
THE DISCRIMINATION AND INADEQUACY IN THE SEX- TESTING POLICIES EMPLOYED BY SPORTS AUTHORITIES

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ABSTRACT

Sports Law is a field encompassing a galore of ideas. Experts agree that the underlying objective of the subject is to ensure fairness. One such area where sports authorities have tried to ensure fairness in sport is sex-testing. This practice involves the ascertainment of whether the female athlete can be deemed to be a genetic female, which would ensure that such athletes are not prejudiced against. In this paper, the author considers the arduous journey that female athletes face due to structural problems in sports development policies. The author through the course of this article further aims to trace the development of the methods used by sports authorities to ascertain the sex of athletes competing in female events. After discussing the various policies adopted by the authorities, the author will discuss the present testosterone testing rule, which links higher testosterone levels to improved athletic performance. The policy has received widespread criticism, such as the fact that the rule has not been applied uniformly across events, and that the underlying testing was insufficient. The policies and pleadings of sports authorities have been termed discriminatory and prejudicial to female athletes in popular disputes involving athletes such as Dutee Chand and Caster Semenya. The author will conclude by analysing whether the sex-testing policies as they exist and have existed are arbitrary and secondly whether they should be modified particularly in light of the new-age jurisprudence on gender, especially the right of self-determination of sex for people with intersex characteristics.

KEYWORDS

Sex-testing, Hyperandrogenism, Caster Semenya, Self-identification.

1. INTRODUCTION

The driving force behind sport is the innate need of individuals to compete, in disciplines where skill and physical prowess may be showcased. Participation in sports was traditionally assigned to men, while women could only participate in a limited number of events. The development of women in competitive sport has since undergone a sea of change, from women being allowed to participate in a restricted number of events in the 1900 Olympics to a position in the present paradigm wherein women can participate in almost the same number of events as that of men. The hurdles faced by female athletes in their journey of becoming elite athletes has been a constant struggle in history, that includes forced gender roles, lack of funding, and more importantly lack of facilities. Female athletes with Differences in Sexual Development (DSD) face an additional level of prejudice, i.e. they have to fight for their right to compete as females in addition to the structural problems faced by them in the process of becoming athletes. DSD is a congenital condition in which development in chromosomal, gonadal, or anatomical sex is atypical.¹

To reduce the confusion surrounding the eligibility of female athletes with DSD, the International Association of Athletics Federation (IAAF) and the International Olympic Committee (IOC) has attempted to define what a ‘female athlete’ is on several occasions. The question that remains unanswered is whether this is affected merely by the biological factors or do social aspects also affect the concept of womanhood? If it is just biological factors, then how these biological parameters are to be understood? The 2018 testosterone rule of the IAAF has fueled the discussion between the right of self-determination of female athletes with hyperandrogenism/DSD and particularly sex-testing in sports. The rule aims to bar female athletes with hyperandrogenism, i.e., a condition wherein the female body produces excess testosterone. However, sex-testing has been historically inadequate and discriminatory to intersex and transgender athletes. We can argue the same by analyzing and answering a slew of pertinent questions. *Firstly*, about the tumultuous history of sex-testing in sports; *secondly*, the effects of the testosterone policy of 2011; *thirdly*, an overview of the New Testosterone Rule of 2018; *fourthly*, identifying the Shortcomings of the 2018 Rule in light of evolving

¹ Peter A. Lee, Christopher P. Houk, *et al.*, *Consensus Statement on Management of Intersex Disorders*, 91(7) ARCHIVES OF DISEASES IN CHILDHOOD, 554, 554–563 (2006).

gender jurisprudence and lack of consensus within the scientific community; and *finally* conclude the analysis.

2. THE HISTORY OF SEX-TESTING IN SPORTS

There have been questions surrounding whether athletes participating in female events were men disguised as female athletes for a long time. In the early 1930s, objections were raised for the first time about this, and about whether the athletes competing in female events could be classified as being female. This was highlighted in the cases of *Mary Edith Louis Weston* (later Mark Weston) and *Zdeňka Koubková*, who were both European intersex athletes, and competed successfully in the European circuit in female events during this period.² Owing to the success experienced by the athletes, American Olympic President, Avery Brudley, requested the International Olympic Committee to establish a system of sex-testing in the 1936 Berlin Olympics.³ Although sex-testing was not introduced in these games, German officials conducted physical examinations on the American athlete, *Helen Stephen*, who won the gold medal in the 100-metre track event, because of her apparent masculine body features.⁴ In 1938, in what was possibly the most controversial incident in sex-testing in sports, German Olympian, *Dora Ratjen* (a female event athlete), was identified as male through a physical test and was made to return her gold medal.⁵ The sex-testing policy of this era was focused on keeping female sports fair, without male athletes fraudulently participating in female events and benefiting unfairly.

