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"Struggling to settle with a damaged body" – A Swedish qualitative study of women's experiences one year after obstetric anal sphincter muscle injury (OASIS) at childbirth

Maria Lindqvist[a,*], Inger Lindberg[b], Margareta Nilsson[a], Eva Uustal[c], Margareta Persson[d]

[a] Department of Clinical Sciences, Obstetrics and Gynecology, Umeå University, Sweden
[b] Luleå University of Technology, Department of Health Science, Division of Nursing, and Sunderby Research Unit, Umeå University, Umeå, Sweden
[c] Department of Molecular and Clinical Medicine, Division of Obstetrics and Gynecology, Linköping University, Sweden
[d] Department of Nursing, Umeå University, Sweden

ABSTRACT

Objective: This study aimed to explore women's experiences related to recovery from obstetric anal sphincter muscle injuries (OASIS) one year after childbirth.
Method: This is a qualitative study based on written responses from 625 women approximately one year after childbirth in which OASIS occurred. Data was obtained from a questionnaire distributed by the national Perineal Laceration Register (PLR) in Sweden. Inductive qualitative content analysis was applied for analysis.
Results: The theme "*Struggling to settle with a damaged body*" indicated that the first year after OASIS involved a struggle to settle to and accept living with a changed and sometimes still-wounded body. Many participants described problems related to a non-functional sexual life, physical and psychological problems that left them feeling used and broken, and increased worries for their future health and pregnancies. However, some women had adjusted to their situation, had moved on with their lives, and felt recovered and strong. Encountering a supportive and helpful health care professional was emphasized as vital for recovery after OASIS.
Conclusion: This study provides important insights on how women experience their recovery approximately one year after having had OASIS at childbirth, wherein many women still struggled to settle into their damaged bodies. Clear pathways are needed within health care organizations to appropriate health care services that address both physical and psychological health problems of women with prolonged recovery after OASIS.

Background

Internationally, rates of severe perineal tears range from 0.1% (Romania) to 4.9% (Iceland). These variations among countries may be explained by difficulties in standardizing assessment of the perineum after delivery. In Sweden in 2014, 6.0% of all first-time mothers and 1.5% of women with previous childbirth(s) had partial (OASIS grade 3) or total rupture of the anal sphincter muscle (OASIS grade 4) [1,2], the highest incidence in Scandinavia [3]. Recent statistics from the Swedish Medical Birth Register indicate a small decrease in incidence, from 6.0% to 5.3% for primiparous women and from 1.5% to 1.3% for multiparous women [4]. However, the reported incidence of OASIS may be affected by the study population and the validity of used diagnostic tools [5,6]. Diagnostic procedures can be performed by one midwife, two midwives, or a doctor. Diagnostics tools can include inspection, vaginal and/or anal palpation, and/or perineal or endoanal ultrasound. Before 2017, Sweden had no national guidelines for how women should best be examined for tears after giving birth. Clinical practise was varying. The validity of any incidence figures is therefore uncertain, as tears may have been misclassified [7]. However, clinicians with great experience of perineal tears tend to identify these injuries [8].

Perineal damage can cause short- and long-term complications and suffering including pain [9], urinary and fecal incontinence [10], difficulties emptying the bowels, prolapses of vaginal walls, and sexual dysfunction [11]. Negative effects on daily life and quality of life are reported [12–14], as well as anxiety and depression [15], which may lead to social isolation, changes in sexual intimacy [16], and poorer quality of life even 10 years postpartum [11]. Women describe shame and fear of loss of sexual attraction [14]. Despite that the majority of new mothers reported sexual activity within 6 months of birth, a significant number reported problems with sexual function [17] or not resumed sex life at six months postpartum [18]. Among women with OASIS beyond the 12-month post-partum period, more than 64% reported some degree of pain during sexual intercourse, of which 11% reported this was "frequently" or "always [19]. Feelings of guilt, shame, and frustration are also seen [20]. Anal incontinence at nine months after childbirth appears to predict persistent problems [21].

* Corresponding author.
E-mail addresses: maria.lindqvist@umu.se (M. Lindqvist), inger.lindberg@nll.se (I. Lindberg), margareta.nilsson@umu.se (M. Nilsson), eva.uustal@regionostergotland.se (E. Uustal), margareta.persson@umu.se (M. Persson).

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Furthermore, the "OASIS syndrome" is described as a hidden condition consisting of emotional, social, and psychological consequences that may negatively affect the woman's role as a mother [22].

