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In the Absence of Testosterone: Hormonal Treatment, Masculinity, and Health among Prostate Cancer Patients Engaging in an Exercise Programme

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Abstract: This study focuses on men undergoing androgen deprivation therapy (ADT) treatment for prostate cancer who also participated in an exercise programme as part of their rehabilitation. Our aim was twofold. First, we aimed to describe and analyse how the participants talk about their treatment and its side-effects in relation to the body and masculinity. Second, we aimed to describe the participants' understanding of and motivation to participate in a physical activity programme designed by healthcare professionals to deal with anticipated and unwanted bodily changes following treatment. Focus group interviews and individual interviews were conducted. Theoretically, the study leans on phenomenological theories of embodiment combined with a sociologically informed framework found in critical studies on men and masculinity. The results showed that the medical suspension of testosterone impacted not only the men's understanding of themselves as men but also how they approached their own bodies. Testosterone was discussed as a source of masculinity and masculine traits. Consequently, the absence of testosterone following treatment led to ongoing reflections on how to understand the (ageing) body and its relationship to masculinity. The ageing ADT body, with growing breasts and a lack of libido, became a site of emasculation and bodily detachment. The men addressed this by displaying stoic masculinity; instead of addressing the problem emotionally they turned their attention and aspirations to having a capable body and being able to carry out physical work. However, participation in the exercise programme depended on recruitment by their physicians and was motivated by the opportunity to socialise with other men in the same situation.

Keywords: prostate cancer; physical activity; exercise programme; masculinity; body

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1. Introduction

The prevalence of prostate cancer increases with age. The average age at the time of diagnosis is 66 years; moreover, men over 65 years old account for 60 percent of all cases globally (Rawla 2019). In this sense, prostate cancer can be understood as "the old man's disease" (Buote et al. 2020). The development of modern medicine and efficient treatment methods in recent decades have contributed to high survival rates (NICE, NG131 2019). Common treatment methods are radical prostatectomy (operation) or radiation therapy. This is sometimes combined with androgen deprivation therapy (ADT), usually when the cancer has spread or when other methods have proven insufficient (Morgia et al. 2016). The intent with ADT treatment is to stop patients' production of testosterone and/or block hormone receptors, to prevent or slow down the tumour growth rate (Desai et al. 2021).

In social science research on prostate cancer and its treatment, scholarly debate has mainly focused on the narratives of men who had been operated on or those undergoing radiation therapy, and on how these treatment methods impact the patients' sex life and their understanding of themselves and their masculinity (Muermann and Wassersug 2022).

Though ADT-treated patients may experience side-effects similar to those that other patients experience (that is, incontinence, a lack of libido, impotence, etc.), there are some side-effects that are considered particular to ADT treatment—for example, changes in body composition involving increased abdominal fat, reduced penis size and the growth of breast tissue (Gentili et al. 2022). Treatment may thus not only challenge men's ability to live up to cultural norms of masculinity, but also threaten the gendering of the ageing male body (Bowie et al. 2022; Buote et al. 2020; Harrington et al. 2009; Johnson 2021; Larkin et al. 2022; Oliffe 2005). The impact of ADT treatment could be described as an emasculated body, one that is associated with femininity and a female body composition (Matheson et al. 2021).

Testosterone levels concern not only physiological realities, but also, as van Anders (2013) argues, affect how masculinity is understood in culture and society. In the cultural history of masculinity, traits such as aggressivity, sexual ability and control have been discursively connected to ideas of testosterone (Herbert 2017; Hoberman 2005; Mosse 1999). At the same time, there is evidence concerning prostate cancer treatment in general, and men undergoing ADT in particular, of the negative impact on men's self-esteem (Gentili et al. 2022). Research has shown that men undergoing ADT have a 41 percent increased risk of depression, which is often linked to the expected side-effects of the treatment and its impact on masculinity (Nead et al. 2017).

