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Transgender Women in the Athletic World

Corvus Endo

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Introduction

Transgender women and the legitimacy of their womanhood are under constant scrutiny in the modern media. The issue of their belonging in the athletic world further inflames this scrutiny. Those who are opposed to transgender women being included in women's events argue that there is an unfair biological advantage, specifically in terms of the physical strength of a transgender woman in comparison to a cisgender woman, due to a difference in their birth sex.

In this essay, I will use the following terminology: cisgender (cis) means people who identify with their sex assigned at birth. Transgender (trans) means people who do not identify with their sex assigned at birth. For example, a trans woman is a person born male who then transitions into and identifies as female. Assigned female at birth (AFAB) is an umbrella term for people whose sex is female at birth but then later transition and identify with a gender different from their sex. Assigned male at birth (AMAB) is an umbrella term for people whose sex is male at birth but then later transition and identify with a gender different from their sex. Hormone replacement therapy (HRT) refers to the replacement of one's biological sex hormones for the other. Gender-affirming surgery can mean either top surgery, a surgery that feminizes or masculinizes the chest, or bottom surgery, a surgery that changes the sex of the patient's genitalia. *Transmisogyny* is a term that is defined as when a trans woman is ridiculed for not fitting into societal gender norms for women or expressing masculinity (Serano 2016, 14). Oppositional sexism is defined as "the belief that female and male are rigid, mutually exclusive categories" (Serano 2016, 13). Those in opposition to trans women in women's sports believe that being born a male and having undergone male puberty, the male hormones and muscle mass make trans women superior to cis women. Some even argue that even after trans women take HRT for one year, not even the best female athletes can compete against them. This paper focuses on the question of whether or not transgender women genuinely have an unfair biological advantage over their cisgender counterparts and if athletes who were born male are still athletically superior to women post-transition.

Scientific Data and Research

The debate around the physical advantage transgender women have in sports primarily focuses on comparing the difference in testosterone levels between cisgender and transgender women. The consensus in the scientific community is that cis men have a physical performance advantage over cis women because cis men typically have higher testosterone levels than cis women. (Jones et al. 2016, 713) found that after trans female athletes undergo 12 months of HRT, testosterone levels decrease significantly and are comparable to those of an AMAB individual who is castrated. Additionally, the muscle mass of the trans female patient decreases after a year of HRT (E. Alliance). This data is crucial to supporting the argument that once undergoing HRT for a year, a trans female athlete should not only be allowed to compete in women's events but also be justified as it proves their strength to be comparable. Safer (2022, 2) suggests that prepubescent trans children should compete in the category they prefer since there is no athletic difference between AFAB girls and AMAB boys before puberty. The typical male puberty consists of a rise in testosterone levels and a lowering of estrogen levels, which contributes to a bigger stature post-puberty. The issue, however, lies in the fact that those opposed to trans women competing in women's events argue that even after undergoing HRT post-male puberty, trans women would still have an advantage over their cis competition. Hilton and Lundberg (2020, 201) affirm that cis men perform better athletically than cis women because of the testosterone boost during male puberty, which tends to get extrapolated into the argument that trans women still have a biological advantage in strength and endurance over their cis counterparts since 12 months is not a long enough timeframe to suppress the male advantage. Hemoglobin counts are higher in the cis male population than in the cis female population, but after three months of HRT, most trans women experience a decrease in hemoglobin levels comparable to the level of cis women (Cheung et al., 2023, 4).

Hemoglobin count is especially significant for endurance sports since it transports oxygen from the lungs to the rest of the body. The more hemoglobin prevalent in a person's bloodstream, the longer they can endure. However, after undergoing HRT for only 3 to 4 months, hemoglobin levels in trans women are depleted and equal to those in cis women. They are consistently maintained at that level, according to some studies that lasted up to 36 months (Harper et al., 2021, 7). Harper et al. (2021, 6) speculate that lean body mass (LBM) and strength decrease significantly after a trans woman undergoes anywhere between 12 and 36 months of

HRT. However, in some cases, the strength values are still higher than those of cis women. E. Alliance (2021, 5) affirms that HRT does decrease a trans woman's strength and concludes that the levels of LBM and strength are still within the normal distribution for cis women. Cheung et al. (2023, 7) concluded that trans women who have been on HRT for roughly 39 months have fat mass and lean mass that is comparable to that of their cisgender counterparts. Conflicting conclusions between scientific sources make the debate surrounding trans women in sports confusing because the effects of HRT are not the same for every trans woman. However, it is undeniable that society's perspective on trans women is what makes or breaks their inclusion in women's sports.

Cultural Issues and Societal Gender Norms

People typically focus on the science behind transitioning because of the societal norm that masculinity and femininity are separate and unchangeable.

This harsh and unfair judgment of trans women is rooted in transmisogyny since they are expected to uphold femininity and reject all traits of masculinity, including muscular strength. Hargie et al. (2016, 255) interviewed both trans male and female athletes and found that both experienced adverse mental and physical health problems when excluded from the preferred gendered event. Exercise becomes complicated when one is discriminated against when stepping onto the field. Trans women especially undergo immense social pressure from the media to look feminine enough to pass as female. However, they are also accused of simplifying femininity down to wearing dresses and makeup (Serano, 2016, 15). The argument that femininity is based on physical appearance is crucial since many people will criticize the physical appearance of trans women in sports.

When reviewing all of the sources in this paper discussing the science behind the strength of a trans woman after over a year of HRT, there is a common weakness: the lack of data. Trans athletes are a new topic in the scientific community, and not many studies have reliable test subjects or tests. Thus, it is difficult to argue whether trans women are comparable to their cis counterparts after only 12 months of HRT. What is not difficult to argue, though, is how society's take on trans women can influence the debate of whether or not they belong in women's sports.

