

PELVIC FLOOR DYSFUNCTION AND ITS INFLUENCE ON BODY IMAGE AND SEXUAL FUNCTION

A prospective follow up study on women in,
through pregnancy and postpartum

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Masterproef aangeboden tot het behalen van de
graad van Master in de seksuologie

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Dana Busschots, Pelvic floor dysfunction and its influence on body image and sexual function. Longitudinal study on pregnant women in the first, third trimester and postpartum

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Promotor: prof. dr. Deprest

Het primaire doel van deze longitudinale studie was de prevalentie van urinaire en fecale incontinentie bij Vlaamse, zwangere vrouwen in kaart te brengen. Een totaal van 146 vrouwen vulden zowel in het eerste trimester, als in het derde trimester de “3 *Incontinence Questions*” vragenlijst en de “*Wexner score*” in. Een op vijf vrouwen rapporteerde symptomen van urinaire incontinentie voor de zwangerschap. Dit aantal bedroeg een op vier in het eerste trimester en twee op drie in het derde trimester. Het meest voorkomende subtype was stressincontinentie. Body Mass Index (BMI) was gecorreleerd met urinaire incontinentie in het eerste trimester en vrouwen die een keizersnede in de geschiedenis hadden gehad, hadden minder kans op urinaire incontinentie in het derde trimester. De prevalentie van anale incontinentie voor de zwangerschap bedroeg een op drie vrouwen. Multipara of leeftijd waren geen risicofactor, BMI wel. De prevalentie van anale incontinentie steeg van een op twee vrouwen in het eerste trimester naar twee op drie vrouwen in het derde trimester. In dit onderzoek, meer multipara waren continent, al was dit enkel van toepassing in het eerste trimester. Vrouwen met anale incontinentie in het eerste trimester hadden vaker een minder intensieve job uitoefenden. Analogoog aan literatuur was de meest voorkomende vorm van anale incontinentie, flatus incontinentie.

Het tweede doel van deze studie was om een potentiële relatie tussen bekkenbodempdisfunctie en het lichaamsbeeld te onderzoeken aan de hand van de “*Body Image Disturbance Questionnaire*”. Respondenten in deze studie rapporteerden in het algemeen meer verstoring van het lichaamsbeeld doorheen de zwangerschap. Hun BIDQ score steeg in bijna alle items, behalve voor mentale preoccupatie doorheen de zwangerschap. Deze bevindingen waren niet in lijn met literatuur. In vorige onderzoeken bleef het lichaamsbeeld relatief stabiel over de zwangerschap of trad er meer verstoring op in het eerste trimester. Ondanks een stijgende prevalentie tijdens de zwangerschap, was er geen impact meetbaar op het lichaamsbeeld. De BIDQ scoren tussen continente en incontinente vrouwen verschilden niet. Dit was in lijn met de literatuur. Anale incontinentie had, in tegenstelling tot urinaire incontinentie, wel een negatieve invloed op het lichaamsbeeld in het derde trimester.

Het derde doel van deze studie was te bepalen of er een evolutie plaatsvindt in het seksueel functioneren van Vlaamse, zwangere vrouwen gebruikmakend van de PISQ-12. Respondenten waren niet meer ontevreden over hun seksleven in het derde trimester vergeleken met het eerste. Bij meer dan de helft van de ontevreden vrouwen, zorgde deze ontevredenheid voor relationele stress en dit bleef in het derde trimester. De zwangere vrouwen in deze studie rapporteerden een daling in de PISQ-12 score met als resultaat een verminderde seksuele functie in het derde trimester van de zwangerschap. Ontevredenheid in het seksleven had een invloed op het lichaamsbeeld van de respondenten. De gemiddelde BIDQ score was lager bij ontevreden vrouwen over de hele zwangerschap. De enige correlatie tussen bekkenbodempdisfunctie was met urinaire incontinentie, die in het eerste trimester een daling in de PISQ-12 score gaf.

Bekkenbodempdisfunctie is veelvoorkomend in Vlaamse, zwangere vrouwen. Hoewel het een minimaal effect heeft op het lichaamsbeeld, beïnvloedt het wel de seksuele functie.

Dana Busschots, Pelvic floor dysfunction and its influence on body image and sexual function. Longitudinal study on pregnant women in the first, third trimester and postpartum

Master thesis presented to obtain the degree of Master in Sexology June 2017

Promotor: prof. dr. Deprest

The first aim of this longitudinal study was to assess the prevalence of urinary and fecal incontinence in pregnant Flemish women. One hundred forty-six women were asked to complete the “3 Incontinence Questions” questionnaire and to fill in the “Wexner score” in the first and third trimester of pregnancy. One in five women reported urinary incontinence before the current pregnancy. This increased to one in four in the first trimester and even to two in three during the third trimester. The most common subtype was stress urinary incontinence. Body Mass Index (BMI) was correlated with incontinence during the first trimester and women who previously had a caesarean section were less likely to have urinary incontinence in the third trimester. The prevalence of anal incontinence before pregnancy was up to one in three women. Multiparity or age were not risk factors, yet BMI was. Prevalence of anal incontinence increased to up to one in two women during the first trimester and even to two in three during the third trimester. Women with anal incontinence in the first trimester were more likely to have a less intensive job. In line with the literature, the most common form of anal incontinence was flatus incontinence.

The second aim of this study was to explore the potential relationship between pelvic floor dysfunction and body image using the “Body Image Disturbance Questionnaire”. Respondents in this study reported in general increasingly more body image disturbance throughout pregnancy. Their BIDQ scores increased on almost all items except for preoccupations throughout pregnancy. These findings are not in line with the literature. In previous studies the body image remained relatively stable during pregnancy or increased during the first trimester. Despite an increasing prevalence during pregnancy, there was no impact on the body image. The BIDQ scores between continent and incontinent women were not different. This is in line with the literature. Anal incontinence does have, in contrast to urinary incontinence, an adverse effect on the body image in the third trimester.

The third aim of this study was to determine whether there would be an evolution in the sexual function of Flemish women throughout pregnancy using the PISQ-12. Respondents were not more dissatisfied about their sex life in the third trimester than in the first. For dissatisfied women, this dissatisfaction caused relationship distress in more than half in the first trimester which remained at level in the third trimester. The pregnant women in this study had a significant drop in their PISQ-12 score coinciding with less good sexual function in the third trimester of pregnancy. A dissatisfying sex life had an influence on the body image of respondents. The mean BIDQ score was lower in dissatisfied women throughout the whole pregnancy. The only correlation between pelvic floor dysfunction was for urinary incontinence during, which in the first trimester coincided with a drop in PISQ-12 score.

Pelvic floor dysfunction is common in Flemish pregnant women. Although the impact on the body image was limited, it did affect the sexual function.

Preface

Doing this research and writing this master's thesis was a very intensive and long lasting process. Therefore, I am very grateful that I was surrounded by many lovely people who helped me through. I would like to express my gratitude for their immense support.

First of all, I would like to thank Prof. Dr. Jan Deprest, my promotor. Due to the fact he wanted to share his precious time with me and his outstanding expertise this manuscript has become something I am very proud of. He assisted me with his professional advice. He challenged me to go for the best and to maintain a critical vision throughout the whole process. Further, I would like to thank Leen Mortier and the whole administrative staff of E491, the echo center of the University Hospitals Leuven. I am thankful for the trust I have got from all the participants during this research.

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1. INTRODUCTION

1.1 Pelvic floor dysfunction

Pelvic floor dysfunction (PFD) encompasses urinary and anal incontinence and/or prolapse. The leading cause of PFD is believed to be vaginal delivery, next to other factors that occur later in life, of which age and obesity are the most important ones. (Callewaert et al., 2015; DeLancey, Low, Miller, Patel, & Tumbarello, 2008).

1.1.1 Urinary incontinence.

1.1.1.1 Definition.

The International Continence Society (ICS) and International Urogynaecological Association (IUGA) define urinary incontinence (UI) as “the complaint of any involuntary loss of urine”. This definition has, to be workable, been extended to “the complaint of any involuntary loss of urine that is a social or hygienic problem”. UI has an effect on the quality of life and can be experienced as annoying (Haylen et al., 2010; Stedenfeldt et al., 2014).

There are several forms of urinary incontinence. The most frequent are:

- a) Stress or activity related UI (**SUI**) is the loss of urine on effort or physical exertion or sneezing or coughing;
- b) Urge(ncy) UI (**UUI**): loss of urine associated with urgency (the sense of needing to urinate); and
- c) The above (SUI and UUI) can occur together and are then referred to as “mixed” incontinence.

Other forms of incontinence include postural, nocturnal enuresis, continuous, insensible, coital UI, which are less frequent and therefore not so relevant to this work (Abrams, Cardozo, Khoury, & Wein, 2012; Haylen et al., 2010).

1.1.1.2 Urinary incontinence in pregnant women.

UI is common in pregnancy but exact numbers differ from study to study. In an Australian study on 1,507 Australian, nulliparous women, the prevalence of UI of in the first trimester was 17%, increasing to 55.9% in the third trimester. Stress UI (36.9%) was more frequent than mixed UI (13.1%) (S. Brown, Donath, MacArthur, McDonald, & Krastev, 2009). Another survey was done in 411 nulliparous women in Berlin. The prevalence of UI during the first half of the pregnancy was 3.6% (n=15), again increasing to 26.3% (n=108) in the second half. In that study women were also questioned two months postpartum. Of the 108 women with UI during the second half, only 11.7% (n=48) had those symptoms postpartum. Conversely, (n=39) of the women who had no UI symptoms in the second half of pregnancy, did report UI after delivery (Huebner, Antolicb, & Tunnc, 2010) .

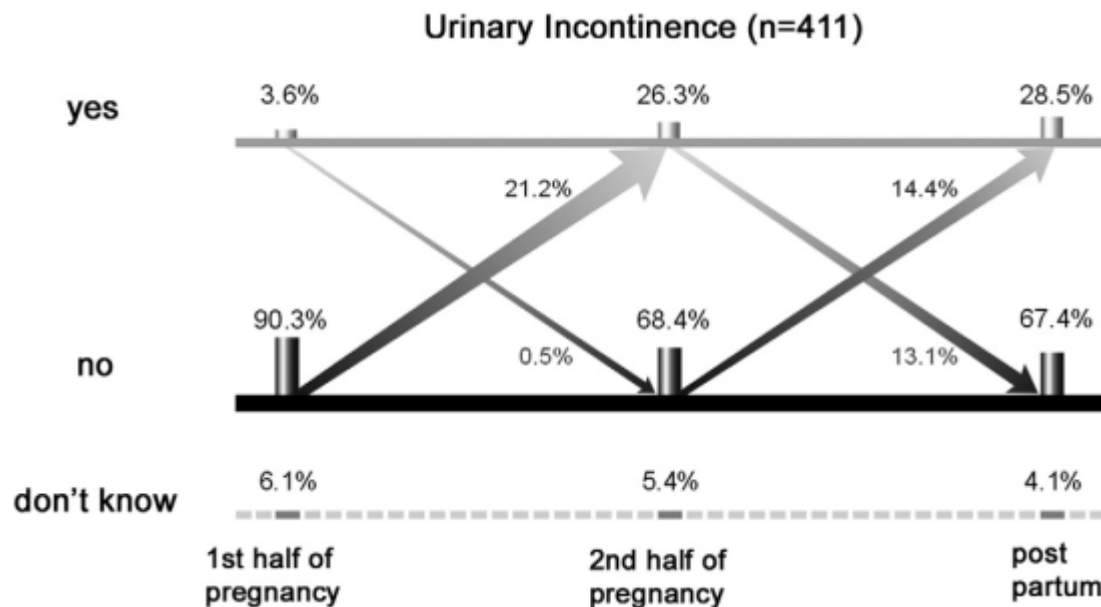


Figure 1: Transition of prevalence of urinary incontinence through pregnancy and postpartum, data transition of 'don't know' is not displayed (Huebner et al., 2010)

1.1.1.2.1 Flemish study about urinary incontinence in pregnant women.

Merel Lenaerts (2015) studied the association between UI and body image change during pregnancy in Flemish women who booked for first trimester screening at the University Hospitals Leuven. Women were longitudinally followed up, using self-reporting via a questionnaire in the first and third trimester. These women were also asked to provide demographic information and answer to the 'Body Image Disturbance Questionnaire' and '3 Incontinence Questions'. One hundred sixty-two women were interviewed in the first trimester yet only 126 women completed the second questionnaire (drop-out rate 21.8%)

	First trimester	Third trimester
Participants	n=162	n=126
Nulliparous	69 (42.6%)	57 (45.6%)
Multiparous	91 (56.2%)	68 (54.4%)

Table 1: number of participants in the first and third trimester and subdivision of nulliparous and multiparous (Lenaerts, 2015)

UI was present in 35.8% during the first trimester, which climbed to 55.2% in the third trimester. The most frequent UI subtype was stress UI (84.1% and 85.3%). Lenaerts' findings (2015) demonstrating that UI was correlated with the method of delivery were consistent with the literature. UI was more present in women with a previous spontaneous vaginal delivery. The prevalence of UI was higher in multipara women than in nulliparous women.

	First trimester n=123	Third trimester n=125
Urinary incontinence	44 (35.8%)	69 (55.2%)
Stress	37 (84.1%)	58 (85.3%)
Urge	1 (2.3%)	4 (5.9%)
Mixed	5 (11.4%)	3 (4.4%)
Any other	1 (2.3%)	3 (4.4%)

Table 2: Data of incontinent women in the first and third trimester who completed both questionnaires (Lenaerts, 2015)

Lenaerts (2015) found limited social, professional and functional disturbance. The degree of social avoidance increased during pregnancy, this was correlated with professional characteristics. Women with a job that requires prolonged standing periods were more likely to report disturbance on the above-mentioned three levels.

The association between UI and body image was poor. Just like Pauls (2008), Lenaerts (2015) observed an increased prevalence of UI with the number of deliveries yet satisfaction with the body image remained the same. Although Lenaerts (2008) noticed a slight disturbance in the social life of pregnant women during the first trimester, this disturbance decreased over the course of the pregnancy.

1.1.2 Anal incontinence.

1.1.2.1 Definition.

Anal or fecal incontinence is defined as the involuntary loss of feces whether formed or loose monthly or more or the inability to postpone defecation for more than 15 minutes (Haylen et al., 2010). Involuntary loss of flatus, weekly or more, is also considered as AI. AI is experienced as a disabling disorder and has a negative influence on the quality of life (Abrams et al., 2012; Haylen et al., 2010; Johannessen et al., 2014)

1.1.2.2 AI and pregnancy.

Pregnancy is a risk factor to develop AI. The normal hormonal changes in combination with the increasing weight of the fetus, placenta and uterus could cause long-term damage to the neuromuscular function of the pelvic floor (Johannessen et al., 2014). Vaginal delivery can cause pudendal nerve damage due to direct traumata, increasingly with operative vaginal delivery, a long second stage and/or fetal macrosomia. Irreversible changes in the tissue properties may be the result of stretching and/or loading the pelvic floor tissue beyond the physiological range. After delivery, neurogenic as well as myogenic damage are responsible for the development of PFD symptoms. (Gyhagen, Bullarbo, Nielsen, & Milsom, 2013; Jundt et al., 2010).

1.2 Body image

1.2.1 Definition.

There is more than one definition for body image. For this work we will use the definition of body image as “*an individual’s perception and attitude toward his or her physical attributes*” (Clark, Skouteris, Wertheim, Paxton, & Milgrom, 2009)

1.2.2 Body image dissatisfaction and pregnancy.

In case of a negative perception of the own body, the person is at risk of creating a dissatisfaction with the own body image. This is called body image dissatisfaction or body dissatisfaction (Boscaglia, Skouteris, & Wertheim, 2003). During pregnancy, the shape and size of the body change. Pregnant women gain weight, become more voluminous and are more prone to re-evaluate their body image. This can result in more body dissatisfaction due to these negatively perceived changes. Body dissatisfaction, especially during pregnancy, is of special importance. It can lead to unhealthy habits such as weight loss attitudes or unhealthy eating. These habits may have adverse effects on mother as well as the child. (Skouteris, Carr, Wertheim, Paxton, & Duncombe, 2005). In the recent study of Lenaerts (2015) in Flemish women during pregnancy, subjects without any symptoms of UI, showed more social, professional and functional disturbance during pregnancy than women with UI. The latter did not lead to an increase in body dissatisfaction during pregnancy. On the contrary, they had less social disturbance when asked in the third trimester, as compared to the first trimester ($p=0.027$) without to us any obvious explanation.

1.3 Sexuality

1.3.1 Definition.

Sexuality is an umbrella term for sexual desire, sexual arousal, sexual behavior and sexual function (Fortenberry, 2013). A variety of biological, psychological and social factors influence sexuality. Sexuality is considered as fundamental for health and well-being in life (Liu, Hou, & Chen, 2013).

1.3.2 Sexuality and pregnancy.

Sexuality is a possible psychological factor that can improve quality of life in couples and individuals. The sexual relationship is of great medical and psychological meaning, not only for expectant couples during pregnancy but also for young parents after birth (Von Sydow, 1999).

In the first trimester, the frequency of sexual activity and the overall sexual interest of the women decreases. In some couples the frequency of sexual activities increases during the second trimester. Those couples are typically more sexual active than normal, non-pregnant couples. In the third trimester, there is a drop in sexual interest and frequency of sexual activities. From

around two months before birth, most couples do not have coital sex anymore. Also, men can experience decreased interest in sex. Men worry about the fact that they could harm the fetus during sexual intercourse (Gijs, Gianotten, Vanwesenbeeck, & Weijnenborg, 2009; Von Sydow, 1999).

During pregnancy, the shape and size of the women's body changes completely. Not only weight gain but also change in body shape can compromise a positive body image. This can cause a low self-esteem and therefore less sexual interests. The result of that may be that some women feel unattractive to their partner and uncertain about their (sexual) relationship (Chang, Yu - Mei, & Kenney, 2006).