However, little is known about the course of recovery after OASIS, and studies of the complications predominantly have a short-term perspective. Wound complications with OASIS occur in 7.3% of affected women in a US study [23], and 19.8% show infections and 24.6% have wound breakdowns in another US study [24]. Few studies use qualitative approaches to understand women's experiences after their OASIS.

Encounters with the health services after OASIS in Australia are described as lacking consistency in practice and standardization of care. A discrepancy occurred between the services that were provided and the needs of women. Women described the challenges they faced in attempting to navigate treatment pathways, and they often encountered a lack of identifiable and available services, which were inadequate in meeting their needs [25]. Furthermore, women described feelings of being vulnerable, exposed, and disempowered throughout the help-seeking process, and these feelings are a direct result of the actions of the health care professionals (HCPs) [26].

The rationale of the study

The consequences of OASIS are quantitatively well-studied with a focus on incontinence, and are also shown to have a variety of negative effects on women's lives. However, the voices of affected women are seldom heard, and a knowledge gap persists about the important aspects of life after OASIS. By exploring the written responses of a large number of women approximately one year after OASIS, this study adds new and important knowledge to the research field and for clinical practice. This study aimed to explore women's experiences related to recovery from OASIS one year after childbirth.

Methods

Study design

This study employed a qualitative approach, using written, open-ended responses to a questionnaire that was answered by women who had OASIS approximately one year after childbirth. Inductive qualitative content analysis was applied, which is a suitable method to explore variations in experiences [27,28].

Ethical approval

The project was approved by the Ethical Board at Linköping University (No. 2016/144-31). The written responses are excerpted from The Perineal Laceration Register (PLR), a national quality register adhering to Swedish legislation, which means inclusion of data in the PLR is voluntary for the affected women [30]. All data for this study was provided by the PLR, without any personal identification of the participants. The participants are informed about the PLR by a compulsory legislative text for national registers in the first questionnaire. This information states that register data may be used for research purposes and that the participants can opt out of participating without stating why. By answering the questionnaires in the register, women give their consent to participate in both clinical follow-up and research studies. Researchers apply for data excerpts to the board of the PLR after obtaining ethical review board clearance for the study protocol. In the data excerpts, no data can identify individuals.

The Perineal Laceration Register (PLR)

The PLR is a sub-section of the well-established "Swedish National Quality Register of Gynecological Surgery" (GynOp). The PLR aims to facilitate identification of and follow-up with women with complications, to give feedback from patients to the suturing doctors and midwives, and to enable national comparisons and research of factors that influence patient-reported outcome measures (PROM) [29]. The PLR was introduced in 2014, and it covers 85% of all births in Sweden [30]. The PLR consists of medical data extracted from obstetric records on childbirth, as well as surgical data on suturing techniques and possible surgery of perineal lacerations [29]. Self-reported data are collected by questionnaires at three time points: soon after childbirth (baseline), eight weeks postpartum, and approximately one year after childbirth. At each time point, the affected women respond to questions with pre-set response options, but they also have unlimited space to add written responses [29].

These written responses at one-year postpartum follow-up formed the data used for this study. The length of the written responses ranged from single words to longer stories, revealing a range of experiences encountered during the year after the OASIS occurred. Background characteristics of the women were assessed from the baseline questionnaire. The PLR does not provide a comprehensive coverage of socioeconomic data on the women. However, data on maternal age, the severity of the tear and body mass index (BMI) was excerpted to provide some characteristics of the participants that are shown in studies to be associated with OASIS. Parity was not covered, but the majority (76%) of the women in the PLR are primiparas [31].

Participants

Inclusion criteria were all respondents with an OASIS grade 3 or 4 between Jan. 1st, 2014, and Dec 31st, 2016 who had added written comments of any length to the one-year follow-up questionnaire. A total number of 1962 women were identified with an OASIS grade 3 or 4 during that time period, and 625 of those fulfilled inclusion criteria. The 625 participating women had a median age of 30 years (Q^{25th} - Q^{75th}: 23–38); 558 (89.3%) had a third-degree OASIS, and 67 (10.7%) had a fourth-degree OASIS at their childbirth. The participants' mean body mass index (BMI) was 27.7 (SD 6.1) kg/m^2.