In 1950, the IAAF implemented a policy to verify the sex of athletes through physical testing for the first time.⁶ This involved women being paraded nude in front of a panel of doctors. In 1968, the IOC also followed suit and started sex-testing by physical examination. This was done because several participating nations did not have a credible sex-testing apparatus in

² Venessa Heggie, *Testing sex and gender in sports: Reinventing, reimagining and reconstructing histories*, 34(4) ENDEVOUR 157, 159 (2010).

³ Avery Brudley, *Change of sex*, TIME MAGAZINE (Aug. 24, 1936), <https://web.archive.org/web/20110410154717/http://www.time.com/time/magazine/article/0,9171,756527-1,00.html>.

⁴ Ruth Padawer, *The humiliating practice of sex-testing female athletes*, THE NEW YORK TIMES (June 28, 2016), <https://www.nytimes.com/2016/07/03/magazine/the-humiliating-practice-of-sex-testing-female-athletes.html>.

⁵ *Id.*

⁶ Nathan Q. Ha, Shari L. Dworkin, *et al.*, *Hurdling Over Sex? Sport, Science, and Equity*, 43 ARCHIVES OF SEXUAL BEHAVIOUR 1035, 1036- 1037 (2014).

place.⁷ The policy of the IOC involved a two-pronged test wherein, *firstly*, the athletes would undergo physical testing and *second*, the athletes would undergo chromosome testing to ascertain their sex. The chromosomal testing would involve assessing whether the athlete was female, i.e., possession of a XX chromosomal structure. This method was aimed at testing female athletes to ensure that Y-chromosomes are absent. Overall, the method eventually helped in identifying males disguised as female athletes.⁸ In 1992, the IOC replaced the policy of mandatory sex-testing with a policy of testing only those female athletes who aroused suspicion regarding their sex, which was based on the estimation of the authorities. This ‘doubt’ was criticized as it was founded on an arbitrary criterion put forward by the authorities,⁹ and particularly because this would include assessment of the physical appearance of the athlete such as their height, strength etc.

The testing methodology faced severe criticism in the 1990s because of its imprecise results. A manifestation of the failure that comes with this testing methodology was observed in the 1996 Atlanta Olympic Games, wherein eight female athletes who were classified as non-females in the combined physical-chromosome sex-testing regime subsequently competed in the games after receiving fitness certificates to compete as females post a traditional physical test.¹⁰ The chromosome testing era thus failed to provide successful results as athletes with DSD at the chromosomal level, i.e. (who did not have the typical XX chromosome structure) would first fail the test, but still, later on, would qualify to be classified as female athletes.

Thus, due to a lack of success, the IOC discontinued chromosome testing in 1999.¹¹ This was specifically because females with atypical chromosome structures were still being considered female. Also, certain difficulties were experienced in assessing the ‘sex’ of an athlete by just looking at the chromosome structures of the said individuals. The IOC then replaced the policy of mandatory physical and chromosomal testing with a policy where only physical examination was required to ascertain sex that too only if the authorities believed that reasonable suspicion

⁷ Lindsay Parks Pieper, *Sex Testing and the Maintenance of Western Femininity in International Sport*, 31 (13) THE INT. J. ON THE HISTORY OF SPORT 1557, 1559-1564 (2014).

⁸ Katie Thomas, *A Lab is Set to Test the Gender of Some Female Athletes*, THE NEW YORK TIMES (30 July 2008), https://www.nytimes.com/2008/07/30/sports/olympics/30gender.html?_r=2&ref=olympics&oref=login&oref=login.

⁹ Joe L. Simpson *et.al*, *Gender verification in competitive sports*, 16(5) SPORTS MEDICINE 305, 305–15 (Nov. 1993).

¹⁰ Louis J. Elsas & Robert P. Hayes, *Gender verification in the Centennial Olympic Games*, 86 JOURNAL MEDICAL ASSOCIATION OF GEORGIA 50, 50-54 (1997).

