NORMA
International Journal for Masculinity Studies

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rnor20

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To cite this article: Linda Berg & Ida Linander (2023) Hypogonadism. Diagnosis, masculinity, and capital in narratives about testosterone deficiency, NORMA, 18:1, 5-20, DOI: 10.1080/18902138.2022.2121534

To link to this article: https://doi.org/10.1080/18902138.2022.2121534

Published online: 15 Sep 2022.

NORMA: INTERNATIONAL JOURNAL FOR MASCULINITY STUDIES
2023, VOL. 18, NO. 1, 5–20
https://doi.org/10.1080/18902138.2022.2121534

Hypogonadism. Diagnosis, masculinity, and capital in narratives about testosterone deficiency

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ABSTRACT

For centuries, male hypogonadism has been defined as a clinical syndrome caused by the inability to produce physiological concentrations of testosterone and/or normal amount of sperm. In 2020, an information campaign started in Sweden with the ambition of increasing knowledge about hypogonadism and (lack of) testosterone, targeting both men and healthcare providers. In this study, we take a closer look at media discussions in Sweden on hypogonadism over the period 2018–2021. Through feminist thinking on biomedicalisation, we analyse the media material about the phenomena and issues being raised regarding masculinity, age and health in contemporary neoliberal and biocapital times. For some people, hypogonadism is a severe condition, but we can also see that the diagnosis becomes a response to a wide range of symptoms, expanding the realm for diagnostic practices and tying into normative ideas about age, time and lacking or fading masculinity. The media narratives about hypogonadism not only reflect cultural norms regarding masculinity and the plasticity of diagnoses but also create desires, needs and markets.

ARTICLE HISTORY
Received 16 March 2022
Accepted 2 September 2022

KEYWORDS
Hypogonadism; testosterone; masculinity; biomedicalisation; biocapital

> Do you have decreased sex drive, difficulty getting erections or difficulty maintaining an erection? This could be a sign of testosterone deficiency or hypogonadism. Other symptoms of testosterone deficiency are decreased muscle mass, difficulty having children and feeling weak or depressed. (Netdoktorn, 2020-05-12)[1]

In 2020, Netdoktorn (Net Doctor), a Swedish 'news and education portal focusing on health and medicine', started an information campaign with the ambition of increasing knowledge about hypogonadism and (lack of) testosterone, targeting both men and healthcare providers. The quote above can be found on their page, with information being spread via newspapers in Sweden in spring and autumn of the same year. Hypogonadism is not a well-known cohesive problem, but with information from a campaign like this and as more and more people hear about symptoms that can be treated, we see the emergence of an increasingly accepted diagnosis. In our search for what hypogonadism is, however, we discovered paradoxes that are investigated in this article.

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This article has been corrected with minor changes. These changes do not impact the academic content of the article.

The term 'hormones' was coined in 1905 by physiologist Ernest Starling, and soon after, bodies began being conceptualised as hormonally constructed (Henderson, 2005). The scientific literature in the field is primarily related to the medical disciplines, but there is also research that recognises the social and gendered aspects of the hormonal body. This research has shown how the idea of the hormonally constructed body has turned into a hegemonic conception of the biological foundations of sex differences (e.g. Oudshoorn, 1994; Roberts, 2007; Sanabria, 2016), in which differences in male or female behaviour and characteristics have (in Western culture) been ascribed to hormones. The discourse on 'sex hormones' can be understood as a 'chemical model' that often represents a reductionist understanding of sexual differences and, as such, has laid the foundation for the emergence of diagnosis called 'hormonal deficiency' (Fishman, 2010; Oudshoorn, 1994). A pathologising of the body legitimises a pharmaceutical intervention: hormonal replacement (Roberts, 2007; Watkins, 2007).

Basaria defines 'male hypogonadism' as 'a clinical syndrome that results from failure to produce physiological concentrations of testosterone, normal amounts of sperm, or both' (2014, p. 1250). Male hypogonadism encompasses a range of different conditions and causes, and can be either 'primary' (e.g. Klinerfelter's syndrome) or 'secondary' (e.g. caused by medications or damage to the pituitary gland). The prevalence of male hypogonadism is difficult to assess and depends on how it is measured and in which population (Basaria, 2014). One study showed that among men over 45 years old visiting primary healthcare providers in the United States, 38.7% had hypogonadism (Mulligan, Frick, Zuraw, Stemhagen, & McWhirter, 2006), but other more recent research suggests that this is a rather rare condition (Janusinfo, 2022). For some people, hypogonadism is a severe condition, but we can also see how the problems relate to established cultural norms and may open further for a growing market. In the Swedish context, the prescription of testosterone has increased rapidly over the last couple of years, both within and outside the subsidised system (Janusinfo, 2022).