After birth, marital happiness of couples decreases considerably. The most vulnerable domain in the relationship seems to be the sexual one (Von Sydow, 1999). In sexcounseling, most therapists observed that most of the sexual problems originate in the period after the first delivery. This period is a psychological transition from a relation of two to a relation of three. The relationship changes drastically, not only emotional and social but sexual as well. A woman needs about a year to set their identity as a mother before they can focus on their own body and life. The result is that the woman does not feel the need or does not has the energy to involve in sexual activities. In contrast men are better in separating partnership and parenthood. Therefore, men want to resume sexual activities sooner than women after the first delivery (Gijs et al., 2009).

2. LITERATURE REVIEW

2.1 Methodology

An exploratory literature search was performed to establish what is known about AI and sexual function during pregnancy and postpartum. UI and body image were included in the study of Lenaerts (2015) and therefore not repeated.

MeSH terms:

- 'fecal incontinence' and/or 'pelvic floor dysfunction' were combined with 'pregnancy', 'pregnant woman' or 'pregnant'
- 'sexuality', 'sexual behavior' or 'sexual function' were combined with 'pregnancy', 'pregnant woman', 'pregnant' and/or 'pelvic floor dysfunction'.
- 'fecal incontinence' and/or 'pelvic floor dysfunction' were combined with 'postpartum'.
- 'sexuality', 'sexual behavior' or 'sexual function' were combined with 'postpartum'.

Limits PubMed:

- Full text
- Articles from 2006 and later
- Humans

This search resulted in a first selection of literature. The snowball method was used to obtain more relevant articles. Articles published before 2006 were included when they had multiple references.

2.2 Results

2.2.1 Anal incontinence during pregnancy and postpartum.

2.2.1.1 Prevalence of AI during pregnancy and postpartum

Data of a Norwegian survey by Johannessen et al. (2013) in nulliparous women aged over 18 years, showed that one in five pregnant women are unable to delay defecation for more than 15 minutes during the last four weeks of pregnancy. To be more specific, formed stool incontinence was reported by nine percent. Loose stool and flatus incontinence were more prevalent, respectively 13% and 12%. Flatus incontinence was associated with an increased risk of loss of formed or loose stool.

The American study by Brincat et al. (2009) shows the same trend. At 20 weeks of pregnancy about 3 out of 240 women (1.6%) answered affirmatively to the question "Have you lost control over your stools or bowel movements, that is, have you had any bowel accidents?". At 35 weeks 3 out of 171 (1.8%) answered yes. AI was the most prevalent in women six weeks postpartum (11 out of 173; 6.4%) (Brincat et al., 2009).

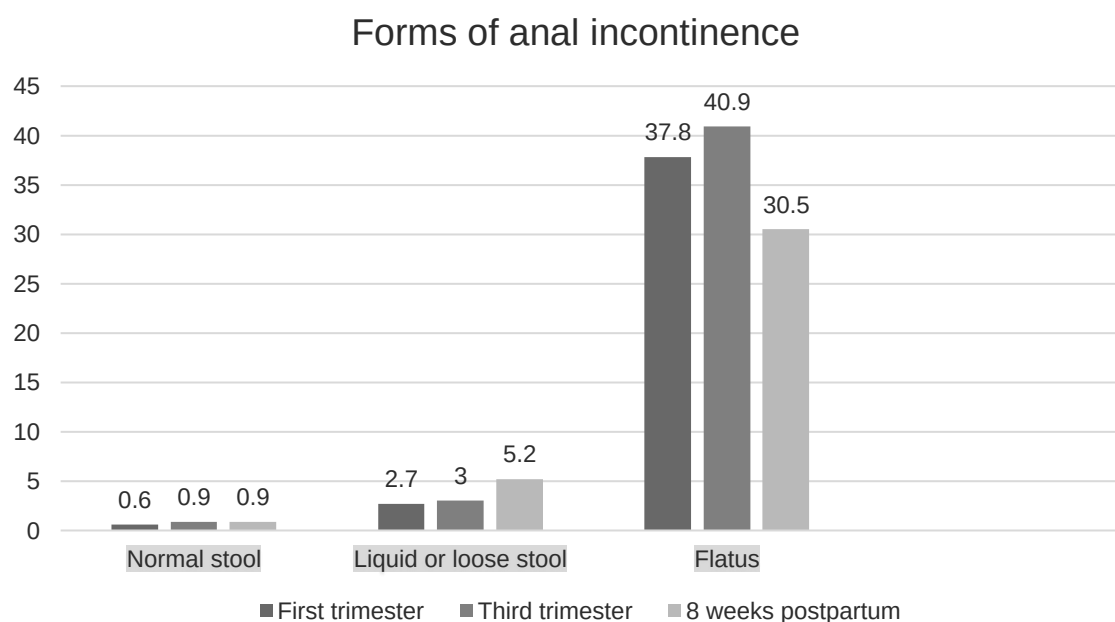


Figure 2: Prevalence (%) of different forms of anal incontinence during and after pregnancy (Chan, Cheung, Yiu, Lee, & Chung, 2012)

	First Trimester (n=22)	Third Trimester (n=64)	Postpartum (n=64)
Frequency of formed stool			
Never	18	52	43
Rarely	1	6	6
Sometimes	1	3	3
Frequently	1	1	2
Always	-	-	-
Frequency of liquid stool			
Never	13	50	42
Rarely	5	7	7
Sometimes	2	4	5
Frequently	-	1	-
Always	-	-	-
Frequency of gas			
Never	1	1	2
Rarely	5	16	19
Sometimes	10	26	16
Frequently	4	16	17
Always	1	5	8

Table 3: Characteristics of anal incontinence in the first and third trimester of pregnancy and postpartum (Solans-Domenech, Sanchez, & Espuna-Pons, 2010)

The most frequent type of AI present in nulliparous women during or after pregnancy is incontinence or flatus. It is rare for women to suffer from fecal incontinence but some do. AI involving liquid or loose stools is less common than AI for flatus. Remarkable is that the prevalence of AI for liquid or loose stool increases after delivery whereas incontinence flatus decreases in nulliparous women (Chan et al., 2012; Solans-Domenech et al., 2010).

2.2.1.2 Risk factors for PFD for nulliparous women.

2.2.1.2.1 Age.

Findik et al. (2012) established the correlation between age and UI during pregnancy in a study among Turkish women. Between 20 and 29 the prevalence of UI was 20.2%; between 30 and 39 it was 33.5%, to increase further to 52% in women over 40.

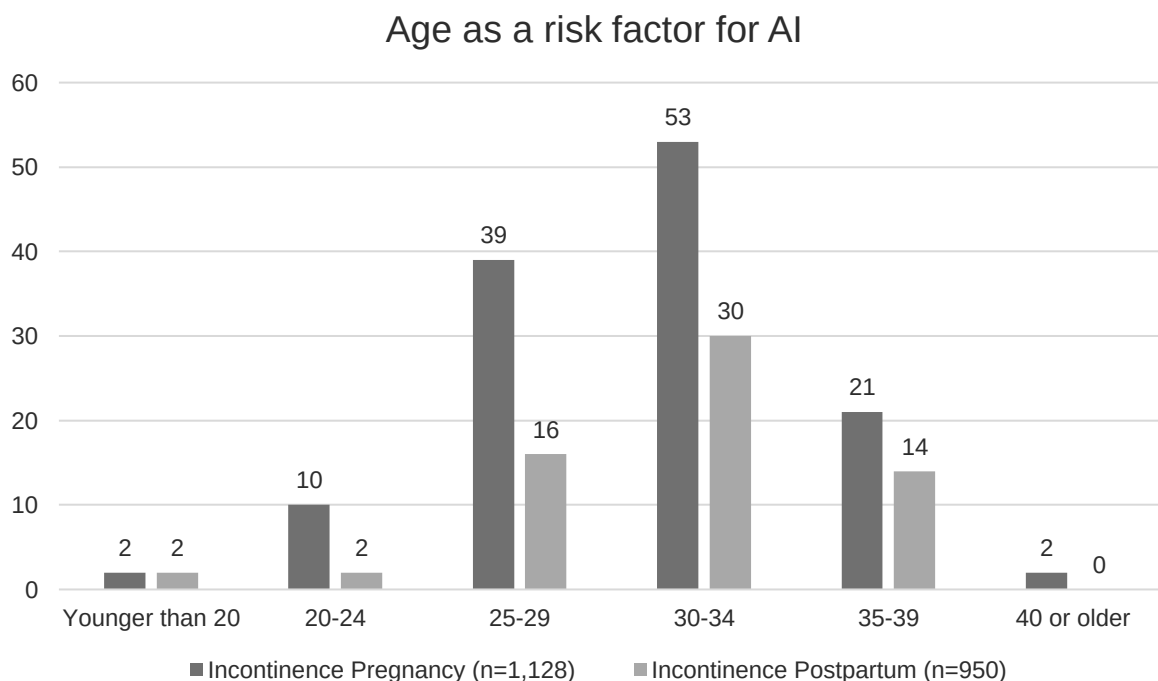


Figure 3: Prevalence of AI in nulliparous women based on age (Solans-Domenech et al., 2010)

Figure 3 displays the occurrence of AI in nulliparous women as a function of age. Women aged between 30 and 34 are the most affected (Solans-Domenech et al., 2010). The twelve-year longitudinal study of MacArthur et al. (2011) questioned women 12 years after birth. The study showed an association between older maternal age at first birth and higher prevalence of PFD symptoms (Table 4). This is in line with a theoretical model by DeLancey. The pelvic floor matures and evolves starting in childhood till it reaches a maximal competence in early life. Beyond this point of maximal capability there is a normal deterioration in function with increasing age. The age when the threshold is exceeded varies from individual to individual. (DeLancey et al., 2008).

Urinary Incontinence	Age at first birth	Total	Symptoms n (%)	OR (95% CI)	P value
	<25	1273	647 (50.8%)	Reference	
	25-29	1492	773 (51.8%)	1.15 (0.99-1.35)	0.073
	30-34	788	443 (56.2%)	1.51 (1.24-1.82)	<0.001
	≥35	199	116 (58.3%)	1.88 (1.36-2.59)	<0.001
Fecal Incontinence					
	<25	1273	175 (13.7%)	Reference	
	25-29	1492	160 (10.7%)	0.83 (0.65-1.05)	0.121
	30-34	788	118 (15%)	1.35 (1.03-1.77)	0.033
	≥35	199	33 (16.6%)	1.62 (1.05-2.50)	0.029

Table 4: Prevalence of UI and AI based on maternal age (MacArthur, Glazener, Lancashire, Herbison, & Wilson, 2011b)

2.2.1.2.2 Maternal weight and BMI.

A high BMI and considerable weight gain during pregnancy and postpartum contribute significantly to the development of UI. The incidence of UI at 30 weeks was higher for women who gained more weight (>4kg) during weeks 0-15. Women who experienced a higher weight gain since the start of the pregnancy to 6 months postpartum were more likely to develop UI than woman with high weight gain in any sub period. The relative risk (RR) for UI increased by 2.3% with each kilogram of weight gain. Weight loss in women who were incontinent during pregnancy between delivery and six months thereafter, was associated with a lower prevalence of UI. The RR for UI decreased by 2.1% for each kilogram of weight loss (Wesnes, Hunskar, Bo, & Rortveit, 2010).

Mckinnie et al. (2005) reported no effect of BMI on the prevalence of AI in contrast to the prevalence of UI. In contrast, the study of Solans-Domenech et al. (2010) indicated that excessive weight gain is a risk factor for AI. In another survey a BMI of 35 or more in the third trimester was associated with the prevalence of incontinence for loose stool (Johannessen et al., 2014). The results of the study by MacArthur et al. (2011) (Table 5) indicate that women with a BMI >30 are at higher risk to develop AI ($p<0.001$) than women with a lower BMI. The suggested cause of AI problems are again, the increasing size of the uterus, which puts pressure on the large bowel, in combination with constantly rising progesterone and estrogen levels (Parés et al., 2016).

Urinary Incontinence	Body Mass Index	Total	Symptoms n (%)	OR (95% CI)	P value
	<18.5	61	29 (47.5%)	0.98 (0.59-1.65)	0.945
	18.5-24.9	1785	839 (47%)	Reference	
	25-29.9	1020	576 (56.5%)	1.55 (1.33-1.82)	<0.001
	>30	642	406 (63.2%)	2.17 (1.80-2.63)	<0.001
Fecal Incontinence					
	<18.5	61	9 (14.8%)	1.49 (0.72-3.09)	0.284
	18.5-24.9	1785	194 (10.9%)	Reference	
	25-29.9	1020	131 (12.8%)	1.21 (0.96-1.54)	0.114
	>30	642	119 (18.5%)	1.90 (1.47-2.44)	<0.001

Table 5: Prevalence of UI and AI as a function of BMI as risk factor (MacArthur et al., 2011b)

2.2.1.3 Risk factors PFD for multiparous women.

2.2.1.3.1 Mode of delivery.

Multiparous women have more often UI throughout pregnancy (first trimester: 34%; second trimester: 43.4%; and third trimester: 67.9%) than nulliparous women (first trimester: 6.1%; second trimester: 25.6%; and third trimester: 40.2%)(Lin et al., 2014). UI is also determined by the method of delivery. Three months after childbirth the prevalence of UI was higher among women who delivered spontaneously by vaginal route than among women who had had a caesarean section (Amaro et al., 2009; Rørtveit & Hannestad, 2014). A Swedish national cohort study in nulliparous women confirmed these findings. Twenty years after childbirth, moderate to severe UI was more prevalent after vaginal delivery (21.3%) than after caesarean section (CS) (13.5%) (Gyhagen et al., 2013) In a Turkish study by Findik et al. (2012) reportedly UI increased from 7.7% after one normal vaginal delivery (NVD) to 31.3% after three NVDs.

Not as much is known about the relation between the delivery mode and AI. Rørtveit (2014) found an odds ratio of 1.3 for women after NVD compared to women who delivered by CS. Operative vaginal delivery, which means vaginal delivery using forceps or vacuum extraction, increases the risk of AI due to the higher risk of anal sphincter rupture (Solans-Domenech et al., 2010).

The prospective PROLONG follow up study by MacArthur et al. (2013) included 3763 responders out of the initial 7879 12 years earlier. After 12 years, the prevalence of AI (without flatus incontinence) was 12.9% (n=487) and the prevalence of persistent flatus incontinence 18.8% (n=709). Persistent AI and flatus incontinence was more likely after one or more forceps deliveries (odds ratio (2.08, 95% confidence interval (CI): 1.53–2.85). But there were no associations found for delivery with vacuum without forceps, women who delivered exclusively by CS or CS after one or more NVDs'.

2.2.1.3.2 Birthweight.

McKinnie et al. (2005) did a prospective study on 1004 participants and found a positive correlation between birthweight of a spontaneously vaginally delivered child and the risk of FI. The OR (95% CI) rose by 1.10 (1.05-1.15) for FI for each additional 450g of birthweight. The baby's birthweight after a NVD is also associated with the prevalence of persisting UI. The McKinnie survey also shows a progressive escalation of risk of UI. There is an odds ratio of 1.13 per extra 454 grams.

2.2.1.4 The influence of AI on the body image.

A woman with AI often feels embarrassed and uncomfortable. To hide spots of dirt in case of accidents or to cover pads they often wear sloppy clothing. This can lead to a lower body image. There are women who believe AI is a normal side effect of childbirth. Consequently, they do not seek medical treatment. Of all women with AI only 10-30% see a physician to seek medical treatment but no numbers were found for the subgroup of pregnant women with AI. The negative psychological effects of FI can also create bonding problems of mothers with their children (Meyer & Richter, 2015). In the study of Johannessen et al. (2013) 1571 nulliparous women were questioned about AI and QoL. Thirty-seven percent (n=212) reported AI during the last four weeks of pregnancy. Of those women, AI was found to affect QoL and mostly in the domains 'Coping' (25%) and 'Embarrassment' (20%).

In a longitudinal study originating from Cincinnati, the link between pregnancy, symptoms of pelvic floor dysfunctions and body image was investigated as well. Although the researchers hypothesized a negative impact of pregnancy on pelvic floor function and an association between low body image and bowel complaints, no significant relationship was found. They however came to the conclusion that the timing of the impact of AI on the body image and on QoL are different. The impact of AI on QoL is the largest during pregnancy whereas the impact of AI on the body image is the greatest in the postpartum (Pauls, Occhino, Dryfhout, & Karram, 2008).

2.2.2 Sexual function during pregnancy and in the postpartum.

Measuring sexual function in an objective way is complicated because it is associated with individual and cultural beliefs. In a population-based study in the USA the most common sexual dysfunctions were: lack of interest in sex, inability to achieve orgasm, pain during sex and not enjoyable (Aschkenazi & Goldberg, 2016). This study was not exclusively in pregnant women but following Von Sydow (1998) it's applicable for pregnant women (Gijs et al., 2009). In the study by Pauleta, Pereira, & Graça (2010) 194 pregnant women were polled about their sexual perceptions and activities. Of these women 75.4% (n=138) did not report sexual dysfunction, 10.9% (n=20) reported lower desire, 9.8% (n=18) had dyspareunia, 6.6% (n=12) had anorgasmia and difficulty in lubrication was reported by 4.4% (n=8).

2.2.2.1 Pregnancy and the effect on the sexual function.

Pregnancy is a life changing event in both the women's life as well as for the couple. It is a transitional period with a unique combination of hormonal, emotional and physical changes. Because this period is so distinctive it may have an influence on the sexual experiences of the women and can interfere with quality of the relationship of the couple (Sagiv-Reiss, Birnbaum, & Safir, 2011). In the study by Pauleta et al. (2010) 78 out of 194 (41.5%) women stated to feel less attractive or sensual during pregnancy.