¹¹ Dr. Myron Genel, *Gender Verification No More?*, 5(3) MEDSCAPE WOMEN’S HEALTH (2000), <http://womenshealth.medscape.com/Medscape/WomensHealth/journal/2000/v05.n03/wh7218.gene/wh7218.gene.html>.

existed. Technically too, the Chromosomal testing was considered to be inherently inaccurate as incidents of atypical structures amongst women were also reported in addition to their male counterparts. This was further considered by geneticists, endocrinologists, and others in the medical community as discriminatory towards women.¹²

However, the nude test (physical test) did not give accurate results either and received criticism for being discriminatory and invasive of the privacy of athletes.¹³ The issues in the physical test were brought to the forefront when the South African 800-metre runner, *Caster Semenya*, was asked to undergo a mandatory physical examination after her World Championship wins in 2009.¹⁴ The tests that were conducted were a blatant violation of the privacy of Caster Semenya. The tests involved a long arduous assessment of two-hours where Semenya's genitalia was photographed.¹⁵ This was followed by the test results being made available to the media before Semenya. The test results concluded that she had undescended testes and hyperandrogenism, i.e., she endogenously produced testosterone at levels higher than the normal rate prescribed for women. Therefore, the historical position involved a lack of safeguards for athletes. The status quo was one where the whims and fancies of sports authorities determined not only the sex but also the career of the athlete.

3. THE TESTOSTERONE TESTING POLICY OF 2011

Although the IAAF allowed Semenya to participate in international events and revoked her ban 8 months later,¹⁶ the IAAF did not stop its search to find a novel sex-testing policy. The IAAF adopted testosterone testing from 2011 to evaluate the sex of athletes,¹⁷ which was later used by the IOC in the 2012 London Olympics.¹⁸ This would be the first time testosterone

¹² SIMPSON *et al.*, *supra* note at 307-10.

¹³ Katie Thomas, *Gender Test for Olympians: A relic that persists*, THE NEW YORK TIMES (July 30, 2008), <https://www.nytimes.com/2008/07/30/sports/30iht-GENDER.1.14880817.html>.

¹⁴ David Smith, *Caster Semenya sex row: 'She's my little girl,' says father*, THE GUARDIAN (20 Aug. 2009), <https://www.theguardian.com/sport/2009/aug/20/caster-semenya-sex-row-athletics>.

¹⁵ Ariel Levy, *Either/or: sports, sex, and the case of Caster Semenya*, THE NEW YORKER 46, 46-59 (Nov. 2009), <https://www.newyorker.com/magazine/2009/11/30/eitheror>.

¹⁶ Simon Hart, *Caster Semenya given all clear after gender test row*, THE DAILY TELEGRAPH (6 July 2010), <https://www.telegraph.co.uk/sport/othersports/athletics/7873240/Caster-Semenya-given-all-clear-after-gender-test-row.html#:~:text=There%20were%20unconfirmed%20media%20reports,long%20to%20resolve%20her%20case>.

¹⁷ IAAF Regulations Governing Eligibility of Female Athletes with Hyperandrogenism to Compete in Women's Competition (Apr. 12, 2011), <http://tinyurl.com/IAAF-HA-reg>.

¹⁸ International Olympics Committee, *IOC Regulations on Female Hyperandrogenism* (2012), http://www.olympic.org/Documents/Commissions_PDFfiles/Medical_commission/2012-06-22-IOC-Regulations-on-Female-Hyperandrogenism-eng.pdf.

testing would have become the standard sex-testing method used by the International sporting bodies. As per the rule, only those female athletes could participate in female events whose endogenous testosterone level was below the threshold level of 10 nmol/L. The policy was problematic as it put restrictions on naturally produced endogenous testosterone in excess to the exogenous testosterone, which is taken by athletes ‘externally’ to improve their performance. This was done to avoid the apparent improved competitive advantage for female athletes who possessed higher testosterone levels. The practice of testosterone doping, wherein athletes increase their testosterone levels has been banned by sporting authorities as it leads to an unfair advantage for athletes. The performance gap between male and female athletes was cited as the reason for implementing this policy, which the sporting bodies had always linked to testosterone levels. This can be manifested by the fact that the mean performance gap between male and female athletes is 10.7% for running performances, 17.5% for jumping events, 8.9% for swimming races, 7.0% for speed skating and 8.7% in cycling events.¹⁹ Thus, there is a gaping performance gap between male and female athletes, and the policy links the same to higher testosterone levels. Therefore, this meant that only those athletes who had endogenous testosterone levels below the threshold level could compete as females.

