

Please note! This is a self-archived version of the original article.

Huom! Tämä on rinnakkaistallenne.

To cite this Article / Käytä viittauksessa alkuperäistä lähdettä:

Ahola, J., Pohja, R., Silvan, A. & Tuomi, J. (2021) Effects of young men's and boys' eating disorders on sexuality and fertility. Teoksessa Tuomi, J. (toim.) Preconception health and care - Handbook for education. Tampereen ammattikorkeakoulun julkaisu, sarja B, raportteja 135, s. 139 - 151.

URL: <http://urn.fi/URN:ISBN:978-952-7266-60-1>

Effects of young men's and boys' eating disorders on sexuality and fertility

*Julia Ahola, Public Health Nurse
Finland*

*Roosa Pohja, Public Health Nurse
Finland*

*Anne Silvan, MSc, Senior Lecturer
Tampere University of Applied Sciences
Finland*

*Jouni Tuomi, PhD, Principal Lecturer, Health Promotion,
Tampere University of Applied Sciences
Finland*

Abstract

This study aimed to distribute knowledge of young men's and boys' eating disorders and the effects on their sexuality and fertility. Based on the literature, it became clear that boys' eating disorders manifest in different ways than girls' ones. Maybe this is the reason that boys' eating disorders are poorly identified in health care. Boys emphasize compulsive and copious exercise. Other features of their eating disorder behaviour include body and muscle dissatisfaction, striving for perfection, compulsive thoughts and activities, and very strict weight loss or exercise diets. The use of supplements or anabolic steroids may also be a symptom of boys' eating disorders. Eating disorders also pose a serious risk to young men's and boys' sexual and reproductive health, as being overweight and underweight affects testosterone and sperm production and can cause erectile dysfunction.

Keywords: boys, eating disorders, sexuality, fertility

Tiivistelmä

Artikkelissa tarkastellaan, miten syömishäiriöt vaikuttavat nuorten miesten ja poikien seksuaalisuuteen, ja miten ne vaikuttavat poikien hedelmällisyyteen. Kirjallisuuden pohjalta selvisi, että poikien syömishäiriöt ilmenevät eri tavoin kuin tyttöjen. Ehkä tämän vuoksi terveydenhuollossa poikien syömishäiriöt tunnistetaan huonosti. Pojilla korostuu pakonomainen ja runsas liikkuminen. Heidän syömishäiriökäyttäytymisensä muita piirteitä ovat esimerkiksi vartalo- ja lihastytymättömyys, pyrkimys täydellisyyteen, pakonomaiset ajatukset ja toiminnat sekä erittäin tiukat laihdutus- tai treenausruokavaliot. Myös lisäravinteiden tai anabolisten steroidien käyttö voi kuulua poikien syömishäiriöoireiluun. Syömishäiriöt vaarantavat myös nuorten miesten ja poikien seksuaali- ja lisääntymisterveyttä vakavasti, sillä ylipainolla ja alipainolla on vaikutusta testosteronin ja siittiöiden tuotantoon sekä ne voivat aiheuttaa erektiohäiriöitä.

Avaisanat: pojat, syömishäiriöt, seksuaalisuus, hedelmällisyys

Introduction

Eating disorders are often thought to be female diseases, but the eating disorder symptom in boys and men has increased. About 10% of boys and men have an eating disorder. It is therefore important that boys identify their potential symptoms of an eating disorder so that they can seek help. Getting help is important, because eating disorders can be cured and with help it is easier to succeed. The earlier you seek help, the easier it will be to treat an eating disorder. In boys, eating disorders can be associated with a variety of shame feelings, as eating disorders are still often perceived as a disease of only girls. This can make it even more difficult to seek for help. It would therefore be important for young people, but also for health professionals, to be more aware of the incidence of eating disorders in boys and their symptoms and effects, so that the threshold for seeking help is lowered.

In the article we will examine, how eating disorders affect young men's and boys' sexuality and fertility. The article is based on a traditional literature review in which information is extracted from literature broadly. The material in this article is mostly based on Finnish literature. We use term boys to refer to young men and boys in this article.

Eating disorders

The causes of eating disorders are not known exactly. Factors predisposing and triggering eating disorders can be biological, psychological, and culturally related. The biological factor is often genetic susceptibility. Psychological factors can include stress, emotional difficulties, and self-esteem problems. A culture-related factor can be an environment that glorifies weight loss. Anyhow, eating disorders are the sum of many factors.