A Turkish study demonstrated several effects of pregnancy on sexuality. Of all questioned women, 0.4% (4/1026) never had sexual intercourse in the pre-pregnancy period and there is no further information about how those women got pregnant. This percentage, of sexually inactive, increased to 5.8% (59/1026) during pregnancy. Frequency of sexual intercourse was lower during pregnancy than before: whereas 78.3% (804/1026) of couples had a least twice per week intercourse prior to pregnancy, this dropped to 37.9% (389/1026) during pregnancy. This drop in activity was progressive over gestation (Efe et al., 2014)

These investigators also enquired about the occurrence of an orgasm. Along the same lines, the frequency of orgasm dropped significantly during pregnancy (Table 6) as compared to before pregnancy. The percentage of women never reaching an orgasm was lowest in the second trimester (18%). In the first (25%) and third trimester (28%) the percentage was significantly higher. Compared to the pre-pregnancy period, orgasms during pregnancy were significantly less frequent yet there was an increase in orgasms during the second trimester.

Orgasm	Pre-pregnancy (n,%)	Pregnancy (n,%)	p
Never	111 (10.8%)	223 (21.7%)	<0.05
Sometimes	515 (50.2%)	497 (48.4%)	<0.05
Frequently	251 (24.5%)	148 (14.4%)	<0.05
Always	147 (14.3%)	100 (9.7%)	<0.05

Table 6: Comparison of orgasm rates between pregnancy and pre-pregnancy period (Efe et al., 2014)

Female sexual desire and satisfaction remained similar in most pregnant women, which is in contrast with the observed drop in frequency of sexual intercourse. Several studies demonstrated that a high percentage of pregnant woman believe that intercourse could be harmful to the pregnancy and fetus (Santiago, da Silva Lara, Romao, da Mata Tiezzi, & de Sa Rosa e Silva, 2013). In the study of Bartellas, Crane, Daley, Bennett, & Hutchens (2000) 49% (n=69) women reported to be anxious about harming the pregnancy during sexual intercourse. In the review of Santiago et al. (2013) the main reason for reduced sexual activity during pregnancy, out of 24 articles, were exhaustion and fatigue.

Sexuality in the postpartum

Around two months after delivery, 50% of women are sexually active again (Gijs et al., 2009). Mode of delivery does not affect sexual activity in the postpartum period (Faisal-Curt, Menezes, Quayle, Matijasevich, & Diniz, 2015)

Sexual function in the postpartum is dependent on the level of sexual activity in the pre-pregnancy period. In the postpartum period there is a drop in orgasms but the sexual satisfaction remains the same (Yıldız, 2015).

2.2.2.2 Body image and the effect on the sexual function.

Body image can have an effect on the sexual function; more specifically, body image can be a predictor for sexual satisfaction. Appearance is an important part of the human sexual experience. During pregnancy, the appearance or look changes over time as the shape and size of the body change. This can result in more body dissatisfaction due these negatively perceived changes (Santiago et al., 2013; Skouteris et al., 2005). A negative body image is associated with sexual dysfunction (Santiago et al., 2013) .

2.2.2.3 Pelvic floor dysfunction and the effect on the sexual function.

An additional factor that could impair sexual function is the occurrence of PFD. Research about this topic is rare, with to our knowledge no data on Flemish women. In this review, we were unable to find any relevant literature about the effect of PFD on the sexual function of pregnant women. Therefore, I searched for literature about the effects of PFD on sexual function in women in general, though the mean age of respondents was on average 55 year (Imhoff et al., 2012; Pauls, Rogers, Parekh, Pitkin, & Kammerer-Doak, 2014).

In the cross-sectional study of Imhoff et al. (2012), the impact of AI on women's sexuality was investigated in 2269 women at a mean age of 55 years. Of those 2269 women 24% reported AI without flatus incontinence and 43% reported flatus incontinence only. The majority (60%) remained sexually active. Women with AI without flatus incontinence were more likely to report low sexual desire (OR: 1.41, CI: 1.10-1.82), low satisfaction (OR: 1.55, CI: 1.14-2.12), difficulties with lubrication (OR: 2.66, CI: 1.76-4.00) pain (OR: 2.44, CI: 1.52-3.91) and decrease in orgasms (OR: 1.68, CI: 1.12-2.51) than women without AI/flatus incontinence after adjustment for confounders. The occurrence of AI is a risk factor for several sexual dysfunctions. But even with AI most of the women remain sexually active what indicates that sexual function is an important part of a women's life.

3. SURVEY

3.1 Materials and methods

3.1.1 Research questions.

The aim of this master's thesis was to answer the following questions in a local, Flemish population of pregnant women:

- *“What is the prevalence of PFD, more specific UI and AI, during pregnancy?”*
- *“Have women with any form of PFD, more specific UI and/or AI, more body disturbance than women without any form of PFD?”*
- *“How does sexual function evolve true pregnancy?”*

Due the limited time of the researcher the questionnaires answered in the postpartum were not included in the analysis.

3.1.2 Procedure.

This is a prospective, longitudinal monocentric study. Participants were recruited between July 2016 and December 2016 at the first trimester screening clinic of the University Hospitals Leuven. Dutch speaking, women, visiting for their first trimester scan (11-14th week of pregnancy), were invited to participate in the study. They were informed about the purpose of the study and the practical needs; three questionnaires to fill in on three different moments (first trimester, third trimester and postpartum). The questionnaires questioned demographic data, PFD, body image and sexual function and would take five till ten minutes to fill in. Women who agreed to cooperate with the study received a document with info, an informed consent in duplicate (annex 1), three questionnaires (annex 2; annex 3, annex 4) and two stamped envelopes. The women needed to fill in the first questionnaire in the waiting room to reduce a first drop-out after the agreement to participate.

In their 27th week of pregnancy the women were remembered by email to fill in the second questionnaire about the third trimester of pregnancy. A mail reminder was sent every week, for four weeks, if the questionnaire was not received. When the questionnaire was not received after four weeks the researcher contacted the women by text message. This procedure was repeated eight weeks after birth for the questionnaire in the postpartum period.

3.1.3 Questionnaires.

Questionnaires used in this research are based on the questionnaires used in the survey of Lenaerts (2015). On the other hand, the questioning in this research was more extensive. Two Dutch, validated questionnaires were included on top of the questionnaires used in the study of Lenaerts (2015); Wexner Score to measure anal incontinence and the PISQ-12 for the sexual function.

3.1.3.1 Demographic questionnaire.

The demographic questionnaire questioned 15 variables. The same questions were asked as in the survey of Lenaerts (2015):

- Weeks of pregnancy
- Obstetric prehistory: number of children, birthweight and mode of delivery
- Age and date of birth
- Marital status
- Academic degree
- Profession (intensity)
- Physical exercise

Some of the questions were modified to be more specific:

- Obstetric prehistory: the women needed to fill in per child; birthweight and mode of delivery. In the survey of Lenaerts (2015) these questions were asked in general. Therefore, there was no distinction between mode of delivery of the first, second, third...child.
- Profession: '*lichamelijk intensief*' was more specified with '*tillen, heffen...*' and '*lichamelijk niet intensief*' with '*bureauwerk...*'. Lenaerts (2015) noticed that some women checked off both and for that reason the specification of the variables were added in this survey.

The second demographic questionnaire, about the third trimester, was limited. Questions in this questionnaire were:

- Weeks of pregnancy
- Profession: with an extra option '*ik werk niet meer*'
- Length and maternal weight
- Physical exercise

The questions in the third demographic questionnaire, about the postpartum were:

- Date of most recent childbirth
- Mode of delivery: '*Spontane vaginale bevalling*', '*Vaginale bevalling met zuignap (ventouse)*', '*Vaginale bevalling met verlostang (forceps)*', '*Keizersnede*'.
- Weight of the baby at birth
- Actual weight of the mother
- Question about the health of the baby and description of the problem when answered '*nee*'
- Breastfeeding

3.1.3.2 Body Image Disturbance Questionnaire.

The Dutch, validated Body Image Disturbance Questionnaire or BIDQ is a tool, consisting of seven items, to measure the dissatisfaction of a person with his own body, in general or certain body parts. It shows the impact of the dissatisfaction emotionally, socially and functionally. The questionnaire contains seven items and five sub items. The seven main items are questioned based on the Likert-scale. The five sub items could be used to specify the main question (Cash, Phillips, Santos, & Hrabosky, 2004; Lenaerts, 2015)

The BIDQ was used to measure disturbance in a clinical population versus a control group. In this survey, pregnant women with any form of PFD were the clinical group and the pregnant women without a form of PFD were the control group. The ordinal scores on the BIDQ were summed and the mean was calculated. The mean of the clinical group was then compared to the mean of the control group to see if there was a significant difference between both. In this study the Dutch version of the BIDQ was used (Cash et al., 2004; Lenaerts, 2015)

In this manuscript, we used:

Item 1: Concern	Item 5: Social disturbance
Item 2: Mental preoccupation	Item 6: Functional disturbance
Item 3: Emotional distress	Item 7: Avoidance
Item 4: Limitations	

1A. Are you concerned about the appearance of some part(s) of your body, which you consider especially unattractive? (Circle the best answer)

1	2	3	4	5
Not at all concerned	Somewhat concerned	Moderately concerned	Very concerned	Extremely concerned

1B. What are these concerns? What specifically bothers you about the appearance of these body parts?

2A. If you are at least somewhat concerned, do these concerns preoccupy you? That is, you think about them a lot and they're hard to stop thinking about? (Circle the best answer)

1	2	3	4	5
Not at all preoccupied	Somewhat preoccupied	Moderately preoccupied	Very preoccupied	Extremely preoccupied

2B. What effect has your preoccupation with your appearance had on your life? (Please describe)

3A. Has your physical "defect" often caused you a lot of distress, torment, or pain? How much? (Circle the best answer)

1	2	3	4	5
No distress	Mild, and not too disturbing	Moderate and disturbing but still manageable	Severe, and very disturbing	Extreme, and disabling

4A. Has your physical "defect" caused you impairment in social, occupational or other important areas of functioning? How much? (Circle the best answer)

1	2	3	4	5
No limitation	Mild interference but overall performance not impaired	Moderate, definite interference, but still manageable	Severe, causes substantial impairment	Extreme, incapacitating

5A. Has your physical "defect" significantly interfered with your social life? How much? (Circle the best answer)

1	2	3	4	5
Never	Occasionally	Moderately often	Often	Very often

5B. If so, how?

6A. Has your physical "defect" significantly interfered with your schoolwork, your job, or your ability to function in your role? How much? (Circle the best answer)

1	2	3	4	5
Never	Occasionally	Moderately often	Often	Very often

6B. If so, how?

7A. Do you ever avoid things because of your physical "defect"? How often? (Circle the best answer)

1	2	3	4	5
Never	Occasionally	Moderately often	Often	Very often

7B. If so, what do you avoid?

Note: Requests for this measure and permission for its use should be sent to the first author.

Figure 4: The original BIDQ with seven main items and five sub items.

3.1.3.3 Incontinence Questionnaire.

The 3 Incontinence Questionnaire or 3IQ is a simple questionnaire with three questions. The aim of the 3IQ is to differentiate stress incontinence and urge incontinence. Figure 4 shows the 3IQ. The subtype of UI, of women who answered 'yes' on the first question, is defined based on the answer of the third question (J. Brown et al., 2006). In this study, the Dutch validated version of the 3IQ was used.

1. During the last 3 months, have you leaked urine (even a small amount)?

☐ Yes

☐ No

Questionnaire completed.

2. During the last 3 months, did you leak urine:
(Check all that apply.)

- ☐ a. When you were performing some physical activity, such as coughing, sneezing, lifting, or exercise?
- ☐ b. When you had the urge or the feeling that you needed to empty your bladder, but you could not get to the toilet fast enough?
- ☐ c. Without physical activity and without a sense of urgency?

3. During the last 3 months, did you leak urine *most often*:
(Check *only one*.)

- ☐ a. When you were performing some physical activity, such as coughing, sneezing, lifting, or exercise?
- ☐ b. When you had the urge or the feeling that you needed to empty your bladder, but you could not get to the toilet fast enough?
- ☐ c. Without physical activity and without a sense of urgency?
- ☐ d. About equally as often with physical activity as with a sense of urgency?

Definitions of type of urinary incontinence are based on responses to question 3:

Response to Question 3	Type of Incontinence
a. Most often with physical activity	Stress only or stress predominant
b. Most often with the urge to empty the bladder	Urge only or urge predominant
c. Without physical activity or sense of urgency	Other cause only or other cause predominant
d. About equally with physical activity and sense of urgency	Mixed

Figure 5: The 3IQ and definition of type of UI based on the third question (J. Brown et al., 2006)

3.1.3.4 Wexner Score.

The Wexner (Cleveland Clinic) Score was used to quantify the consistency and frequency of anal incontinence (Bharucha, 2008). In the left column three sub items are questioned: type of incontinence (item 1-3), use of pads (item 4), effect on quality of life (item 5) (Jorge & Wexner, 1993).

Wexner	Frequentie				
Type incontinentie	Nooit	Zelden; <1x/maand	Soms; <1x/week	Vaak; ≥1x/week	Altijd; ≥1x/dag
Vast	0	1	2	3	4
Vloeibaar	0	1	2	3	4
Gas	0	1	2	3	4
Gebruik beschermend materiaal	0	1	2	3	4
Invloed op levensstijl	0	1	2	3	4

Figure 6: The Dutch validated version of the Wexner Score (Jorge & Wexner, 1993)

3.1.3.5 PISQ-12.

Reduced quality of life is common in women who suffer from PFD. Therefore, it is important to evaluate their sexual function. The PISQ-12 is a short-form of the PISQ-31. This condition-specific questionnaire evaluates sexual function in women who suffer from PFD. The questionnaire includes three domains: behavioral-emotive (items 1-4), physical (items 5-9) and partner-related (items 10-12). A five-point Likert scale ranging from 0 (altijd) to 4 (nooit) is used to grade the responses. The maximum score is 48 and items 1-4 are reversely scored. A high score indicates better sexual function. The PISQ-12 is a single sexual function score ('t Hoen et al., 2015).

Seksueel functioneren

Vraag vooraf: Bent u seksueel actief?

- ☐ Ja; ga verder met het invullen van de vragenlijst
☐ Nee; deze vragenlijst is niet voor u van toepassing

1. Hoe vaak verlangt u naar seks? Dit verlangen kan bestaan uit het willen hebben van seks, het plannen van seks, gevoelens van frustratie door een gebrek aan seks, enzovoorts.

- ☐ Dagelijks ☐ Wekelijks ☐ Maandelijks ☐ Minder dan 1 keer per maand ☐ Nooit

2. Heeft u een orgasme tijdens geslachtsgemeenschap met uw partner?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

3. Voelt u zich seksueel opgewonden tijdens seksuele activiteiten met uw partner?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

4. Hoe tevreden bent u over de afwisseling in seksuele activiteiten in uw huidige seksleven?

- ☐ Zeer tevreden ☐ Redelijk tevreden ☐ Noch tevreden, noch ontevreden
☐ Redelijk ontevreden ☐ Zeer ontevreden

5. Heeft u pijn tijdens geslachtsgemeenschap?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

6. Heeft u ongewenst urineverlies tijdens seksuele activiteiten?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

7. Wordt u in uw seksuele activiteiten beperkt door angst voor ongewenst verlies van ontlasting of urine?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

8. Vermijdt u geslachtsgemeenschap vanwege een uitstulping in de vagina (verzakking van blaas, endeldarm of vagina)?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

9. Wanneer u seks heeft met uw partner, heeft u dan negatieve emotionele reacties, zoals angst, afkeer, schaamte of schuldgevoel?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

10. Heeft uw partner een erectieprobleem dat uw seksuele activiteiten beïnvloedt?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

11. Heeft uw partner een probleem met voortijdige zaadlozing dat uw seksuele activiteiten beïnvloedt?

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

12. Hoe intens zijn de orgasmen die u in de afgelopen 6 maanden heeft gehad in vergelijking met orgasmen in het verleden?

- ☐ Veel minder intens ☐ Minder intens ☐ Dezelfde intensiteit ☐ Meer intens
☐ Veel meer intens

13.a Bent u tevreden met uw seksueel functioneren?

- ☐ Ja, ik ben tevreden
☐ Neen; ga door met beantwoording van vraag 13b

13.b Levert dit stress op voor u en/of stress in uw relatie? (alleen invullen als u 13.a met neen hebt beantwoord)

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

Figure 7: The Dutch validated version of the PISQ-12 ('t Hoen, Utomo, Steensma, Blok, & Korfage, 2015)

3.1.4 Statistical analysis.

Data storage and statistical analyses were made in SPSS. The profile of the drop-outs, i.e. women who filled in the first questionnaire, was compared to the profile of the respondents, women who filled in two questionnaires. The T-test was used to compare continuous variables and chi-square test for categorical variables. The independent samples t-test was used to compare the variables on interval level (age, BMI, BIDQ score...) between the incontinent group and continent group. The Mann-Whitney U test was used to compare categorical variables (academic degree, marital status, profession...) between two groups.

The paired samples t-test was used to compare the mean difference between two sets of observations from individuals during pregnancy. The Wilcoxon signed-rank test measures the same but for the categorical variables. Differences were considered significant when p-value was less than 0.05.

The mean of the mean BIDQ score was used to separate the group of sexual active women. In this manuscript, a BIDQ score *higher* than the average means more body image disturbance and therefore a lower body image (Skouteris et al., 2005).

3.1.5 Ethics Committee.

This study was approved by Ethics Committee of the Faculty of Medicine on the 12th of April 2016.

3.2 Results

3.2.1 Participants.

The aim of this study was to recruit 200 women. Based on a previous study on Flemish women (Lenaerts, 2015) with an exclusion rate of 20%, refusal rate of 58% and a drop-out of 20%, a total of 400 women were to be invited.