The testosterone testing policy faced major criticism from academics and members of the medical community alike. The policy was criticized by noted bioethicists such as Katrina Karkazis and Rebecca Jordan-Young in two distinct limbs, who were quick to cite the lack of scientific proof regarding a link between high endogenous testosterone levels and athletic advantage.²⁰ *Firstly, they argued that* it was difficult to establish a direct link between testosterone levels and athletic advantage, as different individuals have complex and varying reactions to similar doses of testosterone.²¹ *Second, out of the nine conditions linked with high endogenous testosterone levels, only six were linked with people that could be classified as being intersex.*²²

The other conditions associated with higher testosterone levels included females with Polycystic Ovary Syndrome (PCOS), a condition wherein females may experience menstrual irregularity, excess hair growth, acne and obesity. Additionally, it is pertinent to note that

¹⁹ Valérie Thibault *et al.*, *Women and Men in Sport Performance: The Gender Gap has not Evolved since 1983*, 9(2) J SPORTS SCI MED 214, 214-223 (2010).

²⁰ Katrina Karkazis *et al.*, *Out of bounds? A critique of the new policies on hyperandrogenism in elite female athletes*, 12(7) THE AMERICAN JOURNAL OF BIOETHICS 3 (2012).

²¹ *Id.*, at 3, 8.

²² *Id.*, at 3-5.

testosterone production in elite female athletes is higher than the testosterone production in other people, and to penalize them for it would be ill-advised. As an alternative to the 2011 policy, it was suggested that legally recognized females should have the autonomy to choose their right to compete in women events.²³ This would be in line with the right of an individual to self-identify as a particular gender.

Dutee Chand, an Indian sprinter, was barred by the Indian authorities from competing in the 2014 Commonwealth and Asian Games by the Indian authorities as her level of endogenous testosterone made her ineligible to compete under the testosterone policy of the IAAF.²⁴ The action of the IAAF under the 2011 policy was challenged before the Court of Arbitration for Sport (CAS) in *Dutee Chand v. Athletics Federation of India*.²⁵ The tribunal held that no evidence linked high testosterone levels to improved athletic performances by female athletes. The judgment placed reliance on research by bioethicists Katrina Karkazis who also testified before the CAS. The tribunal further ordered the IAAF to find evidence linking performance with high testosterone levels within the next two years.²⁶ The decision of the CAS meant that athletes like Dutee Chand with higher levels of endogenously produced testosterone would be allowed to participate in competitive female track and field events. The decision affirmed the view that there was a lack of scientific evidence that linked improved athletic performance with higher testosterone levels.

4. THE NEW TESTOSTERONE RULE OF 2018

Following the decision by the CAS in the *Dutee Chand* case, and to categorically enforce the testosterone rule, the IAAF began conducting studies that linked improved athletic performance of women with higher testosterone levels. It must be noted that the IOC was also in favour of the reinstatement of the testosterone rule as it would reduce discrimination faced by female athletes under the former testing regime.²⁷ The IOC also excluded trans-women from the ambit of athletes who were eligible to compete in female events. Thus, the stance of

²³ *Id.*, at 13.

²⁴ Matt Slater, *Sport & gender: A history of bad science & 'biological racism'*, BBC SPORT (July 28th 2015), <https://www.bbc.com/sport/athletics/29446276>.

²⁵ *Dutee Chand v. Athletics Federation of India (AFI) & The International Association of Athletics Federations (IAAF)*, CAS 2014/A/3759.

²⁶ *Id.*, at ¶ 548.

²⁷ International Olympic Committee, *IOC Consensus Meeting on Sex Reassignment and Hyperandrogenism* (Nov. 2015), https://stillmed.olympic.org/Documents/Commissions_PDFfiles/Medical_commission/2012-06-22-IOC-Regulations-on-Female-Hyperandrogenism-eng.pdf.

governing bodies was that assessing the sex of the athletes by looking at testosterone levels would be the most ideal policy in the long run. In 2017, the *Serum test* successfully linked high testosterone levels with improved performances by female athletes in the 400 meters, 400 meters hurdles, 800 meters, hammer throw, and pole vault events.²⁸ However, it is important to note that the study did not analyze broad parameters and only tested the relation between high testosterone levels and these specified events.

