.52.70(orange) participants are not aware and 47.30(blue) participants are aware.



Are you aware of the components used in steroids?

Fig.9:The pie chart depicts the percentage distribution of awareness on the components used in steroids.77.10%(orange) participants are not aware and 22.90%(blue) participants are aware.





VES NO

Fig.10: The pie chart explaining the knowledge of steroids improving performances without any side effect.89.90% (orange) participants disagreed and 10.10% (blue) participants agreed that steroids improves performance without any side effect