Data analysis

The data material was analyzed using manifest and latent inductive qualitative content analysis, which is a systematic approach to explore variations within data and which highlights differences and similarities [28]. The analysis was performed in a stepwise manner. *First*, all written responses were read several times by the first and last authors (ML and MP) to achieve a sense of the whole. *Second*, meaning units relating to the aim of this study were identified, condensed, and coded. *Third*, the codes were compared for differences and similarities. During this phase, categories and sub-categories emerged, and the first and last authors repeatedly discussed the analysis. *Fourth*, the responses were re-read by ML several times, to ensure that all data addressing the aim were covered. Thereafter, all authors discussed the findings, which resulted in minor changes in the categories. In the *fifth* step of the analysis process, the theme was identified, presenting the underlying latent meaning of women's experiences one year after OASIS.

Findings

The theme "*Struggling to settle with a damaged body*" illustrates how women experienced their adaptation to life with a changed and sometimes still-wounded body one year after a childbirth complicated by OASIS. The theme comprised different aspects related to the injury, which still affected many women's daily lives. The majority revealed problems related to a non-functional sexual life, physical and psychological problems that left them feeling being used and broken, and increased worries for their future health and wellbeing. However, some women revealed having adjusted to their situation, having moved on, and feeling recovered. To enable recovery, these women stressed encountering a key person within the health care services who helped

Table 1
An overview of theme, categories and related sub-categories.

Theme	Category	Sub-category
Struggling to settle with a damaged body	Not have a satisfying sexual life	Have too much pain to enjoy sex
		Discover symptoms from changed genitals
		Have lost sexual desire
	Feel used and broken	Lack of support by health care services
		Have a shaky self-image
		Live a limited daily life
	Worry about future health conditions	Dread a new childbirth
		Demand guarantees from health care
	Moved on with life despite everything	Feel strong and recovered
		Encounter a key person to health care
		Re-establish a satisfying sexual life

with needed support and treatment as well as having a strong relationship with their partner.

An overview of the findings—including theme, categories, and related sub-categories—are presented in Table 1. The categories and their corresponding sub-categories are compiled below, with quotes from the participants' statements in italics to further illustrate the findings.

Not have a satisfying sexual life

This category is comprised of three sub-categories: "*Have too much pain to enjoy sex*", *"Discover symptoms from changed genitals"*, and *"Have lost sexual desire"*. The sub-categories described various difficulties in being intimate or lacking a satisfying sexual life, due to prolonged or persistent genital problems.

Have too much pain to enjoy sex

Descriptions of painful sex were central when women revealed their efforts to be sexually active with their partner. Some women experienced that sexual intercourse was no longer possible due to too much pain when trying, while others still tried to be intimate on rare occasions even if it was very painful. They perceived that their genitals were still sore and tender, as if there had been changes made to their genital anatomy and function (such as hurting scar tissues or tense vaginal tissues lacking lubrication) that made it impossible to relax and enjoy sex. Thus, penetrative sex was often perceived as impossible.

> *"Sure, it did hurt to give birth… but to have sex with my husband – it is almost impossible. The tearing and chafing makes it so extremely painful that we refrain most of the time. And afterwards, the pain lingers and my vagina is swollen."*

Discover symptoms from changed genitals

Many women revealed details of physiological changes to their genitals that were discovered after the initial healing. These changes were unexpected and tough to accept, as they expected that the surgery they had undergone would have fully repaired the damage. The women presented a range of symptoms, varying from feelings of weight pressing on their genitals, to feelings of distended and loose tissues, to altered genital conditions with visible bulges, tabs, or cavities. Some described having an inelastic and too-tight vagina after surgery, while others had the opposite problem, with a wide and open feeling in the vagina. The discomfort in the vagina could also affect the use of tampons during menstruation.

> *"The feeling during sex has completely changed, everything feels different, it's as if I'm numbed down there."*

Have lost sexual desire

Some women described psychological challenges related to sexual intimacy as a result of the injury, such as how their sexual drive and desire had vanished after the injury and the problems related to it. They explained having weird feelings in their genitals, as if the nerves were either numbed or oversensitive, which led to either no sensations at all or tissues being too sensitive during intercourse. Others described a total lack of lubrication despite arousal. The loss of sexual desire was described by some women as a vicious circle, where the feeling of being unattractive due to the damaged and tender genitals led to a lower sexual drive, which consequently made them withdraw from intimacy because of the fear of having painful intercourse.