Following the 2017 study, the IAAF imposed a new rule wherein athletes competing in female events with Difference of Sex Development (which meant testosterone levels of 5 nmol/ per liter of blood) would not be allowed to compete.²⁹ The 2017 rule was more stringent than the 2011 law that had been ‘discarded’, as the mandated blood testosterone level in the 2017 rule book was merely half the level prescribed in the 2011 rule. Thus, the new rule was more stringent than the former rule that had been deemed unscientific by the CAS. The IAAF claims to have scientific evidence to support the 2018 rule that links improved athletic performances to higher testosterone level through the Serum test. The rule also made provisions for athletes with higher testosterone levels to compete, provided they took medicines that lowered their testosterone levels. Overall, the rule barred female athletes with endogenously produced testosterone beyond the IAAF mandated level from participating in certain events, based on the skewed findings of a myopic study.

The purported rationale behind the incorporation of a specific testosterone level was based on the notion that testosterone supposedly provided competitive advantages to participating athletes. As per the logic, sex is a biological concept and involves chromosomal, gonadal, and hormonal characteristics.³⁰ Thus the interplay of these factors should be used as a defining characteristic to assess the eligibility of an athlete. *Doriane Coleman*, a law professor and a former 800-metre runner is a major proponent of the policy. She argues that the need to have a separate category for females arises to alleviate concerns and allow for greater inclusion of female athletes in sports. In her opinion, it should at the same time allow the athletes a rooted right to participation and a chance at showcasing skills on a global stage. The agenda

²⁸ Stéphane Bermon & Pierre-Yves Garnier, *Serum androgen levels and their relation to performance in track and field: mass spectrometry results from 2127 observations in male and female elite athletes*, 51 BRITISH JOURNAL OF SPORTS MEDICINE 1309, 1309-1314 (2017).

²⁹ *Eligibility Regulations for the Female Classification* (Athletes with Differences of Sex Development), 2018, International Association of Athletics Federation (Apr. 2018), <https://www.worldathletics.org/news/press-release/eligibility-regulations-for-female-classifica>.

³⁰ John C. Achermann & J. Larry Jameson, *Disorders of Sexual Development*, 17 HARRISON’S PRINCIPLES OF INTERNAL MEDICINE 2339, 2339–45 (2008).

conclusively remains to oversee these athletes become agents of social change.³¹ It is further highlighted that intersex athletes would perform up to 10-12% better than male athletes.³² Thus, having a different female event is a just classification in terms of the fact that it allows female athletes to participate in events where they do not merely participate but also have an equal opportunity at grabbing a medal, something that aids in removing social disadvantages female athletes face throughout their careers.³³

Coming back to the discussion, the new rule by IAAF meant that middle-distance runners like Caster Semenya, who had higher testosterone levels, would not be allowed to compete in female events. Semenya thus appealed these new regulations of the IAAF in the Court of Arbitration for Sport, which unfortunately upheld the new rules, as they were backed by scientific studies.³⁴ The CAS referred to Semenya as a woman and an athlete who had competed as a woman (as Ms Semenya³⁵) but disallowed her from participating in events to protect fairness in female events. The panel stated that gender identity could not be the criteria for allowing athletes to participate in female events. They further stated that for a fair status quo to be maintained, biological characteristics would be better served as a criterion. The panel agreed with the submissions of the IAAF that drew a nexus between higher testosterone levels and improved competitive advantages. In the same tune, the panel also argued that the legal notions of sex have to be disregarded.³⁶ Finally, the panel while stating that the achievements of Caster Semenya were bonafide, held that she would be barred from participating in female athletic events and upheld the testosterone rule. Ultimately the IAAF prevailed and the ruling dominantly showed the lacuna in the legal classification of the ‘sex’.

Following this decision, Semenya decided to appeal to the Federal Supreme Court of Switzerland. The court, in its initial interim order, held that the new rule should not be made applicable to Semenya, and she should be allowed to participate. However, in a later interlocutory order, the court reversed the initial order and barred Semenya from participating competitively.³⁷ Therefore, this meant that the IAAF testosterone rule continued to apply to

³¹ Doriane L. Coleman, *Sex in Sport*, 80 LAW AND CONTEMPORARY PROBLEMS 63, 84-105 (2017).

³² *Id.*, at 104.

³³ *Id.*, at 110.

³⁴ *Mokgadi Caster Semenya v. International Association of Athletics Federation*, CAS 2018/O/5798.

³⁵ *Id.*, at ¶ 454, 467.

³⁶ *Id.* at ¶ 559, 560.