One way to deal with the expected side-effects following ADT treatment is through physical activity (Campbell et al. 2019; Gentili et al. 2019; Neil-Sztramko et al. 2019; Tian et al. 2022; Gao et al. 2017). In general, there is growing evidence showing physiological and mental benefits from physical activity during cancer treatment; however, up to 70 percent of men who have received ADT treatment tend not to meet physical activity recommendations (Ashton et al. 2019). Sattar et al. (2021) highlight some barriers or facilitators when considering men's propensity to participate in training activities as part of their treatment as a way to address expected ADT side-effects and their impact on men's sense of self. They suggest that side-effects such as fatigue or decreased physical fitness were reported as significant barriers to participation, and that side-effects that conflicted with their gender identity could increase their motivation. Another reported barrier to participating in exercise was reported communication problems between patients and healthcare professionals (Sutton et al. 2017). Patients displayed an apparent inability to express their own needs and relied on healthcare professionals to recruit and motivate them to engage in physical activity as part of their treatment and rehabilitation plan (see also, Mróz et al. 2013).

To address the explicit situation of living with hormonal treatment, that may prove to be long-term, we need to address patients' experiences and find ways to facilitate physical activity innovations. The present article builds on a qualitative interview study. We conducted both focus group interviews and individual interviews with men undergoing ADT treatment, and who participated in a training intervention as part of their treatment and rehabilitation. The aim of the study was twofold. First, we aimed to describe and analyse how men undergoing ADT treatment talk about their treatment and its side-effects in relation to the body and masculinity. Second, we aimed to describe the participants' understanding of and motivation to participate in a physical activity programme designed by healthcare professionals to deal with anticipated and unwanted bodily changes following treatment.

2. Survey of the Field

Prostate cancer is one of the most common forms of cancer among men, in Sweden and globally (Sung et al. 2021). Due to this, much attention has been paid to how to detect and treat the disease. Since the 1990s, men have been increasingly screened through so-called PSA tests (prostate-specific antigen tests, detecting changing levels in the blood). As more methods of detecting and grading tumours have been developed, the methods of treatment have also become increasingly refined (PDQ Adult Treatment Editorial Board 2023; NICE, NG131 2019).

ADT is often prescribed in combination with other treatments for localized and metastatic tumours (Morgia et al. 2016). In contrast to radiation therapy and radical

prostatectomy, ADT treatment tends to entail long-term medical therapy (Desai et al. 2021). It usually has significant side-effects, for example, fatigue, erectile dysfunction, breast enlargement, and a loss of the sex drive (Gentili et al. 2022). Indeed, expected side-effects can be both physically and psychologically stigmatizing in relation to dominant norms of masculinity (Larkin et al. 2022; Oliffe 2006).

In the social sciences, interest in prostate cancer, particularly in men undergoing ADT treatment, is relatively new. There is, however, increased interest in how side-effects following treatment are experienced by men and in how these affect their health, self-image, family life, sex life, etc. (Andreasson et al. 2023a; Bowie et al. 2022; Brüggemann 2021; Gentili et al. 2022; Hamilton et al. 2015; Harrington et al. 2009).

ADT treatment and its side-effects have been discussed largely in relation to men's experience of bodily changes and how bodily dysfunctions are understood and dealt with in relation to notions of masculinity and masculine norms and ideals (Hamilton et al. 2015; Matheson et al. 2021; Oliffe 2006). The imagery of ageing—men and masculinities with soft and emasculated bodies—is often set in motion in relation to traditional and hegemonic male norms that elevate young, healthy and muscular male bodies (Bowie et al. 2022; Brüggemann 2021; Connell 2020). Research has also illustrated that men experience emotional difficulties and challenges as a result of prostate cancer treatment (Andreasson et al. 2023b), and as Hedestig (2006) argues, may not express their need for support. Instead, they behave stoically, displaying indifference to pain or suffering. As suggested by Scandurra et al. (2022), men's inability to live up to masculine norms and ideals can also be experienced as demoralizing (which is often linked to a suicide risk) and thus affects men's levels of depression. At the same time, studies have emphasized outcomes of the disease and its treatment that are considered rewarding and positive, such as personal growth and development. Matheson et al. (2021), for example, argue that men who are treated with ADT can develop more meaningful and deeper relationships, finding new perspectives on life and masculinity.