> *"I simply have no desire to have sex any longer; I do not have the same sex drive as before. It sort of disappeared during the first period (after childbirth) when I dealt with surviving the pain down there and caring for my daughter."*

Feel used and broken

This category includes three sub-categories: *"Lack of support by health care services"*, *"Have a shaky self-image"*, and *"Live a limited daily life"*. This category comprised a variety of experiences that left women with the feeling of having an injured and aged body, which also affected their self-esteem. Despite experiencing incomplete recovery, they lacked the needed support from health care services, which further burdened their experience.

Lack of support by health care services

Many written experiences commented on a lack of accessibility to and response from the health care services and staff—experiences that contributed to disappointment and lack of trust for health care services and caregivers. The needed care was hard to find, and many women had to search for help on several occasions without assurance of finding the appropriate help and support. Some women experienced situations where HCPs neglected their health issues and tried to minimize problems even when they were officially identified, resulting in feelings of being rejected and distrusted.

> *"I was met with: You cannot expect that you will look like you did before down there after your injury, and it made me feel so annihilated and disappointed."*

Have a shaky self-image

Some women expressed that they experienced difficulties in accepting their "new" body and its genitals. These difficulties included accepting their changed body (mainly the genitals), but also accepting how the injury and its complications had affected their self-image and

self-esteem. They revealed feelings of no longer recognizing their bodies or themselves, and expressed that they were damaged mentally as well as physically—consequences that clearly contributed negatively to their self-image and self-esteem. They expressed being disoriented and uncomfortable with whom they had become after the injury and its complications (who am I after all these complications to my childbirth?) Parts of daily life, activities, and the relationship with their partner were no longer the same, which added to the distress and sorrow over the loss of their previous self-image, life, and function.

"I don't recognize myself, this isn't the real me in any way."

Live a limited daily life

Due to physical and psychological complications, several limitations to daily life were revealed. Many women experienced incontinence, including gas and urine/fecal leakage, which affected them in their social lives as well as in their intimacy with their partner. These women expressed that they had no or little control over their bowels and/or bladder, which made them insecure; therefore, they preferred to withdraw from situations that may cause embarrassment and shame. Furthermore, some women still had considerable pain in their genitals, especially during physical activity, which led to restrained exercises, as even a brisk walk was sometimes too demanding to perform without pain. Withstanding daily pain made the women feel limited. Moreover, women expressed feelings of mental distress and difficulties in coping with the traumatic experiences related to the injury. Some also revealed concerns of ever healing and fully recovering. Depression and anxiety were described, and some women expressed that they were in need of more help than they had received in order to process their trauma. In short, their experiences affected them on a daily basis and limited their life.

"I have recurrent pain in my genitals when I'm physically active or when lifting heavier things. It affects my health status negatively and I'm often tired due to this. I often need to take painkillers to ease the symptoms. I cannot exercise as normal because then I get a lot of pain and a dull intensive pain in my pelvis area and genitals. Lately, I find myself being somewhat urine incontinent too, I have problems holding my urine and I pee myself if I sneeze."
"Besides the physical injury, the psychological side was hard, to realize what had happened and try to accept it."

Worry about future health conditions

About one year after the OASIS, women described concerns for their own future health and thoughts about future pregnancies and childbirths. This was comprised by two sub-categories: *"Dread a new childbirth"* and *"Demand guarantees from health care"*.

Dread a new childbirth

In the first chaotic months after OASIS diminished, women described that thoughts of a presumable future pregnancy started to appear. Many couples had dreams of having multiple children, but thinking about a new pregnancy and childbirth left the women hesitating and unsure: what would happen if they had another childbirth? Would their condition deteriorate even more? Some expressed that having another child was totally unthinkable due to all the suffering after this childbirth, while others were willing to try again but expressed outspoken doubtfulness and circumspection.

"We would like to have a sibling, but at what price? Can I trust that this will not happen again?"
"I wonder if it (the genitals) ever will be OK again. I never dare to go through a childbirth again."

Demand guarantees from health care

Some women revealed that they wanted a guarantee from the HCPs that they would not suffer another injury in the case of a new childbirth, a prerequisite for planning to have another child. Some expressed that they would demand to have a caesarean section, instead of another vaginal birth, in case of a new pregnancy. Women also described that they felt insecure and vulnerable in their contacts with HCPs, and their wishes and demands for reassurance around improvements and recovery were not always met, which led to further frustration and insecurity. Additionally, some women had asked for guarantees of full recovery. They wanted to be helped with their dysfunctional genitals and incontinence, and thus asked for a reassurance to have their problems repaired to full recovery. However, such reassurances were not always provided by the HCPs they met, which led to further frustration and despair.