³⁷ The DSD Regulations are, for the time being, again applicable to Caster Semenya, Swiss Federal Supreme Court (4A_248/2019).

middle-distance runners like Semenya. The alternate ideas to accommodate the countervailing interest of intersex athletes included suggestions that there should be different categories for different sexual and gender identities.³⁸ However, these are merely ideas at this stage and athletes like Semenya are still barred from competing in female events.

5. THE INHERENT ARBITRARINESS OF THE 2018 RULE

The 2018 rule is purported to be made to ensure fairness in female events, however, the policy itself remains arbitrary. The view that the policy is arbitrary is shared by members of the scientific community as well as social scientists including the likes of bioethicists and anthropologists. The 2018 rule is arbitrary because *firstly*, the policy fails to meet the rights of self-determination of sex; *secondly*, testosterone testing to identify sex lacks consensus in the scientific community; and *thirdly*, the 2018 rule is based on inadequate research.

5.1. THE POLICY FAILS TO MEET THE RIGHTS OF SELF-DETERMINATION OF SEX

The right of self-determination is the right of an individual to self-identify their gender and not be coerced by societal norms of gender identity. This right extends to people with DSD and women with hyperandrogenism. Advocates for an inclusive approach towards people with DSD have demanded the right of self-determination for people with DSD in the Malta Declaration, which includes the right of self-identification of sex.³⁹ This has since been affirmed by the *European Union Commissioner of Human Rights*.⁴⁰

An analysis of self-identification from a strictly legal perspective would also certainly lead to the conclusion that the 2018 rule is arbitrary. The United Nations General Assembly empowered a Commission to prepare a report on gender identity and the right to self-determination in light of the development of evolving gender jurisprudence for a holistic understanding of two major provisions. *First* of them being Article 6 of the *Universal Declaration of Human Rights*,⁴¹ which states that all individuals should be recognized as persons. The *second* being Articles 16 and 17 of the *International Covenant on Civil and*

³⁸ Doriane L. Coleman, *Sex in Sport*, 80 LAW AND CONTEMPORARY PROBLEMS 63, 112 (2017).

³⁹ International Intersex Forum, 2013.

⁴⁰ *Human Rights and Intersex People*, Commissioner for Human Rights, Council of Europe (Apr. 2015).

⁴¹ Universal Declaration of Human Rights, G.A. Res. 217 (III) A, U.N. Doc. A/RES/217(III), at art. 6. (Dec. 10, 1948).

*Political Rights*⁴², both of which provides individuals with an inherent right to life, and privacy. The essence of the findings can be found in the Yogyakarta Principles that came about as a result stated that intersex individuals have the *right of self-determination of sex*.⁴³ The Yogyakarta principles were a global declaration that came about to bring about codification with respect to the rights of sexual minorities and people with DSD. In the Indian context too, the Supreme Court affirmed that individuals, particularly intersex individuals have the right to self-identify their gender in *NALSA v. Union of India*⁴⁴ while relying extensively on the Yogyakarta principles. Thus, it may be argued that international gender jurisprudence operating for individuals with an atypical chromosomal structure (or hormonal level) grants them the right to identify as either male or female, which is an intrinsic human right.

The right of an individual with DSD to have the autonomy to identify as a particular sex is thus an inalienable right and an attempt to restrict the same is arbitrary. Arbitrariness can be understood as something *unreasonable*, and *irrational* or *capricious*.⁴⁵ The CAS while applying arbitrariness to policies adopted by sporting authorities should have procedural fairness and must be devoid of unreasonableness and arbitrariness.⁴⁶ Thus, general principles of common law surrounding arbitrariness are applicable to sports law, and in case a procedure or policy is arbitrary it should be prohibited.⁴⁷ Thus, a sporting authority cannot act unreasonably and cause prejudice to an athlete or organization.

The rule divests an individual who is legally a female and possess the rights that accrue to a female from exercising the said rights. Thereafter, such discrimination against females with DSD can only be construed as an unreasonable construct in the light of the fact that the right to self-identify as a particular gender exists as an unequivocal and inalienable right. It must be further noted that DSD is ‘sexual terminology’ and not a social term like ‘gender’, with there being only two sex categories in athletic events, the rule being applied here is prejudicial to all athletes who have atypical sex characteristics. The policy has been severely criticized by the *United Nations Human Rights Commission* and has fueled pilot studies in the area of intersex

⁴² International Covenant on Civil and Political Rights, S. Exec. Rep. 102-23, 999 U.N.T.S. 171, at art. 16 & 17 (Dec. 16, 1966).