Around 289 women visited the first trimester clinic at the University Hospitals Leuven when the researcher was present (Figure 8). Foreign language speaking women (n=76) were excluded (exclusion rate 26.3%), hence 212 were invited. Of these, eight refused to participate (3,7%). As a consequence, 204 women agreed to fill in the first questionnaire (participants). The second questionnaire, in the third trimester of pregnancy, was filled in by 146 women (respondents), which means the dropout rate was 28.4%.

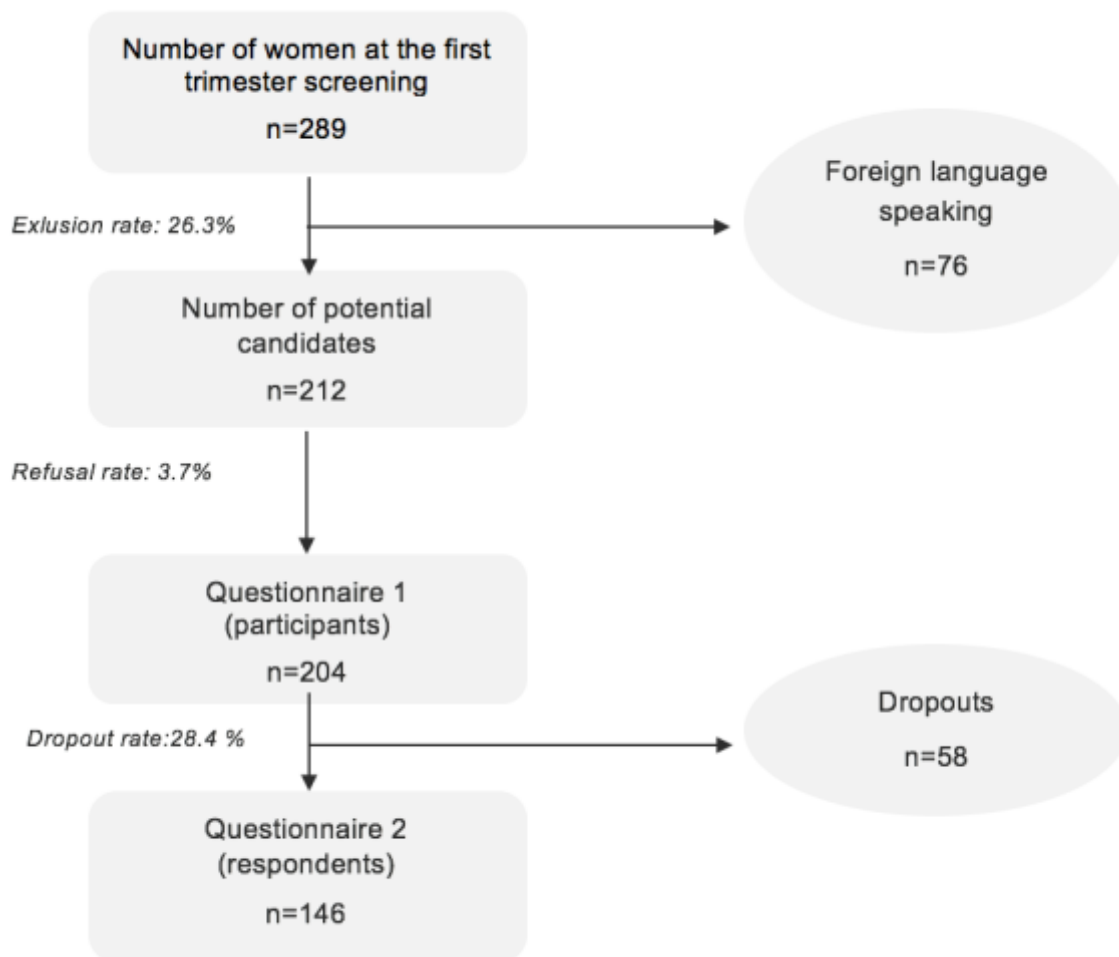


Figure 8: overview of the research process

3.2.2 Profile of the drop-outs.

Tables 7-10 compare the profiles of respondents and drop-outs. In terms of demographic variables, Body Image Disturbance Questionnaire, characteristics of previous delivery and incontinence scores.

Variables	Respondents n=146	Drop outs n=58	P-value
Age (year)	30.4 ± 3.7	31.0 ± 5.1	0.413
BMI (kg/m²)			0.347
Underweighted (<20)	12 (8.2%)	4 (6.9%)	
Normal weight (20-25)	88 (60.3%)	33 (56.9%)	
Overweighted (25-30)	35 (24.0%)	13 (22.4%)	
Obesity (>30)	11 (7.5%)	8 (13.8%)	
Weeks of pregnancy	12.2 ± 0.6	12.1 ± 0.6	0.438
Parity			0.058
Nulliparous	81 (55.5%)	25 (43.1%)	
Multiparous	65 (44.5%)	33 (56.9%)	
Marital status			0.001
Married	76 (52.1%)	23 (39.7%)	
Cohabiting	68 (46.6%)	30 (51.7%)	
Relationship without cohabitating	2 (1.4%)	4 (6.9%)	
Single	-	1 (1.7%)	
Academic degree			0.336
Secondary education (second degree)	5 (3.4%)	1 (1.7%)	
Secondary education (third degree)	27 (18.5%)	15 (25.9%)	
Higher education (three years)	35 (24.0%)	14 (24.1%)	
Higher education (four years)	10 (6.8%)	1 (1.7%)	
University degree	59 (40.4%)	21 (36.2%)	
Postgraduate/doctorate	10 (6.8%)	6 (10.3%)	
Profession			0.653
Sitting	82 (56.2%)	34 (58.6%)	
Standing	60 (41.1%)	22 (37.9%)	
Not working	4 (2.7%)	2 (3.4%)	
Intensity			0.830
Intensive	45 (31.6%)	17 (30.4%)	
Not-intensive	97 (68.3%)	39 (69.6%)	
Physical exercise			0.001
<90min/week	100 (68.5%)	51 (87.9%)	
>90min/week	46 (31.5%)	7 (12.1%)	

Table 7: Demographic variables of respondents and drop-outs

Variables	Respondents n=65	Drop-outs n=33	P-value
Mode of delivery			0.034
SVD	47 (72.3%)	18 (54.5%)	
Ventouse	6 (9.2%)	6 (18.2%)	
Forceps	4 (6.2%)	1 (3.0%)	
Caesarean section	8 (12.3%)	8 (24.2%)	
Birthweight heaviest child (g)	3292.6 ± 571.5	3312 ± 382.0	0.801

Table 8: Characteristics of one of previous deliveries of multiparous respondents and drop-outs

BIDQ Scores	Respondents n=146	Drop-outs n=58	P-value
Concern	1.92 ± 0.965	2.09 ± 0.942	0.184
Mental preoccupation	1.62 ± 0.753	1.76 ± 0.865	0.227
Emotional distress	1.47 ± 0.735	1.52 ± 0.778	0.645
Limitations	1.21 ± 0.487	1.26 ± 0.715	0.606
Social disturbance	1.22 ± 0.544	1.22 ± 0.497	0.950
Functional disturbance	1.13 ± 0.566	1.22 ± 0.702	0.311
Avoidance	1.30 ± 0.603	1.33 ± 0.632	0.741
Mean	1.41 ± 0.47	1.49 ± 0.54	0.830

Table 9: Body Image Disturbance Questionnaire scores of respondents and drop-outs

UI First trimester	Respondents n=146	Drop-outs n=58	P-value
Yes	36 (24.7%)	14 (24.1%)	0.927
No	110 (75.3%)	44 (75.9%)	
Type			0.284
Stress	20 (55.5%)	11 (78.6%)	
Urge	10 (27.7%)	1 (7.1%)	
Any Other	3 (8.3%)	1 (7.1%)	
Mixed	3 (8.3%)	1 (7.1%)	
AI First trimester			
Yes	77 (52.7%)	34 (58.6%)	0.448
No	69 (47.3%)	24 (41.4%)	
Wexner mean	4.68 ± 3.35	4.32 ± 3.10	0.593

Table 10: Urinary and fecal incontinence scores of respondents and drop-outs

Sexual function	Respondents n=143	Drop-outs n=58	P-value
PISQ-12 score	40.46 ± 1.2	41.08 ± 1.2	0.153
Satisfying sex life			0.410
Yes	115 (80.4%)	45 (84.9%)	
No	28 (19.6%)	8 (15.1%)	

Table 11: Sexual function of respondents and drop-outs

There was a significant difference for three variables. In the group of respondents more women were married ($p=0.001$). Women in the drop-out group were more likely to exercise less than 90 minutes a week ($p=0.001$). There was a difference in the mode of previous delivery. Multiparous respondents had significantly more normal vaginal deliveries. There was no difference in BIDQ score, UI or AI.

3.2.3 Demographic characteristics of respondents.

3.2.3.1 Weeks of pregnancy.

At the first questionnaire, the mean duration of pregnancy was 12.2 ± 0.6 weeks (range; 10-15 weeks). At the second questionnaire, which had to be filled out between 26 and 32 weeks, the mean gestation was 28.6 ± 1.9 weeks (range; 23-34 weeks). In total, eight women (5%) answered out of the pre-set range, but were not excluded in this analysis. The mean interval between the two time points was 16.4 ± 2.0 weeks (range; 11-22 weeks).

3.2.3.2 Previous pregnancies.

More than half of the respondents (55.5%) were nulliparous. Of the multiparous women (44.5%) 19 women (13%) had delivered more than one child.

Mode of previous delivery

The multiparous women were asked to answer how they delivered the first child. Of the 65 women 72.3% ($n=47$) had a spontaneous vaginal delivery, 9.2% ($n=6$) had a vacuum extraction, 6.2% ($n=4$) a forceps extraction 12.3% ($n=8$) had a caesarean section.

Birth weight heaviest child

Of the 65 multiparous women 58 filled in the weight of their heaviest child. The mean weight for that child was 3292.6 ± 572.5 gram (range; 1370-4550g).

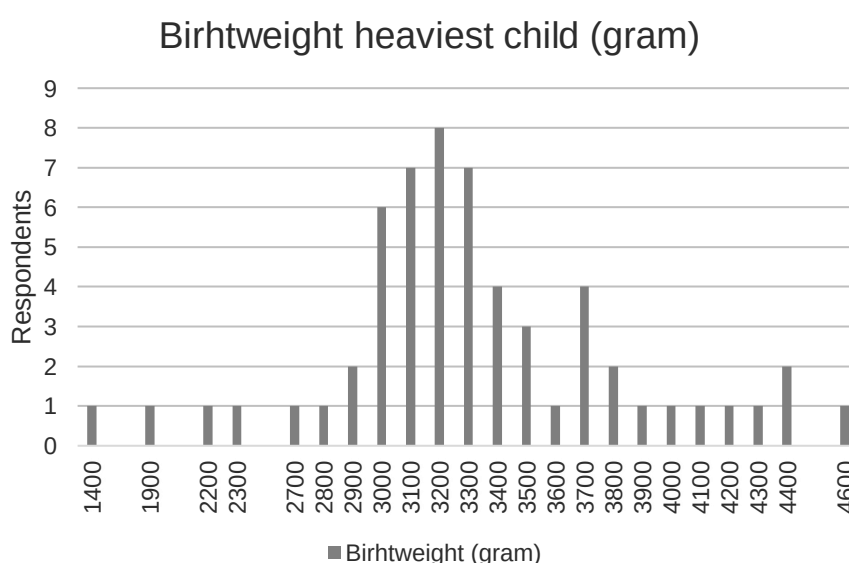


Figure 9: Charts of the distribution of birthweight of the heaviest child, per 100 grams.

3.2.3.3 Age.

The mean age of the 146 respondents was 30.38 ± 3.68 years (range 20 till 40 years) (Figure 10)

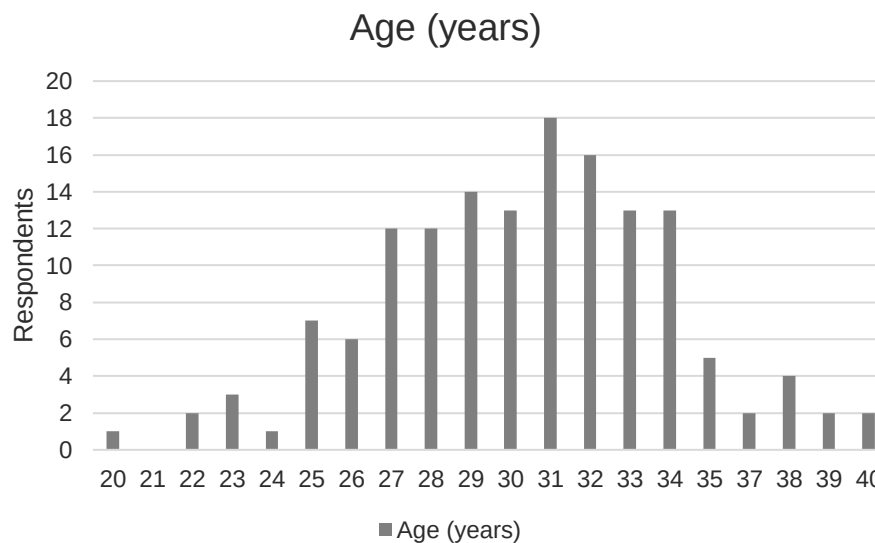


Figure 10: Charts of the respondents based on age, showing a normal distribution.

3.2.3.4 Body Mass Index.

As well length as weight were normally distributed in the first and third trimester. The mean length was 167.1 ± 6.1 cm, mean weight in the first trimester was 66.0 ± 11.5 kg (range; 48-118 kg) and in the third trimester 74.1 ± 12.0 kg (range; 53-118 kg). In the first trimester, the mean BMI was 23.6 ± 3.9 kg/m² (range; 17-40 kg/m²) and 26.5 ± 4.0 kg/m² (range; 19-43 kg/m²) in the third trimester.

BMI (kg/m ²)	First trimester n=146	Third trimester n=146
Underweighted	12 (8.2%)	1 (0.7%)
Normal weight	88 (60.3%)	45 (30.8%)
Overweighted	35 (24.0%)	74 (50.7%)
Obesity	11 (7.5%)	26 (17.8%)

Table 12: Frequency distribution of the BMI score as either underweighted, normal weight, overweight or obese

3.2.3.5 Marital status.

Seventy-six women (52.1%) of the 146 respondents were married, 68 (46.6%) are cohabitating, 2 (1.4%) were in a relationship but not cohabitating and none of them were single. Excluding the last two categories, the distribution was even between two groups.

3.2.3.6 Academic degree.

The highest academic degree of 32 women (21.9%) was secondary education. Forty-five (30.8%) women had a professional bachelor and 69 (47.2%) a University degree.

3.2.3.7 Profession.

Four women (2.7%) did not work during the first trimester of pregnancy. Of the women who did, 57.7% (n=82) had a profession where they mainly sit and 42.3% (n=60) had a profession where they mostly stand. They were also asked if their job was physically intensive. Most of the women (68.4%, n=97) answered this was not the case; leaving 45 women (31.7%) categorizing their profession as physically intensive. Of this last group only one woman had a job where she was mainly sitting.

Forty-six women (31.5%) did not working anymore by the third trimester, 83 (56.8%) reported a job where they were mostly sitting and 17 (11.6%) still having a standing job. Of the 60 women with a standing job in the first trimester, 35 (58.3%) were not working anymore in the third trimester.

The largest group of women (90%, n=90) who still work during the third trimester had a less intensive job and only ten women (10%) had a job that was physically intensive.

		First trimester n=142	Third trimester n=142
Profession			
	Sitting	82 (57.7%)	83 (56.8%)
	Standing	60 (42.3%)	17 (11.6%)
	Not working	4 (2.7%)	46 (31.5%)
Intensity			
	Intensive	45 (31.7%)	10 (10%)
	Not intensive	97 (68.3%)	90 (90%)

Table 13: Type of profession among the working participants.

3.2.3.8 Physical exercise.

The time women spent on physical exercise was also polled. In the first trimester, 100 women (68.5%) exercised less than 90 minutes per week hence 46 women (31.5%) spent more than 90 minutes per week exercising. In the third trimester, 107 women (73.3%) spent less than 90 minutes exercising and 39 women (26.7%) spent more than 90 minutes on exercises.

3.2.4 Body image disturbance.

3.2.4.1 Evolution of the body image through pregnancy.

BIDQ scores	First trimester n=146	Third trimester n=146	P-value
Concern	1.92 ± 0.97	1.95 ± 0.81	0.664
Mental preoccupation	1.95 ± 0.81	1.62 ± 0.73	0.000
Emotional distress	1.47 ± 0.74	1.84 ± 0.85	0.000
Limitations	1.21 ± 0.49	1.50 ± 0.81	0.000
Social disturbance	1.22 ± 0.54	1.47 ± 0.81	0.000
Functional disturbance	1.13 ± 0.57	1.38 ± 0.90	0.002
Avoidance	1.30 ± 0.60	1.62 ± 0.92	0.000
Mean score	1.41 ± 0.47	1.66 ± 0.65	0.000

Table 14: Evolution of the BIDQ scores true pregnancy

Table 14 displays the evolution of BIDQ scores through pregnancy. In all categories, the difference between the first and third trimester was significant. Women in the third trimester had less mental preoccupations while in all other topics, women showed more disturbance in the third trimester than in the first. The overall mean score shows more disturbance or a lower body image in the third trimester.

3.2.4.2 Influence of profession on BIDQ score.

Focused on the items Limitations, Social disturbance, Functional disturbance and Avoidance no difference was noticed in women with a profession mainly standing than women with a profession mostly sitting in the first trimester (Table 15).