Disruption of a normal eating behaviour occurs when food or related thoughts dominate or limit life. Eating or not eating is the main content of life, at which point it begins to disturb relationships, work, study, and hobbies. In the mind of a person with an eating disorder, the knowledge about healthy and sensible eating, is distorted. In such a case, the proportions of eating and healthy flexibility, are lost. Eating is governed by rules, rituals, and the pursuit of control. Disrupted eating behaviour is not an eating disorder, but it is still detrimental to physical and mental health. The boundary between disturbed eating behaviour and eating disorder is blurred. (Hasan et al. 2018.) Eating disorders are most common in young and young adult women, but boys and men also develop eating disorders. Eating disorders often occur at a young age between the ages of 12 and 24.

Eating disorders may manifest differently in male than female. Therefore, the current diagnostic criteria for eating disorders are

ill-suited for boys and men. Male eating disorders may involve the use of supplements or anabolic hormones, increasing muscle mass, and regimens aimed at reducing fat, even if weight loss is not aimed for.

Types of eating disorders

When talking about eating disorders, it is good to distinguish disturbed eating (DEB) from eating disorders. DEB is underestimated and rather common among young men (> 10 %), especially among overweight men. There are four DEB profiles, which are: compulsive thinking of dieting, eating in secret, being concerned about eating control, and mild disordered eating. The DEB behavior is associated with less physical activity, higher sedentary leisure time, and especially body-related motives to exercise. (Nurkkala 2021.)

The most well-known eating disorders are anorexia nervosa, bulimia nervosa, BED or binge eating disorder, and other specified feeding or eating disorder (OSFED). The latter ones are the most common eating disorders.

Anorexia nervosa:

includes trying to control weight by not eating enough food, exercising too much, or doing both (NHS n.d.).

Bulimia:

includes losing control over how much to eat and then taking drastic action to not put on weight (NHS n.d.).

Binge eating disorder (BED):

includes eating large portions of food until feeling uncomfortably full (NHS nd.).

Other specified feeding or eating disorder (OSFED):

a disorder that does not include typical diagnostic criteria for a weight loss disorder, binge eating disorder, or other defined eating disorder (NHS n.d.).

Orthorexia:

a diet where eating is as healthy as possible (Hanganu-Bresch 2020).

There are also other eating and feeding disorders or problems such as avoidant/restrictive food intake disorder (AFRID; avoiding certain foods, limiting how much to eat, or both), rumination disorder (food is brought back up from the stomach either rechewed, reswallowed, or spit out), and pica (a compulsive eating disorder where non-food items are eaten). (Beat Eating Disorders n.d.) Belief about weight or body shape are not reasons why people develop AFRID, rumination disorder or pica. (NHS n.d.)

Body and muscle dissatisfaction and muscle dysmorphia in boys

Young men are often dissatisfied with being underweight. They are also often dissatisfied with not having enough muscle mass. It is common for teenage boys to be dissatisfied with the size, shape, and distinctiveness of their muscles. At the extreme end of muscle dissatisfaction, is a severely disturbed perception of muscles, or muscle dysmorphia. Muscle dissatisfaction and muscle dysmorphia may be associated with the use of muscle-building supplements and anabolic steroids. A statistical association between muscle dissatisfaction and the use of muscle mass enhancers has been observed. However, not everyone who grows their muscles with different methods are dissatisfied with their muscles. In boys, even leanness or overweight clearly increases

body dissatisfaction and the risk of bodily and eating disorders. Boys may experience disturbed eating, which may manifest as skipping or substituting meals, strict diets, and alternating between starvation and binge eating. (Raevuori n.d.)

Concern about appearance or muscularity does not automatically mean there is an eating disorder. An eating disorder, muscle dysmorphia, or other bodily disorders usually develops only when the concern for appearance or muscularity becomes the centre of life and begins to interfere with normal everyday life, relationships, studies, or work. (Keski-Rahkonen et al. 2010.)

Boys' eating disorder behaviour

Eating disorders often occur in male differently than in female. Women have a greater emphasis on limiting total energy intake, while boys and men emphasize on compulsive and copious exercise. It is more common to aim for a muscular and lean body than a slim and lean body. For example, as many as a third of young Finnish men are dissatisfied with their own muscles. However, this has not been found to be related to weight. In modern society, the pursuit of muscularity is easily perceived as normal. It can be difficult to determine when healthy physical fitness becomes a compulsive control of the body. (Nurkkala et al. 2017.)

Diagnosis criteria for eating disorders have been developed strongly from a female perspective. Because eating disorders in boys and men often manifests as extreme pursuit of muscularity rather than leanness, it can be difficult to identify it as an eating disorder. In health care, the eating disorders of boys are poorly recognized. In health care, not all diagnoses of eating disorders can be utilized, and the criteria for the diagnoses used are strict or not specific to boys' symptoms. In addition, boys may conceal

their eating disorder symptoms because they are perceived as female symptoms. Particular attention should be paid to disturbed eating associated with overweight and obesity.