In this article, we take a closer look at hypogonadism as a diagnosis in the Swedish context over the period 2018–2021. We aim to understand how the symptoms and diagnosis are described and by whom, and how testosterone deficiency relates to age, gender and medicalisation. Through feminist thinking on biomedicalisation and biocapital, we deconstruct narratives about the phenomena to destabilise the order in which it is placed (cf. Clarke, Shim, Mamo, Fosket, & Fishman, 2003; Clarke, Mamo, Fosket, Fishman, & Shim, 2010; Foucault, 2001; Rose, 2007). Our primary material is media sources in Sweden on hypogonadism over a four-year period, including a press release of an information campaign, news reports and letters to the editor in a youth magazine and local newspapers. More specifically, we analyse these media representations of hypogonadism and testosterone deficiency as scholars grounded in queer and gender theory, experienced in research on biomedicalisation, hormone narratives and gender politics.

(Bio)medicalisation and critical masculinity

Medicalisation as a concept and theory has been discussed at length, but scholars generally agree with Conrad's definition:

> Medicalization consists of defining a problem in medical terms, using medical language to describe a problem, adopting a medical framework to understand a problem, or using a medical intervention to 'treat' it. (Conrad, 1992, p. 211)

The original understanding of medicalisation does not have an inherent direction, even if overmedicalisation is commonly implied (Conrad, 1992). Some have argued that in the middle of the twentieth century, women in particular were (over)medicalised, but that more and more diagnoses have emerged in relation to (lack of) masculinity (Riska 2010). Two frequently referenced diagnoses in this context are PTSD and the (bio)medicalisation of sexual dysfunction. PTSD has been shown to increase and reflect gendered conceptions, for example, carrying stigma against mental illness followed by a decreased likelihood of help-seeking and difficulties in addressing emotion-laden content for people who identify with 'traditional masculinity' (Greene-Shortridge, Britt, & Castro, 2007; Lorber & Garcia, 2010; Riska, 2013). Another more debated form of medicalisation is the development and introduction of Viagra by Pfizer, which succeeded in making erectile dysfunction a 'normalised' general diagnosis (Fishman, 2010; Lexchin, 2006; Marschall, 2006; Wentzell, 2017).

The increased rate of diagnosis for hypogonadism can be understood as new knowledge of men's bodies, including hormonal processes and testosterone (Fine, 2017). However, Riska (2013) asserts that the medicalisation of men's health is not a new phenomenon, but that the medicalisation of masculinity has not been analysed to such a large extent in the past.

In 2003, Clarke et al. (2010) introduced the framework of 'biomedicalisation' to capture what they thought was a transformation in the organisation and realm of biomedicine. The biomedicalisation era involved a shift from a time when diagnoses meant pathology to a time when (bio)medicalisation was also closely linked to optimisation and improvement (Clarke et al., 2010). Biomedicalisation can, in that respect, be understood as biomedical interventions that blur the distinction between treatment and enhancement (Riska, 2010). Technoscientific developments have played a central role in this transformation of biomedicine, which includes a shift 'from a control of biomedical phenomena to a transformation of them' (Clarke et al., 2010, p. 161). This can be exemplified by the technoscientific developments that have allowed for the identification and study of sex hormones (Oudshoorn, 1994).

The increased use of pharmaceutical drugs for prevention and enhancement was also key to the conceptualisation of biomedicalisation. This tendency has been theorised under the concept of pharmaceuticalisation, which aims to capture the 'transformation of human conditions, capabilities and capacities into opportunities for pharmaceutical intervention' (Williams, Martin, & Gabe, 2011, p. 211). Pharmaceuticalisation should be seen as a dispersed set of sociotechnological processes, and continuing geographical, commercial and clinical expansion is a central feature (Williams et al., 2011). Watkins (2013) explored the increased interest in testosterone replacement therapy in the 1990s and 2000s from the perspective of pharmaceuticalisation and argued that 'male menopause' could not be clearly positioned as medicine or marketing, but included both and was entangled with cultural ideas on masculinity and ageing.

