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An online survey of Swedish women's sex lives:

**Investigating their satisfaction of sex life, perceived genital response and the
need for a word describing female genital response**

En webbenkät som undersöker svenska kvinnors sexliv:

**tillfredsställelse, upplevd genital respons samt behovet av ett ord för
kvinnlig genital respons**

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To Michael Wells

Thank you for your enormous support and encouragement. You have our utmost gratitude and we will never use hyphens in a sentence again – thank you!

Abstract

Background: Sexual health impacts a person's quality of life (QOL). Studies have shown that sexual discordance in women has an affect on their sexual health, but there are no studies examining the effect of sexual concordance on non-dysfunctional women's satisfaction of sex life. There is no word in the Swedish language to describe female genital response (tumes-cence), possibly infringing on women's communication with health care professionals regard-ing sexual health.

Aims: The aims of this study were to (1) investigate a possible association between perceived genital response and a higher rated satisfaction of sex life in women without impaired sexual ability and (2) examine whether there is an interest for a word that describes the sensation of tumescence.

Method: A cross-sectional survey study was performed online using a 32-item self-administered questionnaire. The items consisted of five categories: *demographics*, *sexual ac-tivity*, *genital response*, *knowledge of genital sexual function* and *interest of a word for tumes-cence*. Respondents were recruited via social media. Data was analysed using the Spearman Rho's correlation test, Chi-square test and Mann-Whitney U test.

Results: In total, 2435 people submitted the questionnaire, and 1540 respondents met the in-clusion criteria. The majority of the respondents were between 25-29 years old, heterosexual, worked full time, had attended college or university and had never given birth. An association between perceived genital response and satisfactory sex life was found. Differences in satis-factory sex life and perceived genital response were found between demographic groups. The majority of respondents were positive regarding the use and contribution of a word for tumes-cence.

Conclusion: There is an association between genital response and satisfactory sex life. Wom-en want a word describing tumescence to help communicate about sexual function, more spe-cifically genital function, in regards to promote sexual health. Midwives have to be competent in sexual health to attend to their patients' needs in a helpful manner.

Key Words: Genital response, tumescence, satisfaction, sex life, sexual health

Sammanfattning

Bakgrund: Sexuell hälsa påverkar en persons livskvalitet. Studier visar att obalans i det sexuella samspelet påverkar sexuell hälsa men det finns inga studier som undersöker ett väl fungerade samspel och effekten på sexuell hälsa. Vidare finns det inget ord i det svenska språket som beskriver kvinnlig genital respons (tumescence), vilket kan försvåra kommunikationen mellan kvinnor och vårdgivare gällande sexuell hälsa.

Syfte: Syftet med den här studien var att (1) undersöka en möjlig association mellan upplevd genital respons och hög skattad tillfredställelse med sitt sexliv hos kvinnor utan nedsatt sexuell funktion, samt (2) undersöka intresset för ett ord som beskriver sensationen av tumescence.

Metod: En tvärsnittsstudie genomfördes med hjälp av en webbaserad enkät bestående av 32 frågor. Frågorna utgjordes av fem kategorier; *demografik, sexuall aktivitet, genital respons, kunskap om sexuell genital funktion* samt *intresset för ett ord representativt för tumescence*. Rekrytering skedde via sociala medier. Data analyserades med Spearman Rho's korrelationsanalys, Chi-square-test samt Mann-Whitney U-test.

Resultat: 1540 respondenter, av totalt 2435, inkluderades i studien. Majoriteten av respondenterna var mellan 25-29 år, heterosexuella, heltidsarbetande, utbildade på högskola eller universitet och hade aldrig fött barn. Det finns en korrelation mellan upplevd genital respons och tillfredsställelse med sexliv. Skillnader mellan demografiska grupper i upplevd genital respons samt tillfredställelse med sexliv kunde påvisas. Majoriteten av respondenterna ställde sig positiva till användningen av ett ord som beskriver tumescence samt vad det kan tillföra.

Slutsats: Det finns en association mellan upplevd genital respons och tillfredställande sexliv. Kvinnor vill ha ett ord som beskriver tumescence för att underlätta kommunikationen gällande sexuell och genital funktion vilket i sin tur kan främja sexuell hälsa. Barnmorskor behöver vara kompetenta inom sexuell hälsa för att kunna bemöta och hjälpa patienter med deras behov.

Nyckelord: Genital respons, tumescence, sexliv, tillfredställelse, sexuell hälsa



INDEX

INTRODUCTION	1
BACKGROUND	1
SEXUAL HEALTH AND QUALITY OF LIFE	1
BRIEF HISTORY OF THE FEMALE SEXUAL ANATOMY	2
ANATOMY OF THE EXTERNAL FEMALE GENITALIA	3
TUMESCENCE: THE PHYSIOLOGY OF FEMALE GENITAL RESPONSE	5
THE COMPLEXITY OF FEMALE SEXUAL FUNCTION AND SEXUAL CONCORDANCE	7
MIDWIVES & COMMUNICATION ABOUT SEXUALITY	8
PROBLEM	9
AIMS	10
METHOD	10
STUDY DESIGN	10
RECRUITMENTS & SAMPLE SIZE	10
SURVEY DESIGN	12
PILOT STUDY	12
ANALYSIS	13
ETHICS	14
RESULTS	14
DEMOGRAPHICS	14
CORRELATION & INTERNAL RELIABILITY ANALYSIS	16
DIFFERENCES BETWEEN DEMOGRAPHIC GROUPS USING THE CHI-SQUARE TEST	17
<i>Differences Between Demographics When Examining Satisfactory Sex Life.....</i>	<i>17</i>
<i>Differences Between Demographics When Examining Perceived Genital Response.....</i>	<i>18</i>
DIFFERENCES BETWEEN GROUPS USING THE MANN-WHITNEY U TEST.....	20
<i>Group Differences in Satisfactory Sex Life.....</i>	<i>20</i>
<i>Group Differences in Perceived Genital Response</i>	<i>20</i>
INTEREST FOR A WORD DESCRIBING TUMESCENCE	23
DISCUSSION	24
RESULTS	24
<i>Associations Between Perceived Genital Response and Satisfactory Sex Life.....</i>	<i>25</i>
<i>Marital Status.....</i>	<i>26</i>



<i>Age Differences</i>	26
<i>Orgasmic Ability</i>	27
<i>Childbirth</i>	28
<i>Group Differences as Measured with Mann-Whitney U test</i>	29
<i>Interest For a Word</i>	29
METHODOLOGICAL CONSIDERATIONS AND LIMITATIONS.....	30
<i>Study Design & Sampling</i>	30
<i>Survey Design</i>	31
<i>Item Selection & Analysis</i>	32
CONCLUSION	34
FURTHER RESEARCH	34
ACKNOWLEDGEMENTS	35
REFERENCES	36
APPENDIX 1: INFORMATION LETTER & CONSENT FORM	44
APPENDIX 2: ONLINE SURVEY	45

Introduction

During the first semester of the midwifery program we had several lectures in anatomy and physiology, specifically regarding men and women's reproductive system and the pelvis in females. When the lecturer was teaching us the sexual anatomy of females, explaining the physiological function of the clitoris, comparing it to the penis with its erectile tissue and engorgement, it became evident that there is no word to describe the genital response in women when sexually aroused. The anatomist stated that in the medical field they simply borrow the word erection, i.e. calling it a female erection, even though genital response in females is an engorgement, a swelling, without erection. This inspired us to research the field of female genital response.

Background

Sexual Health and Quality of Life

Sexual well-being is recognized as an integrated part of good health and is defined as;

a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity.

Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled. (World Health Organization, 2015)

Studies have shown that a person's sex life is associated with better physical, mental, emotional and social health, as well as associated with lower substance use and use of nicotine, lower depression, higher self-esteem and positive attitudes towards education (Hensel, Nance, & Fortenberry, 2016), as well as with improved quality of life (QOL) (Flynn et al., 2016; Hisasue et al., 2005; Nazarpour, Simbar, Ramezani Tehrani, & Alavi Majd, 2017; Steinke, Mosack, & Hill, 2018). In fact, Hisasue et al., notes that the association to a woman's QOL is just as true for younger women as it is for post-menopausal women, suggesting that this association is consistent throughout a woman's life. Nazarpour et al. states that female sexual function is a predictive factor for QOL and by diagnosing and treating sexual dysfunction,

women can achieve a better QOL. According to DSM-5 (American Psychiatric Association, 2013) sexual dysfunction is defined as a group of different disorders causing clinically significant disturbances to a person's sexual health, i.e. interfering with the ability to experience sexual enjoyment or ability to experience sexual response. These disorders can be categorized as organic or non-organic, for example pain disorders or arousal/desire disorders (American Psychiatric Association, 2013).

When examining female sexual function in the US, UK and Sweden, approximately 40% of women, between 18-59 years old had notable complaints about their sexual lives (Archer, Gragasin, Webster, Bochinski, & Michelakis, 2005). In Sweden, 47% of women reported having impaired sexual ability, which is associated with experiencing grief and lack of confidence, which further impacts their sex life, social life and overall QOL (Statens Folkhälsoinstitut, 2012). Since sexual health is important for a woman's QOL, health care professionals should be equipped with adequate resources to include evaluation and treatment of sexual health in their patient care (Flynn et al., 2016).

Brief History of the Female Sexual Anatomy

Interest of female sexual function dates back as early as the Palaeolithic era where numerous drawings and engravings of vulvas can be found, and although correct anatomical depictions of the clitoris can be found from the sixteenth century, the knowledge of female sexual function has been obscured and influenced by societal beliefs regarding women's sexuality (Di Marino & Lepidi, 2014; Moore & Clarke, 1995). Therefore our modern knowledge of the clitoris and its function has developed from studies during recent years (Mazloomdoost & Pauls, 2015).

During the 19th century, the accumulated knowledge of the clitoris was misunderstood, or perhaps overlooked, and an idea that the clitoris was useless spread among English physicians (Di Marino & Lepidi, 2014). In light of this idea, the obstetrician, as well as the founder and director of "The Surgical Home for Women" hospital, Dr. Isaac Baker Brown, wrote and published a book proposing clitoridectomy as treatment for several insanity conditions. This treatment was developed from the theory that female masturbation was the cause for women's insanity. The book became popular and even after being discredited and expelled from the Obstetrical Society, clitoridectomy was still performed (Di Marino & Lepidi, 2014). Following Sigmund Freud's publishing of "Three Essays on Sexual Theory", in 1905, the clitoris

even got excised from anatomical texts and depictions. The theory stated that the clitoral orgasm was inferior to the vaginal orgasm and that women did not mature sexually or psychologically until they achieved the vaginal orgasm. The clitoris found its way back into anatomical literature in the wakes of the feminist movements success during the 1970's (Di Marino & Lepidi, 2014; Moore & Clarke, 1995). Today studies of the clitoris, its role for sexual function and its implications for women's health is an increasingly popular field in scientific research (Mazloomdoost & Pauls, 2015).