One recommendation, as a treatment to counter side-effects in prostate cancer treatment generally, but also as an ADT treatment particularly, is physical activity (Campbell et al. 2019; Tian et al. 2022; Gao et al. 2017). Several studies have emphasized the physical and mental health benefits that result from exercise in conjunction with prostate cancer treatment, such as increased body mass and reduced fatigue (Neil-Sztramko et al. 2019; Newton et al. 2018). Gentili et al. (2019), for example, found that men undergoing ADT were dissatisfied with their body, and engaging in exercise helped them find a sense of control. Indeed, engaging in an exercise regime can be understood as a way to counter a sense of emasculation (Hamilton et al. 2015; Langelier et al. 2019). Still, as mentioned, the failure to adhere to prescribed physical activity following prostate cancer is common, which means that the potential health benefits of training are lost, and the lack of physical activity could also lead to cardiac problems or osteoporosis (Ashton et al. 2019).

To summarize this section, research shows that side-effects following prostate cancer treatment can have a significant impact on men's sex lives and how they embody masculinity. ADT treatment and how its adverse effects on the body are experienced, however, has received less attention. The present study aims to contribute to this underdeveloped field of research by focusing on men participating in an exercise programme as part of their ADT treatment.

3. Analytical Framework

In this article, the process of undergoing ADT treatment, in which physical changes impact patients' self-perception, is understood as an embodied experience, in which the meaning of the treatment and the perception of the body develop in relation to social norms and ideals, inscribed in and on the body. Merleau-Ponty ([1962] 2002) explains phenomenological embodiment as the lived experience of our bodies, elaborating on how this evolves into and affects our knowledge about the world. This is also known as the habituated body. An example of how to approach and discuss embodied experiences is

the analysis of the phantom limb, in which the experience of a "normal" body lingers on and brings sensations of still having, and feeling, the missing limb (Chouraqui 2021; Merleau-Ponty [1962] 2002). In our case, dealing with ADT and the removal of testosterone has an impact on men's experience of physicality and the "masculine" body, manifesting in lost muscle mass and potency. Consequently, lost abilities, such as the ability to have an erection, in combination with fantasies of still being able to perform penetrative sex, can be analysed in terms of "phantomality", and a phantom limb.

Thoughts about an emasculated body or a body unable to live up to certain gendered norms can lead to shame and stigmatization (Gentili et al. 2022; Nead et al. 2017; Oliffe 2006). Schwab et al. (2016) argue that men dealing with stressful life events sometimes have problems expressing themselves and often deal with ambivalent feelings directed towards the body and their emotions. Normative masculine ideals—acting stoically, and being brave and disciplined—prevent them from being vulnerable and seeking support. This type of masculinity, valuing emotional control, and invulnerability, also excludes "feminine" characteristics, such as emotionality (McAllister et al. 2019). This is similarly discussed by Mróz et al. (2013). In their research, they showed how prostate cancer patients experienced communication problems with their physicians, and that patients' feeling of being unheard and unseen by professionals led to their healthcare avoidance. Behaving stoically can thus have a negative impact on help-seeking behaviour and on how men deal with feelings of embodied emasculation.

In the article, we will use the notion of behaving stoically as a way to analyse how men handle and cope with long-term illness, ADT side-effects, and a changing body. Through this, we will also take into consideration changes in normative and hegemonic masculinity, and explore the softening of masculinity, in which affect and emotions are not merely rejected as feminine, but rather seen as a challenge, and as an indicator of a changing masculinity (Anderson 2010; Connell 2020). Using a hybridization perspective, emotional speech will not be seen as a fundamental shift in normative masculinity, but as another opportunity to develop new masculine strategies for handling disease and threats to the masculine body, analogous to those of physical activity, for example (de Boise and Hearn 2017).