"I wanted the doctor that I met at the follow-up to promise me, like with a contract, that this would never happen again."

Moved on with life despite everything

The three sub-categories of this aspect—*"Feel strong and recovered"*, *"Encounter a key person in health care"*, and *"Re-establish a satisfying sexual life"*—illustrated important factors that had enabled recovery and the possibility to re-connect with the body and mind after OASIS. A factor of vast importance for the recovery process was encountering supportive and helpful HCPs. The category also covers some women's drive to look at the OASIS and its consequences optimistically and to not surrender to the condition.

Feel strong and recovered

Some women described how they had a lot of problems initially after their OASIS, but at one year after childbirth, they had finally made it through. They described feeling proud of their strong body that had survived the challenges of OASIS. These feelings also extended to comfort and hope, as they felt reassured that their body had the capability to regain its power and function despite the trauma. This subgroup of women described a full recovery after the OASIS, and some women even experienced themselves as stronger than before the injury. Many also highlighted their supportive spouse and how they had shared the burdens during the recovery, which also strengthened their relationship. For most of the recovered women, the turning point to recovery had appeared within six to nine months after childbirth. Several of the recovered women described that they had huge problems during the two first months post-childbirth, but these problems vanished as their body healed and regained its strength.

"I feel strong and healed. My body has finally recovered. We made it!"
"Finally, after about 9 months, I have regained my genitals and their strength again, not completely, but very close."
"We made it – together – I wouldn't have been able to make it through this terrible time without my husband."

Encounter a key person to health care

Getting adequate necessary help and support from HCPs was described as vital to helping women heal and move on. Some of the recovered women described a help-seeking process in which they finally encountered the person who gave them ample time, listened, understood, and helped them to get the correct treatment and support, which started the process of physical and mental recovery. This encounter with a key person was perceived as crucial and a major turning point to recovery, and women described their key person in very positive words. The women stressed that being met with patience and understanding

resulted in feelings of trust, security, and being liberated from a heavy burden.

"Finally, I got hold of this fantastic midwife who not only understood my situation, but could give adapted advice on how to feel better. At last, I felt that someone did believe in me."

"This doctor really put some effort into supporting me and thoroughly told me where my injury was located and what was applicable for the future."

Re-establish a satisfying sexual life

The diminished pain, the progressive adoption and acceptance of the "new" body, and feelings of recovery and strength gave the women courage to be intimate again. However, the new intimacy depended on the sensitivity and support of the partner and sometimes a need as well to re-invent and adapt sexual life to the new conditions. Additionally, some women revealed that having a strong relationship contributed to taking the adaptions and creation of a "new" sexual life slowly, piece by piece.

"We have had to find new positions and it works with some tricks and fix."

"The discomfort related to sex has disappeared now a year later. I have exercised and feel strong and satisfied with my body. I think that has contributed to an improved sex life."

Discussion

This study aimed to explore women's experiences related to recovery one year after OASIS at childbirth. Findings indicated that the first year after OASIS was a struggle for women to settle into and accept living with a changed and sometimes still-wounded body. Many participants described problems related to a non-functional sexual life, physical and psychological problems that left them feeling used and broken, and increased worries for their future health and pregnancies. However, some women had settled into their situation, moved on with their lives, and felt recovered and strong. Encountering supportive and helpful HCPs was emphasized as vital for recovery after OASIS.

Several studies have shown sexual dysfunction after OASIS, which is in line with the findings of this study. One study explores sexual function and satisfaction among women and their male partners approximately 4 years post-OASIS; results show that almost half of the 47 women and close to one-third of the 25 male partners met the criteria for sexual dysfunction. Women express that their problems mostly related to desire, arousal, infrequency of intercourse, non-communication, and avoidance—that is, aspects more related to the psychosocial and emotional aspects of sexual functioning [32]. Another study shows that having had OASIS is the strongest predictor of postponing recommencement of sexual activity more than eight weeks post-childbirth, as well as reporting dyspareunia at one year post-childbirth [33]. Frequent or daily painful intercourse is reported by 11% of women in a French study of 159 women with OASIS at least one year postpartum [15]. However, dyspareunia after childbirth appears to be common. In an Australian study of 1507 primi-parous women, 85.7% report painful first intercourse after childbirth, though this number falls to 22.6% reporting dyspareunia at 18 months postpartum. Women who had caesarean sections are more likely to report intense dyspareunia at six months postpartum, but no subgroups of women with OASIS are analyzed in this study [34].