BIDQ scores	Sitting n=82	Standing n=60	P-value
Limitations	1.26 ± 0.54	1.17 ± 0.42	0.287
Social disturbance	1.28 ± 0.65	1.15 ± 0.36	0.164
Functional disturbance	1.13 ± 0.64	1.13 ± 0.47	0.993
Avoidance	1.37 ± 0.69	1.22 ± 0.45	0.149

Table 15: BIDQ score based on profession in the first trimester (n=142)

In the third trimester difference is noticed in two scores. Women with a profession mostly sitting show more limitations and avoidance (Table 16).

BIDQ scores	Sitting n=83	Standing n=17	P-value
Limitations	1.49 ± 0.72	1.06 ± 0.24	0.016
Social disturbance	1.43 ± 0.77	1.18 ± 0.39	0.183
Functional disturbance	1.28 ± 0.61	1.06 ± 0.24	0.152
Avoidance	1.63 ± 0.82	1.12 ± 0.33	0.014

Table 16: BIDQ score based on profession in the third trimester (n=100)

In the third trimester 46 women (31.5%) were not working. Those women showed more functional disturbance than women who still worked during the time of inquiry (Table 17).

BIDQ scores	Working n=100	Not working n=46	P-value
Limitations	1.42 ± 0.68	1.67 ± 1.01	0.077
Social disturbance	1.39 ± 0.72	1.63 ± 0.95	0.094
Functional disturbance	1.24 ± 0.57	1.70 ± 1.31	0.004
Avoidance	1.54 ± 0.78	1.78 ± 1.153	0.139

Table 17: BIDQ score based on participants who were still working and those who stopped working (n=146)

Intensity of the profession

In the first trimester, there was no difference in BIDQ score (Table 18). In the third trimester women with a less intensive job reported more avoidance than those with an intensive profession (Table 19).

BIDQ scores	Intensive n=45	Not intensive n=97	P-value
Limitations	1.16 ± 0.42	1.25 ± 0.52	0.268
Social disturbance	1.13 ± 0.34	1.27 ± 0.62	0.176
Functional disturbance	1.18 ± 0.54	1.11 ± 0.59	0.521
Avoidance	1.20 ± 0.41	1.35 ± 0.68	0.170

Table 18: BIDQ score based on intensity of the profession (n=142) in the first trimester

BIDQ scores	Intensive n=10	Not intensive n=90	P-value
Limitations	1.10 ± 0.32	1.46 ± 0.71	0.120
Social disturbance	1.10 ± 0.32	1.42 ± 0.75	0.183
Functional disturbance	1.10 ± 0.32	1.26 ± 0.59	0.204
Avoidance	1.00 ± 0.00	1.60 ± 0.80	0.021

Table 19: BIDQ score based on intensity of the profession (n=100) in the third trimester

3.2.4.3 Influence of recreational exercise on the BIDQ score.

There was no difference in BIDQ score between women who exercised more than 90 minutes per week and those who exercised less than 90 minutes per week at any of the two time points (Table 20).

BIDQ scores	<90 min/week	>90 min/week	P-value
Mean score first trimester	1.42 ± 0.50	1.38 ± 0.42	0.608
Mean score third trimester	1.61 ± 0.63	1.79 ± 0.67	0.134

Table 20: Mean BIDQ scores based on time spend on exercises in the first and third trimester. First trimester n=100 for '<90min/week' and n=46 for '>90min/week'. Third trimester n= 107 and n=39

3.2.4.4 Summary BIDQ score.

There was a significant increase in body image disturbance with time, except for one item. Women had less mental preoccupations in the third trimester, for all other items, women scored higher. Women with a profession where they mainly sit reported more social and functional limitations and avoidance. Also, more functional disturbance was expressed by women who did not work anymore during the third trimester in comparison with women who were still working. Physical exercise had no influence on the BIDQ score during pregnancy.

3.2.5 Urinary incontinence.

3.2.5.1 Prevalence of UI before pregnancy.

Women were asked about their urinary incontinence prior to the pregnancy. Twenty-eight women (19.2%) reported symptoms of involuntary loss of urine prior to pregnancy, the vast majority stress incontinence (78.6%; n=22) and 21.4% had urge incontinence (n=6). The BMI of women with UI before the index pregnancy was significantly higher than women without UI. There was no difference in the mean age of women with or without UI (Table 21).

	UI before pregnancy n=28	No UI n=128	P-value
BMI	25.10 ± 5.31	23.25 ± 3.35	0.022
Underweighted (<20)	3 (10.7%)	9 (7.6%)	0.034
Normal weight (20-25)	11 (39.3%)	77 (65.3%)	
Overweighted (25-30)	8 (28.6%)	27 (22.9%)	
Obesity (>30)	6 (21.4%)	5 (4.2%)	
Age	31.5 ± 3.83	30.12 ± 3.61	0.074

Table 21: Comparison of the risk factors for UI of women with and without UI before their pregnancy

3.2.5.2 Prevalence of UI during pregnancy.

In the first trimester of pregnancy 37 women (24.7%) reported UI. Of the 28 women who reported UI before the index pregnancy, four did not reported symptoms of UI during the first trimester. Stress incontinence is the most common with 55% (n=20) followed by urge with 27.8% (n=10) and mixed and any other both 8.3% (n=3). Table 22 shows that there are significantly more women with UI in the first trimester than before the pregnancy. No difference is noticed in the subtype of UI.

Status	Before pregnancy	First trimester	P-value
Incontinent	28 (19.2%)	36 (24.7%)	0.046
Continent	118 (80.8%)	110 (75.3%)	
Women who are incontinent			
Stress UI	22 (78.6%)	20 (55.5%)	0.066
Urge UI	6 (21.4%)	10 (27.7%)	
Any other	-	3 (8.3%)	
Mixed	-	3 (8.3%)	

Table 22: Prevalence of UI before pregnancy and during first trimester and distribution in subtypes.

The prevalence of UI in the third trimester was 61.0% (n=89). Stress incontinence was the most frequent subtype with 79.8% (n=71), followed by urge with 7.9% (n=7) (Table 23).

Status	First trimester n=146	Third trimester n=146	P-value
Incontinent	36 (24.7%)	89 (61.0%)	0.000
Continent	110 (75.3%)	57 (39.0%)	
Women who are incontinent			
Stress UI	20 (55.5%)	71 (79.8%)	0.523
Urge UI	10 (27.7%)	7 (7.9%)	
Any other	3 (8.3%)	8 (9.0%)	
Mixed	3 (8.3%)	3 (3.4%)	

Table 23: Prevalence of UI during first and third trimester and distribution in subtypes

3.2.5.3 Demographic variables and UI.

There were no differences in mode of delivery, yet the BMI during the first trimester was higher in incontinent women (Table 24). By the third trimester this was not the case anymore (Table 26).

Variables	UI incontinent n=36	UI continent n=110	P-value
Age (years)	31.5 ± 3.8	30.1 ± 3.6	0.074
BMI (kg/m²)	25.1 ± 5.3	23.3 ± 3.3	0.022
Underweighted	4 (11.1%)	8 (7.3%)	0.045
Normal weight	14 (38.9%)	74 (67.3%)	
Overweighted	14 (38.9%)	21 (19.1%)	
Obesity	4 (11.1%)	7 (6.4%)	
Parity			
Nulliparous	15 (41.7%)	66 (60.0%)	0.056
Multiparous	21 (58.3%)	44 (40.0%)	
Profession			
Sitting	21 (58.3%)	61 (57.5%)	0.934
Standing	15 (41.7%)	45 (42.5%)	
Intensity			
Intensive	10 (27.8%)	35 (31.8%)	0.561
Not intensive	26 (72.2%)	71 (64.5%)	
Physical exercise			
<90 min/week	20 (55.6%)	80 (72.7%)	0.055
>90 min/week	16 (44.4%)	30 (27.3%)	
Academic degree			
Secondary education	6 (16.7%)	26 (23.6%)	0.868
Professional bachelor	13 (36.2%)	32 (29.1%)	
University degree	17 (47.3%)	52 (47.3%)	
Marital status			
Married	22 (61.1%)	54 (49.1%)	0.189
Cohabiting	14 (38.9%)	54 (49.1%)	

Table 24: Demographic variables compared between UI continent and incontinent women in the first trimester

Variables	UI incontinent n=21	UI continent n=44	P-value
Mode of delivery			
SVD	17 (81.0%)	30 (68.2%)	0.318
Ventouse	1 (4.8%)	5 (11.4%)	
Forceps	1 (4.8%)	3 (6.8%)	
Caesarean section	2 (9.5%)	6 (13.6%)	
Birthweight heaviest child (g)	3412.2 ± 449.2	3238.8 ± 616.3	0.234

Table 25: Demographic variables continent and incontinent women in the first trimester

Conversely, in the third trimester women who had a previous caesarean section were more likely to be continent (Table 27).

Variables	UI incontinent n=89	UI continent n=57	P-value
Age (years)	30.5 ± 3.4	30.2 ± 4.0	0.662
BMI (kg/m²)	26.7 ± 4.2	26.1 ± 3.6	0.368
Underweighted	1 (1.1%)	-	0.688
Normal weight	28 (31.5%)	17 (29.8%)	
Overweighted	41 (46.1%)	33 (57.9%)	
Obesity	19 (21.3%)	7 (12.3%)	
Parity			0.067
Nulliparous	44 (49.5%)	37 (64.9%)	
Multiparous	45 (50.6%)	20 (35.1%)	
Profession			0.727
Working	60 (67.4%)	40 (70.2%)	
Not working	29 (32.6%)	17 (29.8%)	
Physical exercise			0.767
<90 min/week	66 (74.2%)	41 (71.9%)	
>90 min/week	23 (25.8%)	16 (28.1%)	

Table 26: Demographic variables in women who were either continent and incontinent for urine, data from the third trimester

Variables	UI incontinent n=45	UI continent n=20	P-value
Mode of delivery			0.05
SVD	35 (77.8%)	12 (60.0%)	
Ventouse	6 (13.3%)	-	
Forceps	2 (4.4%)	2 (10.0%)	
Caesarean section	2 (4.4%)	6 (30.0%)	
Birthweight heaviest child (g)	3341.8 ± 540.7	3173.8 ± 641.4	0.351

Table 27: Mode of delivery and birthweight of the heaviest child of multiparous women with or without UI during the third trimester

3.2.5.1 UI and Body image disturbance.

Women who were continent on both time points (Table 28) reported more body disturbance throughout pregnancy. Those women had more mental preoccupations, emotional distress, limitations, social disturbance and showed more avoidance in the third trimester than in the first.

Although incontinent women had less concerns and mental preoccupations in the third trimester, they generally reported more body disturbance. Incontinent women had more emotional distress, limitations, social disturbance, functional disturbance and showed more avoidance during the third trimester.

BIDQ scores	Continent			Incontinent		
	First trimester	Third trimester	P-value	First trimester	Third trimester	P-value
Concern	1.77 ± 0.89	1.98 ± 0.83	0.057	2.01 ± 1.01	1.93 ± 0.80	0.466
Mental preoccupation	1.51 ± 0.66	1.82 ± 0.82	0.001	1.70 ± 0.80	1.85 ± 0.77	0.136
Emotional distress	1.46 ± 0.66	1.93 ± 0.90	0.000	1.47 ± 0.79	1.79 ± 0.82	0.005
Limitations	1.23 ± 0.60	1.58 ± 0.84	0.003	1.20 ± 0.40	1.45 ± 0.78	0.009
Social disturbance	1.26 ± 0.64	1.54 ± 0.82	0.007	1.19 ± 0.47	1.42 ± 0.80	0.013
Functional disturbance	1.23 ± 0.78	1.46 ± 0.91	0.113	1.07 ± 0.36	1.34 ± 0.89	0.005
Avoidance	1.39 ± 0.70	1.68 ± 0.91	0.012	1.25 ± 0.53	1.57 ± 0.93	0.004
Mean score	1.41 ± 0.51	1.71 ± 0.64	0.000	1.41 ± 0.45	1.62 ± 0.65	0.005

Table 28: Evolution of the BIDQ score of continent women throughout pregnancy

In Table 29 a comparison between p-value of the BIDQ scores of continent and incontinent women is made. Both groups of women showed more disturbance throughout pregnancy but no difference is noticed between the two groups.

BIDQ scores	First trimester p-value	Third trimester p-value
Concern	0.134	0.717
Mental preoccupation	0.125	0.831
Emotional distress	0.896	0.334
Limitations	0.775	0.354
Social disturbance	0.467	0.355
Functional disturbance	0.095	0.438
Avoidance	0.176	0.476
Mean score	0.937	0.398

Table 29: Summary comparison between the BIDQ scores of continent and incontinent women in first and third trimester

3.2.6 Anal incontinence.

3.2.6.1 Prevalence of AI before pregnancy.

Before pregnancy, 33.6% (n=49) reported at least one form of AI with a mean Wexner score of 0.97 ± 1.8 . Of those 49 only five (10.2%) of them used pads and eight (16.3%) had adjusted their lifestyle. Those women were not more likely to be multiparous or elder, yet had a higher BMI, with the categories overweighted and obese were over represented (Table 30).

	AI before pregnancy n=49	No AI n=97	P-value
BMI	24.50 ± 4.41	23.15 ± 3.47	0.045
Underweighted (<20)	3 (6.1%)	9 (9.3%)	0.050
Normal weight (20-25)	26 (53.1%)	62 (63.9%)	
Overweighted (25-30)	14 (28.6%)	21 (21.6%)	
Obesity (>30)	6 (12.2%)	5 (5.2%)	
Age	30.7 ± 3.57	30.2 ± 3.73	0.435

Table 30: Comparison of selective risk factors for AI in women with and without UI before their pregnancy

3.2.6.2 Prevalence of AI during pregnancy.

The Wexner scores were significant higher in the first trimester than before the pregnancy. The most common form of anal incontinence was flatus incontinence. Of the 77 incontinent women, 72 (93.5%) reported symptoms of flatus incontinence. However, nearly half of the AI incontinent women reported more than one symptom of AI. All subdomain scores were higher, except for the category 'wears pads'. Yet, only seven (9.1%) of the 77 women with AI use pads (Table 31).

Status	Before pregnancy n=146	First trimester n=146	P-value
Incontinent	49 (33.6%)	77 (52.7%)	0.000
Continent	97 (66.4%)	69 (47.3%)	
Women who are incontinent			
Solid	0.67 ± 0.92	1.10 ± 1.34	0.001
Liquid	0.41 ± 0.73	0.77 ± 1.02	0.001
Gas	1.35 ± 0.83	2.09 ± 1.10	0.000
Wears pads	0.24 ± 0.78	0.29 ± 0.97	0.052
Lifestyle alteration	0.20 ± 0.50	0.43 ± 0.90	0.001
Mean score	2.88 ± 2.09	4.68 ± 3.35	0.000

Table 31: Prevalence of AI before and during the first trimester of pregnancy and distribution in subtypes

In the third trimester, up to 66.4% (n=97) of the pregnant women reported at least one symptom of AI. Flatus incontinence remained the most common symptom yet, up to 46.4% (n=45) reported solid stool incontinence (with or without flatus incontinence). AI induced lifestyle alterations in 34.0% (n=33) and up to 21 women (21.6%) used pads (Table 32).

Status	First trimester n=146	Third trimester n=146	P-value
Incontinent	77 (52.7%)	97 (66.4%)	0.001
Continent	69 (47.3%)	49 (33.6%)	
Women who are incontinent			
Solid	1.10 ± 1.34	1.22 ± 1.46	0.559
Liquid	0.77 ± 1.02	0.79 ± 1.09	0.641
Gas	2.09 ± 1.10	2.30 ± 1.35	0.001
Wears pads	0.29 ± 0.97	0.59 ± 1.27	0.138
Lifestyle alteration	0.43 ± 0.90	0.56 ± 0.98	0.145
Mean score	4.68 ± 3.35	5.45 ± 3.56	0.394

Table 32: Prevalence of AI during first trimester and third trimester and distribution in subtypes

3.2.6.3 Influence of different variables on AI.

The demographic characteristics of women with AI in the first trimester of pregnancy were not different from women without AI. There were more nulliparous women (66.2%). They also had less intensive jobs than the continent women (Table 33). There was no difference in previous delivery modes or birthweight of the heaviest child.

Variables	AI incontinent n=77	AI continent n=69	P-value
Age (years)	30.4 ± 3.7	30.4 ± 3.6	0.947
BMI (kg/m²)	23.8 ± 4.0	23.4 ± 3.7	0.544
Underweighted	6 (7.8%)	6 (8.7%)	0.396
Normal weight	44 (57.1%)	44 (63.8%)	
Overweighted	21 (27.3%)	14 (20.3%)	
Obesity	6 (7.8%)	5 (7.2%)	
Parity			0.006
Nulliparous	51 (66.2%)	30 (43.5%)	
Multiparous	26 (33.8%)	39 (56.5%)	
Profession			0.112
Sitting	48 (64.0%)	34 (50.7%)	
Standing	27 (36.0%)	33 (49.3%)	
Intensity			0.038
Intensive	18 (24.0%)	27 (40.3%)	
Not intensive	57 (74.0%)	40 (59.7%)	
Physical exercise			0.793
<90 min/week	52 (67.5%)	48 (69.6%)	
>90 min/week	25 (32.5%)	21 (30.4%)	
Academic degree			0.138
Secondary education	13 (16.9%)	19 (27.5%)	
Professional bachelor	25 (32.5%)	20 (29.0%)	
University degree	39 (50.6%)	30 (43.5%)	
Marital status			0.759
Married	41 (53.2%)	35 (50.7%)	
Cohabiting	35 (45.5%)	33 (47.8%)	

Table 33: Demographic variables compared between AI continent and incontinent women in the first trimester

Variables	AI incontinent n=26	AI continent n=39	P-value
Mode of delivery			0.244
SVD	21 (80.8%)	26 (66.7%)	
Ventouse	2 (7.7%)	4 (10.3%)	
Forceps	-	4 (10.3%)	
Caesarean section	3 (11.5%)	5 (12.8%)	
Birthweight heaviest child (g)	3314.6 ± 603.8	3279.2 ± 559.2	0.825

Table 34: Mode of delivery and birthweight of the heaviest child of multiparous women with AI during the first trimester

The same analysis was done in the third trimester. At that point in time, there was no longer any difference in parity or professional activity (Table 35 and 36).