Anatomy of the External Female Genitalia

The external female genitalia and its physiological properties is essential for female sexual function and plays an imperative role in female pleasure (Di Marino & Lepidi, 2014; O'Connell, Eizenberg, Rahman, & Cleeve, 2008). The external female genitalia, also known as the vulva, consist of mons pubis, labia majora and minora, and the clitoris (Figure 1)

(Levin et al., 2016; Mazloomdoost & Pauls, 2015). Mons pubis is an area anterior to the pubic bone, which consists of fatty tissue and is covered by pubic hair. Labia majora, marking the lateral boundaries of the vulva, are best described as elongated folds and also consist of fatty tissue covered by pubic hair. Labia minora outlines introitus and fuses with the medial aspects of labia majora. Being thin folds of skin, the labia minora split anteriorly of the vestibule and connects to glans clitoris via the frenulum, as well as unites above the glans to create the clitoral prepuce, also referred to as the clitoral hood (Levin et al., 2016). Superficially, beneath the vestibular skin, there are two small glands on either side of introitus, which are called Bartholin's glands and contribute to the production of fluid during sexual stimulation (Landgren, 2016). The clitoris, also referred to as the bulbo-clitoral organ (Di Marino & Lepidi, 2014), the clitoral complex (Mazloomdoost

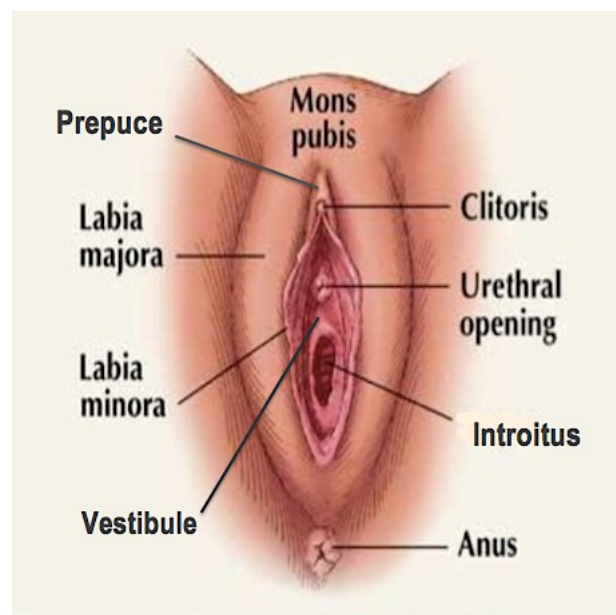


Figure 1 Anatomical depiction of the external female genitalia (Sshirly, 2013)

as the bulbo-clitoral organ (Di Marino & Lepidi, 2014), the clitoral complex (Mazloomdoost

& Pauls, 2015) or, the female penis (Puppo & Puppo, 2015), is best described when its structures are depicted separately (Figure 2 & 3). In research and anatomical texts, the clitoris is commonly divided into: (1) glans clitoris, which together with (2) the prepuce, are the only two visible parts of the clitoris. The prepuce, also known as the clitoral hood, is often likened to that of a penis' foreskin as it covers the glans of the clitoris (Di Marino & Lepidi, 2014). The (3) crura, less commonly described as the roots of the clitoris, typically measuring 5-9 cm in pre-menopausal women, are two bilateral extensions from the body of the clitoris and attaches to the ischiopubic rami of the pelvis. The (4) body of the clitoris extends from the glans into the fatty tissue of mons pubis before branching into the crura. It measures 1-2 cm in width and 0.5-3.5 cm in length.

Between the crura and inferior to the body you find the (5) clitoral bulbs, also referred to as the vestibular bulbs. They measure 3-4 cm in length when flaccid, but when engorged can grow up to 7 cm in length, surrounding the urethra and draping down bilaterally of the superficial vaginal wall (Levin et al., 2016;

Mazloomdoost & Pauls, 2015).

Covered by the vestibule of the

vulva is (6) the root of the clitoris,

also referred to as the corpus spongiosum or pars intermedia. This structure unites all the different erectile tissues of the clitoris (Mazloomdoost & Pauls, 2015; O'Connell et al., 2008).

The (7) suspensory ligaments are responsible for attaching the clitoris to mons pubis, labia majora and pubic symphysis thus preventing movement as well as straightening of the clitoris.

Only the glans is free enough from the suspensory ligaments to move except from a small upward movement of the clitoris body when sexually aroused (Mazloomdoost & Pauls, 2015; O'Connell et al., 2008).

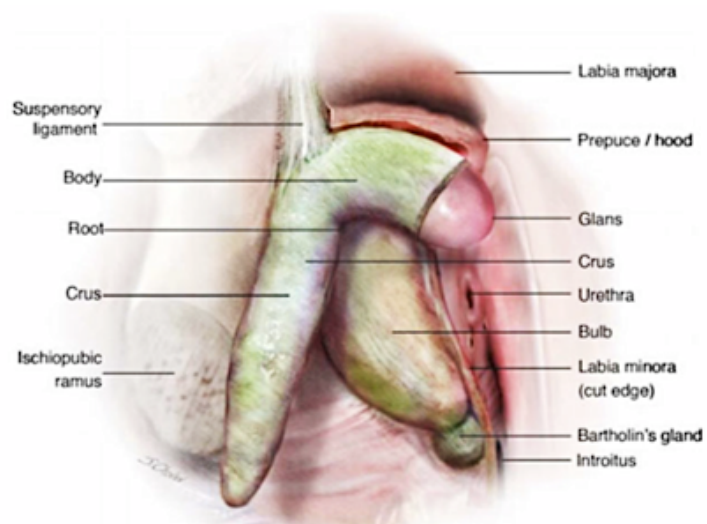


Figure 2 The anatomical structures of the clitoral complex (Mazloomdoost & Pauls, 2015)

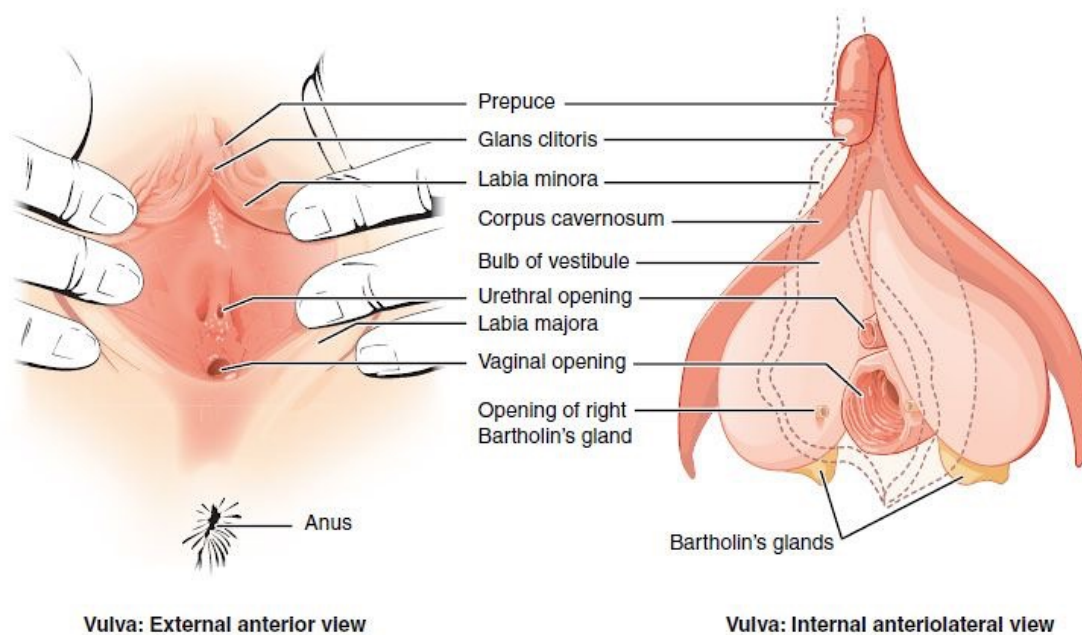


Figure 3 The anatomical structures of the clitoral complex as seen anteriorly (OpenStax College, 2013)

Tumescence: The Physiology of Female Genital Response

Specialized vascular tissue of the vulva can be found in the clitoris, vestibular bulbs, labia minora and surrounding the urethra. This tissue is responsible for genital response when sexually aroused and can be divided into erectile and non-erectile tissue (Levin et al., 2016). Furthermore, there are two different types of erectile tissue in the clitoris: (1) corpus cavernosum, found in the crura and body, and (2) corpus spongiosum, found in the vestibular bulbs and the root (Levin et al., 2016; Puppo & Puppo, 2015). Since the root, or pars intermedia, of the clitoris connects the different erectile tissues, it is essential to female sexual function. It is highly responsive to direct stimulation and contributes to the physiological reaction of the erectile tissues (O'Connell et al., 2008). The attributes of the erectile tissue allow the engorgement of the clitoris and create a volume expansion when sexually aroused. Together with a vascular engorgement in the tissue found in labia minora, glans, vaginal walls and surrounding the urethra, the vulva swells, and as a consequence, unfolds and separates the labia (Figure 4) (Levin et al., 2016; O'Connell et al., 2008). This process of swelling can be referred to as *tumescence* (Di Marino & Lepidi, 2014; Mazloomdoost & Pauls, 2015; Yafi, April, Powers, Sangkum, & Hellstrom, 2015).



Figure 4 Tumescence with accompanied lubrication and unfolding of the labia (Richiex, 2009)

Tumescence also impacts the area of the distal urethra and vagina where an increase of fluid production can be seen during sexual stimulation. This secretory process is responsible for the lubrication needed in order for vaginal intercourse to be non-traumatic and non-painful. The lubrication consists of secrete, which transudes from the vaginal walls (Levin et al., 2016).