Inhorn and Wentzell (2011) identified engagement with developing technologies, such as reproductive technologies and pharmaceutical assistance for erectile dysfunction, as contributing to changes in masculinity. They called these 'composite masculinities' and

'emergent masculinities', offering 'new ways of being men in attempts to counter forms of manhood that they see as harmfully hegemonic' (Inhorn & Wentzell, 2011, p. 801).

(Bio)medicalisation is an emerging field in masculinity studies. In contemporary times, erectile dysfunction and male infertility have become fields of increasing biomedicalisation. The focus of medical research has been on virility and strength rather than reproductive capacity (cf. Johnson, 2016; Sengoopta, 2006). A biomedicalisation process is fertilised by the threat of impotency and the expectation of men being able to make women pregnant – also a symbol of paternity, virility and masculinity (Webb & Daniluk, 1999). In line with this, Johnson (2021) unfolded narratives of the prostate and how men handled the threat of lost erectile capacity and libido, haunted by the image of peeing like an old man and the elusive risk of dying from cancer, but also by worries echoing norms of masculinity, sexuality and age.

In the biomedicalisation era, it is not only illness, disease and injury that are incorporated into medical jurisdiction, but also health itself. Through improved access to medical knowledge, self-surveillance, assessment, risk prevention and consumption of self-help services, health is becoming an individual moral responsibility (cf. Clarke et al., 2003, 2010; Roberts, 2006). Clarke et al. (2003) argued that the theories on biomedicalisation captured the increasingly complex and multi-sited processes of medicalisation, including the privatisation of such processes and the commodification of health. Hence, theories of biomedicalisation can be helpful in understanding how a diagnosis such as hypogonadism is not only prevalent and visible as an illness within the medical arena, but also how it travels beyond it and becomes an economic interest.

The shift from medicalisation to biomedicalisation can also be understood as a shifting understanding of power and subjectivity. As Lupton (1997) noted, from a Foucauldian perspective, demedicalisation would not mean that individual subjectivities or embodiments would be more authentically or accurately represented, only that they would be differently represented. This connects to Foucauldian understanding that the subject is not already there but is constituted in relation to discourses of power. In this sense, diagnosis becomes part of shaping a subject and giving a name to something previously inexplicable (Goldstein Jutel, 2011) while also transforming self-understanding and ideas about how future lives can be lived (Mohr, 2020).

While masculinity is an emergent topic in studies about (bio)medicalisation, critical studies on men and masculinities in a broader sense have developed rapidly with Connell's (2005) concept of hegemonic masculinity. Connell argued that a dominant discourse around masculinity was that 'the body is a natural machine which produces gender difference' (p. 45) and that biology had replaced the role religion had previously held in justifying gender ideology. Connell's seminal work was followed by the field expanding with discussions regarding more complex constructions, such as 'female masculinity' (Halberstam, 1998) and 'inclusive masculinity' (Anderson, 2009).

Within gender studies, issues regarding masculinities have long been discussed and the field has expanded enormously, but there is a need to further analyse men as a social category of power (Hearn, 2019; Hvidtfeldt, Eriksen, Nebeling Petersen, & Møller, 2020). Men and masculinities have eventuated into a subject for research, and this is where this study can be placed. Here, we are especially interested in how ideas on masculinity, biomedicalisation and biocapitalism are intertwined in media narratives.

Media narratives

Empirically, this paper draws on media material consisting of articles about *hypogonadism* and *testosterone deficiency*. By studying hypogonadism in media material, with an emphasis on what it is and how it is presented, we can formulate an idea of how the diagnosis as a phenomenon is represented by medical expertise. Through a closer look at readers', implied readers' and patients' interpretations via their submitted questions and stories, we can also examine general interpretations of how testosterone deficiency, masculinity and consumption of medication can be understood.

The empirical material was identified through repeated searches of the word 'hypogonadism' in the *Retriever Research, Media Archive database*, with hits exclusively on this word. After reviewing a period of four years (2018–2021), 20 out of 37 articles were selected for further analysis. We excluded notifications and articles that were not about hypogonadism or that only mentioned it briefly as one issue among others.