4. Method

This study is part of a larger umbrella project in which different aspects of prostate cancer, masculinity, and health have been analysed using a qualitative research approach. In the overarching project, we conducted individual interviews with healthcare professionals (urologists, sexual counsellors, nurses, etc.), men who have undergone treatment for prostate cancer and their partners (Andreasson et al. 2023a, 2023b). However, the present article employs a case study involving an in-depth exploration (Thomas and Myers 2015) that zooms in on men undergoing ADT treatment who engage in an exercise programme as part of their rehabilitation (see the aims described above). The training programme was implemented through an initiative from the urology department of a hospital in the south of Sweden. Leading urologists at the hospital recruited three physiotherapists connected to a local rehabilitation gym. These physiotherapists then designed an exercise programme focusing on resistance training with the help of weight machines. The programme also included some cardio and balance training. The aim of the programme was to promote physical benefits such as increased muscle mass and reduced fatigue among patients. It also involved interventions dealing with issues of physical ageing, such as balance or pain. Before starting the programme, each patient underwent a full physical assessment carried out by a physiotherapist to permit individual recommendations regarding, for example, weights and the number of repetitions. A minimum of two physiotherapists assisted in every session to support patients during their training. The training programme lasted for 12 weeks and included two sessions a week.

Recruitment took place in two steps. First, through our collaboration with the urology department (in the umbrella project) we were able to establish contact with the lead phys-

iotherapist of the training programme. We explained the rationale of our study—that we wanted to investigate how patients experienced the programme and how the training was understood in relation to the bodily changes occurring due to treatment. The lead physiotherapist then informed the patients of our interest. Second, the lead author (Rindhagen) met the participating men during a training session in which she explained the project in detail. The participants were also given the opportunity to ask questions about the project. As the participating men were amenable to being part of the research, two sets of groups could be recruited. The first group participated in the programme in fall 2022, and the second participated in spring 2023. Each group of men consisted of seven participants. All in all, 10 men between 65 and 79 years old were recruited. Four men declined to participate due to their being unavailable or not having the time. The recruited participants were all undergoing ADT treatment at the time of the interviews, although earlier treatment may have included radiation therapy or radical prostatectomy. The timeframe for being diagnosed varied from about 6 months to 18 years back. Most of the participants had a middle-class background. All identified as heterosexual and white, two were singles, one was a widower, and seven were married. A majority of the participants expressed that participation in the exercise programme felt "natural" due to previous experiences of training (recreational sports; working in the army).

As the number of participants in the training programme was limited, a case study-based approach, including both focus group interviews and individual interviews, was used. This allowed us to become acquainted with the group and listen to how they experienced their situation and the training programme, as well as talk to them individually about things that they might for whatever reason have considered sensitive (Yin 2014). In total, 12 interviews were conducted, two focus group interviews, one with each training group, and ten individual interviews. All interviews, which were 50–75 min in length, were audio-recorded and transcribed verbatim. The first focus group interview was conducted at the gym in a private group exercise room. The participants had just finished their 12-week programme (n = 5). The second focus group interview was conducted in the middle of the programme in a nearby conference room (n = 4, with one participant being unable to participate on this occasion and therefore interviewed only individually). Though research suggests that men may find it challenging to talk to other men about sensitive topics such as masculinity and the body (Chapple and Ziebland 2002), we did not experience such conversation barriers in the focus group interviews. Quite the contrary, the focus group interviews made it possible for the men to engage in group discussions (Tausch and Menold 2016); perhaps due to the fact that the participants already knew each other and had had similar treatment experiences, they could engage in conversations openly.

Individual interviews were conducted 1–2 weeks after the focus group interviews. All of the individual interviews were conducted in a private setting, in a secluded room at the university. Individual interviews made it possible for us to continue and expand on topics from the focus group interviews (Gubrium and Holstein 2001). All of the individual interviews were conducted by the first author.

In the data analysis, we initially read the transcriptions several times to familiarize ourselves with the data, which were then sorted and coded. The analyses were conducted in a dialectical process whereby we moved between data, previous research, and central theoretical concepts; based on this process, the data were then sorted into themes. Particular attention was given to how patients who had been treated with ADT described that their experience created a sense of masculinity, how this was embodied, and how the exercise programme was understood. In line with Braun and Clarke (2022), our analysis could be described as a theoretically informed reflexive thematic analysis. This means that themes related to our theoretical interest in the area were generated early on in the process. The analysis was thus theoretically informed and driven, rather than approached completely inductively. Themes were gradually refined through the dialectical process of moving between reading and writing up the data and applying the theoretical tools.

All names, places, or other potentially identifying personal details were pseudonymized in the data analysis process. Formal ethical approval to carry out the study was granted by the Swedish Ethical Review Authority (ref. no. 2021-01955).