The innervation of the clitoral complex is imperative for the female sexual function and is comprised of two different types of nerves: (1) the Dorsal Nerve of the Clitoris (DNC) is a somatic nerve, large in size, and (2) the cavernous nerves, measuring at a microscopic level, which are vegetative nerve fibres of the autonomic nervous system. Branches between the DNC and cavernous nerves allow for communication and this signalling leads to tumescence (Di Marino & Lepidi, 2014; Mazloomdoost & Pauls, 2015). While both clitoral and penile glans have the same number of sensory receptors, the clitoral glans have a concentration 50 times higher due to the difference in size (Di Marino & Lepidi, 2014) making the clitoral glans the most sensitive structure of the clitoris and central to female sexual response. In fact, the clitoral glans can be too sensitive for direct stimulation (O'Connell et al., 2008). According to Di Marino and Lepidi, the structures and attributes of the clitoris, and specifically the glans, makes it a very specialized organ with the sole purpose of inducing female pleasure.

The Complexity of Female Sexual Function and Sexual Concordance

Female sexual function is a complex interplay between psychology, physiology, hormones and emotions (Basson, 2002; Laan, van Driel, & van Lunsen, 2008; McCabe et al., 2016), which makes it difficult to study as a construct. Studies today conclude that women show a lower sexual concordance than men (Chivers, Seto, Lalumiere, Laan, & Grimbos, 2010), where concordance can be understood as the interplay between subjective excitement and/or arousal and physiological genital response (Velten, Scholten, Graham, Adolph, & Margraf, 2016). Studies show that low concordance in women can manifest in opposite directions, i.e. experiencing subjective arousal without perception of genital response or achieving a genital response without experiencing subjective arousal (Bloemers et al., 2010; Chivers et al., 2010; Laan et al., 2008). Low concordance is especially found in women who suffer from sexual dysfunction (Handy, Stanton, Pulverman, & Meston, 2018; Laan et al., 2008). Note that in all the mentioned studies, women achieved an objectively measured genital response and that concordance is reliant on perceived genital response.

Levin et al. (2016) discusses the theory that sexual genital response in females may be an automatic reflex based on women's low sexual concordance. This is supported by observations that sexual genital response occurs in females even when exposed to sexual threat or sexual assault (Levin & Wylie, 2008; Suschinsky & Lalumière, 2011). Results from Chivers et al. (2010) also supports a theory of an automatic reflex since women exposed to visual sexual stimuli, in a biological sense, achieved measurable tumescence although they were unaware of their genital response. Basson (2002) has synthesized a model to conceptualize the interplay between genital response and subjective arousal, including factors influencing the outcome

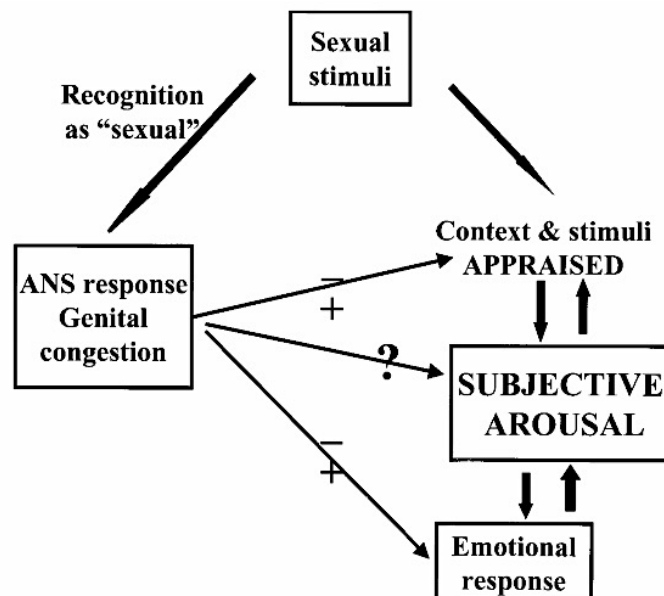


Figure 5 Basson's (2002) Model of Women's Sexual Arousal

from the recognition of sexual stimuli. The model takes into account psychological, cognitive, as well as, biological aspects of female sexual function (Figure 5). The model could be described as a cycle with overlapping phases, where the sequence can vary and the cycle can be repeated or only partially completed with every unique sexual encounter. This model can therefore illustrate how genital response does not always lead to subjective arousal (i.e. sexual discordance). Basson's model depicts how sexual stimuli is assessed by the brain resulting in genital response via the autonomic nervous system simultaneously, or regardless of, a woman's cognitive recognition and understanding of said stimuli. The cognitive appraisal of sexual stimuli, i.e. the person's assessment of sexual stimuli, and context could lead to subjective arousal. Furthermore, the cognitive appraisal and emotions involved can enhance or limit one's perception of genital response and thus, impact sexual arousal additionally.

Midwives & Communication About Sexuality

The World Health Organization (1975, 2011) has over the years published literature on what constitutes important aspects of healthcare professionals' competence regarding sexuality. The report from 1975 highlights the very same topics identified as problematic in recent studies, namely adopting a positive attitude towards sexuality and to be aware of, as well as accepting of, a variety of sexual behaviour and preferences (Fileborn et al., 2017). The WHO (1975) stated that health care professionals need to be equipped with factual knowledge of reproductive and sexual health in order to perform their work with confidence and provide patients with quality care. This means being able to identify the most common problems with sexuality and know how to meet them, while also recognizing when the problem is beyond their expertise and where to refer the patient. Achieving these goals requires the skills of listening and communicating with patients concerning sexuality (World Health Organization, 1975). In Sweden, Socialstyrelsen (2006) has defined requirements for the midwifery profession stating that midwives should be able to meet people with a salutogenic approach with regards to ethical considerations and knowledge of sexuality and sexual health as seen through a gender and life cycle perspective. However, studies suggest midwives lack knowledge and the skills required for communicating about sexuality and are not comfortable discussing sexuality with their patients (Olsson, Robertson, Falk, & Nissen, 2011; Wendt, Marklund, Lidell, Hildingh, & Westerstahl, 2011). According to a study by Wendt et al. (2007), a large majority of young women visiting midwives and youth clinics rate their trust in midwives as very good or good.

Midwives were the most sought health care professional compared to physicians, social workers, psychologist and psychotherapists regarding receiving advice on sexuality. Approximately 45% of the young women had stated problems with either having a reduced libido or problems reaching orgasm during the last year and the majority found it appropriate to very appropriate to communicate about sexuality during their visit. Despite the women's positive attitudes, 76.0 - 99.2% stated that the midwives had never addressed sexual health, apart from contraceptives and sexually transmitted diseases.

Studies that examine communication between health care professionals and patients report there is an unmet need for talking about sexuality (Eldridge & Giraldi, 2017; Fileborn et al., 2017; Wendt et al., 2007) and this could be the result from health care professional's lack of competence in the subject. Furthermore, studies also suggest that health care professionals often carry negative attitudes when communicating with older people regarding sexuality (Fileborn et al., 2017; Haesler, Bauer, & Fetherstonhaugh, 2016). WHO (1975) describes the skills required for communication regarding sexuality as being able to use correct terminology without embarrassment. We hypothesize that to facilitate communication, it is important for health care professionals and patients to use and understand the same terminology and that it could reduce the risk for misinterpretation. Today there is no word in the Swedish language for female genital response and the sensation of tumescence other than the borrowed word for male erection, i.e. clitoral erection. Implementing a new term for female genital response, might help women in their communication and self-reporting of sexual function and more specifically, problems related to perceived genital response.

Problem

Sexual health impacts QOL and midwives must be equipped with knowledge and skills to meet and treat people with problems regarding their sexuality, such as impaired sexual ability, in a helpful and professional manner. Studies today show that midwives are lacking in knowledge and skills, thus, leaving an unmet need of support in their patients regarding sexuality. Studies have so far concluded that women have a low sexual concordance compared to men and there are several studies that specifically focus on examining genital response and the discordance in female sexual function. However, we have found no studies that examine healthy women and what effect sexual concordance has had on the satisfaction of their sex life. Furthermore, there is no word in the Swedish language to comprehensively describe the

physiology and sensation of tumescence, possibly making it more difficult for women to communicate with health care professionals regarding sexual health.

Aims

The aims of this study are to (1) investigate a possible association between perceived genital response and a higher rated satisfaction of sex life in women without impaired sexual ability and (2) examine whether there is an interest for a word that comprehensively describes the sensation of tumescence.

Method

Study Design

For this study we have chosen a quantitative research design, since this allows us to explore the dynamics between different people's perception of their genital response when sexually aroused and their association with a satisfactory sex life. When examining associations between different phenomenon, a cross-sectional study is the preferred design (Polit & Beck, 2017); therefore, the current study used a cross-sectional self-administered online survey that targeted people with a vulva and vagina. Online surveys can be used when the objective is to study a larger population and, according to Bryman (2011), using click-options can increase the response rate; therefore, we mainly used click-options.

Demographic data is collected to enable categorization of respondents and control for inclusion and exclusion criteria. Inclusion criteria were respondents identifying as women with female genitalia, aged 20 years or older and literate in the Swedish or English language. Exclusion criteria were respondents with female and male genitalia, e.g. people with transgender experience who might have undergone genital reassignment surgery, respondents with male genitalia, neovagina and respondents under 20 years of age. Since the purpose of the current study was to focus on women without impaired sexual abilities, those who stated they had an impairment were excluded from the analysis.

Recruitments & Sample Size

According to Polit and Beck (2017), nursing research is often conducted with a relatively small sample size due to a lack of resources and time. There is no rule constricting the maxi-

imum sample size, while a small sample might be insufficient to draw conclusions. In nursing research, sample size is often set to ≤ 200 participants and sometimes as small as ≤ 100 participants. With a larger sample size, the risk for sampling error is reduced, as well as minimizing the effect of atypical values on the overall results; thus, a larger sample size is preferred. Furthermore, a large sample size might help contribute to generalizability, although this is not guaranteed (Polit & Beck, 2017). Applying the above mentioned approach for determining sample size, with consideration for limitation in time and resources, the goal for this study was set to recruit ≥ 100 respondents. However, since we were using a method for convenience sampling, we were not constricted to a predetermined maximum, i.e. we were aiming for as large a sample as possible. The convenience sampling included a snowballing technique where respondents were encouraged to recruit further eligible respondents (Polit & Beck, 2017).

Respondents were recruited through social media, more specifically, via Facebook, Twitter and Instagram. The survey (Appendix 2) was accessed via a link, which according to research ethical considerations, took the respondents to a small presentation of the authors, an information letter and consent form (Appendix 1) before allowing the respondents to answer the questionnaire. Recruitments took place between January 11th and February 1st – 2018 with a second reposting in all the groups on January 20th.