Our methodological approach was narrative analysis, which is common in qualitative research and especially useful for combining with our theoretical concepts (c.f. Andrews, Corinne, & Tamboukou, 2013). We carried out an analysis based on the assumption that the texts were general narratives, bound by genre and dependent on whether they were specialist magazines or daily news. In our analytical work with the media material, we defined narratives as statements that reflect something but also do something. By that, we aim to emphasise that narratives can tell us something about the experiences of the readers but are also involved in and create experiences (Riessman, 2015). In this sense, narratives – here, primarily through local newspapers – can be seen as performative insofar as they may create meaning. Narratives, such as letters to the editor or information campaigns from a company, can be a way to articulate problems and push a question forward for exploration, as well as have an impact on actions/behaviours (Veland et al., 2018). Even when the narrator of a story does not consciously intend to create a certain meaning, or at least not all the potential meanings that a narrative can harbour, the analysis of the story can make such a quality visible in the story's structure and content (cf. Riessman, 2015). From a biomedical feminist perspective, we are interested in narratives about and connotations of contemporary ideas about sexuality, health, economy and masculinity through representations of hypogonadism.

Am I normal? Normality, time and age

Part of the material consists of letters to the editor and responses to surveys in which men of different ages express worries and questions about having hypogonadism. A teenaged boy wrote to the youth/children's magazine *Kamratposten*:

> I am a 14-year-old who is very worried. I've been in puberty for about a year. I've got semen and some hair around my penis. But I still have very little hair and the penis has grown almost nothing. It feels like I am developing very slowly. I read about something called hypogonadism (testosterone deficiency) and became very worried. My brother has been in puberty for almost as long as I have. He has a lot more hair. Is something wrong with me? /A worried boy. Answer: Puberty goes at different rates for different people. This is completely normal. For some, puberty may need a little 'push' with the help of medication. (Kamratposten, 2020, p. 17)

Here, the young writer articulates a problem that has been described long before any diagnosis had been heard of. This could be interpreted as a story reflecting a normative timeline for growing up, concerning the early phase of youth when the liminal uncontrolled phase is entered (Halberstam, 2005). Issues include how to develop in accordance with other children and the worry of being deviant, whether that be because of a small penis or being short. In Netdoktorn's campaign, they included survey responses of men living with 'testosterone deficiency', one of which reads: 'Man under 20, Norrbotten County: Has not entered puberty. Looks like a girl and has an extremely small scrotum' (Holmqvist, 2020). This also testifies to a general concern about not entering puberty in time, being 'too late' or 'too early' in the body's biological development. Similar to other examples in the material, more and less explicit worries of looking or appearing like a woman/girl are expressed. The pre-puberty phase is connected with looking like a girl, testosterone is narrated as the hormone for masculinity (Fine, 2017; Hoberman, 2005), and the appearance of a young girl is reduced to a non-male body rather than a body-specific development of its own.

At the other end of the lifespan (becoming older), the 'risk' of lost masculinity also appears. The material contains a narrative of testosterone levels gradually decreasing: 'Testosterone levels decrease over the years, and it becomes a malfunction in the testicles', with consequences such as 'becoming softer in the skin and more womanly in their proportions' (Wahlbeck, 2019). This narrative is sometimes constructed as 'male menopause', often illustrated with comparisons to women's menopause. Watkins (2013) argued that the advocates of 'andropause' (male menopause) in the early 2000s aimed to move the mid-life issues of men from the mind to the body, in a similar way that Viagra reframed erectile dysfunction as a bodily problem. In this way, the symptoms described in the material become a consequence of physiological dysfunction connected with ageing, with a possible medical remedy or at least a means of delaying it. For men 18–35 years old, the risk of becoming like an old man is made explicit in the media narratives.

> Young men [18–35 years old] who take painkillers containing ibuprofen get lower levels of the sex hormone testosterone. After only a couple of weeks, the values are reminiscent of a 70-year-old, Danish research shows. (Svenska Dagbladet, 2018)

The examples show the relativity and norms regarding time and age: how boys are waiting for puberty to transform them into men and how ageing can be affected by external factors and turn young men into old ones, at least based on testosterone measurement (cf. Johnson, 2021). The risks of ageing too slowly or too quickly are present in various ways, as masculinity assumes meaning and distinct connotations in relation to age in the narratives about hypogonadism. An appropriate age for becoming more masculine is constructed and experienced. However, there is a conflicting narrative for the masculinity of the old man; on the one hand, the gradual decreasing testosterone is portrayed as a 'normal' part of ageing, and on the other hand, this ageing is something that should be prevented, as illustrated by the following quote from the survey:

> Man in age group 71–80 years, Västra Götaland County: 'Before, life was a bit boring. But then you were young and virile! In the fall of age, I still want to be virile and sexually alert. I can do this with medication.' (Holmqvist, 2020)