Boys' eating disorder behaviours include a variety of traits, such as a disturbed body image, perfection striving, demandingness, compulsive exercise, compulsive thoughts and activities, and constant mirroring, measuring, or weighing the body. In addition, some traits are also disturbed and rigid eating, such as the constant alternation of starvation and binge eating or very strict dieting or training diets. These same features also occur in muscle dysmorphism and dysmorphic body image disorder.

The use of supplements and anabolic steroids may be associated with boys' eating disorders. Boys may also alternate fat-reducing diets with supplements and anabolic steroids (Tarnanen, Suokas & Vuorela 2015). It is quite common for boys and men with an eating disorder to also suffer from many other mental problems such as depression, substance abuse, and obsessive-compulsive disorders. (Keski-Rahkonen et al. 2010.)

Effects of eating disorders on boys' sexuality

Eating disorders can be associated with sexuality problems as sexuality is part of basic functions of the body. In adulthood, there may be a conscious or unconscious fear of sexuality. This can manifest as a struggle against body change. Natural sexuality can be problematic if the body awakens mostly feelings of contempt and shame. The body is seen as wrong and, until it meets certain requirements, sex or sexuality cannot be enjoyed. Poor self-image and emotional problems are a difficult starting point for sexuality. There may be a need to suppress sexual needs and redirect sexual energy elsewhere, such as body modification, other eating symptoms, and performance. (Heimo & Sailola 2014.)

Eating disorders have often a negative effect on sexuality. People with an eating disorder are more likely to have a decreased sexual desire and problems related to their relationships and sexual interaction than people without eating disorders. They are also more likely to live without a relationship compared to those without an eating disorder. (Syömishäiriöt; Käypä hoito-suositus 2014.)

It has been discovered that the lower the BMI is in anorexia nervosa, the more difficulties there are regarding sexuality (Morin-Papunen 2014). Anorexia also reduces sexual function in boys and men. The acute phase of anorexia is often associated with a decrease in sexual interest. It also causes infertility due to weight loss and dramatic changes in hormonal balance (Keski-Rahkonen 2010).

Overweight caused by bulimia nervosa may cause physical and self-harm. Being overweight can cause metabolic syndrome and testosterone deficiency, both of which can cause erectile dysfunction. Regular and healthy exercise and activity can protect against erectile dysfunction. (Ritamo, Ryttyläinen-Korhonen & Saarinen 2011.)

Eating disorders in boys may be associated with the use of supplements or anabolic steroids. The long-term effects of anabolic steroids are unknown. Anabolic steroids and their non-medical substitution treatments are associated with sexual dysfunction as one of the health hazards. (Seppälä 2010.) The use of anabolic steroids to build muscle may initially increase sexual desire, but later the libido may begin to decline which can lead to impotence and sexual reluctance. Discontinuation of anabolic steroids can also cause impotence. Hormone activity returns to normal in about 3 to 12 months after cessation. (Mustajoki 2020.) Anabolic steroids can also cause prostate hyperplasia and increase the risk for prostate cancer. (Tuovinen 2020.)

Eating disorders and a problematic relationship with food and the body are often also reflected in some way to relationships and sexuality. An eating disorder is often accompanied by the challenge of allowing yourself nice things or pleasure. Negative thoughts about one's own body often also inevitably affect sexual desire. Pleasure can feel strange and something that isn't allowed. Low self-esteem can bring thoughts of unworthiness of intimacy. Intimacy with another person can also seem demanding. Being aware of the effects of eating disorders on sexuality and interpersonal relationships helps to address these challenges. The body image of someone recovering from an eating disorder recovers much slower than, for example, the weight. On average, the body image normalization occurs about 5 to 10 years after reaching normal weight. However, not everyone who has otherwise recovered from an eating disorder, may ever recover from their broken body image. (Keski-Rahkonen 2010.)

Effects of eating disorders on boys' fertility

Eating disorders pose serious threats to sexual and reproductive health. Lifestyle factors affect fertility, most notably weight. Being overweight and underweight impairs boys' fertility. Obesity predisposes to a wide range of diseases that also have effects on fertility. The body's glucose tolerance is reduced, which predisposes to hormonal imbalances, metabolic problems, cardiovascular diseases, and diabetes.