Respondents were recruited through four different sources: (1) the authors' private Facebook pages, (2) a representative at RFSU, (3) a Facebook group called Honey and the Bee's and (4) Barnmorska – aktuellt och intressant (Midwife – current and interesting). Four different coded links were used, one for each data source, to be able to categorize the respondents based on which website they used to submit the questionnaire. The first link was posted to our private Facebook profiles, with approximately 900 friends, and these friends had the possibility of sharing the link. The second link was given to a representative at RFSU, who subsequently spread it via her standard social media outlets (i.e. her private Facebook, Twitter and Instagram accounts) where the link could be shared, as well as posting it to a large Facebook group called Fittlife (Pussy Life). Fittlife focuses its membership on those with female genitalia and had 4,600 members. A third link was posted on Honey and the Bee's Facebook group. This is a private group for women with 136, 000 members. Barnmorska – aktuellt och intressant is a Facebook group for midwives and midwifery students, with 4,700 members. This group was chosen out of interest to have the possibility of comparing results from people with

a supposedly deeper knowledge and understanding of sexual health to the ones more representative of society in general.

Survey Design

We constructed a questionnaire that consisted of 32 items grouped into five categories: *demographics*, *sexual activity*, *genital response*, *knowledge of genital sexual function* and *interest of a word for tumescence*. For the items in the category of genital response, we constructed the following sub-items, used as sensation variables in the study: perceived *wetness*, *swelling*, *pulsating/throbbing* and *tingling/tickling*. These were additionally categorised in states of feeling lust, arousal or during sexual activity (e.g. perceived swelling when feeling lust, perceived swelling when feeling aroused, perceived swelling during sexual activity). These sub-items were later combined into a main variable for genital response, called *combined genital response*, i.e. the latent variable consisted of the four sensations (wetness, swelling, pulsating/throbbing, tingling/tickling) when feeling sexually aroused.

The survey was mainly answered using a Likert-type scale from 1-7, which was chosen due to its practicality for statistical analysis when examining respondents' perception on a specific topic (Polit & Beck, 2017). Two items were answered using free text and remaining items are multiple-choice questions with varying number of options, for example the demographic questions.

Pilot Study

Before the questionnaire was finalized and made public, it was tested through a pilot study. The questionnaire was sent out to five respondents who had different demographics (age, sexual orientation, marital status and level of education) for review. We were then able to revise the questionnaire according to the respondents' critic. The main issue raised by respondents in the pilot study regarded the free text item asking for the respondents' sensation of their genitals sexual response. This item was perceived as very intimate and described as a deterrent, resulting in a rephrasing of the question and it was placed in the latter parts of the questionnaire. Additionally, the questionnaire was revised to better apply more inclusive language and we defined the term sexual activity, for a better consistency between respondents.

Analysis

Various statistical analyses were used when analysing the data. The program IBM Statistical Package for the Social Science (SPSS) version 24 was used for data analysis. A descriptive analysis of the final sample of respondents was performed by exploring categorical variables, using frequencies and percentages, while the continuous variables were explored using means and standard deviations. We chose to only use the items for perceived response when sexually aroused, in the analysis. Correlational analysis was performed using the Spearman Rho's correlation coefficient on a respondents' self-rated satisfaction of sex life and the sub-items to *genital response* when sexually aroused, as well as the latent variable, combined genital response. Furthermore, we examined correlations between the sub-items for *genital response* in order to combine these into the latent variable, called combined genital response, to enable further analysis. Before combining the sub-items, we tested for internal consistency using Cronbach's alpha. Since Cronbach's alpha is affected by the number of internal items and often underestimates the true reliability, and because our latent variable consists of a small number of items (i.e. four) we used the Spearman-Brown formula to adjust for this and calculate a better estimate (Eisinga, Grotenhuis, & Pelzer, 2013).

Chi-square tests (χ^2) were used to examine group differences between demographic categories regarding satisfactory sex life and perceived genital response, respectively, using the latent variable combined genital response. In deciding which method of analysis to use for examining the remaining Likert-type scale items, we tested for normality of distribution using the Shapiro-Wilks test. Based on those results, the Mann-Whitney U test was applied to compare means between groups created from the Likert-type scale items. Items of interest were dichotomised into two groups and their means of satisfactory sex life and perceived genital response, respectively, were compared for statistical significance, using the latent variable combined genital response. These groups were created by dichotomising continuous items where the cut off limit was decided by the cumulative percentage of respondents along the continuous scale. The aim was set to as close to, but not above 76%, as possible, i.e. we were comparing the top rating 24% to the lower rating 76%, where the top rating groups were those with the highest rated satisfaction of sex life and perceived response, respectively. To help ensure that the Mann-Whitney U test assumptions were not violated, we used Levene's test for homogeneity of variance.

Ethics

Ethical approval is not mandatory for conducting this type of study on this academic level (Etikprövningsnämnden, n.d.). However, ethical considerations were made. To follow ethical codes and guidelines as described by Polit and Beck (2017), anonymity was ensured and a consent form was presented for respondents before the survey could be completed. The consent form (Appendix 1) clearly stated that participation was completely voluntary and that all respondents would remain anonymous throughout the entire process. Furthermore, no individual response would or will be presented in the paper. In addition, no personal information, such as their name, personal identification number, IP-address, or even their exact age or geographical location was collected.

Results

Demographics

A total number of 2,435 respondents submitted the questionnaire, of these, nine respondents did not complete any question, but still submitted the questionnaire; therefore, these respondents were excluded from the analysis. When respondents' sexual ability was analyzed, 31.3% ($n = 702$) of respondents who identified as a woman with a vulva and vagina and were over the age of 20, reported that they had at least one impairment with respect to their sexual ability. Tables 1 and 2 show the percentages and distributions of women reporting impaired sexual ability. The respondents most frequent cause for impaired sexual ability was due to medication.

After selecting respondents based on the inclusion and exclusion criteria, 1540 respondents were included in the final analysis. The number of respondents per group, before and after selection, is presented in Figure 6.

Table 1 Women with vulva and vagina over the age of 20 reporting impaired sexual ability

Total number of respondents n = 2246	Items			
	Disease that impacts sexual ability	Medication that impacts sexual ability	Sexual dysfunction beyond disease or medication	No declared sexual dysfunction
n	254	405	379	1540
%	11.3	18.1	16.9	68.6

Table 2 Respondents with ≥ 1 cause for impaired sexual ability of those with sexual impairment

Total number of respondents n = 702	Answered yes to one item	Answered yes to two items	Answered yes to three items
n	428	215	59
%	61.0	30.6	8.4

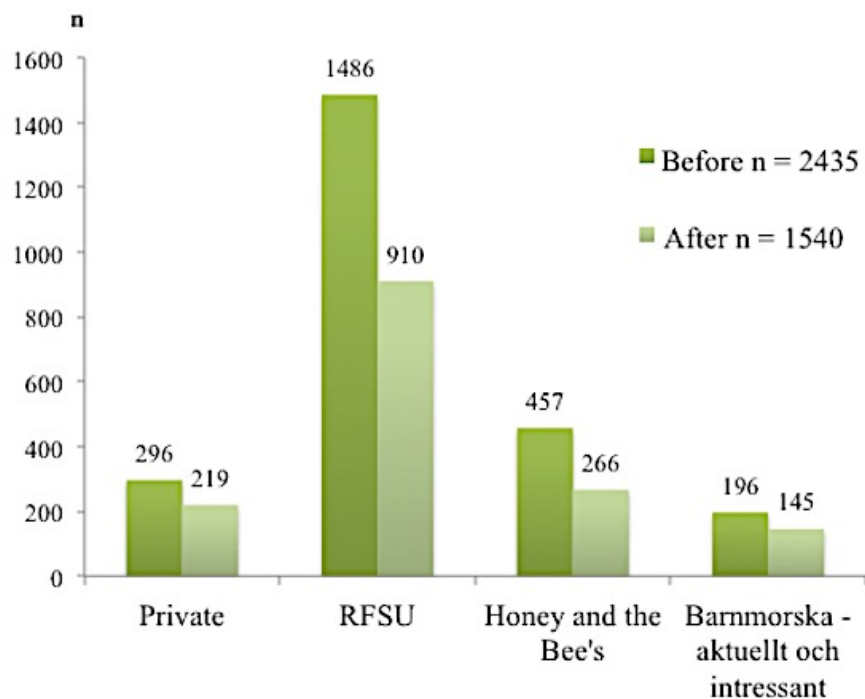


Figure 6 Sample size before and after selection displayed per group

Table 3 Demographics of final sample

Demographics n = 1540	Respondents n (%)
Age	
20-24	302 (20)
25-29	468 (30)
30-34	292 (19)
35-39	181 (12)
40-44	120 (8)
45-49	72 (5)
50-54	42 (3)
55-59	29 (2)
≥ 60	34 (2)
Education	
Elementary school	8 (0.5)
High school	236 (15)
College/University	1292 (84)
Employment*	
Full time	827 (50)
Part time	280 (17)
Student	482 (29)
Sick leave	25 (1)
Retired	8 (0.5)
Unemployed	45 (3)
Marital status	
Single	389 (25)
Steady partner(s)	352 (23)
Cohabitant/Civil partner	472 (31)
Married	325 (21)
Sexual orientation	
Heterosexual	1153 (75)
Homosexual	55 (4)
Bisexual	292 (19)
Asexual	5 (0.3)
Non of the above	27 (2)
Do not want to disclose	7 (0.5)
Given birth	
Yes	577 (37)
No	961 (62)
Ever had an orgasm	
Yes	1504 (98)
No	31 (2)

* n = 1667 (108.2%)

Respondent demographics of the included respondents are presented in Table 3. Descriptive statistics show that half of the respondents were between 20-29 years old, while the majority were heterosexual and most had graduated from college or university. Marital status was relatively evenly distributed between different demographics, with just under half of the respondents either single or in steady relationships but living apart from their partner(s). The other half reported to be married or cohabiting. Almost two-thirds of the respondents had never given birth. The item regarding employment status was a multiple-choice question, where respondents could choose more than one response. Half of the respondents stated that they worked full time and close to one-third were students. While nearly all respondents reported having at least one orgasm in their lifetime, 2% of the sample stated they never have had an orgasm.