Just as in the above examples, it is noticeable in various ways how hormone narratives are focused on issues regarding gender and sexuality but also connected to age. As the process of medicalisation has focused more on so-called erectile dysfunction, it has also linked age to sexuality in a time characterised by a health-normative culture with activities directed to the ideal of counteracting ageing and 'maintaining youth'. Marshall and Katz (2002) argued that erectile dysfunction as a contemporary phenomenon was not only defined as the (in)capacity to penetrate a vagina, but also reflected an idea of male virility as a crucial prerequisite for a vital and healthy life until the end of men's lives. In line with studies concerning life transitions, these stories can be understood in light of Western culture dominated by normative life scripts (Halberstam, 2005) that influence the way people understand, tell stories about, and organise their lives. These scripts explain age transitions as a future-oriented movement in time in which events take place at certain stations in a certain order: birth, puberty, adolescence and sexual exploration, family formation and marriage, childbirth, and old age. We also identify friction between the idea of men as active with strong desire versus ageing men associated with asexuality (c.f. Johnson, 2021; Sandberg, 2011).

Diagnostic response

The experiences and fear of lacking and fading masculinity are met with a diagnostic response in the media material. The response is constructed as an answer to something that is at the same time common, part of normal ageing and a broad array of symptoms, and a response to specific diseases and more uncommon conditions. In their campaign, Netdoktorn asks:

> Do you have decreased sex drive, difficulty getting erections or difficulty maintaining an erection? This could be a sign of testosterone deficiency, hypogonadism. Other symptoms of testosterone deficiency can be decreased muscle mass, difficulty having children and feeling weak or depressed. Here, you can learn more! (Netdoktorn, 2020-05-12)

As seen, hypogonadism is narrated as causing common issues such as feeling depressed or weak but also tightly tied to ideas about deficient masculinity. The media material interpellates individual men, alluding to worries about a lack of masculinity and diffuse symptoms being caused by a medical condition, together widening the understanding of what needs medical attention. In the campaign and the material more broadly, hypogonadism is constructed as something that can easily be mixed with other diagnoses; hence, it is a diagnosis that the doctor should keep in mind when encountering patients with an array of symptoms, something that becomes especially prevalent in the training material that 'Net Doctor' developed for medical doctors (Netdoktornpro.se, 2022). The vagueness of symptoms is also made explicit in the broader campaign:

> The symptoms of testosterone deficiency are, in most cases, vague and it can be difficult to make a diagnosis based solely on clinical conditions. The symptoms may also be similar to those of other diseases, including depression, hypothyroidism and Cushing's syndrome. With testosterone deficiency, an increasing fatigue and lack of initiative is usually noted. Although decreased sexual desire and erection problems may occur, it is not always clearly correlated with serum testosterone levels, as there are usually several underlying factors that interact. (Netdoktorn, 2020-05-12)

Although parts of the material emphasise the importance of double criteria for diagnosis – symptoms and lab tests – this quote illustrates an example of vagueness in terms of destabilising the connections between serum levels and symptoms, broadening the group that could possibly need medical attention and fall within the category of testosterone deficiency. The exact prevalence of the diagnosis differs, as one article states:

> Three to four percent of all men in Sweden are estimated to suffer from testosterone deficiency. The condition affects men's quality of life through depression, lack of energy and a reduced sex drive. (Östgöta korrespondenten, 2019-08-04)

> The prevalence of hypogonadism (testosterone deficiency) is usually stated in 2–6% of all men. This may mean that up to 200,000 men in Sweden may suffer from hypogonadism. (…) It is therefore not an unusual condition (Westdahl, 2019b).

The media emphasis on hypogonadism not being an uncommon condition could be seen as a performative act of medical expansion, a central aspect of (bio)medicalisation and pharmaceuticalisation processes. Media can both promote and challenge pharmaceutical interests but has a role in the extension of pharmaceuticalisation, as amplifiers, as being an arena for both expert and patient voices and to establish the idea that the condition could affect anyone (Williams et al., 2011).

However, at the same time, hypogonadism is also represented as less common in the campaign: 'About 70,000 men in Sweden are estimated to live with hypogonadism, low testosterone levels and various symptoms due to disease or damage to the testicles' (Netdoktorn, 2020). Hypogonadism is represented both as a disease or injury and as part of ageing. Some medical professionals are careful not to confuse hypogonadism with so-called andropause.