Variables	AI incontinent n=97	AI continent n=49	P-value
Age (years)	30.4 ± 3.8	30.2 ± 3.4	0.774
BMI (kg/m²)	26.8 ± 4.6	25.9 ± 2.4	0.195
Underweighted	1 (1.0%)	-	0.381
Normal weight	31 (32.0%)	14 (28.6%)	
Overweighted	42 (43.3%)	32 (65.3%)	
Obesity	23 (23.7%)	3 (6.1%)	
Parity			0.677
Nulliparous	55 (56.7%)	26 (53.1%)	
Multiparous	42 (43.3%)	23 (46.9%)	
Profession			0.196
Working	63 (64.9%)	37 (75.5%)	
Not working	34 (35.1%)	12 (24.5%)	
Physical exercise			0.719
<90 min/week	72 (74.2%)	35 (71.4%)	
>90 min/week	25 (25.8%)	14 (28.6%)	

Table 35: Demographic variables compared between AI continent and incontinent women in the third trimester

Variables	AI incontinent n=42	AI continent n=23	P-value
Mode of delivery			0.774
SVD	31 (73.8%)	16 (69.6%)	
Ventouse	3 (7.1%)	3 (13.0%)	
Forceps	3 (7.1%)	1 (4.3%)	
Caesarean section	5 (11.9%)	3 (13.0%)	
Birthweight heaviest child (g)	3267.9 ± 657.7	3339.5 ± 365.9	0.654

Table 36: Mode of delivery and birthweight of the heaviest child of multiparous women with AI during the third trimester

3.2.6.4 Relationship between UI and AI.

There were no significant correlations between UI and AI in the first trimester (Table 37).

	UI incontinent n=36	UI continent n=110	P-value
AI incontinent			0.054
Yes	24 (66.7%)	53 (48.2%)	
No	12 (33.3%)	57 (51.8%)	
Wexner mean	5.50 ± 3.8	4.30 ± 3.1	0.185

Table 37: Prevalence of AI in UI incontinent and continent women and the mean Wexner score during the first trimester.

In the third trimester, there was a correlation between UI and AI (Table 38), yet the Wexner scores were comparable.

	UI incontinent n=89	UI continent n=57	P-value
AI incontinent			
Yes	65 (73.0%)	32 (56.1%)	0.036
No	24 (27.0%)	25 (43.9%)	
Wexner mean	5.80 ± 3.6	4.74 ± 3.5	0.170

Table 38: Prevalence of AI in UI incontinent and continent women and the mean Wexner score during the third trimester.

3.2.6.1 AI and Body image disturbance.

Incontinent women reported more body image disturbance throughout pregnancy than continent women (Table 39). Last named showed an increased disturbance in topics as mental preoccupation and avoidance. Incontinent women showed disturbance in more categories than continent women. For those women BIDQ scores were increased in all categories except for the sub item Limitations.

BIDQ scores	Continent			Incontinent		
	First trimester	Third trimester	P-value	First trimester	Third trimester	P-value
Concern	1.90 ± 1.10	1.90 ± 0.74	0.057	1.94 ± 0.83	2.04 ± 0.83	0.000
Mental preoccupation	1.57 ± 0.81	1.71 ± 0.76	0.001	1.68 ± 0.70	1.91 ± 0.81	0.002
Emotional distress	1.43 ± 0.76	1.67 ± 0.72	0.107	1.49 ± 0.72	1.95 ± 0.87	0.044
Limitations	1.22 ± 0.45	1.35 ± 0.72	0.152	1.21 ± 0.52	1.58 ± 0.86	0.091
Social disturbance	1.22 ± 0.59	1.33 ± 0.59	0.062	1.22 ± 0.50	1.57 ± 0.93	0.000
Functional disturbance	1.17 ± 0.71	1.22 ± 0.69	0.501	1.09 ± 0.40	1.45 ± 0.94	0.000
Avoidance	1.23 ± 0.55	1.45 ± 0.701	0.031	1.36 ± 0.65	1.71 ± 1.0	0.050
Mean score	1.39 ± 0.53	1.52 ± 0.51	0.013	1.42 ± 0.42	1.73 ± 0.70	0.000

Table 39: BIDQ scores throughout pregnancy of AI continent and incontinent women

The mean score of incontinent women was in significant in the third trimester compared to the continent women. However, this was the only significant result. The evolution of the BIDQ scores was significant in both groups but not between both groups (Table 40).

BIDQ scores	First trimester p-value	Third trimester p-value
Concern	0.820	0.551
Mental preoccupation	0.384	0.160
Emotional distress	0.631	0.067
Limitations	0.906	0.104
Social disturbance	0.970	0.139
Functional disturbance	0.392	0.128
Avoidance	0.184	0.118
Mean score	0.657	0.042

Table 40: Summary comparison between the BIDQ scores of continent and incontinent women in first and third trimester

3.2.7 Sexual function.

3.2.7.1 Sexual function during pregnancy.

During the first trimester 97.9% (n=143) were sexually active with a mean PISQ-12 score 40.46 ± 3.6 (range; 28-47). Dissatisfaction with their sexual life was noted by 19.2% (n=28). In 57.1% (n=16) this dissatisfaction caused stress in the relationship (Figure 11).

Sexual dissatisfaction as a cause of stress

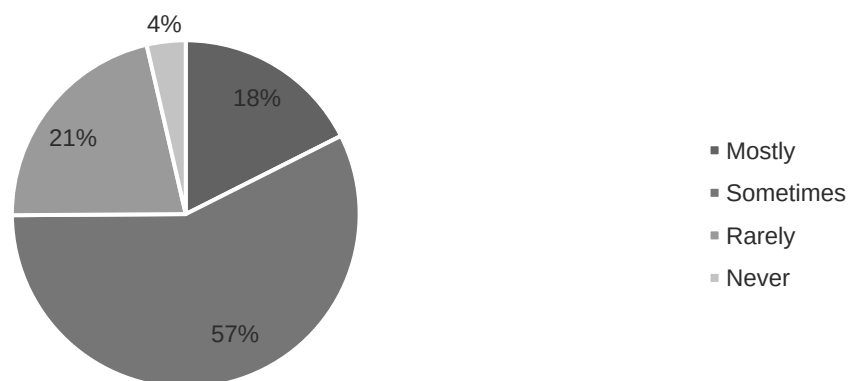


Figure 11: Pie chart of percentage women with stress caused by sexual dissatisfaction during the first trimester

In the third trimester, 128 women (87.7%) remained sexually active. This was significantly lower than in the first trimester. Their PISQ-12 score was 39.1 ± 4.6 (range; 22-47) which is also significantly lower than the first trimester. Thirty-six women are dissatisfied which was not significantly more than in the first trimester. This dissatisfaction caused sometimes stress in 15 women (41.7%) (Table 41).

	First trimester	Third trimester	P-value
PISQ-12 score	40.46 ± 3.6	39.1 ± 4.6	0.000
Satisfied			
Yes	115 (78.8%)	92 (71.9%)	0.077
No	28 (19.2%)	36 (28.1%)	
Distress			
Always	-	1 (2.8%)	0.492
Mostly	5 (17.9%)	2 (5.6%)	
Sometimes	16 (57.1%)	15 (41.7%)	
Rarely	6 (21.4%)	13 (36.1%)	
Never	1 (3.6%)	5 (13.9%)	

Table 41: Evolution of sexual function throughout pregnancy

3.2.7.2 Influence of UI and AI on sexual function.

The PISQ-12 score was significantly lower for women with any form of UI than women without. By the third trimester this was not the case anymore. Using a categorical division, there was no difference in number of women satisfied with their sex life during the first trimester. Women with AI incontinence had comparable PISQ-12 scores to continent women. Neither was the number of women happy with their sex life different between satisfaction during the first or third trimester (Table 42-43).

	UI incontinent n=36	UI Continent n=107	P-value
PISQ-12 score	38.8 ± 4.4	41.0 ± 3.1	0.001
Satisfying sex life			
Yes	25 (69.4%)	90 (84.1%)	0.056
No	11 (30.6%)	17 (15.9%)	

	AI incontinent n=75	AI Continent n=68	P-value
PISQ-12 score	40.1 ± 3.7	40.8 ± 3.4	0.247
Satisfying sex life			
Yes	61 (81.3%)	54 (79.4%)	0.773
No	14 (18.7%)	14 (20.6%)	

Table 42: Sexual function during the first trimester comparison between UI/AI continent and incontinent women

	UI incontinent n=79	Continent n=49	P-value
PISQ-12 score	38.8 ± 4.4	39.6 ± 5.0	0.334
Satisfying sex life			
Yes	59 (74.7%)	33 (67.3%)	0.371
No	20 (25.3%)	17 (32.7%)	

	AI incontinent n=85	AI Continent n=43	P-value
PISQ-12 score	38.8 ± 4.7	39.7 ± 4.5	0.289
Satisfying sex life			
Yes	25 (69.4%)	90 (84.1%)	0.200
No	11 (30.6%)	17 (15.9%)	

Table 43: Sexual function during the third trimester comparison between UI/AI continent and incontinent women

3.2.7.3 Sexual satisfaction and the body image.

In the first (Table 44) as well as in the third trimester (Table 45) women with a less satisfactory sex life reported significantly more body image disturbance than women who find satisfaction in their sex life.

First trimester	Satisfied sex life n=115	Dissatisfied sex life n=28	P-value
Mean score BIDQ	1.34 ± 0.39	1.73 ± 0.65	0.000

Table 44: Mean score BIDQ of women with a satisfied sex life compared to women with a dissatisfied sex life in the first trimester

Third trimester	Satisfied sex life n=92	Dissatisfied sex life n=36	P-value
Mean score BIDQ	1.49 ± 0.50	1.99 ± 0.72	0.000

Table 45: Mean score BIDQ of women with a satisfied sex life compared to women with a dissatisfied sex life in the third trimester

The mean of the mean BIDQ score was then used to separate the group of sexual active women. A BIDQ score *higher* than the average means more body image disturbance and therefore a lower body image. A lower body image translated into a lower PISQ-12 score both in the first as the third trimester (Table 46-47).

	Mean BIDQ score <1.41 n=77	Mean BIDQ score >1.41 n=66	P-value
PISQ-12 score	41.29 ± 2.99	39.50 ± 3.95	0.003

Table 46: PISQ-12 score of women with a mean BIDQ < 1.41 compared to women with a BIDQ > 1.41 in the first trimester of the 143 sexual active women

	Mean BIDQ score <1.66 n=75	Mean BIDQ score >1.66 n=53	P-value
PISQ-12 score	40.27 ± 3.67	37.38 ± 5.31	0.000

Table 47: PISQ-12 score of women with a mean BIDQ < 1.66 compared to women with a BIDQ > 1.66 in the third trimester of the 128 sexual active women

4. DISCUSSION

4.1 Body image

The purpose of this study was to measure the impact of urinary incontinence and anal incontinence on the body image of a pregnant women throughout pregnancy. In analogy to a previous study of our group (Lenaerts, 2015) the '*Body Image Disturbance Questionnaire*' was used. This questionnaire was developed to quantify the feeling of disturbance and is mostly used to measure the difference between two groups.

Respondents in our study reported more body image disturbance throughout pregnancy. Their BIDQ scores increased on almost all items except that they did not show more preoccupations throughout pregnancy. Our findings were not in line with the literature. In previous studies the body image remained relatively stable during pregnancy or increased during the first trimester (Boscaglia et al., 2013).

Throughout pregnancy we observed an increase in BIDQ scores, which seems logic as the impact of the growing uterus, fetus and placenta, as well as the impact on cardiac function increases with gestational age. In line with that it seems logic that women avoid more, have more concerns and experience more limitations in social and professional life.

Women in our study had apparently concerns about their skin because of the striae, cellulitis... Their concerns were worsening throughout pregnancy and were in line with their changing body and increasing BIDQ scores. The profession of the women and the intensity of it had an influence on the body image in the third trimester of pregnancy. That relationship however, was not very intuitive. Women with a job, where they mostly sit, experienced more limitations and expressed more avoidance in the third trimester. In line with that, women who *not* work during third trimester reported more functional disturbance. The majority of those women however had previously a standing job during the first trimester of pregnancy. The intensity of the profession caused more avoidance in the group with women with a less intensive job. Recreational exercise did not have an influence on the BIDQ score in our study, which is in contrast to a previous study in Flemish pregnant women (Lenaerts, 2015).

4.2 Urinary incontinence

Up to one in five women had symptoms of UI before their current pregnancy. Previous deliveries may have caused damage to the pelvic floor and result UI. However, we found that more nulliparous women had UI before their index pregnancy. This is surprising, yet in line with literature, women with UI had a significant higher BMI or were obese than the continent women. We did not find a difference in age between the two groups (Wesnes et al., 2010)

The prevalence of UI was one in four women with symptoms of UI in the first trimester, increasing to two in three women in the third trimester. This is a higher percentage than what was observed Australian study on 1,507 nulliparous women (Brown, S. et al. 2009).

In our study, we neither observed an effect of parity on the occurrence of UI. The only effect of the obstetrical history was a protective influence of a caesarean section: in the third trimester, previously sectioned women were more likely to remain continent. In line with literature (Wesnes et al., 2010) first trimester incontinent women have a higher BMI and more are overweighted than continent women.

The most common subtype of UI is stress incontinence independent of the timing of questioning and previous obstetrical history. Up to 18% of the women had a different subtype, mostly urge incontinence (27.7%), and 8.3% had mixed incontinence. Again, our findings are not perfectly in line with observations made in the Australian study where the second most frequent subtype was mixed UI with 13.1% (Brown, S. et. al. 2009). We have no obvious explanation for this difference. In contrast to this large Australian study, our results are in line with the previous study of our group where the second most frequent subtype was also urge UI (Lenaerts, 2015)

4.2.1 Body image and UI.

Lenaerts (2015) and Pauls et al. (2008) did research on the relationship between body image and UI. The findings of our study are in line with their findings; which may seem a bit counterintuitive, is that though the prevalence of UI increased during pregnancy, this had no measurable impact on the body image. Again, in our study, the BIDQ scores between continent and incontinent women were no different. Despite that, the scores of continent as opposed to incontinent women, were different. Continent women had more mental preoccupations, emotional distress, limitations, social disturbance and show more avoidance over time. Incontinent women except they do not have more mental preoccupations but yet they do experience more functional disturbance.

Overall study participants, whether they were incontinent or not, reported an increase of body image disturbance throughout pregnancy without a parallel increase in UI. This answers our second research question i.e. that the body image of our pregnant women is not affected by UI.

4.3 Anal incontinence

Much higher than expected, the prevalence of AI before pregnancy was up to one in three women. In line with literature, the most common form of incontinence was flatus incontinence. Surprisingly, of those with AI there were not more multiparous or elder women than in the continent ones. The only logical difference we found was an increased BMI in the incontinent group. Throughout pregnancy, AI became more likely with two out of three during the third trimester. These numbers are strikingly higher than what was found in the literature. One reason may be the maternal age. In our study the mean age was 30 and as reported by Solans-Domenech et al., (2010) women of this age are more vulnerable than younger women to develop

AI. Again, we could not observe a correlation between parity and AI in the first trimester. In literature, a relationship between AI and parity, as well as forceps delivery has been shown (MacArthur et al., 2011). In our study, multiparous women were more likely to be continent during the first trimester. The only factor associated to AI in the first trimester was the intensity of the job. AI being more likely when the women indicated to have a less intensive job.

Possible cause of these remarkable findings could be the sensitivity of the questionnaire. We used the Wexner score to score anal incontinence. Women could have interpreted the questionnaire wrong. They may have reported their normal stool pattern. The number of women with solid stool incontinence is higher than expected from literature. An argument to support this potential explanation is that just a minority of incontinent women wears pads or experiences lifestyle alteration. On the other hand, a couple of women noted on the questionnaire that they had a bowel disease, and consequently wear pads and reported lifestyle alterations.

4.3.1 UI and AI.

Pelvic floor dysfunction (PFD) encompasses urinary and anal incontinence (and/or prolapse). In the first trimester, there was no relationship between UI and AI, yet this became obvious in the third trimester.

4.3.2 Body image and AI.

Pauls et al. (2008) hypothesized that there is an association between low body image and bowel complaints, yet failed to demonstrate that. Although in our study there was no difference in the sub items of the BIDQ, a significant relation was found between a lower body image and bowel complaints. Women with any form of AI in the third trimester of pregnancy were more likely than continent women to have more body image disturbance in general. They also had a mean BIDQ than continent women. The difference over time in body image differs more in the groups than between the groups.

This finding answers another of our research question: when AI is present, it does have, in contrast to UI, a negative influence on the body image, at least in the third trimester.

4.4 Sexual function

Pregnancy is a distinctive period that may have an influence on the sexual experiences of the women and can interfere with the quality of the relationship between the couple. In the study of Pauleta et al. (2010) 41.5% of the participants stated to feel less attractive or sensual during pregnancy. In our population, women were not more dissatisfied about their sex life in the third trimester than in the first, despite an increase in number of dissatisfied women. This dissatisfaction caused relationship distress in more than half in the first trimester and this remained so in the third trimester. The pregnant women in this study had a significant drop in

their PISQ-12 scores with a less good sexual function in the third trimester of pregnancy. We used the PISQ-12 for this study, which is the short-form of the PISQ-31.