Correlation & Internal Reliability Analysis

The sub-items for combined genital response when sexually aroused: perceived *wetness*, *swelling*, *pulsating/throbbing* and *tingling/tickling*, all had moderate positive associations to each other ($r = 0.31 - 0.50$, $p < 0.001$). Cronbach's alpha for these sub-items of genital response was $\alpha = 0.71$. When adjusted using the Spearman-Brown formula, the new value for internal reliability was $\alpha = 0.83$. All correlations performed between genital response items and satisfactory sex life showed statistically signif-

icant positive, but very weak to weak, associations (Table 4). When examining the sub-items, it was the sensation of wetness and swelling that had the strongest associations to satisfactory sex life.

Table 4 Associations between perceived genital response and satisfactory sex life as measured by the Spearman Rho's correlation coefficient (r)

	Combined genital response variable	Sensation of wetness	Sensation of swelling	Sensation of throbbing and/or pulsation	Sensation of tingling and/or tickling
Satisfactory sex life	0.16***	0.16***	0.14***	0.08**	0.11***

** p-value < 0.01

*** p-value < 0.001

Differences Between Demographic Groups Using the Chi-square Test

Differences Between Demographics When Examining Satisfactory Sex Life

In comparing respondents' demographics with their satisfaction of their sex life, four background factors were significant: age, marital status, given birth and if they had ever experienced an orgasm (Table 5). The results suggest that the type of relationship the respondents had, has an effect on their satisfaction of their sex life, where those with steady partner(s) and those being single had the highest and lowest rated satisfaction of their sex life, respectively. Those respondents who had experienced an orgasm had a higher satisfactory sex life than those who had never orgasmed. Furthermore, those who had given birth had a higher satisfactory sex life than those who had not given birth.

When examining group differences in the age demographics, we found that the group with the oldest women, ≥ 50 years old, had the highest rated satisfactory sex life, although they also had the highest proportions of respondents who stated they never have sex, 21%. In fact, the second largest group of respondents never having sex, were those aged 40-49, with 6.3% stating never to have sex. No differences were found between the groups of educational level, employment status or sexual orientation, although the mean for satisfactory sex life increased with each level of education.

Differences Between Demographics When Examining Perceived Genital Response

The only background factor found to have an effect on perceived genital response was if the respondent had ever experienced an orgasm (Table 6). Respondents who had experienced an orgasm had a higher perceived genital response than those who had never orgasmed. Similar to the findings regarding satisfaction of sex life, respondents aged 50 years or older had the highest perceived genital response, although there were no statistically significant differences between age groups.

Table 5 Differences between demographic groups in satisfactory sex life, as measured by the chi-square test

Demographics	n (%)	Mean (SD)	χ^2	ES
Age			37.50**	0.09
20-29	768 (50)	4.65 (1.69)		
30-39	472 (31)	4.60 (1.74)		
40-49	191 (12)	4.60 (1.95)		
≥ 50	104 (7)	4.75 (1.93)		
Education			8.65	
Elementary or High school	244 (16)	4.44 (1.86)		
College/University	1287 (84)	4.67 (1.73)		
Employment			29.44	
Full time	820 (53)	4.75 (1.74)		
Part time	271 (18)	4.48 (1.78)		
Student	366 (24)	4.55 (1.70)		
Sick leave	25 (2)	4.21 (2.09)		
Retired	8 (0.5)	4.50 (1.85)		
Unemployed	44 (3)	4.35 (2.03)		
Marital status			197.77***	0.21
Single	387 (25)	3.67 (1.72)		
Steady partner(s)	350 (23)	5.35 (1.44)		
Cohabitant/Civil partner	472 (31)	4.77 (1.74)		
Married	324 (21)	4.79 (1.67)		
Sexual orientation			19.21	
Heterosexual	1150 (77)	4.65 (1.75)		
Homosexual	55 (4)	4.45 (1.81)		
Bisexual	290 (19)	4.61 (1.74)		
Given birth			13.88*	0.10
Yes	575 (38)	4.65 (1.84)		
No	958 (62)	4.63 (1.70)		
Ever had an orgasm			20.63**	0.11
Yes	1504 (98)	4.66 (1.75)		
No	31 (2)	3.64 (1.57)		

* p-value < 0.05

** p-value < 0.01

*** p-value < 0.001

Table 6 Differences between demographic groups in perceived genital response, as measured by the Chi-square test

Demographics	Combined genital response		
	Mean (SD)	χ^2	ES
Age		104.01	
20-29	5.01 (1.06)		
30-39	5.05 (1.09)		
40-49	5.17 (1.11)		
≥ 50	5.21 (1.10)		
Education		24.78	
Elementary or High school	5.07 (1.10)		
College/University	5.05 (1.08)		
Employment		131.08	
Full time	5.10 (1.06)		
Part time	5.01 (1.13)		
Student	4.99 (1.10)		
Sick leave	5.31 (1.16)		
Retired	5.44 (1.16)		
Unemployed	4.97 (0.88)		
Marital status		105.19	
Single	5.11 (1.10)		
Steady partner(s)	5.12 (1.05)		
Cohabitant/Civil partner	4.99 (1.06)		
Married	5.02 (1.12)		
Sexual orientation		65.33	
Heterosexual	5.02 (1.07)		
Homosexual	5.11 (1.28)		
Bisexual	5.16 (1.08)		
Given birth		28.18	
Yes	5.05 (1.11)		
No	5.05 (1.06)		
Ever had an orgasm		52.58**	0.30
Yes	5.07 (1.07)		
No	4.27 (1.36)		

* p-value < 0.05

** p-value < 0.01

Differences Between Groups Using the Mann-Whitney U Test

When examining the possible impact of our items regarding sexual habits and attributes using a Likert-type scale, we dichotomised the respondents into a low and a high rating group. The intention was to compare differences in satisfactory sex life and perceived genital response between the top rating 24% (high group) to the lower rating 76% (low group), to equal the latent variable of combined genital response. However, since the Likert-type scale did not have decimals, the desired cut off was not always possible without exceeding 76%, and in some cases, this resulted in the higher rating group making up the majority of respondents, i.e. instead of comparing the top minority to a lower rating majority the groups were reversed with varying sample sizes. For example, the cut off closest to, without exceeding, 76% when examining frequency of orgasm was 44% resulting in the top rating group being in the majority with 58% of the respondents.

Group Differences in Satisfactory Sex Life

The results showed significant differences on eight out of nine group analyses (Table 7). No difference was found between the groups of low and high rated frequency of masturbation in regards to satisfactory sex life. The groups of low and high frequency of masturbation were the only ones with an inverse rating of satisfactory sex life, i.e. the group of high frequency masturbation had a lower rated satisfactory sex life.

Items with the highest impact on satisfactory sex life was found to be frequency of sex with one or more people as well as frequency of orgasm.

Group Differences in Perceived Genital Response

Significant differences were found between groups in all analyses. Consistently throughout all Mann-Whitney U analyses for perceived genital response, the respondents in the high rating group for each item had the highest rated perceived genital response.

Table 7 Differences between groups in satisfactory sex life when item variables are dichotomised into low and high rating groups, as measured by Mann-Whitney U test

Dichotomised variables based on cumulative number of respondents at $\leq 76\%$	n (%)	Means (SD)	Z	ES
Distinct genital reaction			7.49***	0.04
Low	643 (42)	4.26 (1.68)		
High	891 (58)	4.90 (1.77)		
Combined genital response			4.57***	0.01
Low	1166 (76)	4.52 (1.73)		
High	368 (24)	4.97 (1.80)		
Consider one self a sexual person			10.65***	0.07
Low	981 (64)	4.29 (1.69)		
High	554 (36)	5.23 (1.71)		
Easily orgasm when masturbating			4.62***	0.01
Low	694 (45)	4.41 (1.71)		
High	837 (55)	4.81 (1.78)		
Easily orgasm when sex with one or more people			12.84***	0.12
Low	995 (65)	4.23 (1.72)		
High	535 (35)	5.41 (1.55)		
Orgasm intensity			7.78***	0.04
Low	864 (57)	4.34 (1.73)		
High	657 (43)	5.04 (1.70)		
Frequency of masturbating			0.95	
Low	879 (57)	4.67 (1.74)		
High	655 (43)	4.58 (1.79)		
Frequency of sex with one or more people			19.27***	0.24
Low	966 (63)	3.98 (1.70)		
High	567 (37)	5.74 (1.20)		
Frequency of orgasm			19.27***	0.24
Low	678 (44)	4.14 (1.70)		
High	854 (56)	5.03 (1.70)		

*** p-value < 0.001

Table 8 Differences between groups in perceived genital response when items are dichotomised into low and high rating groups, as measured by Mann-Whitney U test

Dichotomised variables based on cumulative number of respondents at $\leq 76\%$	n (%)	Means (SD)	Z	ES
Satisfactory sex life			5.30***	0.02
Low	993 (65)	4.95 (1.08)		
High	541 (35)	5.24 (1.06)		
Consider one self a sexual person			11.10***	0.08
Low	982 (64)	4.82 (1.06)		
High	556 (36)	5.45 (1.00)		
Easily orgasm when masturbating			8.43***	0.05
Low	696 (45)	4.79 (1.10)		
High	837 (55)	5.27 (1.02)		
Easily orgasm when sex with one or more people			6.94***	0.03
Low	996 (65)	4.91 (1.09)		
High	535 (35)	5.32 (1.01)		
Orgasm intensity			9.70***	0.06
Low	868 (57)	4.82 (1.07)		
High	656 (43)	5.36 (1.01)		
Frequency of masturbating			5.34***	0.02
Low	880 (57)	4.91 (1.10)		
High	657 (43)	5.15 (1.03)		
Frequency of sex with one or more people			4.63***	0.01
Low	969 (63)	4.96 (1.08)		
High	567 (37)	5.20 (1.09)		
Frequency of orgasm			4.63***	0.04
Low	679 (44)	4.78 (1.10)		
High	855 (56)	5.26 (1.02)		

*** p-value < 0.001

Interest For a Word Describing Tumescence

We ran frequencies for those who stated they had an interest for a word for tumescence (≥ 5) and those who stated they had less of an interest for a word (≤ 4). Almost three quarters stated to have a personal use for a word and an even larger majority were positive in that a word can contribute to communication and awareness of genital function. The lowest mean was found in the item regarding personal use for such a word (Table 9).

We found no association between the personal use of a word and satisfactory sex life, nor between personal use and perceived genital response (Table 10). There was an association between the remaining two items and both satisfactory sex life and perceived genital response, although very weak. This indicates, besides an overall positive attitude towards a word describing tumescence, that even though respondents might have lesser personal use of a word they still think it would contribute to communication regarding genital response as well as increasing awareness of genital function.