Many women in our study experienced lower self-image. Few have studied how women's self-image may be altered after OASIS. A qualitative study with ten participants in two focus groups shows that body image may change negatively after OASIS [35]. Another study of 422 women with OASIS, using a self-reported questionnaire, reports that 53% of affected women identify a change in body image, whereof 19% report lower self-esteem and 18% report a personality change caused by the change in body image. Furthermore, 59% of affected women experience anatomical changes to their genitals, and a third of the women feel less attractive after the injury [36]. These studies present results in line with our findings; thus, it can be presumed that having had an OASIS at childbirth may have prolonged negative consequences on women's self-esteem and body image, though further studies should address this topic.

Worries of future childbirth after OASIS were expressed in our study, and the topic has been studied by others, wherein a wish to postpone another childbirth or not have more children is described. Still, about 60% have another child, and 49% of these are delivered by caesarean section [37]. Persistent memories of a complicated childbirth are shown to cause feelings of misunderstanding, guilt, anger, confusion, anxiety, depression and sometimes also reluctance to consider future pregnancies [38,39]. Our participants expressed worries of additional damage to their genitals in case of another vaginal childbirth. This concern may be relevant, as anal function has been found to deteriorate after subsequent vaginal deliveries in Swedish follow-up studies [21,40]. A recent study reveals that women with OASIS grade 4 at first childbirth are at a higher risk for anal and fecal incontinence compared to women with OASIS grade 3. However, the mode of subsequent childbirth shows no effect on anal or fecal incontinence [41].

Women expect to have a full recovery after the suturing of their injury. If that is not fulfilled, shame and unexpected embarrassing situations occur, as women perceive that they have no control over their bowels and bladder anymore [26].

Findings disagree on women's quality of life after OASIS. Some report negative effect on daily life and quality of life [12,13], while another study shows that women with OASIS do not report poorer quality of life despite their increased problems with incontinence and dyspareunia [42]. In addition, problems related to incontinence, dyspareunia, and perineal pain are more common among women with OASIS, but similar persisting problems are high among women without OASIS as well [43]. The vast majority (95%) of affected women report normal quality of life regarding self-care, mobility, and daily activities at least one year after OASIS, but approximately one-third of participants still report pain/discomfort and anxiety/depression [15], indicating that persistent negative effects on the lives of women persist after OASIS.

Further studies need to address several aspects of women's lives after having an OASIS, including quantitative studies that investigate the prevalence of poorer recovery and its associated risk factors, as well as qualitative studies that focus on what support and help affected women need. In addition, the strain on psychological well-being, self-esteem, and body-image after OASIS is a topic that needs further investigation.

Methodological considerations

The data for this study is comprised of numerous written responses to the one-year follow-up questionnaire administrated by the PLR, which can be regarded as a strength of this study. Another strength is that data is comprised of experiences ranging from feeling recovered but with a somewhat damaged body, to experiences of severe complications and prolonged, problematic recovery. Participants also came from different sizes of birth clinics and from all parts of the country. However, one weakness was using written responses to explore experiences, which provides no options to probe or explore further what is written. In some cases, an option to ask for more information would have deepened the understanding of the woman's experiences. We had no access to data on whether there were any differences between primiparous and multiparous responses, and that could be seen as a limitation of the study.

A strength as well as a weakness may be the pre-existing knowledge of the researchers (midwives, an urotherapist, and a gynecologist specialized in perineal lacerations, with extensive clinical experience of

encounters with women with OASIS). However, we have different clinical experiences due to our professions, and the findings have been discussed throughout the analysis to minimize bias caused by our preconceived understanding. Furthermore, selection bias may have occurred in the data, as women with full recovery after OASIS may not have the same motivation to express their experiences as women who had more problematic recoveries. However, these findings provide an important insight into how women may experience their recovery one year after having an OASIS at childbirth, an insight that is important for research as well as clinical practice.