⁴³ Principle 19-21, Yogyakarta Principles 2007; Principle 31, Yogyakarta Principles, 2017.

⁴⁴ National Legal Services Authority v. Union of India, AIR 2014 SC 1863.

⁴⁵ BLACK’S LAW DICTIONARY 100 (9th ed. 2009).

⁴⁶ AEK Athens v. Union of European Football Associations (UEFA), CAS 1998/200.

⁴⁷ *Id.*, ¶ 156; Federazione Italiana Nuoto (FIN) v. Federazione Internazionale De Natation Amateur (FINA), CAS 1996/157.

rights and female sporting events.⁴⁸ In toto, the testosterone level as a qualifying criterion for being a female athlete is prejudicial to female athletes with DSD and thus should not be allowed to operate. Finally, barring individuals with intersex characteristics from participating in sporting events not only constitutes gender discrimination but also discrimination based on sex.

The advocates of the existing policy based on evaluation of testosterone levels are myopic in their opinion because they remain in sheer ignorance of gender rights and the rights of marginalized intersex athletes. Intersex athletes have been historically discriminated against, including but not limited to infanticide, abandonment, mutilation and broader concerns affecting the right to life.⁴⁹ Excluding these athletes, as competing athletes is not only against the notions of self-identification but further leads to ostracization of these athletes, leaving them with no avenues to compete in athletic events. This not just serves as an impediment on the approach of inclusivity towards sexual minorities, but it further isolates such minorities and pushes them to the fringes of society. While attempting to protect female events, it discriminates against athletes with DSD. This is particularly problematic in the light of the inalienable right to self-identification. Thus, disallowing intersex athletes further discriminates an already ostracized sexual minority.

Additionally, individuals who have undergone Sex Reassignment Surgery (SRS) should also be allowed to compete in such events. This is because such individuals identify themselves as women and are granted all the rights and duties, which should also include competing in sport as females. These individuals undergo transfeminine hormone therapy which stimulates female secondary sexual characteristics, such as breasts and reduced hair. Thus, not allowing them to participate would divest them of their right to participate.

5.2. TESTOSTERONE TESTING TO IDENTIFY SEX LACKS CONSENSUS IN THE SCIENTIFIC COMMUNITY

There is a lack of unanimity in the scientific community that higher testosterone levels translate to improved athletic performances. In a controlled study by *Dr David Handelsmen*, a testicular and androgen function expert, it was found that a direct link cannot be established between testosterone levels and superior performances in track events.⁵⁰ The study looked at a catena

⁴⁸ Elimination of discrimination against women and girls in sport, A/HRC/40/L.10/Rev.1, 2019.

⁴⁹ *Human rights and intersex people*, Commissioner for Human Rights, Council of Europe (April 2015).

⁵⁰ David J. Handelsman et al., *Circulating Testosterone as the Hormonal Basis of Sex Differences in Athletic Performance*, 39(5) ENDOCRINE REVIEW 803, 803-829 (2018).

of research linking testosterone to better athletic performance and stated that a specific threshold level should not be put in place. This was mainly because different athletes react differently to testosterone levels. At the onset, this criterion is flawed to the effect that tests throw up varying results at each go. Therefore, it is advisable to not use testosterone level as the basis for the ascertainment of sex.

The aim of preventing female athletes from participating in events by using the testosterone level is to ensure fairness. However, the higher testosterone production in female athletes with DSD is endogenously produced (should be considered fair) and cannot be termed even remotely as an artificial benefit. Higher testosterone levels are benefits that accrue naturally to an athlete, which are akin to beneficial physical characteristics. Physical or biological characteristics that athletes possess helps differentiate them on the world stage and help them achieve greatness in their respective sporting discipline. This may be the athletic ability and height of LeBron James, or the strength and skill of Serena Williams, which helps them achieve greatness in their respective sport of basketball and tennis.

Therefore, the 2018 policy/guideline is arbitrary, as it discriminates against female athletes who have naturally accruing benefits (which should be deemed to be fair as they are out of the control of the athlete herself). This rule is particularly problematic as studies have systematically shown that there is no direct correlation between athletic performances and higher testosterone levels. Thus, in the absence of cogent evidence, jeopardizing the career of an athlete through such *ill-fated* rules is not only arbitrary but also discriminatory.