> - The expression 'male menopause' is not entirely correct because the declining fertility in men is very different from the menopause that women go through, says Céline, and continues:

> - The amount of hormones naturally decreases with age. However, some men suffer from testosterone deficiency, also known as hypogonadism, and androgen deficiency, as the body cannot produce enough hormone on its own, she says. (Kry.se, 2021-09-02)

This construction of a condition being part of 'older age' could be seen as a medicalisation of 'normal life events'. In this regard, the diagnosis of hypogonadism becomes a medical response that opens possibilities for a biopharmaceutical remedy: 'Hormonal deficiency can be corrected by a regimen of hormone replacement' (Riska, 2010, p. 159). However, it could also be understood as a (bio)medicalisation process in terms of enhancement/optimisation; the diagnosis calls for an enhancement of 'natural sexual health' (Riska, 2010, p. 159). Enhancement is also key to pharmaceuticalisation processes, where pharmaceuticalisation and medicalisation might diverge and pharmaceuticalisation might happen without medical involvement (Williams et al., 2011). Medical experts and discourses have a prominent role in the media narratives, while the reliance on privatised care can indicate that hypogonadism is contested or not a totally accepted diagnosis in Swedish tax-funded healthcare, indicating a resistance to the medicalisation of connected symptoms (cf. Janusinfo, 2022).

The diagnostic response appeals to dominant ideals for masculinity and builds upon sociocultural legitimation; in other words, the dominant ideology is recast in diagnostic terms and medical science to frame the masculine body (see Connell, 2005). As

Oudshoorn (1994) stated, 'Health problems can only be classified as illness and be medicalized if there exists a cultural climate and a medical infrastructure that actively transforms health complaints into diseases' (p. 143). Sociocultural legitimation is also what biocapital relies on, as we explore further in the next section (c.f. Clarke et al., 2010).

Biocapital and commodified masculinity

With a diffuse diagnostic criterion, testosterone deficiency as a rarely defined, limited disease and not a time-limited hormonal adjustment, a broad picture of symptoms emerges. The plastic complication – together with men of different ages harbouring concern – invites actors to come up with answers and offer an arsenal of measures. Needs have been created along with what constitutes the very backbone of a market economy: the demand for products that can solve the perceived problems.

> [T]he newly established company Rewell (…) help[s] people with low testosterone levels. Rewell is a medical technology company with an online healthcare service that works with physical clinics. 'Our view is that there is a lack of experience with this diagnosis. Many of the symptoms involved in testosterone deficiency are general. Some are diagnosed with depression instead, and we find that very sad. If they have low testosterone levels, it is important that they receive the right treatment', he [CEO of Rewell] says. (Wahlbeck, 2019)

During the time of digitalisation, online healthcare services have exploded, and this is one example of a business whose 'concept is to identify people with testosterone deficiency and offer diagnosis, treatment and follow-up'. The statement by the CEO is yet another way to highlight the message of the campaign, the suggestion that some patients are misdiagnosed and therefore receive incorrect treatment. The campaign by Net Doctor was 'conducted with economic means from Ferring pharmaceuticals' (Aho, 2020). In accordance with previous research, we recognise statements about the lack of knowledge among the public (and experts) and the urgent need for medical diagnosis, which is crucial for the formulation and branding of a disease, illness or injury (Ebling, 2011; Moynihan, Heath, & Henry, 2002; Mulinari, 2016). To identify a relatively unknown diagnosis, forms are prepared for medical expertise and their worried potential patients.

> Together with NetdoktorPro, I have compiled a patient case about hypogonadism, which I warmly recommend to you as a doctor in primary care. In the patient case, we get to follow a man who applies to the health center due to erection problems, decreased desire, fatigue, lack of physical and mental strength and a certain satisfaction, says Stefan Arver, chief physician at ANOVA at Karolinska University Hospital. (Netdoktorn, 2020-03-10)

In line with Jutels' (2009) description of diagnosis as a classification system for medicine, followed by Ebelings' (2011, 2014) studies on self-diagnosis, we identified a close connection between the promotion of diagnosis, including checklists (as shown in the example above) and pharmaceutical intellectual property.