Conclusions

We found that women still struggled to settle with their damaged bodies approximately one year after OASIS. Some women felt recovered, but many still had physical and psychological health problems. In addition, findings showed that it was crucial for the recovery to be supported by HCPs and the partner. Health care services face huge challenges to improving services for OASIS-affected women. Clear pathways are needed within the health care organization to appropriate health care—services that address both the physical and psychological health problems of women with prolonged recovery after OASIS. Suboptimal recovery about one year after OASIS has a number of negative effects on women's lives and their ability to contribute to society; therefore, comprehensive measures are needed to improve care and recovery for women with prolonged health problems.

Authors' contributions

All authors have sufficiently contributed to this study. EU created the PLR and identified the abundance of written comments. ML, MP, IL and EU designed the study. ML compiled and analyzed data, drafted the manuscript, and submitted the final manuscript. MP analyzed data and supported the drafting of the manuscript. IL contributed to the background, IL EU and MN contributed in the later stages of the data analysis and drafting of the manuscript. All authors read and approved the final manuscript.

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References

[1] Socialstyrelsen: Graviditeter, förlossningar och nyfödda barn – Medicinska födelseregistret 1973–2014 – Assisterad befruktning 1991–2013 In., 2015-12-27 ed.; 2015.
[2] Blondel B, Alexander S, Bjarnadottir RI, Gissler M, Langhoff-Roos J, Novak-Antolic Z, et al. Variations in rates of severe perineal tears and episiotomies in 20 European countries: a study based on routine national data in Euro-Peristat Project. Acta Obstet Gynecol Scand 2016;95(7):746–54.
[3] Laine K, Gissler M, Pirhonen J. Changing incidence of anal sphincter tears in four Nordic countries through the last decades. Eur J Obstet Gynecol Reprod Biol 2009;146(1):71–5.
[4] Socialstyrelsen - Statistikdatabas: Statistik om graviditeter, förlossningar och nyfödda barn 2015. In: Socialstyrelsen. http://www.socialstyrelsen.se/publikationer2017/2017-3-3/; 2017.
[5] Byrd LM, Hobbiss J, Tasker M. Is it possible to predict or prevent third degree tears? Colorectal Disease: Off J Assoc Coloproctol Great Britain Ireland 2005;7(4):311–8.
[6] Poulsen MO, Madsen ML, Skriver-Moller AC, Overgaard C. Does the Finnish intervention prevent obstetric anal sphincter injuries? A systematic review of the literature. BMJ Open 2015;5(9):e008346.
[7] Faltin DL, Boulvain M, Floris LA, Irion O. Diagnosis of anal sphincter tears to prevent fecal incontinence: a randomized controlled trial. Obstet Gynecol 2005;106(1):6–13.
[8] Andrews V, Sultan AH, Thakar R, Jones PW. Occult anal sphincter injuries–myth or reality? BJOG 2006;113(2):195–200.
[9] Andrews V, Thakar R, Sultan AH, Jones PW. Evaluation of postpartum perineal pain and dyspareunia–a prospective study. Eur J Obstet Gynecol Reprod Biol 2008;137(2):152–6.
[10] LaCross A, Groff M, Smaldone A. Obstetric anal sphincter injury and anal incontinence following vaginal birth: a systematic review and meta-analysis. J Midwifery Women's Health 2015;60(1):37–47.
[11] Samarasekera DN, Bekhit MT, Wright Y, Lowndes RH, Stanley KP, Preston JP, et al. Long-term anal continence and quality of life following postpartum anal sphincter injury. Colorectal Dis 2008;10(8):793–9.
[12] Uustal Fornell E, Wingren G, Kjolhede P. Factors associated with pelvic floor dysfunction with emphasis on urinary and fecal incontinence and genital prolapse: an epidemiological study. Acta Obstet Gynecol Scand 2004;83(4):383–9.
[13] Cornelisse S, Arendsen LP, van Kuijk SM, Kluivers KB, van Dillen J, Weemhoff M. Obstetric anal sphincter injury: a follow-up questionnaire study on longer-term outcomes. Int Urogynecol J 2016;27(10):1591–6.
[14] Rasmussen JL, Ringsberg KC. Being involved in an everlasting fight–a life with postnatal faecal incontinence. A qualitative study. Scand J Caring Sci 2010;24(1):108–15.