One in five women was not sexual active anymore in the third trimester of pregnancy. This is found in the literature (Efe et al., 2014). The reason why they ceased their sexual activity was not questioned in our study. In literature, the main reason for abandoning sex is exhaustion and fatigue (Santiago et al., 2013).

4.4.1 PFD and sexual function.

We expected an inverse relationship between PFD symptoms and the sexual function. Such effect on the PISQ-12 score was only obvious for urinary incontinence during the first trimester. Their PISQ-12 score was lower in women with UI during the first trimester. Although these women reported a less good sexual function, they were not more dissatisfied about their current sex life. Anal incontinence, though not unfrequented did not affect the sexual function or satisfaction of the sexual active women in the first neither third trimester.

4.4.2 Body image and sexual function.

A dissatisfying sex life may have an influence on the body image. Indeed, in this study the mean BIDQ score was lower in dissatisfied women throughout the whole pregnancy.

A lower body image may be associated with sexual dysfunction (Santiago et al., 2013). In this study, we did not question the participants about sexual dysfunctions but we noticed a large difference in PISQ-12 scores. Women with a body image below the mean of the participants, had a less good sex life than women with a mean BIDQ score above the average. This again answers one of our research questions. A lower body image does affect the overall sexual function of women during pregnancy.

4.5 Limitations

The first limit of this study was the small sample size ($n=146$). Whereas the refusal rate was incredibly low, the drop-out was higher than expected. Precautions were made to reduce drop-out among which one by offering a chance to win a gift voucher once they filled in all three questionnaires. But this clearly did not work as well as anticipated. Fortunately, the profile of the drop-outs was comparable to that of the participants.

A second limitation is the sensitivity of the Wexner score. Although the majority of the participants and respondents have a University degree, most of them seem to think they needed to question with their normal stool pattern. When given the questionnaire the researcher explained incontinence. The explanation was given verbally but was not written down in the question about their Wexner score. Maybe people forget this over time. Potentially a misunderstanding may be the reason why the occurrence of incontinence was so high and overestimated. For future

research, it could be handy to write down the necessary info above the questionnaire or a structured interview.

Next, the PISQ-12 gives an indication of the sexual function using an overall score but sub items could not be analyzed separately. This study indicates a difference in sexual function over time which coincides with certain risk factors. Therefore, it could be interesting to follow up with research on this topic with the PISQ-31 score so sub items could be analyzed.

Finally, women were asked in the postpartum period to fill in another questionnaire. Because of the limited time of the researcher for depositing her master thesis, these answers to these questionnaires could not be analyzed for this manuscript.

4.6 Strengths

One strength of this study is that it is the first study on Flemish women that did research on PFD symptoms, including urinary and anal incontinence, and the potential influence of PFD on body image and sexual function. All these variables were not only analyzed separately but also in relationship to each other. Another strength is the low refusal rate with an initial baseline result of 204 participants at the beginning of the study. This partly buffers the higher than expected drop-out.

5. CONCLUSION

In line with other studies, many Flemish women reported urinary incontinence (one in four in the first trimester to two out of three in the third trimester). The prevalence of anal incontinence was higher than documented in previous studies. In the third trimester women with urinary incontinence were more likely also to report a form of anal incontinence. Flemish women became less satisfied about their body image throughout pregnancy. Professional activity and its intensity had a negative influence on the body image. Women who did not work in the third trimester showed more functional disturbance. Urinary incontinence did not affect the body image whereas anal incontinence caused more body image disturbance. Respondents were not more dissatisfied about their sex life in the third trimester than in the first. A dissatisfying sex life had an influence on the body image of respondents. Urinary incontinence in the first trimester adversely affected the overall PISQ-12 score.

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Annex 1: Information and informed consent

Informatie voor de deelnemers

Geachte mevrouw, proficiat met uw zwangerschap!

Mijn naam is Dana Busschots, verpleegkundige van opleiding. Momenteel volg ik een opleiding 'Master in de Seksuologie' en voor mijn masterproef ben ik op zoek naar vrijwilligers.

Ik nodig u dan ook uit om deel te nemen aan een onderzoek dat bij zwangere vrouwen het verband nagaat tussen bekkenbodemp Problemen enerzijds, en het lichaamsbeeld en het seksueel functioneren anderzijds. Dit onderzoek gebeurt aan de hand van vragenlijsten op drie tijdstippen, twee tijdens de zwangerschap en één erna. Om u te helpen beslissen of u al of niet aan deze studie wil deelnemen, willen we u vragen om deze informatie door te nemen.

Inleiding

Tijdens de zwangerschap ervaart de vrouw zowel fysieke als psychologische veranderingen. Naarmate de zwangerschap vordert zal het lichaam van de vrouw veranderen. Fysisch gezien zal er niet alleen sprake zijn van gewichtstoename maar zal de lichaamsvorm mee evolueren. Deze veranderingen kunnen hun effect hebben op de bekkenbodemspieren en -organen. Dit kan problemen geven met de functie van de blaas, darm, of seksueel (dit soort problemen wordt gewoonlijk in één woord samengevat als bekkenbodempfunctie-problemen).

In deze studie wordt er in het bijzonder ingegaan op urine- of stoelgangsverlies. Urinaire incontinentie betekent het onvrijwillig verlies van urine dat sociaal of hygiënisch als storend wordt bevonden. We spreken over incontinentie voor stoelgang wanneer de persoon klaagt over onvrijwillig verlies van ontlasting of wind.

De drastische verandering van het uiterlijk tijdens een zwangerschap kan gepaard gaan met veranderingen van het lichaamsbeeld (in het Engels "body image"). Het lichaamsbeeld wordt in deze studie gedefinieerd als 'de ervaring en houding van het individu van haar lichaam'

Een laatste aandachtspunt van deze studie is het seksueel functioneren van de zwangere vrouw.

Doel van het onderzoek

Het hoofddoel van dit onderzoek is om na te gaan hoe bekkenbodemp Problemen invloed hebben op het lichaamsbeeld en seksueel functioneren van de zwangere vrouw, met name doorheen de zwangerschap en kort na de bevalling.

Verloop van de studie

Er zal u in het **eerste zwangerschapstrimester** gevraagd worden om een vragenlijst in te vullen. Deze vragen bevragen zowel blaasklachten, darmklachten, het lichaamsbeeld en seksueel functioneren. Het invullen neemt maximaal 15 minuten van uw tijd in. Deze vragenlijst geeft U in een gesloten omslag af aan de receptie van de raadpleging gynaecologie en verloskunde. U kan die ook thuis invullen en in een gefrankeerde omslag

terugsturen naar het UZ Leuven, *Mevr Leen Mortier, Secretariaat Gynecologie, UZ Leuven, 3000 Leuven*

Op het moment dat u de eerste vragenlijst ontvangt krijgt u ook een tweede en derde exemplaar. Het tweede exemplaar dient u drie maanden later, met name **op het einde van uw tweede trimester** (tussen 27 en 32 weken), in te vullen. Deze vragenlijst bevat dezelfde vragen als de eerste lijst, dus dat zal weer maar 15 minuten van uw tijd vragen. Wij verzoeken u vriendelijk om die tweede vragenlijst mee te brengen op uw afspraak voor echografie in het derde trimester, of ons op te sturen (adres zoals hier boven).

Het derde exemplaar dient drie maand na uw bevalling ingevuld te worden. Deze bevat ook ongeveer dezelfde vragen als de twee vorige en het invullen ervan neemt dus weer maar 15 minuten van uw tijd. Deze U kan ons die lijst per post toesturen.

Er zal u op de juiste tijdstippen een herinnerings-mail of SMS worden gestuurd. Dit als herinnering om de tweede en de derde vragenlijst in te vullen.

Risico's/Ongemakken

Deze studie houdt geen specifieke risico's of ongemakken in voor u. Het enige mogelijke ongemak dat u zou kunnen ervaren is dat er u een aantal persoonlijke vragen zullen gesteld worden en dat het invullen van elke vragenlijst van uw tijd vraagt.

Voordelen

Deelname aan deze studie levert u geen persoonlijk voordeel op. Uw deelname aan deze studie draagt wel bij tot kennis in een domein waar momenteel nog te weinig onderzoek in gebeurt. Er kan zo in de toekomst een aangepaste hulpverlening aangeboden worden aan zwangere vrouwen die meer oog heeft voor darm- en blaasklachten en -ongemakken en psychologische aspecten die te maken hebben met het lichaamsbeeld en seksueel functioneren.

Deelname

Uw keuze om al dan niet deel te nemen aan deze studie gebeurt geheel op vrijwillige basis. De beslissing om al dan niet deel te nemen heeft geen enkele invloed op uw huidige of toekomstige medische behandeling.

Vertrouwelijkheid

De vragenlijsten die worden afgenomen in het kader van deze studie zullen apart opgeslagen en verwerkt worden van uw toestemmingsformulier en zijn dus anoniem. De gegevens die verkregen worden door middel van de vragenlijsten zullen enkel gebruikt worden voor wetenschappelijke doeleinden. Iedereen die betrokken is bij dit onderzoek is tevens gebonden aan het medisch beroepsgeheim.

Dana Busschots, Masterstudente Seksuologie

Prof Jan Deprest, Bekkenbodemeenheid, Gynaecologie en Verloskunde.

Toestemmingsformulier (Informed consent)

Exemplaar voor uzelf

Ik, ondergetekende, verklaar voldoende de gelegenheid gehad te hebben om eventuele aanvullende vragen te stellen en ben op de hoogte van de volgende punten:

- Deelname aan het onderzoek is geheel vrijwillig en ik kan mij op elk moment uit het onderzoek terugtrekken zonder daarvoor een reden te moeten opgeven. Wel of niet deelnemen heeft geen enkele invloed op mijn huidige of toekomstige medische behandeling. Ik kan op elk tijdstip d.w.z. voor, tijdens en na het onderzoek vragen stellen over het onderzoek. Indien ik dat wens worden op het einde van het onderzoek de resultaten met mij besproken.
- Deelname aan het onderzoek is driedelig, namelijk het invullen van vragenlijsten op drie verschillende tijdstippen: eenmaal vandaag, eenmaal binnen drie maanden en eenmaal drie maand na de bevalling. Het invullen van de vragenlijsten duurt maximaal 15 minuten per keer. De vragenlijsten handelen over mijn lichaamsbeeld en eventuele klachten/ongemakken i.v.m. mijn blaasfunctie en stoelgang.
- Het verzamelen en verwerken van de gegevens en het behandelen van bewaren van de resultaten van het onderzoek verloopt strikt anoniem en vertrouwelijk. Al mijn persoonlijke gegevens en persoonsgebonden informatie vallen onder het medisch beroepsgeheim en zullen enkel behandeld en beheerd worden door de bij het onderzoek betrokken medewerkers.
- Deelnemers aan het onderzoek kunnen bij eventuele vragen over het onderzoek contact opnemen met Dana Busschots via dana.busschots@student.kuleuven.be of met Prof. Dr. Jan Deprest via jan.deprest@uzleuven.be

Datum :

Handtekening deelnemer :

Dossiernummer	
Email	
Mobiel tel nummer	

Uw contact gegevens worden gevraagd om U een herinneringsmail of sms te kunnen sturen.

Toestemmingsformulier (Informed consent)

Exemplaar af te geven

Ik, ondergetekende, verklaar voldoende de gelegenheid gehad te hebben om eventuele aanvullende vragen te stellen en ben op de hoogte van de volgende punten:

- Deelname aan het onderzoek is geheel vrijwillig en ik kan mij op elk moment uit het onderzoek terugtrekken zonder daarvoor een reden te moeten opgeven. Wel of niet deelnemen heeft geen enkele invloed op mijn huidige of toekomstige medische behandeling. Ik kan op elk tijdstip d.w.z. voor, tijdens en na het onderzoek vragen stellen over het onderzoek. Indien ik dat wens worden op het einde van het onderzoek de resultaten met mij besproken.
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Datum :

Handtekening deelnemer :

Dossiernummer	
Email	
Mobiel tel nummer	

Uw contact gegevens worden gevraagd om U een herinneringsmail of sms te kunnen sturen.

Annex 2: Questionnaire first trimester

Achtergrondgegevens

0. Datum van vandaag			
1. Hoeveel weken bent u zwanger?		weken	
2. Hoeveel kinderen hebt u reeds? <i>(Indien dit uw eerste kind is, vul 0 in en ga verder naar vraag 3)</i>		kinderen	
Kind 1: gram	Kind 2: gram	Kind 3: gram	Kind 4: gram
☐ Spontane vaginale bevalling	☐ Spontane vaginale bevalling	☐ Spontane vaginale bevalling	☐ Spontane vaginale bevalling
☐ Vaginale bevalling met zuignap (ventouse)	☐ Vaginale bevalling met zuignap (ventouse)	☐ Vaginale bevalling met zuignap (ventouse)	☐ Vaginale bevalling met zuignap (ventouse)
☐ Vaginale bevalling met verlostang (forceps)	☐ Vaginale bevalling met verlostang (forceps)	☐ Vaginale bevalling met verlostang (forceps)	☐ Vaginale bevalling met verlostang (forceps)
☐ Keizersnede	☐ Keizersnede	☐ Keizersnede	☐ Keizersnede
3. Hoe oud bent u ?		jaar	
4. Wat is uw burgerlijke staat		☐ Getrouwd ☐ Niet getrouwd maar samenwonend ☐ Niet samenwonend met partner maar wel in een relatie ☐ Alleenstaand (geen partner)	
5. Wat is uw hoogst behaalde diploma?		☐ Middelbaar onderwijs van de tweede graad ☐ Middelbaar onderwijs van de derde graad ☐ Hoger onderwijs van het korte type (3 jaar) ☐ Hoger onderwijs van het lange type (4 jaar) ☐ Universitair onderwijs ☐ Postgraduaat of doctoraat	
6. Mijn beroep is			
6a (kruis aan)		☐ zittend ☐ staand	
6b (kruis aan)		☐ lichamelijk intensief (tillen, heffen...) ☐ lichamelijk niet intensief (bureauwerk,...)	
7. Wat is uw lengte		Cm	
8. Wat is uw gewicht NU		Kg	
9. Ik doe recreatief aan lichaamsbeweging van gemiddelde intensiteit (zoals fietsen, zwemmen,...):		☐ Minder dan 90 minuten per week ☐ Meer dan 90 minuten per week	
10. Uw geboortedatum:			
11. Uw initialen			

Blaasklachten voor de zwangerschap

Duid aan wat voor u van toepassing was voor uw zwangerschap

1 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad (al is het een kleine hoeveelheid)?

☐ Ja (ga verder met vraag 2 en 3)

☐ Nee (de vragenlijst is afgerond)

2 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad? (alles aanduiden wat van toepassing is)

☐ bij fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)

☐ bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)

☐ zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)

3 Wanneer trad de afgelopen 3 maanden onvrijwillig urineverlies het vaakst op? (slechts 1 antwoord)

☐ bij het uitoefenen van fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)

☐ bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)

☐ zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)

☐ ongeveer even vaak bij fysieke activiteit als bij het gevoel van onhoudbare aandrang (d)

Darmklachten voor de zwangerschap

Duid aan wat voor u van toepassing was voor uw zwangerschap

Wexner	Frequentie				
Type incontinentie	Nooit	Zelden; <1x/maand	Soms; <1x/week	Vaak; ≥1x/week	Altijd; ≥1x/dag
Vast	0	1	2	3	4
Vloeibaar	0	1	2	3	4
Gas	0	1	2	3	4
Gebruik beschermend materiaal	0	1	2	3	4
Invloed op levensstijl	0	1	2	3	4

Zelfbeeld

Deze vragenlijst behandelt klachten over het fysiek voorkomen. Lees alstublieft elke vraag aandachtig en duid het antwoord aan dat het best uw ervaring omschrijft. Schrijf waar nodig ook antwoorden op.

1A. Bent u bezorgd over het uiterlijk van sommige lichaamsdelen, die u als bijzonder onaantrekkelijk beschouwt?

1 Helemaal niet bezorgd 2 Een beetje bezorgd 3 Matig bezorgd 4 Zeer bezorgd 5 Extreem bezorgd

1B. Waarover bent u bezorgd? Wat stoort u specifiek aan het uiterlijk van deze lichaamsdelen?

2A. Indien u hierover op zijn minst een beetje bezorgd bent, bent u dan veel met deze zorgen in gedachten bezig? Meer bepaald, denkt u er veel aan en is het moeilijk om te stoppen eraan te denken?

1 Niet het minste mee bezig 2 Een beetje mee bezig 3 Matig mee bezig 4 Veel mee bezig
5 Extreem veel mee bezig

2B. Welk effect heeft uw bezig zijn met uw uiterlijk gehad op uw leven?

3A. Heeft uw fysiek 'gebrek' vaak veel ergernis, kwelling, of pijn veroorzaakt? Hoe veel?

1 Geen ergernis 2 Mild, en niet erg zorgbarend 3 Matig en zorgbarend, doch aanvaardbaar
4 Ernstig en zeer storend 5 Extreem en invaliderend

4A. Heeft uw fysiek 'gebrek' beperkingen op sociaal, beroepsmatig of op ander belangrijk gebied veroorzaakt? Hoe veel?

1 Geen beperking 2 Milde verstoring, maar geen beperking in het algemeen functioneren
3 Matige, duidelijke verstoring, maar aanvaardbaar 4 Ernstig, met substantiële beperking
5 Extreem, invaliderend

5A. Heeft uw fysiek 'gebrek' uw sociaal leven significant verstoord? Hoe veel?

1 Nooit 2 Nu en dan 3 Geregeld 4 Vaak 5 Zeer Vaak

5B. Indien ja, op welke manier?

6A. Heeft uw fysiek 'gebrek' uw schoolwerk, job of uw capaciteit te functioneren in uw functie verstoord? Hoe veel?