5. Result

5.1. Disembodied Masculinity and the Absence of Testosterone

In the interviews, several of the participants talked about how they experienced bodily changes due to ADT, leading to their being concerned about their masculinity. One of the participants, Owen, described his experience as follows:

> Owen: Yeah, compared with other forms of treatment, this is called chemical castration. It's supposed to stop testosterone production completely and remove the cancer cells from the body. But because of this I cannot have an erection. It's impossible. Actually, I also think my penis is getting smaller.
>
> Interviewer: What is your experience of this?
>
> Owen: I think this is sad, really. It's no fun. And now, I mean, I can look at beautiful women, and I can think that they are attractive. That hasn't changed, but I feel no sexual attraction any longer. That's also a bit sad. Even with my wife, we don't have sex. We don't make love and maybe we didn't have that much before either. It has just been a bit now and then the last couple of years. Still, I think there is a missing piece here, but we have a good life anyways. But it's without sex. (71 years old, former CFO)

Similar to Owen, a majority of the participants explain how sexual ability, libido and masculinity are somewhat "sacrificed", or lost as a result of the treatment. The healthy, masculine and abled body becomes something of a bodily memory, a fantasy, causing feelings of sadness and a sense of disconnectedness (from one's own body and in a relationship). Another participant, Steve, continued in this line, speaking about the ability to have an erection:

> You know about it, how it is, and still if I were to watch an erotic film, it feels strange when nothing happens. I feel nothing at all. There is no erection and not at all the same kind of feelings that I used to experience. (Steve, 79 years old, former cultivator)

The body's reaction to the ADT treatment resulted in a physical inability that was understood as unfamiliar and strange. This understanding resonates with Merleau-Ponty ([1962] 2002) who discusses bodily sensations of disconnectedness in terms of the phantom limb. Accordingly, lived experience influences embodied feelings, even if there is an actual body part (in this case function) that is missing. Steve and Owen both felt the lost ability. Several other participants discussed the side-effects of their treatment in a similar manner, especially when talking about erectile dysfunction. Some did, however, link the inability to the ageing process in general, rather than to treatment side-effects. On such occasions, expectations (or lack thereof) regarding the degenerated ageing body became the overall bodily construct (cf., Oliffe 2005).

Though some of the men seemed to accept expected erectile dysfunction, connecting it to ageing, for example, other bodily changes were less likely to be excused. One common side-effect discussed among the participants was the development of breasts, which was understood to be a direct consequence of ADT, and which resulted in body image dissatisfaction (Harrington et al. 2009). The changed body was, however, not only discussed in terms of emasculation and as an aesthetic problem, but also as a body that was ill-equipped for physical activity. In one of the focus groups the following conversation took place:

> Owen: My experience is that I gained weight due to these hormone injections and because of them my body shape changed. I didn't like that, and I also developed breasts, that wasn't fun. (71 years old, former CFO)

Levi: I share that experience. It was the same me. It's no fun at all. (70 years old, former cultivator)

James: Were you sent to do radiation? (75 years old, former CEO)

Owen: No, I haven't done anything with my breasts.

Ethan: You didn't? (78 years old, former economist)

James: I did, after six months and by then they had already grown a bit. Now when I play and jump with my grandchildren my breasts hurt.

Liam: Are they supposed to do radiation on them? (69 years old, former truckdriver)

James: Yeah, preferably before you start with your hormones.

Levi: They did it on me, and now I have an area without hair, and my nipples are always stiff.

James: I agree, and they became quite large. I mean, they do hurt when I jump.

Levi: Same here. I have experienced that, too, sometimes.

Ethan: I went to massage therapy because of my neck and the therapist joked about it and said I should borrow my wife's bra.