Being overweight is detrimental to both female and male fertility. For example, malnutrition can cause overweight due to excessive energy intake. Being overweight has been found to alter the body's hormonal balance, which impairs fertility and may cause infertility. Being overweight reduces testosterone production in men. It also impairs sperm production. Being overweight can also be associated with high levels of insulin, which can be a cause of

infertility. Increased insulin secretion creates a similar condition in men as anorexia creates in women.

Being overweight is associated with low semen volume, low sperm density, and low total sperm count. The circumference of the waist is related to the total number of sperm. The larger the waist circumference, the lower the total number of sperm. (Eisenberg et al. 2014, 195.) In addition, being overweight reduces sperm motility and causes DNA disturbances in sperm. Being overweight also causes erectile dysfunction. Adipose tissue in the inner thighs and groin warms the testicles and impairs sperm production. Higher estrogen levels have also been found in overweight people than in normal weight people. In men, too much estrogen increases feminine traits and impairs sexual ability and semen quality. If a pregnancy is wished for, it is good to remember that even a man's overweight affects the development of the embryo, the course of the pregnancy, and even the body fat composition of the growing child.

Underweight also impairs boys' fertility. Underweight has been linked to an increased number of abnormal sperm. It is also suspected that underweight has a lowering effect on semen density.

Boys may use anabolic steroids to increase muscle mass. Anabolic steroids reduce sperm quality. Testosterone, taken from outside the body, suppresses your testosterone production in the testicles. The use of anabolic steroids can reduce the production of one's own sex hormones or even stop its production altogether. Prolonged use of anabolic steroids can lead to testicular atrophy. Even short use can lead to azoospermia. Anabolic steroids can cause permanent damage to sperm production, especially in teenage users (Perheentupa 2019).

The use of anabolic steroids also has side effects that indirectly affect reproductive health. These side effects include psychiatric symptoms and severe mood disorders such as hyperactivity, irritability, aggression, impaired concentration, reckless behaviour, and psychotic symptoms such as suicidal thoughts and actions.

Conclusion

Male eating disorders manifest differently than female, and therefore health professionals may not necessarily recognize boys' eating disorders. Eating disorders are often still thought of as female diseases. Attitudes about eating disorders can cause boys to feel ashamed of their eating disorders. Therefore, discussion and awareness about boys' eating disorders and their manifestations should be increased. Also, about how they differ from girls' eating disorder symptoms. For example, boys' eating disorders could be highlighted in schools as a problem in a similar fashion as girls' ones. This means that attitudes could change. In this way, boys could also have the courage to seek help. Boys' eating disorders may be associated with a disrupted body image, and the pursuit of a muscular body and perfection. Therefore, it would be important to discuss body image with boys, for example, in schools during a lesson or at a school nurse visit. It would be important to find ways to increase the appreciation and acceptance of the individual male body.

References

Beat Eating Disorder. n.d. (read 20.2.2021) <https://www.beateatingdisorders.org.uk/>

Eisenberg, M., Kim, S., Chen, Z., Sundaram, R., Schisterman, E. & Buck Louis, G. 2014. The Relationship Between Male BMI and Waist Circumference on Semen Quality: Data from the LIFE Study. *Human Reproduction*, 29(12), 193–200. Doi: 10.1093/humrep/deu322 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4303771/>