Table 9 Respondents ratings regarding use, contribution and effect of implementing a word for tumescence

Proportions of ratings with dichotomised scale	Items		
	How much use would you have for such a word?	Would a word contribute to communication about ones genitals?	Would a word contribute to people's awareness of genital function?
Rated ≤ 4 n (%)	463 (30)	262 (17)	248 (16)
Rated ≥ 5 n (%)	1066 (70)	1267 (83)	1281 (84)
Means (SD)	5.22 (1.72)	5.86 (1.47)	5.87 (1.41)

Table 10 Associations for the interest of a word, as measured by Spearman Rho's correlation coefficient (r)

Items	Satisfactory sex life	Combined genital response
How much use would you have for such a word?	0.02	- 0.01
Would a word contribute to communication about ones genitals?	0.18***	0.14***
Would a word contribute to people's awareness of genital function?	0.15***	0.12***

*** p-value < 0.001

Discussion

Results

The current study used a 32-item anonymous online survey targeting adults (≥ 20) who identified as a woman with a vulva and vagina regarding their satisfaction with their sex life and perceived genital response. In total, 2,435 respondents submitted the questionnaire in either Swedish or English. After excluding respondents according to set criteria, 1540 respondents remained in the analysis. Respondents tended to be young, heterosexual and in a relationship, as well as had attended or graduate from college or university and had never given birth. The current study found that several factors are related to being satisfied with one's sex life including their perceived genital response, age, relationship status, a woman's ability to achieve orgasm, orgasm frequency, frequency of sexual activities and considering themselves as a sexual person. Since many factors can affect a person's satisfaction with their sex life, including those women who do not have any sexual impairments, and because their sex life is associated with their QOL, women with a vulva and vagina may benefit from being able to more openly discuss their sex lives with health care professionals. In addition, the majority of respondents wanted to have a specific Swedish word to describe tumescence as a word for this does not currently exist in Swedish and so they could better discuss their genital reaction when speaking with a health care professional.

Before describing the current results, it is important to mention that around one-third of the respondents were excluded from further analysis on account of having at least one cause for sexual impairment. However, one-third is lower than a national average of women reporting sexual impairments, as presented by Statens Folkhälsoinstitut (2012), and could perhaps be explained by a self-selection bias, as well as sampling bias, when performing this study. The majority of those respondents with impaired sexual ability (58%) reported this was due to medication, such as antidepressants or cardiac drugs, although no data on what specific medication was collected. Steinke, Mosack and Hill (2018) found that people who were seldom or never sexually active were more likely to be depressed and reported a higher intake of medication, including antidepressants and cardiac drugs. Since nearly one-third of respondents admit to having a sexual impairment, and because sexual health is associated with QOL (Hisasue et al., 2005; Nazarpour et al., 2017; Steinke et al., 2018), healthcare professionals, especially midwives, should be equipped with accurate knowledge and skills regarding sexual health and communication, even in health care settings where sexual health is not a main

focus (Bachmann, 2006; Wendt et al., 2007). In addition, the current findings shows that 2% of the respondents had never orgasmed, similar to the 3% who reported that they had not orgasmed in the last year (Statens Folkhälsoinstitut, 2012).

Associations Between Perceived Genital Response and Satisfactory Sex Life

To our knowledge, no studies have been performed on the genital function and the satisfaction of sex life on healthy functioning women. The findings from our study show a positive association between perceived genital response and satisfactory sex life. Handy and Meston (2016) found that interoceptive awareness, that is, awareness of the body's physiological states, can increase the agreement between perceived genital response and physiologic genital response, acting as a catalyst for concordance. In other words, bodily awareness, and specifically genital awareness, improves sexual concordance and subjective arousal. Similar to these findings, another study found that when focusing on vaginal blood flow, women's sexual arousal increased, both genital and subjective (Prause, Barela, Roberts, & Graham, 2013). Additionally, Brotto and Basson (2014) found that using mindfulness-based therapy for women with desire or arousal dysfunction, where participants were educated in sexual physiology and taught how to pick up on sexual cues, overall sexual function was improved and the women reported an increased satisfaction of sex life. Given these findings, it is not surprising that perceived genital response is associated with a higher rated satisfaction of sex life. Nevertheless, there is no clear understanding of the relationship between the two. Velten et al. (2016) found that genital response awareness has different affect on women's concordance and that there are both excitatory, as well as, inhibitory factors influencing the outcome of subjective arousal. Opposite to what was hypothesized, women with greater sexual concerns demonstrated a better concordance, although speculated to be a result of heightened focus on genital function due to said concerns. Interoceptive awareness, practicing mindfulness of bodily response to sexual stimuli, has been found to relieve the psychological barriers found to be sexual inhibitors in women with sexual dysfunction (Silverstein, Brown, Roth, & Britton, 2011). These previous studies, although focusing on the dysfunctional, might offer an explanation to our findings that perceived genital response is associated to a better satisfactory sex life, since perceived genital response is found to increase concordance and possibly relieve inhibitory factors for sexual function.

Marital Status

Marital status was found to have an effect on satisfaction of sex life, similar to previous studies (Bodenmann, Ledermann, Blattner, & Galluzzo, 2006; Byers, 2005; Costa & Brody, 2007; McCabe & Connaughton, 2017; Mitchell & Wellings, 2013; Smith et al., 2012; Wallwiener et al., 2016). Our results show that women with steady partner(s), e.g. not living together with partner, have the best rated satisfactory sex life where singles have the lowest, consistent with the findings of Wallwiener et al.'s study where female sexual function had a positive association to steady partnership and single women had the lowest score for sexual function. The quality of the relationship has been found to influence sexual function and satisfaction of sex life (Bodenmann et al., 2006; Costa & Brody, 2007; McCabe & Connaughton, 2017) and the length of a relationship to negatively associate with sexual function (Smith et al., 2012), which could explain the group differences found regarding marital status. In our study, women who were married or cohabiting had a lower rated satisfaction than those with steady partner(s) and it is plausible to assume these relationships are lengthier than those with steady partner(s). Contradictory to our results, Smith et al. found that women living apart from a male partner, but in steady relationships, exhibited higher incidence of orgasm difficulties and physical pain during sexual intercourse, which affects sexual satisfaction. The contradiction to our results may be explained by the fact that our study focused on healthy women without any sexual impairment while Smith et al. examined sexual difficulties.

Age Differences

Respondents aged 50 or older had the highest satisfaction of sex life, which was a surprising finding considering they also had the largest proportion of respondents who never had sex with one or more people. Similar to our findings, studies conclude that frequency of sexual activity decrease with age (Brotto & Gorzalka, 2002; Schneidewind-Skibbe, Hayes, Koochaki, Meyer, & Dennerstein, 2008) and older women are also more inclined to suffer from sexual dysfunction (Hisasue et al., 2005; Smith et al., 2012). However, also similar to our result as a whole, other studies show a strong positive association between frequency of sex and satisfaction of sex life (Costa & Brody, 2007; Thomas, Hess, & Thurston, 2015). Since our findings were contradictory to our expectations and previous studies, we analysed the correlation between frequency of sexual activity with one or more people and satisfactory sex life. In agreement with previous studies (Costa & Brody, 2007; Thomas et al., 2015), we

found a strong positive association between frequency of sex with one or more people and satisfaction of sex life ($r = 0.58$, $p < 0.001$). A plausible explanation for our findings could be that older women deem sex of less importance and that psychosocial factors, such as relationship satisfaction and communication quality with one's partner, have a greater impact on satisfaction than age or menopause (Avis, Stellato, Crawford, Johannes, & Longcope, 2000; Hisasue et al., 2005; Thomas et al., 2015). This is supported by Brotto and Gorzalka who found no difference in satisfaction between age groups of women, despite older women having a lower frequency of sexual activities and higher prevalence of sexual dysfunction.

Furthermore, we found that the oldest group of respondents also had the highest perceived genital response. Previous studies have concluded that objective genital response is lower in older women (Brotto & Gorzalka, 2002; Laan et al., 2008), but that concordance with subjective arousal is sometimes better (Brotto & Gorzalka, 2002). The current findings might differ from previous studies because our study focuses only on women free from sexual impairment, meaning that the characteristics of our older respondents differ from studies where the focus has been on sexual difficulties or dysfunctions. It is, however, interesting to note that the group of women more often found to be less sexually active, have higher prevalence of sexual dysfunctions and a lower measured genital response are the ones reporting the highest satisfaction of sex life and perceived genital response when free from sexual impairments. This would argue the capacity older women have for sexual health and stress the importance of competent midwives to ensure these women are met and supported accordingly.

Orgasmic Ability

According to our findings, women who have never orgasmed have a lower rated satisfactory sex life and a lower perceived genital response, suggesting that orgasmic ability is associated with satisfaction, as well as perceived genital response. Previous studies have confirmed an association between orgasmic difficulties and impacted satisfaction of sexual relationships (Rowland, Cempel, & Tempel, 2018). Additionally, women with orgasmic difficulties were more likely to have general anxiety, arousal difficulty and negative body image (Rowland et al., 2018). Aligning with our findings, Fugle-Meyer, Öberg, Lundberg, Lewin and Fugle-Meyer (2006) showed that women's perceived ability to orgasm was vital to experience sexual satisfaction, although there are some contradictions as to the importance of orgasm in later findings (Laan & Rellini, 2011). Laan and Rellini reports that only around half of women

with difficulties reaching orgasm experience distress as a result. Anthony, Levin and Laan (n.d.) found that women with higher frequency of orgasm during sex with a partner deemed orgasms more important than women with lower orgasm frequency, suggesting that orgasms are important and that deeming them accordingly are dependent on orgasm consistency.

Tavares, Laan and Nobre (2018) found that sexual inhibitors, such as negative focus on, or distraction from, sexual performance had a negative effect on orgasmic experience, regardless of type of sexual activity. Supporting these, and our findings, Suschinsky (2018) showed that sexual concordance is associated with a better consistency of orgasm from penile-vaginal intercourse. In regards to the relation between orgasmic ability and perceived genital response, we fall back to the findings of mindfulness treatments and interoceptive awareness, which has shown to increase sexual concordance, the ability to orgasm and satisfaction, as well as reduce sexual inhibitors such as anxiety, depression and other psychological barriers to healthy sexual functioning (Brotto & Basson, 2014; Brotto et al., 2008; Silverstein et al., 2011). However, there are studies in which anorgasmic women was found to have a smaller clitoral glans and the clitoral-complex to be located further away from the vaginal lumen compared to women with normal orgasmic function (Oakley et al., 2014), which could mean that genital awareness might be even more important for this group.