The development of breasts was a topic that engaged the men in both the focus group interviews and the individual conversations. In such discussions, the men talked about how these changes were experienced, dealt with, and possibly could be prevented (through radiation). Usually, however, such discussions tended to refer to the feminization of the body (see also Andreasson et al. 2023b). At the same time, the men seemingly felt comfortable in each other's company, and in one of the focus groups several of the participants (not all) lifted their shirts to compare their breasts. Certain forms of masculinity can serve to suppress feminine traits (Connell 2020), and in the men's discussions, the development of breasts was indeed considered unwanted and problematic (see also Andreasson et al. 2023a; Buote et al. 2020; Gentili et al. 2019; Oliffe 2005, 2006). Not only breasts but also hot flashes, voice changes, weight gain and mood changes were discussed in this manner. Not all of these topics could be linked to expected side-effects; nevertheless, they also were associated with a process of becoming more feminine or less masculine, as in the two excerpts below:

Yes, I have experienced side-effects, like hot flushes from the hormone treatment, that make you feel less masculine. Also, I have less hair on my body and stuff like that. (Bob, 71 years old, former pilot)

I think I'm changed, at least my wife says that my mood has changed. I don't know if that's the case, but she says that I'm more irritable. Like mood swings. (James, 75 years old, former CEO)

Clearly, testosterone is understood and experienced as a source of masculinity, and of masculine traits. Consequently, the absence of testosterone following treatment leads to ongoing reflection on how to understand the (ageing) body in treatment and its connection to masculinity. Mirroring previous research, ideas about masculinity are often related to the notion of young, healthy men who are ready to perform (Andreasson and Johansson 2022; Chapple and Ziebland 2002; Connell 2020; Hedestig 2006; Jackson 2016). In relation to such imagery, the ageing ADT body becomes an embodied experience, and a site of feminization, emasculation, and a sense of loss or "ghoul" limbs. In the next section, we will look further into this and how bodily changes are dealt with.

5.2. Stoic Acceptance as a Way to Deal with ADT

In the data, the time of diagnosis ranged from some months to up to 18 years ago. Despite this variability, the men were seemingly united in how they talked about the treatment as something that they had accepted. This approach corresponds with Schwab et al. (2016), who suggest that stoic masculinity can act as a barrier to approaching and

talking about stress and illness. In the interviews, several participants initially explained that their side-effects had been mild, only to later describe quite severe bodily effects. Due to embodied dissonance, some participants seemingly found it difficult to express or even recognise feelings of discomfort, worry or sadness in relation to their predicament. In the extended excerpt below, we can see how such difficulties are related to notions of masculinity and thoughts about what it means to be a man.

> Frank: Yes, why men don't show feelings I think has something to do with our genetic heritage. We stand for being calm; as men, we provide safety. This is our genes, I think. I can't really cry, it has almost never happened. I'm not sure why that is.
>
> Interviewer: Has it been like that always, even growing up?
>
> Frank: I think it was easier when I was a child. But I don't know how it works, I've observed people crying and feeling sad, but I don't have that ability. This might be a weakness because I've heard that it can be good to have a cry now and then. But for example, when I got my diagnosis ten years ago, I felt moody but didn't cry once.
>
> Interviewer: What does it mean to be moody?
>
> Frank: I don't know but maybe describe it as being low and overthink. But this wasn't a big issue for me.
>
> Interviewer: Feeling moody, does that include worry or anger?
>
> Frank: Well, yes, like when I got my last briefing about the medicine not working, I experienced some anxiety. I understand this as being moody. But in the end, I got new medicine that was better and my anxiety disappeared.
>
> Interviewer: Did you mention your anxiety to your medical team?
>
> Frank: No, and no one asked me about it either. At the time I actually felt that nothing could be done—that all medicine was ineffective—and that didn't feel good at all.
>
> Interviewer: And you never considered talking to a psychologist?
>
> Frank: No. Maybe that is something that's a difference when it comes to masculine and feminine. No one in our exercise group mentioned getting help from a psychologist, maybe a bit weird actually. (65 years old, former economist)

This excerpt reflects what Connell (2020) explains as a tendency among men to reject weakness and femininity. Acting stoic is in this sense related to and ingrained in the rejection of certain emotions. Another participant, Liam, continued the thread, reflecting here on the source of his stoical approach:

> Liam: Sure, I can experience grief, but it's not like I'm going to cry my eyes out. Sometimes the disease hits me, like Damn!. . .but in the end, you harden up.
>
> Interviewer: Is this something that has evolved through ageing, and your prior experiences, or have you always been like that, and what do you mean by "harden up?"
>
> Liam: I mean, I grew up in different times, not like today; growing up you had to be independent. My father was tough on me, sometimes he punished me and gave me a beating. Sometimes with a stick, and I have friends who experienced the same. They had to make their own stick, and were then beaten by it. Our age group have experienced a whole lot. (69 years old, former truckdriver)

Stoic masculinity and the denial of pain were necessities growing up, and through these former experiences, Liam developed coping strategies that he now uses when dealing with the side-effects of his treatment. Discussing masculinity in retrospect also highlights the discrepancy between embodied ideals and norms, and current societal understandings

of masculinity. Conveyed through the eyes of their children, for example, some participants could talk in a positive manner of a society and form of masculinity that embrace gender equality and what is considered more healthy life choices. Still, even though participants were able to reflect on changing gender norms, to some extent, they found it difficult to move away from more stoical perceptions when dealing with their disease. For example, as Frank highlighted, all of the participants in the group had turned down the opportunity to talk to a psychologist. Consequently as a general consequence, there was also a disallowing attitude towards one's own vulnerability (Matheson et al. 2021; Mróz et al. 2013; Schwab et al. 2016).

As part of the effort to reject illness and weakness, having a capable body was seen as very critical. Several of the men expressed the importance of having a capable body and being able to conduct heavy physical work.

> In my case I feel good when I'm out working and doing forestry work. My work life hasn't involved physical labour, but I have always enjoyed working with my body, doing carpenter projects or fishing. Working with my body makes me feel good and as long I'm able to do this I'm satisfied. (Frank, 65 years old, former economist)

This perception of health and living a meaningful life captures some of the aspects of embodied masculinities, and their relevance in coping with ADT treatment. Other leisure activities were also mentioned by other participants, usually involving physical activity and notions of capable bodies (participating in sports, hunting, or gardening). This also mirrors previous studies in which physical activity has been seen as a coping strategy often combined with an instrumental approach to feelings of illness, ageing and more (Langelier et al. 2019; Sattar et al. 2021).

5.3. Facilitating Exercise and Participating in a Programme

Most men experienced fatigue and a weakening of the body as a result of their treatment. They talked about this in terms of not having the same energy and stamina as they did before. Participants also expressed that they were not able to carry out as many health-promoting activities as they wanted. Sattar et al. (2021) show that different side-effects following disease can function as both barriers and facilitators. This was also expressed by the participants in this study, who aspired towards a healthier lifestyle and body, but also felt fatigue and a lack of motivation. In the end, what motivated the participants to engage in the training programme was the wish to have a capable and masculine body. Simply, they did not want to gain weight and lose muscle mass. This wish was linked not only to illness, but also to ageing and masculinity. They had experienced physical degeneration, and wanted to do something about it, by investing in the programme, with the idea that it would make them stronger, and not so vulnerable to injuries or other consequences of their treatment. In this sense, the gendered values of having a strong and competent body were seen as a meaningful facilitator (Connell 2020; Hamilton et al. 2015). One participant explained the following:

> I really feel that this thing with the hormones, the medicine, it makes my body degenerated in some way. It affects my whole body, so when I do strength training, I can see that the muscles won't disappear completely. Also ageing affects my muscles and everything. The older you get, yeah, I can joke about the whole thing and say that I look like a woman over the bum, when it grows bigger. I'm not sure if it works like this, but it is pretty obvious that if you are inactive the muscles turn into fat, and you become weaker. It was a new discovery for me. I realized this just a week or so ago. (Adam, 78 years old, former CFO)

Exercise benefits are discussed as a countermeasure to feelings of becoming weaker and gaining weight, as a result of ADT treatment. For Adam, the realisation that he was developing a woman's bottom was thought about in terms of emasculation. In contrast to notions of masculinity formed through strong, hard bodies (Andreasson and Johansson

2018), Adam perceived that he was becoming weaker and softer. Therefore, to counter that experience he felt motivated to participate in the programme. Furthermore, the participants also mentioned another aspect of the programme, that motivated their participation. James explained the following:

> James: I think it's a good thing that we are doing this as a group. I'm not alone, thinking like that. We wouldn't have signed up it to be honest if it wasn't for the group.
>
> Interviewer: What is important, being able to exercise in a group?
>
> James: I mean there's an opportunity here to meet others. We can socialize and also have this as a joint appointment and experience. You don't want to be the one that cancels an appointment for example. I actually think that this is why we participate at all. (75 years old, former CEO)

Arguments such as these have been seen as motivators in previous findings; socializing with other men in a similar life situation may serve to create inclusive environments and feelings of responsibility towards the group (Langelier et al. 2019). Several participants also connected their participation to previous experiences within, for example, team sports or working in the army. They had enjoyed male camaraderie through physical training, previously, and were well familiar with the form of normative masculinity that could develop in such settings. At the same time, a majority of the participants also suggested that their participation was facilitated by the recommendations and support provided by their physician (Sattar et al. 2021). Levi, who lacked previous experiences of training, explained the following:

> I was asked to participate in this exercise project by my physician. I was unsure at first because I hadn't done any exercise the last 50 years. My wife told me that if I didn't sign up, she would do it for me. The programme already started so I thought why not, let's try it. The fact that I could meet others in the same position was motivating, I haven't regretted that decision once. (70 years old, former cultivator)

Recruitment to the programme was seemingly influenced by the men's contact with and trust in their physician. This contact also constituted a barrier as the men rarely met their physician after their treatment plan was implemented. Another challenge, as mentioned above, was that experienced side-effects were sometimes supressed due to stoic coping strategies, which most likely impacted how the men communicated their side-effects. Indeed, difficulties expressing emotions or living in a body that is understood as emasculated may serve as an impediment to men's motivation and communication (Jackson 2016; Sattar et al. 2021; Schwab et al. 2016). Still, this section has shown that masculine ideals can act as a facilitator for these men, when participating in physical activity programmes intended to counter expected side-effects of ADT treatment.

6. Conclusions

In his book *Testosterone Dreams*, Hoberman (2005) focuses on the hormone testosterone to sketch a history of how hormone treatments have been used not only to form lifestyles and identities, but also to reinforce "normalcy". In the cultural history of testosterone, its use has served to increase sports performance and workplace productivity, to improve soldiers' stamina, and to treat frigidity. Such cultural forms of hormonal perceptions stand in direct contrast to the situation that participants in this study experience, whereby their own production of testosterone is medically suspended (due to its "function" of fuelling the growth of prostate cancer tumours). We have seen how the symbolism and physicality of testosterone (or lack thereof) serve to influence these men's understanding of their changing bodies (see also Gentili et al. 2022; Harrington et al. 2009; Matheson et al. 2021). The participants discuss the absence of testosterone and their lack of libido in terms of an emasculated body and self. Bodily changes are sometimes also narrated as if they relate to a missing limb (Merleau-Ponty [1962] 2002), and lost masculinity. In trying to deal with

such bodily changes, the men sometimes referred to ideas about natural ageing. Although frustrated by the loss of potency and sexual capability, the men seemed to address these bodily changes through a stoic acceptance of their fate.

As regards the development of breasts and "a woman's bottom", however, such changes were more challenging for the men to explain as a part of an ageing process. At these points, the side-effects of their treatment become clear to the men, embodied as an emasculating effect of the chemical castration that they were experiencing. In order to emotionally deal with this, the participants largely expressed a stoic approach to feelings (Jackson 2016; Mróz et al. 2013; Scandurra et al. 2022; Schwab et al. 2016). Stoic masculinity can partly be seen as a generational issue, that is contrasted with the development of contemporary masculinity configurations that promote softer men, and men's emotional sensitivity. Bodily capability, being able to train and conduct "hard work", is instead seen as a potential way to counter the emasculated body and self.

The motivation to participate in the physical activity programme thus served to address the changes in the gendered embodied sense of self of these men. At the same time, it can be concluded that that participation in a physical activity programme may be precarious and is dependent on healthcare professionals acting as recruiters. As this study is based on the narratives of a small number of men, further research is needed as to how men's experiences of emasculation, and embodied loss, can be countered in and through physical training. In addition, this study shows the need for further research on patients' adherence to physical activity as a part of their treatment, the social significance of group training as treatment, and the role of healthcare professionals as facilitators.

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