> Besins Healthcare's investment in men's health and wellbeing began in 1982 with the first testosterone gel for the treatment of gynecomastia and symptomatic treatment of andropause. In the early 2000s, Besins Healthcare launched the world's first testosterone gel – Testogel® – for the treatment of low testosterone levels in men (hypogonadism). Today, the company's testosterone gels are the most prescribed in the world. (Westdahl, 2019a)

The articulation of 40 years of 'treatment of andropause' and 'treatment for low testosterone levels in men (hypogonadism)', together with the clarification of product rights to *Testogel* –

a pharmaceutical property – is branded to ensure higher profits. By presenting Besins Healthcare as a leading company in men's health, with testosterone gels that are the most frequently prescribed in the world, the positioning is clear. The above examples tell of a marketing campaign of medical resources, intertwined with an effort to establish a somewhat unknown diagnosis (cf. Eblings, 2011), and with an expansion of a possible pharmaceutical remedy in line with pharmaceuticalisation processes (Williams et al., 2011).

In gender research, biocapitalism has become an important analytical prism for understanding organ trafficking and various forms of surrogacy (cf. Cooper & Walby, 2014; Oksala, 2019). The term is often used to describe expanding life sciences, biotechnology and how new knowledge makes it possible to profit from human body parts. In the aftermath of Sunder Rajan (2006), we view biocapital as life science commodities, such as pharmaceuticals that offer a promise of future health, that require an analysis of capitalist practices together with the citizens, scientific and corporate subjects that are materialised in these activities. Knowledge production intertwined with corporate bioscience has become of growing importance in new capitalist practice (including speculative finance), primarily in the United States, but also in other parts of the world (of transnational capitalism), including Sweden.

Hormones have long been a hot target for capital actors, such as the beauty industry, the health industry and the pharmaceutical industry, along with a black market for hormone consumption. A billion-dollar industry aimed at women has been established around oestrogen (DeRosa, 2021), directed at what is defined as an extended period (10–15 years) from pre- to post-menopause. Cis male bodies do not pass the same clear momentum (as the cessation of menstruation) when no longer fertile; hence, hormonal changes and hormone supplements have not yet had the same impact on the market, although erectile dysfunction has turned into a 'normalised' diagnosis in general, marketed by Pfizer with Viagra as a successful treatment (Fishman, 2010; Johnson, 2021; Lexchin, 2006; Marshall, 2006; Wentzell, 2017). As Johnson (2016) stated, through *Läkartidningen* the Swedish medical discourse became clear – how local structures and health care providers together with 'Viagra's global traits to create a glocal Viagra' 'presented and maintained a pharmaceutical solution to erectile dysfunction' (p. 62).

The idea of erection as a symbol for masculine identity is unstable, and according to Loe (2004) became a profitable source for the medical industry – with the unpredictable male body, a desire to incorporate the potent man and perform on top of their game. Narratives on hypogonadism and, above all, the companies' messages in the campaign could be interpreted as a continuation of erection, sexual desire and physical strength as unstable symbols of masculinity and profitable sources for the medical industry – the unpredictable male body and the dream of being capable of incorporating the virile man (Lexchin, 2006; Loe, 2004).

Concluding remarks: narration, translation and the inertia of T-stories

> Testosterone is a key hormone for all men that is formed in the testicles. (Wahlbeck, 2019)

Testosterone has undeniably gained special status when it comes to biological perceptions of the male body. Here, the discourse on male hormone deficiency has become central in the medicalisation of masculinity, what has been called the 'viagracisation'

of men's sexuality and health (Johnson, 2016; Letiche, 2002; Morris et al., 2018; Riska, 2013; Tiefer, 2006).

Hoberman (2005) described the forceful connotations of testosterone and the desire for hormonal explanations of male behaviour. This hormone is often not just related to body hair, sperm production and muscle growth but to the idea of the hormone as being a cause of male aggression – what Connell called 'the endocrine theory of masculinity' (Connell, 2005, p. 47, see also Gutmann, Nelson, & Fuentes, 2021). However, in media representations of hypogonadism, the myth about testosterone as equated with male aggression is commented on and met with a counter-narrative concerning the need for hormone treatment for the body's strength and mental performance. The information campaign states, 'For many of these [patients], testosterone supplements can normalize levels and reduce symptoms, such as joie de vivre, malaise and depression' (Aho, 2020). This could be an opening for emergent or composite masculinity (Inhorn & Wentzell, 2011), but rather, testosterone is – in the media narratives – defined as a source of reproduction, body mass and sexual activity, as well as required to be healthy, alert and strong.

Without denying the importance of testosterone use for many, we argue that the T-story here may transform the hormone into a symbol of agency and a potential tool for human capital. Within the frameworks of biomedicalisation and pharmaceuticalisation, it can be understood as blurring the line between treatment and enhancement (Clarke et al., 2003, 2010; Williams et al., 2011). As Rottenberg (2017) reminded us, in contemporary neoliberalism, people are encouraged to invest in the present with promised returns in the future.