Childbirth

Contradictory to previous research (Botros et al., 2006; De Judicibus & McCabe, 2002), we found that women who had given birth had a higher rated satisfaction of sex life, suggesting childbirth has a positive effect on sexual health. Botros et al. found, in opposition to our study, that women who had given birth had an inferior sexual function compared to those who had never given birth, although due to psychological factors rather than physical. In addition, they found that mode of delivery, examining episiotomy and forceps, had no impact on sexual function. Similar to these findings, De Judicibus and McCabe found that childbirth had an overall negative effect on sexual function with reported lower sexual desire, frequency of sexual activity, decreased sexual satisfaction, as well as relationship satisfaction, during the first 3 months postpartum. However, these findings altered over time and some aspects of sexual function improved from 3 to 6 months postpartum, suggesting that childbirth lost its negative impact over time. These same studies suggest there are factors with a stronger impli-

cation for sexual functioning and health than childbirth itself, such as relationship quality (Botros et al., 2006; De Judicibus & McCabe, 2002).

Group Differences as Measured with Mann-Whitney U test

All but one item examined in this analysis has shown to have a positive effect on satisfaction of sex life and perceived genital response. However, these findings should be interpreted with caution, as their effect sizes were weak for all items. Since female sexual function and sexual satisfaction are both influenced by several psychological, psychosocial and physiological factors (Bachmann, 2006), which may explain the lower effect sizes.

There was only one divergent item when examining factors influencing satisfaction of sex life, which was the frequency of masturbation. Masturbation frequency had no effect on satisfaction of sex life and was the only item where the low scoring respondents had a better-rated sex life, indicating that masturbation is associated with lower satisfaction of sex life. Speculating that a person with high masturbation frequency might not have as many sexual encounters with one or more people, we investigated a possible association between the two. We found that those who masturbate often were significantly less often engaged in sex with one or more people than those with a low masturbation frequency ($p < 0.05$). Similar results have been found in other studies (Costa & Brody, 2007). Since we know from previous findings that sex frequency is strongly associated with satisfaction (Costa & Brody, 2007; Thomas et al., 2015), this could offer an explanation to our results. Since previous studies found that relationship status and quality impacted the frequency of masturbation (Carvalheira & Leal, 2013; Costa & Brody, 2007), we would argue that an analysis of the associations between masturbation and satisfaction of sex life controlling for relationship quality, should be further explored.

Interest For a Word

Within 24 hours after publishing the online survey, we had > 1000 respondents and the majority were women with a vulva and vagina. We would argue that the sheer numbers of respondents indicates an interest and a need to communicate about sexual health and genital function. Previous studies support the notion of an unmet need in communication with health care professionals regarding sexual health and a wish for health care professionals to initiate conversa-

tions regarding these types of health issues (Bachmann, 2006; Eldridge & Giraldi, 2017; Wendt et al., 2007; Wendt, Lidell, Westerståhl, Marklund, & Hildingh, 2011).

When examining the interest for a word, the mean for all three items were high, indicating a positive attitude towards implementing a word describing tumescence into the Swedish language. The average score for personal use of such a word was lower than for the items regarding what a word might contribute with, suggesting that even though respondents might have lesser personal use of a word they still think it would contribute to communication regarding genital response, as well as increasing awareness of genital function. Considering these findings, we propose to use the word *dyna* in describing genital response for people with a vulva and vagina. We thought *dyna* may be an appropriate word to use as it is derived from the Swedish translation of tumescence, which is the Latin term for swelling. However, while there is a need for a word, future research should investigate the appropriateness and likability of one word over another.

Methodological considerations and limitations

Study Design & Sampling

Mentioned earlier in this thesis, a cross-sectional study is the preferred design when examining associations between different phenomenon (Polit & Beck, 2017) and online surveys can be used when the objective is to study a larger population (Bryman, 2011). There are several advantages with performing survey studies online, both practically and methodologically. For example, online surveys require less time and can be less costly for the researcher compared to a more traditional paper based study, and it allows the researcher to target very specific types of populations that might otherwise be difficult to access (Wright, 2005). For our study, the online survey allowed us to target populations based on specific demographics, i.e. women, persons with vulva and vagina, as well as the group of mainly midwives and midwifery students. However, the consequence and direct disadvantage with convenience sampling is the self-selection bias that occurs in addition to the sampling bias of targeting specific populations (Polit & Beck, 2017; Wright, 2005). We targeted specific groups with the intent of finding people, who besides qualifying for inclusion in the study, had an interest for our study aim and thus, sampling bias was inevitable. In addition, since the survey was self-administered, people with an interest would be more prone to submitting the questionnaire, resulting in a skewed result regarding opinions and interest for our study aim. Convenience sampling is

regarded as the weakest form of sampling with greater risk for bias in a heterogeneous population, although common in nursing studies (Polit & Beck, 2017).

Another limitation when performing an online self-administered survey study, where respondents are anonymous, is the lack of transparency regarding the respondents' characteristics, i.e. the researchers have no way of confirming the accuracy of the provided information (Bryman, 2011; Polit & Beck, 2017; Wright, 2005). There is also a risk of respondents repeating the survey multiple times, to control for this, the survey software blocked access for any IP-address that had already submitted the questionnaire. However, an advantage of performing an online survey is that respondents may have been more likely to complete this questionnaire knowing they were anonymous, especially since the material could be of a sensitive nature (Wright, 2005).

Survey Design

According to Polit and Beck (2017), creating your own questionnaire is not preferred, although they recognize that this is sometimes required when no suitable pre-existing instrument is found. Since we are novices, creating a valid questionnaire as measurement is difficult and we must recognize the risk of biasedly worded questions. Polit and Beck describes four challenges with formatting questionnaire items: (1) clarity, meaning the question should be unequivocally worded (2) intelligible, the respondents need to be able to understand the question (3) bias and (4) consideration, questions should be worded so as to encourage respondents to answer by being sensitive and considerate, in particular when asking questions of an intimate nature. To meet these challenges and decrease the limitations of an inadequately performed questionnaire, we conducted a small pilot study. Conducting a pilot study can help ensure the quality of the survey via correction of difficult instructions or poorly phrased questions (Bryman, 2011). The pilot study helped us correct for clarity, rephrasing questions to be intelligible and considerate by using more inclusive language and repositioning items. For example, the item asking respondents to describe their genital response in free text was repositioned to the latter parts of the questionnaire. This was done to minimize the risk of respondents aborting their participation due to the deterrent effect of the item, while taking into consideration that the respondents might be influenced by the previous questions regarding genital response.

Since people define what constitutes a satisfactory sex life differently, it could have corrupted the accuracy of the response if we had predefined this term. This is why some of our questions are worded to allow for respondents own interpretation. We consider this to be within the scope of the limitations of this study as well as strengths. Adopting a similar mind set, we included questions without a definition for genital response since people may experience genital response with different sensations. We must, however, recognize the risk for additional, unconscious, bias and other withstanding limitations in how the questionnaire was conducted. Due to limited time, resources and lack of experience in creating a questionnaire, several questions of interest were overlooked. For example, future questionnaires examining this topic could do well to include questions regarding; substance use, such as tobacco, alcohol and other drugs, current pregnancy, breastfeeding, female genital mutilation, genital surgery, partner characteristics, relationship quality and ethnicity. In hindsight, we would have included more questions regarding sexual history and sexual status. Additionally, questions regarding transgender experience were wrongfully phrased and as a consequence, respondents with transgender experience were either discouraged from participating or forced to answer incorrectly in order to submit the questionnaire (e.g. transgender was listed as an option for gender identity). Owing to an error in the online survey, respondents could only fill out one out of three choices for mode of delivery when it should have been possible to fill out more than one answer, since one person can have had more than one birthing experience.

Item Selection & Analysis

The aim of this study was sprung from the interest of examining the effect of sexual concordance on satisfaction of sex life in non-dysfunctional women, which is why we selected to include the items for arousal specifically. Since there is no plausible way to confirm sexual concordance in an online survey study we had to adapt the questions accordingly. Therefore, when conducting the analysis we chose to examine respondents' perceived genital response in an aroused state since this constitutes the components for sexual concordance. Several studies, when examining female sexual function and genital response, stress the interplay between genital response and subjective arousal, i.e. sexual concordance, as an important factor in female sexual function (Chivers et al., 2010; Handy et al., 2018; Laan et al., 2008; Velten et al., 2016). Basson's (2015) model of human sexual response enlightens the relationship between several key factors and phases where subjective and genital *arousal* are the main components

of a person's sexual response. Furthermore, studies show that people struggle with the distinction between desire and arousal (Brotto, Heiman, & Tolman, 2009; Mitchell, Wellings, & Graham, 2014), which is why we included questions regarding genital response in each respective state, as well as during sexual activity, to increase the accuracy of our analysis.

Testing for normality of distribution is a very important step in the analysis of statistical data since several statistical tests are based off of the normality assumption (Ghasemi & Zahediasl, 2012; Razali & Wah, 2011). The Shapiro-Wilks test for normality of distribution was used to decide further analytic methods in this study since it is found to be the most powerful out of the four most commonly used tests, i.e. Lilliefors, Kolmogorov-Smirnov, Anderson-Darling, Shapiro-Wilk (Ghasemi & Zahediasl, 2012; Razali & Wah, 2011). The test showed non-normal distribution of data, although it should be noted that when tested on a large sampling size, even small deviations can give a non-normal distribution result (Ghasemi & Zahediasl, 2012).

Regarding the cut off limit of 76%, we wanted to create a clear limit between high and low rating groups. This limit was therefore set after analysing frequencies of the combined genital response variable, where 76% of all respondents had rated between 1-5.75 on a scale from 1-7, which we found to be a suitable value for representing high ratings. All remaining Likert-type scale variables were dichotomised at a level as close to, but not above, 76% percent to keep consistency.

For the analysis on the demographic groups, we excluded three groups from the category of sexual orientation: *non of the above* ($n = 27$), *do not want to disclose* ($n = 7$) and *asexual* ($n = 5$). The first two groups were excluded since the analysis hinged on disclosing ones sexual orientation, while the third group, is in direct contrast of what we wanted to examine. Furthermore, there was a loss of data on account of the item for employment status being a multi-choice question. Due to the possibility of stating more than one type of employment the number of responses exceeded the total sample size ($n = 1667$). When later used for analyses the program SPSS automatically corrected the total number according to our final sample size ($n = 1540$) resulting in a loss of data, in particular from the student category.