1 Nooit Zeer Vaak	2 Nu en dan	3 Geregeld	4 Vaak	5
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6B. Indien ja, op welke manier?
7A. Vermijdt u soms dingen omwille van uw fysiek 'gebrek'? Hoe vaak?

1 Nooit Zeer Vaak	2 Nu en dan	3 Geregeld	4 Vaak	5
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7B. Indien ja, welke dingen vermijdt u?
Blaasklachten op dit moment
1 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad (al is het een kleine hoeveelheid)?

- ☐ Ja (ga verder met vraag 2 en 3)
- ☐ Nee (de vragenlijst is afgerond)

2 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad? (alles aanduiden wat van toepassing is)

- ☐ bij fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)
- ☐ bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)
- ☐ zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)

3 Wanneer trad de afgelopen 3 maanden onvrijwillig urineverlies het vaakst op?

(slechts 1 antwoord toegestaan)

- ☐ bij het uitoefenen van fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)
- ☐ bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)
- ☐ zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)
- ☐ ongeveer even vaak bij fysieke activiteit als bij het gevoel van onhoudbare aandrang (d)

Darmklachten op dit moment

Duid aan wat voor u in de laatste vier weken van toepassing was

Wexner	Frequentie				
Type incontinentie	Nooit	Zelden; <1x/maand	Soms; <1x/week	Vaak; ≥1x/week	Altijd; ≥1x/dag
Vast	0	1	2	3	4
Vloeibaar	0	1	2	3	4
Gas	0	1	2	3	4
Gebruik beschermend materiaal	0	1	2	3	4
Invloed op levensstijl	0	1	2	3	4

Seksueel functioneren

Vraag vooraf: Bent u seksueel actief?

- ☐ Ja; ga verder met het invullen van de vragenlijst
- ☐ Nee; deze vragenlijst is niet voor u van toepassing

1. Hoe vaak verlangt u naar seks? Dit verlangen kan bestaan uit het willen hebben van seks, het plannen van seks, gevoelens van frustratie door een gebrek aan seks, enzovoorts.

☐ Dagelijks ☐ Wekelijks ☐ Maandelijks ☐ Minder dan 1 keer per maand ☐ Nooit

2. Heeft u een orgasme tijdens geslachtsgemeenschap met uw partner?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

3. Voelt u zich seksueel opgewonden tijdens seksuele activiteiten met uw partner?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

4. Hoe tevreden bent u over de afwisseling in seksuele activiteiten in uw huidige seksleven?

☐ Zeer tevreden ☐ Redelijk tevreden ☐ Noch tevreden, noch ontevreden
☐ Redelijk ontevreden ☐ Zeer ontevreden

5. Heeft u pijn tijdens geslachtsgemeenschap?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

6. Heeft u ongewenst urineverlies tijdens seksuele activiteiten?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

7. Wordt u in uw seksuele activiteiten beperkt door angst voor ongewenst verlies van ontlasting of urine?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

8. Vermijdt u geslachtsgemeenschap vanwege een uitstulping in de vagina (verzakking van blaas, endeldarm of vagina)?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

9. Wanneer u seks heeft met uw partner, heeft u dan negatieve emotionele reacties, zoals angst, afkeer, schaamte of schuldgevoel?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

10. Heeft uw partner een erectieprobleem dat uw seksuele activiteiten beïnvloedt?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

11. Heeft uw partner een probleem met voortijdige zaadlozing dat uw seksuele activiteiten beïnvloedt?

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

12. Hoe intens zijn de orgasmen die u in de afgelopen 6 maanden heeft gehad in vergelijking met orgasmen in het verleden?

☐ Veel minder intens ☐ Minder intens ☐ Dezelfde intensiteit ☐ Meer intens

☐ Veel meer intens

13.a Bent u tevreden met uw seksueel functioneren?

☐ Ja, ik ben tevreden

☐ Neen; ga door met beantwoording van vraag 13b

13.b Levert dit stress op voor u en/of stress in uw relatie? (alleen invullen als u 13.a met neen hebt beantwoord)

☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

2B. Welk effect heeft uw bezig zijn met uw uiterlijk gehad op uw leven?

3A. Heeft uw fysiek 'gebrek' vaak veel ergernis, kwelling, of pijn veroorzaakt? Hoe veel?

- 1 Geen ergernis 2 Mild, en niet erg zorgbarend 3 Matig en zorgbarend, doch aanvaardbaar
4 Ernstig en zeer storend 5 Extreem en invaliderend

4A. Heeft uw fysiek 'gebrek' beperkingen op sociaal, beroepsmatig of op ander belangrijk gebied veroorzaakt? Hoe veel?

- 1 Geen beperking 2 Milde verstoring, maar geen beperking in het algemeen functioneren
3 Matige, duidelijke verstoring, maar aanvaardbaar 4 Ernstig, met substantiële beperking
5 Extreem, invaliderend

5A. Heeft uw fysiek 'gebrek' uw sociaal leven significant verstoord? Hoe veel?

- 1 Nooit 2 Nu en dan 3 Geregeld 4 Vaak 5
Zeer Vaak

5B. Indien ja, op welke manier?

6A. Heeft uw fysiek 'gebrek' uw schoolwerk, job of uw capaciteit te functioneren in uw functie verstoord? Hoe veel?

- 1 Nooit 2 Nu en dan 3 Geregeld 4 Vaak 5
Zeer Vaak

6B. Indien ja, op welke manier?

7A. Vermijdt u soms dingen omwille van uw fysiek 'gebrek'? Hoe vaak?

- 1 Nooit 2 Nu en dan 3 Geregeld 4 Vaak 5
Zeer Vaak

7B. Indien ja, welke dingen vermijdt u?

Blaasklachten op dit moment

1 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad (al is het een kleine hoeveelheid)?

- ☐ Ja (ga verder met vraag 2 en 3)
☐ Nee (de vragenlijst is afgerond)

2 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad? (alles aanduiden wat van toepassing is)

- ☐ bij fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)
☐ bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)
☐ zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)

3 Wanneer trad de afgelopen 3 maanden onvrijwillig urineverlies het vaakst op? (slechts 1 antwoord)

- ☐ bij het uitoefenen van fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)
☐ bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)
☐ zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)
☐ ongeveer even vaak bij fysieke activiteit als bij het gevoel van onhoudbare aandrang (d)

Darmklachten op dit moment

Duid aan wat voor u in de laatste vier weken van toepassing was

Wexner	Frequentie				
Type incontinentie	Nooit	Zelden; <1x/maand	Soms; <1x/week	Vaak; ≥1x/week	Altijd; ≥1x/dag
Vast	0	1	2	3	4
Vloeibaar	0	1	2	3	4
Gas	0	1	2	3	4
Gebruik beschermend materiaal	0	1	2	3	4
Invloed op levensstijl	0	1	2	3	4

Seksueel functioneren

Vraag vooraf: Bent u seksueel actief?

- Ja; ga verder met het invullen van de vragenlijst
- Nee; deze vragenlijst is niet voor u van toepassing

1. Hoe vaak verlangt u naar seks? Dit verlangen kan bestaan uit het willen hebben van seks, het plannen van seks, gevoelens van frustratie door een gebrek aan seks, enzovoorts.

- Dagelijks ○ Wekelijks ○ Maandelijks ○ Minder dan 1 keer per maand ○ Nooit

2. Heeft u een orgasme tijdens geslachtsgemeenschap met uw partner?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

3. Voelt u zich seksueel opgewonden tijdens seksuele activiteiten met uw partner?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

4. Hoe tevreden bent u over de afwisseling in seksuele activiteiten in uw huidige seksleven?

- Zeer tevreden ○ Redelijk tevreden ○ Noch tevreden, noch ontevreden
 ○ Redelijk ontevreden ○ Zeer ontevreden

5. Heeft u pijn tijdens geslachtsgemeenschap?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

6. Heeft u ongewenst urineverlies tijdens seksuele activiteiten?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

7. Wordt u in uw seksuele activiteiten beperkt door angst voor ongewenst verlies van ontlasting of urine?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

8. Vermijdt u geslachtsgemeenschap vanwege een uitstulping in de vagina (verzakking van blaas, endeldarm of vagina)?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

9. Wanneer u seks heeft met uw partner, heeft u dan negatieve emotionele reacties, zoals angst, afkeer, schaamte of schuldgevoel?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

10. Heeft uw partner een erectieprobleem dat uw seksuele activiteiten beïnvloedt?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

11. Heeft uw partner een probleem met voortijdige zaadlozing dat uw seksuele activiteiten beïnvloedt?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

12. Hoe intens zijn de orgasmen die u in de afgelopen 6 maanden heeft gehad in vergelijking met orgasmen in het verleden?

- ☐ Veel minder intens ☐ Minder intens ☐ Dezelfde intensiteit ☐ Meer intens
☐ Veel meer intens

13.a Bent u tevreden met uw seksueel functioneren?

- ☐ Ja, ik ben tevreden
☐ Neen; ga door met beantwoording van vraag 13b

13.b Levert dit stress op voor u en/of stress in uw relatie? (alleen invullen als u 13.a met neen hebt beantwoord)

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

Annex 4: Questionnaire post partum

Achtergrondgegevens

0. Datum van vandaag	
1. Datum van meeste recente bevalling	
2. Wijze van meest recente bevalling	A. Spontane vaginale bevalling B. Vaginale bevalling met zuignap (ventouse) C. Vaginale bevalling met verlostang (forceps) D. Keizersnede
3. Geboortegewicht van het kind	
4. Uw gewicht	
5. Alles goed met de gezondheid van uw kindje	☐ Ja ☐ Nee Omschrijving van de problemen:
6. Geeft u NU borstvoeding	☐ Ja ☐ Nee
7. Uw geboortedatum	
8. Uw initialen	

Zelfbeeld

Deze vragenlijst behandelt klachten over het fysiek voorkomen. Lees alstublieft elke vraag aandachtig en duid het antwoord aan dat het best uw ervaring omschrijft. Schrijf waar nodig ook antwoorden op.

1A. Bent u bezorgd over het uiterlijk van sommige lichaamsdelen, die u als bijzonder onaantrekkelijk beschouwt?

1 Helemaal niet bezorgd 2 Een beetje bezorgd 3 Matig bezorgd 4 Zeer bezorgd 5 Extreem bezorgd

1B. Waarover bent u bezorgd? Wat stoort u specifiek aan het uiterlijk van deze lichaamsdelen?

2A. Indien u hierover op zijn minst een beetje bezorgd bent, bent u dan veel met deze zorgen in gedachten bezig? Meer bepaald, denkt u er veel aan en is het moeilijk om te stoppen eraan te denken?

1 Niet het minste mee bezig 2 Een beetje mee bezig 3 Matig mee bezig 4 Veel mee bezig 5 Extreem veel mee bezig

2B. Welk effect heeft uw bezig zijn met uw uiterlijk gehad op uw leven?

3A. Heeft uw fysiek 'gebrek' vaak veel ergernis, kwelling, of pijn veroorzaakt? Hoe veel?

1 Geen ergernis 2 Mild, en niet erg zorgbarend 3 Matig en zorgbarend, doch aanvaardbaar
 4 Ernstig en zeer storend 5 Extreem en invaliderend

4A. Heeft uw fysiek 'gebrek' beperkingen op sociaal, beroepsmatig of op ander belangrijk gebied veroorzaakt? Hoe veel?

1 Geen beperking 2 Milde verstoring, maar geen beperking in het algemeen functioneren
 3 Matige, duidelijke verstoring, maar aanvaardbaar 4 Ernstig, met substantiële beperking 5 Extreem, invaliderend

5A. Heeft uw fysiek 'gebrek' uw sociaal leven significant verstoord? Hoe veel?

1 Nooit 2 Nu en dan 3 Geregeld 4 Vaak 5 Zeer Vaak

5B. Indien ja, op welke manier?**6A. Heeft uw fysiek 'gebrek' uw schoolwerk, job of uw capaciteit te functioneren in uw functie verstoord?****Hoe veel?**

1 Nooit 2 Nu en dan 3 Geregeld 4 Vaak 5 Zeer Vaak

6B. Indien ja, op welke manier?**7A. Vermijdt u soms dingen omwille van uw fysiek 'gebrek'? Hoe vaak?**

1 Nooit 2 Nu en dan 3 Geregeld 4 Vaak 5 Zeer Vaak

7B. Indien ja, welke dingen vermijdt u?

Blaasklachten op dit moment**1 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad (al is het een kleine hoeveelheid)?**

O Ja (ga verder met vraag 2 en 3)

O Nee (de vragenlijst is afgerond)

2 Hebt u de afgelopen 3 maanden onvrijwillig urineverlies gehad? (alles aanduiden wat van toepassing is)

O bij fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)

O bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)

O zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)

3 Wanneer trad de afgelopen 3 maanden onvrijwillig urineverlies het vaakst op? (slechts 1 antwoord)

O bij het uitoefenen van fysieke activiteit, zoals hoesten, niezen, tillen, of lichamelijke inspanning (a)

O bij onhoudbare aandrang of het gevoel de blaas te moeten ledigen waardoor u het toilet niet op tijd haalde (b)

O zonder fysieke activiteit en zonder het gevoel van onhoudbare aandrang (c)

O ongeveer even vaak bij fysieke activiteit als bij het gevoel van onhoudbare aandrang (d)

Darmklachten op dit moment*Duid aan wat voor u in de laatste vier weken van toepassing was*

Wexner	Frequentie				
Type incontinentie	Nooit	Zelden; <1x/maand	Soms; <1x/week	Vaak; ≥1x/week	Altijd; ≥1x/dag
Vast	0	1	2	3	4
Vloeibaar	0	1	2	3	4
Gas	0	1	2	3	4
Gebruik beschermend materiaal	0	1	2	3	4
Invloed op levensstijl	0	1	2	3	4

Seksueel functioneren

Vraag vooraf: Bent u seksueel actief?

- Ja; ga verder met het invullen van de vragenlijst
- Nee; deze vragenlijst is niet voor u van toepassing

1. Hoe vaak verlangt u naar seks? Dit verlangen kan bestaan uit het willen hebben van seks, het plannen van seks, gevoelens van frustratie door een gebrek aan seks, enzovoorts.

- Dagelijks ○ Wekelijks ○ Maandelijks ○ Minder dan 1 keer per maand ○ Nooit

2. Heeft u een orgasme tijdens geslachtsgemeenschap met uw partner?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

3. Voelt u zich seksueel opgewonden tijdens seksuele activiteiten met uw partner?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

4. Hoe tevreden bent u over de afwisseling in seksuele activiteiten in uw huidige seksleven?

- Zeer tevreden ○ Redelijk tevreden ○ Noch tevreden, noch ontevreden
 ○ Redelijk ontevreden ○ Zeer ontevreden

5. Heeft u pijn tijdens geslachtsgemeenschap?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

6. Heeft u ongewenst urineverlies tijdens seksuele activiteiten?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

7. Wordt u in uw seksuele activiteiten beperkt door angst voor ongewenst verlies van ontlasting of urine?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

8. Vermijdt u geslachtsgemeenschap vanwege een uitstulping in de vagina (verzakking van blaas, endeldarm of vagina)?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

9. Wanneer u seks heeft met uw partner, heeft u dan negatieve emotionele reacties, zoals angst, afkeer, schaamte of schuldgevoel?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

10. Heeft uw partner een erectieprobleem dat uw seksuele activiteiten beïnvloedt?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

11. Heeft uw partner een probleem met voortijdige zaadlozing dat uw seksuele activiteiten beïnvloedt?

- Altijd ○ Meestal ○ Soms ○ Zelden ○ Nooit

12. Hoe intens zijn de orgasmen die u in de afgelopen 6 maanden heeft gehad in vergelijking met orgasmen in het verleden?

- ☐ Veel minder intens ☐ Minder intens ☐ Dezelfde intensiteit ☐ Meer intens
☐ Veel meer intens

13.a Bent u tevreden met uw seksueel functioneren?

- ☐ Ja, ik ben tevreden
☐ Neen; ga door met beantwoording van vraag 13b

13.b Levert dit stress op voor u en/of stress in uw relatie? (alleen invullen als u 13.a met neen hebt beantwoord)

- ☐ Altijd ☐ Meestal ☐ Soms ☐ Zelden ☐ Nooit

Annex 5: Approval Ethics Committee

English version below

Geachte Heer/Mevrouw

De Opleidings specifieke Ethische Begeleidingscommissie van de opleiding "Master in de seksuologie (Leuven)" heeft uw voorstel tot Masterproef "PELVIC FLOOR DYSFUNCTION AND THE INFLUENCE ON THE BODY IMAGE AND SEXUAL FUNCTION" onderzocht en gunstig geadviseerd. Dit betekent dat de commissie van oordeel is dat de studie, zoals beschreven in het protocol, wetenschappelijk relevant en ethisch verantwoord is. Dit gunstig advies van de commissie houdt niet in dat zij de verantwoordelijkheid voor de geplande studie op zich neemt. U blijft hiervoor zelf verantwoordelijk. Indien u van plan bent uw masterproef te publiceren kan deze e-mail dienen als bewijs van goedkeuring.

Dear Mr/Ms

The Supervisory Committee on Medical ethics of the "Master in de seksuologie (Leuven)" programme has reviewed your master's thesis project proposal "PELVIC FLOOR DYSFUNCTION AND THE INFLUENCE ON THE BODY IMAGE AND SEXUAL FUNCTION" and advises in its favour. This means that the committee has acknowledged that your project, as described in the protocol, is scientifically relevant and in line with prevailing ethical standards. This favourable advice does not entail the committee's responsibility for the planned project, however. You remain solely responsible. If you intend to publish your master's thesis, this e-mail may be used as proof of the committee's consent.

Met vriendelijke groeten

Opleidings specifieke begeleidingscommissie van de opleiding Master in de seksuologie (Leuven)