Through trans- and intersex studies, crucial knowledge has been gained regarding hormones as key components within the regulations of bodies, sex and gender (Guntram, 2013; Linander, Alm, Goicolea, & Harryson, 2019). Intersex bodies have been defined as insufficiently gendered as male or female based on the diagnostics of hormone levels and are prescribed synthetic testosterone and other hormones (Guntram, 2013; Mitchell & Snyder, 2015). Diagnoses of so-called hormonal imbalance, as symptoms of excessive gender instability, are based on normative quantifications of testosterone, oestrogen and progesterone levels in male and female bodies, which constitute a hormonal border of sexualised bodies (cf. Roberts & Cronshaw, 2017).

How 'sex hormones' are represented has been explored in medical textbooks and academic literature, showing how such texts carry metaphors of 'gender roles' and reproduce cultural attitudes (Fausto-Sterling, 2012; Martins, 1988). These texts reduce complex biomedical processes into single-direction, hierarchical messaging. In line with this, Irni (2013) argued that the sociopsychological factors influencing the effects of hormonal treatment (sometimes referred to as placebo effects) are, in mainstream biomedical studies, constructed as a 'belief effect', clearly separated from the 'real effect' of testosterone: 'hence the "real" effects remain chemical' (Eisenegger, Naef, Snozzi, Heinrichs, & Fehr, 2010, p. 358).

Contemporary debates regarding endocrine disruption also carry traces of heteronormative conceptions of sex and hormones (Ah-King & Hayward, 2013; Roberts, 2007) and how 'steroid hormones need not have to be divided into sex and non-sex categories' (Fausto-Sterling, 2000, p. 28). The chemical model, 'sex hormones', has become a

'natural signifier' for sexual difference, confirming the reductionist notion of the body embraced by biomedicine (cf. Fine, 2017; Oudshoorn, 1994; Roberts, 2007).

Our media material also illustrates how the diagnosis of hypogonadism travels from the biomedical arena into the language and desires of laypeople. Previous critical studies on sex difference have shown that hypotheses and results, which the researchers themselves sometimes interpret with caution, travel far and wide outside academia, are transformed and become sensationalist news in both traditional and social media (Fausto-Sterling, 2012; O'Connor, Rees, & Joffe, 2012; O'Connor & Joffe, 2014).

Important for this specific study is that the performative dimension of the media narratives plays a central role, disseminating stories about masculinity, hormones and diagnoses that we recognise ourselves in when we assess which medical statements are reasonable (Andrews et al., 2013; Vainionpää & Topo, 2006). In this study, we directed our lens towards how normative subjectivities are constructed through media narratives, and more specifically, on information regarding hypogonadism and testosterone deficiency in male bodies, and found ongoing creations of boundaries on masculinity, age and health. We argue that such an endeavour is important in times when borders for the normative hormonal body are often analysed through narratives of cis-women or trans people, for example, in our own work (Berg & Lundgren, 2022; Linander et al., 2019). Directing attention towards the masculinity of cis men and, more specifically, to hypogonadism as a diagnosis can illustrate how 'biopolitical and cis- and heteronormative normalcy take many forms, and employing the performative effects of diagnosis as an analytical tool can help to develop an adequate understanding of their persistence, change, and subversion' (Mohr, 2020, p. 30).

In line with such prompts and the biomedicalisation framework, it is also important to emphasise how a diagnosis, based on a productive understanding of power, simultaneously opens for some possibilities, while others are shut down/silenced (see also Burke, 2002). A hypogonadism diagnosis can, for example, be seen as a diagnostic response that might provide access to support and treatment for care-seekers in need. At the same time, as ample literature on (bio)medicalisation has shown, a diagnostic response can also depoliticise social issues, in the case of hypogonadism, naturalising and stabilising normative gender stereotypes as being inherently masculine and interwoven with age. The narratives about hypogonadism not only reflect cultural norms concerning masculinity and the plasticity of diagnoses but also create desires, needs and markets.

Note

1. The media material is originally written in Swedish, quotations included have been translated to English by the authors.

Acknowledgements

Thank you to editor Katarzyna Wojnicka and the anonymous scientific reviewers.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the Swedish Research Council [grant number 2020-01220] and FORTE [grant number 2019:00355].

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