The cut off regarding the three items examining the interest for a word describing tumescence were dichotomised at lower than or equal to 4 or higher than or equal to 5, since this represents 75% of the scale.

Conclusion

There is an association between perceived genital response and satisfaction of sex life. There are, however, several factors influencing a woman's satisfaction of sex life, as well as perceived genital response, such as medication, relationship quality and bodily awareness. Midwives should ask about sexual satisfaction and genital awareness, as well as be able to educate patients in genital sexual function and incorporate knowledge about known factors to sexual satisfaction in order to promote sexual health throughout women's life span. Working with genital awareness could enhance sexual concordance and contribute to a satisfactory sex life, in addition to reducing the effect of sexual arousal inhibitors and be used as treatment for a variety of sexual impairments. It is clear that there is a need for midwives, and other health care professionals, to be equipped with knowledge and competence, as well as the skills, to initiate communication and discuss genital sexual function with their patients in regards to sexual health. Midwives might want to offer extra support to women who are single and, or, have never orgasmed, since this demographic tends to be less satisfied with their sex life.

In order to better communicate about genital response, the Swedish language needs a word to describe tumescence. Women believe this would contribute to communication about sexual genital function and think it would raise awareness regarding their genital function. We suggest using the word *dyna*, as it is derived from the Swedish translation of tumescence, which is the Latin term for swelling.

Further Research

With more time we would have liked to perform a hierarchical linear model to further investigate the factors influencing satisfactory sex life and their relation to one another. Another highly interesting topic is to investigate the appropriateness and likeability of the word *dyna* to use as description for female genital response. In addition, further research is needed on women who do not have any sexual impairment to better understand female sexual function and what constitutes sexual health for women. Through the perspective of these women, we suggest to further research the relation between age and perceived genital response, the association between genital awareness and orgasm, as well as women's knowledge of their genitals and sexual genital function. In addition, we find it of interest and importance for the midwifery profession to investigate midwives knowledge of sexual and genital function in

order to additionally research midwives communication skills focused specifically on sexual and genital function.

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Appendix 1: Information Letter & Consent Form



A survey study of people who have a vulva and vagina, and their perception of genital sexual function

This study's aim is to investigate how people with a vulva (inner, outer labia and clitoris) and vagina experience the sexual function of their genitals and how well they know the genitals physiology.

The survey takes about 10 minutes to complete.

Sexual function and dysfunction are well-researched areas, especially regarding people with a penis, and today there is a lot of knowledge about the function of the genitals. Anatomically and physiologically there are many similarities between the functions you find in a penis as with the functions in vulva (inner, outer labia and clitoris), yet studies suggest that people with vulva are not as aware of these functions as people with penis are about their genital functions.

We are two midwifery students from Karolinska Institutet at the Department of Women and Children's Health in Sweden who intend to investigate this topic more closely by conducting an online survey. This will be the basis for our masters thesis and the results may be presented outside Karolinska Institutet. Only group-level results will be presented, i.e. no individual's survey will be presented.

We want to acknowledge the following:

- **Participation in the study is completely voluntary**
- **Participation is completely anonymous and the answers cannot be traced back to you in any way**
- **Submitted questionnaires is equivalent to giving consent to participation in the study**

If you have any questions about the study, please feel free to contact us.

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Appendix 2: Online Survey



This questionnaire aims to investigate how individuals with vulva (inner, outer labia and clitoris) and vagina experience the sexual response of their genital organs for lust, sexual arousal and during sexual activities, e.g. masturbation, petting, oral / anal / vaginal sex or other activities that directly affect the feeling of lust and arousal.

Please note; once you have turned a page in the questionnaire you can't go back – so please read and fill out the questions carefully.

1. What gender do you identify with?

- ☐ Woman
- ☐ Man
- ☐ Binary
- ☐ Non-binary
- ☐ Trans
- ☐ None of the Above

2. What type of genitals do you have?

- ☐ Vulva and vagina
- ☐ Penis
- ☐ Neovagina
- ☐ None of the above

3. What sexual orientation do you have?

- ☐ Heterosexual
- ☐ Homosexual
- ☐ Bisexual
- ☐ Asexual
- ☐ None of the Above
- ☐ Does not want to Disclose



4. How old are you?

- ☐ under 20
- ☐ 20-24
- ☐ 25-29
- ☐ 30-34
- ☐ 35-39
- ☐ 40-44
- ☐ 45-49
- ☐ 50-54
- ☐ 55-59
- ☐ 60 or more

5. What is your highest level of education?

- ☐ Elementary School
- ☐ High School
- ☐ College/University

6. What is your current employment?

- ☐ Student
- ☐ Working full time
- ☐ Working part time
- ☐ Unemployed
- ☐ Sick Leave
- ☐ Retired

7. What is your marital status?

- ☐ Single
- ☐ Steady Partner(s)
- ☐ Cohabiting/Civil Partnership
- ☐ Married

8. In which country were you born?

9. How long have you lived in Sweden

- ☐ Less than 1 year
- ☐ 1-2
- ☐ 3-4
- ☐ 5-6
- ☐ 7 or more years
- ☐ Whole Life



10. Are you currently diagnosed with any disease that affects your sexual ability or lust?

- ☐ Yes
☐ No

11. Do you currently medicate with any drugs that affect your sexual ability or lust, e.g. antidepressants or blood pressure medication?

- ☐ Yes
☐ No

12. Sexual dysfunction may be caused by an illness or drug usage, but may also occur from other non-diagnosed causes. Do you have any current sexual dysfunction that affects your sexual ability or lust?

- ☐ Yes
☐ No

13. Have you ever given birth?

- ☐ Yes
☐ No

14. If you answered YES to question 13 – what was your mode of delivery?

- ☐ Vaginal
☐ Cesarean
☐ Instrumental (forceps or vacuum extraction)



The following section asks a series of personal questions about how your genitals react in different emotional states, such as feeling lust, sexual arousal and during sexual activities, e.g. masturbation, petting, oral / anal / vaginal sex. This section also asks questions about your sexual habits and activities.

15. How often do you masturbate?

- ☐ At least once a day
- ☐ At least once a week
- ☐ 1-4 times per month
- ☐ Less than once a month
- ☐ At least once per year
- ☐ Never

16. How often do you have sex with one or more people?

- ☐ At least once a day
- ☐ At least once a week
- ☐ 1-4 times per month
- ☐ Less than once a month
- ☐ At least once per year
- ☐ Never

17. Have you ever experienced an orgasm?

- ☐ Yes
- ☐ No

18. If so, how often do you orgasm?

- ☐ At least once a day
- ☐ At least once a week
- ☐ 1-4 times per month
- ☐ Less than once a month
- ☐ At least once a year
- ☐ Never

Answer the following statements by ticking the box that best suits you, where 1 is "completely disagree" and 7 is "completely agree".

19. Answer the following statements by ticking the box that best suits you, where 1 is "completely disagree" and 7 is "completely agree".

	1 Completely Disagree	2	3	4	5	6	7 Completely Agree
I consider myself a sexual person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I orgasm easily when masturbating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I orgasm easily when I have sex with one or more people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm satisfied with my sex life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. I feel a distinct reaction in my genitals (1 is "not correct at all" and 7 are "completely correct")

	1 Not correct at all	2	3	4	5	6	7 completely correct
when I feel lust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
when I feel sexually aroused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
during sexual activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. I can feel my genitals swelling ...(1 is "not correct at all" and 7 are "completely correct")

	1 Not correct at all	2	3	4	5	6	7 Completely correct
when I feel lust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
when I feel sexually aroused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
during sexual activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Continuation of how your body works. Answer the following statements by choosing a number from 1 to 7, where 1 is not at all and 7 is intensely.

22. How intensely do you experience your genitals getting wet...

	1 Not correct at all	2	3	4	5	6	7 Intensely
when I feel lust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
when I feel sexually aroused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
during sexual activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. How intensely do you experience swelling in your genitals...

	1 Not correct at all	2	3	4	5	6	7 Intensely
when I feel lust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
when I feel sexually aroused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
during sexual activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. How intensely do you experience a pulsation / throbbing feeling in your genitals...

	1 Not correct at all	2	3	4	5	6	7 Intensely
when I feel lust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
when I feel sexually aroused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
during sexual activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. How intensely do experience tingling / tickling in your genitals...

	1 Not correct at all	2	3	4	5	6	7 Intensely
when I feel lust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
when I feel sexually aroused	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
during sexual activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. An orgasm can be experienced differently from time to time and depending on your situation, e.g. when masturbating or during sex. With this question, we are curious about how you experience your typical orgasm.

	1 Not correct at all	2	3	4	5	6	7 Intensely
How intense do you experience your typical orgasm?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Answer the following statements by choosing a number from 1 to 7 where 1 is none and 7 is a lot.

	1 None	2	3	4	5	6	7 A lot
How much knowledge do you have about how the vulva and vagina work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. How do you experience your genitals sexual response?

Describe in your own words the feelings you get in your genital organs when experiencing lust or sexual arousal

Below are two statements. Take a stand by ticking the box you consider most appropriate:

29. For a person with normal sexual function clitoris always swells when sexually aroused, whether the person senses it or not

- ☐ Completely disagree
- ☐ Disagree somewhat
- ☐ Neutral
- ☐ Agree somewhat
- ☐ Completely agree

30. For a person with normal sexual function the whole vulva (with inner and outer labia) always swells when sexually aroused, whether the person senses it or not

- ☐ Completely disagree
- ☐ Disagree somewhat
- ☐ Neutral
- ☐ Agree somewhat
- ☐ Completely agree

31. Today there is no word in the Swedish language for what happens in the vulva and clitoris when experiencing lust / sexual arousal / sexual activity, neither for healthcare professionals nor for everyday use. Below are a number of questions about how important to you this word might be.

Answer the following statements by choosing a number from 1 to 7, where 1 is not at all and 7 is a lot.

	1 Not at all	2	3	4	5	6	7 A lot
How much use would you have for such a word?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you think the use of a word would make it easier for people with vulva and vagina to talk more about their genitals and what happens when sexually aroused?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you think that the use of a word could make people with vulva and vagina more aware of how their genitals work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How important do you think it is that people with vulva and vagina know how their genitals work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



The word "dyna" is derived from Latin for the symbolism of how the vulva appears and the process of sexual arousal (dune / swelling). This could be used to describe the genital response and the sensation of vulva and clitoris in a sexually aroused state.

32. With your own words; Please describe what you think of the word "dyna" as the use for this function in genital organs including vulva and clitoris.