5.3. THE 2018 RULE IS BASED ON INADEQUATE RESEARCH

This can be argued in the light of the fact that the policy formed post the tests conducted by IAAF remains inapplicable to a slew of events barring the few specified events in the policy document itself. Despite the IAAF finding a larger than ever link between greater stamina, strength, higher explosiveness in middle distance runners and limited field events with testosterone levels in athletes,⁵¹ the policy's lack of square and fair applicability to all events under the ambit of 'Track & Field' events makes it look suspicious and dubious. This creates a confusion ridden rule wherein competitive advantage is seen with higher testosterone levels,

⁵¹ Stéphane Bermon & Pierre-Yves Garnier, *Serum androgen levels and their relation to performance in track and field: mass spectrometry results from 2127 observations in male and female elite athletes*, 51 BRITISH JOURNAL OF SPORTS MEDICINE 1309, 1309-1314 (2017).

but only in limited events. If stamina, speed and strength were to increase at higher testosterone levels, then leaving short distance running events or field events such as pole vault is wholly unreasonable and arbitrary. Thus, even if the reasoning is that higher testosterone levels are linked to improved athletic performance, then this should be applied across female track and field athletic events. Therefore, even if the study has found a correlation between the higher testosterone levels and athletic performance then applying this to selective sports is an arbitrary policy decision which should not be allowed.

6. CONCLUSION

Female athletes face unfair structural impediments in their journey towards becoming elite athletes, however, these impediments are magnified in case of athletes with DSD who compete in female events. Although the sex-testing rules are well-intentioned, the absence of cogent scientific proof to back the claims of the study and the rules makes it imperative on the authorities to declare such hastily prepared rules inoperative and instead focus on an athlete's career. In the absence of a direct categorical link between improved athletic performance and higher testosterone levels, a formation of rules based on susceptible claims remains arbitrary at best. An athlete cannot be discriminated against for physical characteristics they possess naturally in the form of endogenously produced testosterone. A higher testosterone level in a female athlete is a naturally accruing benefit that helps them achieve greater endurance, speed, and performance levels. This is a biological benefit, i.e. a sexual advantage akin to a favourable physical characteristic such as height, weight etc.

Even if the study that links higher testosterone levels and improved athletic performances were to be considered, then the rule that imposes a selective bar only on female athletes competing in middle distance events is itself arbitrary. If the link does exist, then the testosterone rule should be applied to all track and field events. For example, if higher testosterone leads to greater endurance as the research behind the rule states, then it should also be applied uniformly to long-distance and events. Similarly, if it leads to greater speed or explosiveness then it should be applied to shorter distances as well. The non-imposition of these restrictions across track and field events points to a lack of available research that links athletic performance to higher testosterone. Thus, applying the rule to only selective events is arbitrary even if the rule has been proven, the latter rationale being far away from reality.

Furthermore, the argument that allowing athletes with DSD in female events would be unfair to female athletes is unfounded. Athletes with DSD who identify as females are legally females and should ideally be considered females for the purpose of all-female athletic events. Disallowing intersex athletes from participating in sports events would be discriminatory towards these athletes. It is argued that imposing a testosterone test that is neither broad-based nor satisfactorily proved to prejudice athletes, is also arbitrary. It must be stressed that DSD is a sexual condition that naturally occurs in individuals and to make that as a basis to discriminate against athletes cannot be deemed to be reasonable by any stretch of the imagination. Additionally, not allowing intersex athletes who are discriminated and ostracized in society, makes it difficult for the athletes to legally self-identify in mainstream society. Therefore, discriminating against athletes with DSD who have been raised as a female is unreasonable and should be necessarily discontinued.

It is further argued that individuals who undergo an SRS and take Transgender Hormone Therapy (Male to Female) should not be divested from the right to participate in female events. This goes against the principles of self-determination, wherein an individual is given the right to choose their gender identity, which should entail all the rights and privileges along with it. This includes the right to participate in female events. The continued exclusion of transgender athletes is problematic and irrational. Allowing trans-athletes to participate in the event of their choice would also help in normalizing the *Trans* identities, while at the same time upholding the legal notion of self-identification in sport. Allowing, intersex athletes and athletes who have undergone SRS would lead to more inclusive athletic events while at the same time allowing these athletes to become agents of social change.

Therefore, sex-testing cannot be allowed under the garb of maintaining fairness, when in reality it discriminates against sexual minorities such as athletes with DSD or those who have undergone SRS. This is antithetical to the concepts of fairness that the sex-testing policies aim to uphold.