- Hanganu-Bresch, C. 2020. Orthorexia: eating right in the context of healthism. *Medical Humanities*, 46(3), 311–322. <https://mh.bmj.com/content/46/3/311>
- Heimo, S. & Sailola, T. 2014. *Tasapainoa! Syömishäiriöiden ennaltaehkäisy*. Turku: Lounais-Suomen SYLI ry. (Balance! Prevention of eating disorders; only in Finnish)
- Keski-Rahkonen, A. 2010a. Syömishäiriöt – ohimenevä kiusa vai ikuinen riesa? *Läketieteellinen aikakauskirja Duodecim*. (Eating disorders - transient nuisance or eternal annoyance? only in Finnish; 23.7.2020) <https://www.duodecimlehti.fi/duo99078>
- Keski-Rahkonen, A., Charpentier, P. & Viljanen, R. 2010. *Syömishäiriöt: läheisen opas*. 1.painos. Helsinki: Kustannus Oy Duodecim. (Eating Disorders: A guide; only in Finnish)
- Mettälä, M. & Tuomi, J. 2020. Nuoret miehet ja seksuaali- ja lisääntymisterveys. In J. Tuomi (ed.) *Viisaat valinnat – Hedelmällisyyden suojele*. Tampereen ammattikorkeakoulun julkaisuja. Sarja B. Raportteja 123/124. Tampere; TAMK, 100–106. (Young men and sexual and reproductive health; only in Finnish) <https://www.tamk.fi/web/tamk/-/julkaisu-viisaat-valinnat-hedelmallisyyden-suojele.html>
- Morin-Papunen, L. 2014. *Syömishäiriöt ja seksuaalisuus*. Duodecim Käypä hoito. (Eating disorders and sexuality; only in Finnish; published 11.8.2014; read 29.7.2020) <https://www.kaypahoito.fi/nix02134>
- NHS n.d. *Health A to Z*. (read 20.2.2021) <https://www.nhs.uk/>
- Niskanen, A. & Tuomi, J. 2017. Ylipainon vaikutukset nuorten ja nuorten aikuisten lisääntymisterveyteen. In J. Tuomi & A-M. Äimälä (eds.) *Viisaat valinnat - terveenä raskaaksi, hyvä synnytys*. Tampereen ammattikorkeakoulun julkaisuja. Sarja A. Tutkimuksia 21 / 22. Tampere; TAMK 74–82. (Effects of overweight on reproductive health in adolescents and young adults; only in Finnish) <https://www.tamk.fi/web/tamk/-/viisaat-valinnat-terveena-raskaaksi-hyva-synnytys.html>
- Nurkkala, M. 2021. Häiriintynyt syömiskäyttäytyminen, paino ja fyysinen aktiivisuus. Nuoret miehet ja ylipainoiset työikäiset. *Acta Universitatis Ouluensis D Medica* 1596. Oulu; University of Oulu. (Impaired eating behavior, weight and physical activity. Young men and overweight working age; only in Finnish) <http://jultika.oulu.fi/Record/isbn978-952-62-2813-6>

Nurkkala, M., Korpelainen, R., Teeriniemi, A., Keinänen-Kiukaanniemi, S. & Vanhala, M. 2017. Kutsuntaikäisten poikien syömishäiriöoireilu – väestöpohjainen MOPO-tutkimus. Duodecim. (Eating disorder in military aged boys – Population-based MOPO survey, only in Finnish; read 28.7.2020) <https://www.terveysportti.fi/xmedia/duo/duo13491.pdf>

Perheentupa, A. 2019. Anaboliset steroidit ja lisääntymisterveys. Dopinglinkkiverkkosivusto. (Anabolic steroids and reproductive health; only in Finnish; read 1.8.2020) <https://dopinglinkki.fi/tietopankki/dopingaineet/anaboliset-steroidit-ja-miehen-lisaantymisterveys>

Raevuori, A. n.d. Vartalotyytymättömyys ja ruuminkuvan häiriöt. Dopinglinkkiverkkosivusto. (Body dissatisfaction and body image disorders; only in Finnish; read 3.8.2020) <https://dopinglinkki.fi/tietopankki/kayton-taustat/vartalotyytymattomyys-ja-ruumiinkuvan-hairiot>

Ritamo, M., Ryttyläinen-Korhonen, K. & Saarinen, S. (toim.) 2011. Seksuaalivoukon tueksi. Raportti 27. Terveyden ja hyvinvoinnin laitos. Sähköinen aineisto. Helsinki: Terveyden ja hyvinvoinnin laitos (THL). (To support sexual counseling; only in Finnish; read 15.7.2020) <https://thl.fi/documents/10531/95613/Raportti%202011%2027.pdf>

Simpson, C. & Mazzeo, S. 2017. Attitudes toward orthorexia nervosa relative to DSM-5 eating disorders. International Journal of Eating Disorders, 50, 781–792. <https://pubmed.ncbi.nlm.nih.gov/28370208/>

Syömishäiriöt: Käypähoito-suositus. 2014. Suomalaisen Lääkäriseuran Duodecimin, Suomen Lastenpsykiatriyhdistyksen ja Suomen Psykiatriyhdistys ry:n asettama työryhmä. Helsinki: Suomalainen Lääkäriseura Duodecim. (Eating disorders; only in Finnish; read 15.7.2020) <https://www.kaypahoito.fi/hoi50101#K1>

Tarnanen, K., Suokas, J. & Vuorela, P. 2015. Syömishäiriöt. Käyvän hoidon potilasversiot. Duodecim terveyskirjasto. Julkaistu 29.1.2015. (Eating disorders; only in Finnish; read 29.7.2020) https://www.terveyskirjasto.fi/terveyskirjasto/tk.koti?p_artikkeli=khp00109#s9_015

Tuovinen, M. 2020. Anaboliset steroidit vaikuttavat terveyteen ja alentavat testosteronia. Puhti. (Anabolic steroids affect health and lower testosterone; only in Finnish; read 29.7.2020) <https://www.puhti.fi/tietopaketti/anaboliset-steroidit/>