Main Analysis

Testosterone, LBM, and hemoglobin are the three central values most scientific researchers are concerned with when determining the advantage trans women have over cis women. Testosterone is an important hormone that can boost lean muscle mass, muscular strength, and hemoglobin levels (Harper et al., 2021, 1). This hormone is the value most often brought up because it enhances many different aspects of the athlete. Due to the testosterone boost cis men experience during puberty, cis men have a physical advantage over cis women that is so significant that it is crucial to have events separated by sex to promote fair competition (Hilton and Lundberg, 2020, 201).

The effects of cis male puberty are not irreversible, however. Some trans women who undergo HRT for just 12 months experience a substantial depletion in LBM, and their levels are comparable to those of a cis woman (E. Alliance). As mentioned previously, after undergoing only 3 to 4 months of HRT, the hemoglobin levels in trans women are depleted and are comparable to cis women. As a result, the depletion of hemoglobin levels is consistently maintained after continuous HRT treatment (Harper et al., 2021, 7). Some trans women, however, may still have an advantage over cis women since it may not deplete LBM and strength at all in a span of 1 to 3 years (Harper et al., 2021, 8).

When analyzing the science behind transitioning, it seems logical that trans women, after anywhere between 12 and 36 months, should be allowed to compete in women's events. The "biological advantage" they are perceived to have is reduced significantly or eliminated, depending on the patient. Regardless of the science, however, many people seem to be fixated on trans women's biological birth sex instead of accepting that HRT can indeed create a level playing field for trans and cis women. This begs the question: if the science behind transitioning supports trans athletes, why are people still opposed to trans women in women's sports? The answer lies in the cultural and societal norms that influence this debate.

Even after undergoing intensive HRT, trans women are held under the societal bias that they will have superior athletic ability over cis women because they were born male (Safer, 2022, 1). This societal bias plays into the concepts of transmisogyny and oppositional sexism. Trans women are questioned about the legitimacy of their identity through both biological and societal means. As a result, transmisogyny is incredibly harmful since trans women are ridiculed whenever they show any trace of masculinity but are also mocked by cis men for losing their

masculinity (Serano, 2016, 17). This also becomes an issue when even cis women are accused of being trans because they have “masculine” traits such as being “too tall” or “too strong” for a real woman. Oppositional sexism and transmisogyny go hand-in-hand because oppositional sexism is what supports transmisogyny. Without believing that there are distinct differences between cis men and women, you cannot criticize someone who is trans and expressing both masculine and feminine traits.

This constant criticism from transphobic people can make exercising difficult for trans women and men alike since it can feel like their every move is being observed. Trans people are more discriminated against and violently attacked than other LGBT identities, which causes an increase in psychological distress, suicide ideation, and suicide attempts (Hargie et al., 2016, 226). This predisposition to having poor mental health makes trans people more likely to avoid public areas and situations where they can be harassed for being trans, such as gyms (Jones et al., 2016, 702). Exercise and maintaining a healthy body weight are crucial for gender-affirming surgery, but having a fear of being at a public gym and not exercising has additional negative physical and mental health effects (Hargie et al., 2016, 229). For example, the fear of being outed at a public gym is terrifying enough for trans people. Specifically for trans woman athletes, the fear of being scrutinized, outed, and legislatively barred from competing in women's events threatens not only their participation in sports but their athletic identities and careers, illustrating a dire need for more inclusive and protective measures in sports and exercise spaces

To reiterate, all sources and scientific data on this essay and the subject of trans women in sports and the effects of HRT overall are scarce, as the subject is relatively new. This, unfortunately, makes the spread of misinformation more prevalent in the discourse surrounding trans women in sports. Typically, conclusions like “transwomen [sic] competing in sports may retain strength advantages over cisgender women, even after three years of hormone therapy” (Harper et al., 2020, 8) will be cherry-picked as evidence by anti-trans activists. Any evidence that supports trans women being able to compete on the same level as cis women will be ignored and dismissed. This is a dangerous practice that can make those uneducated on the topic of trans women in sports believe that trans women have an unfair advantage. This is not only scientifically untrue but also morally untrue as no trans woman transitions with the sole purpose of winning athletic competitions. Having as many people with a pro-trans stance as possible can allow for trans healthcare advocacy to spread and eventually become widespread across the

United States. If there is enough public outcry and support for anti-trans bills, however, it can be harder for trans female athletes to obtain any healthcare to allow them into women's sports. The International Olympic Committee's trans policies dictate the NCAA and professional sports' trans policies. Even if America's federal government bans legal HRT, that decision does not change the Olympic Committee's policies. This would indicate that trans women would not be able to compete unless they obtain HRT through any means which would be illegal and also dangerous. The FDA would be unable to regulate what hormones are being used in HRT, meaning trans women obtaining hormones from illegal means would not know about what they would be injecting into their bodies.

Trans women athletes face significant challenges in professional sports, not only due to the physiological adjustments required by hormone replacement therapy (HRT) for fair competition but also from the compounded effects of transmisogyny, oppositional sexism, and legislative obstacles that amplify discrimination and jeopardize their inclusion in women's sports. After anywhere between twelve and thirty-six months, their testosterone, LBM, and hemoglobin levels may either be equal to or above those of cis women. Trans women experience transmisogyny and oppositional sexism, two forms of discrimination pushed onto trans women that work together to put an even larger target on trans women's backs. The scarcity of data can lead to misinformation, political bias against trans women in women's sports, and finally, more anti-trans bills as politicians are bombarded by an onslaught of anti-trans activists. The gap in knowledge on the topic of the biology of trans women and HRT likely won't be closed in the next decade, but hasty decisions should not be made because of this gap. For the time being, however, trans female athletes must play the waiting game to see the fate of their inclusion in women's sports.

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