[15] Desseauve D, Proust S, Carlier-Guerin C, Rutten C, Pierre F, Fritel X. Evaluation of long-term pelvic floor symptoms after an obstetric anal sphincter injury (OASI) at least one year after delivery: a retrospective cohort study of 159 cases. Gynecologie Obstetrique Fertilite 2016;44(7–8):385–90.
[16] Priddis H, Dahlen H, Schmied V. Women's experiences following severe perineal trauma: a meta-ethnographic synthesis. J Adv Nurs 2013;69(4):748–59.
[17] Brubaker L, Handa VL, Bradley CS, Connolly A, Moalli P, Brown MB, et al. Pelvic Floor Disorders N: sexual function 6 months after first delivery. Obstet Gynecol 2008;111(5):1040–4.
[18] Boij C, Matthiesen L, Krantz Z, Boij R. Sexual function and wellbeing after obstetric anal sphincter injury. British J Midwifery 2007;15(11).
[19] Evans EFC, Henry A, Briffa K, Thompson J. What is the total impact of an obstetric anal sphincter injury at an Australian tertiary women's hospital? A retrospective cohort investigation os women affected between 2009 and 2014. New Zealand Continence J 2017;23(4).
[20] Tucker J, Clifton V, Wilson A. Teetering near the edge; women's experiences of anal incontinence following obstetric anal sphincter injury: an interpretive phenomenological research study. Aust N Z J Obstet Gynaecol 2014;54(4):377–81.
[21] Pollack J, Nordenstam J, Brismar S, Lopez A, Altman D, Zetterstrom J. Anal incontinence after vaginal delivery: a five-year prospective cohort study. Obstet Gynecol 2004;104(6):1397–402.
[22] Keighley MR, Perston Y, Bradshaw E, Hayes J, Keighley DM, Webb S. The social, psychological, emotional morbidity and adjustment techniques for women with anal incontinence following Obstetric Anal Sphincter Injury: use of a word picture to identify a hidden syndrome. BMC Pregn Childbirth 2016;16(1):275.
[23] Stock L, Basham E, Gossett DR, Lewicky-Gaupp C. Factors associated with wound complications in women with obstetric anal sphincter injuries (OASIS). Am J Obstet Gynecol 2013;208(4). 327.e321–326.
[24] Lewicky-Gaupp C, Leader-Cramer A, Johnson LL, Kenton K, Gossett DR. Wound complications after obstetric anal sphincter injuries. Obstet Gynecol 2015;125(5):1088–93.
[25] Priddis HS, Schmied V, Kettle C, Sneddon A, Dahlen HG. "A patchwork of services"–caring for women who sustain severe perineal trauma in New South Wales–from the perspective of women and midwives. BMC Pregn Childbirth 2014;14:236.
[26] Priddis H, Schmied V, Dahlen H. Women's experiences following severe perineal trauma: a qualitative study. BMC Womens Health 2014;14(1):32.
[27] Krippendorff K. Content analysis: an introduction to its methodology. Thousand Oaks: Sage Publication; 2004.
[28] Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today 2004;24(2):105–12.
[29] Bristningsregistret [http://www.gynop.org/webhelp/gynopnet/gynopnet.htm#bristning/faq_bristning.htm].
[30] Sveriges Riksdag: Patientdatalag (2008:355). In.; 2008.
[31] Bristningsregistret, årsrapport [https://www.sfog.se/start/kvalitet/bristningsregistret/].
[32] O'Shea MS, Lewicky-Gaupp C, Gossett DR. Long-term sexual function after obstetric anal sphincter injuries. Female Pelvic Med. Reconstr Surgery 2017.
[33] Fodstad K, Staff AC, Laine K. Sexual activity and dyspareunia the first year postpartum in relation to degree of perineal trauma. Int Urogynecol J 2016;27(10):1513–23.
[34] McDonald EA, Gartland D, Small R, Brown SJ. Frequency, severity and persistence of postnatal dyspareunia to 18 months post partum: a cohort study. Midwifery 2016;34:15–20.
[35] Williams A, Lavender T, Richmond DH, Tincello DG. Women's experiences after a third-degree obstetric anal sphincter tear: a qualitative study. Birth 2005;32(2):129–36.
[36] Iles D, Khan R, Naidoo K, Kearney R, Myers J, Reid F. The impact of anal sphincter injury on perceived body image. Eur J Obstet Gynecol Reprod Biol 2017;212:140–3.
[37] Wegnelius G, Hammarstrom M. Complete rupture of anal sphincter in primiparas: long-term effects and subsequent delivery. Acta Obstet Gynecol Scand 2011;90(3):258–63.
[38] Lyberg A, Severinsson E. Fear of childbirth: mothers' experiences of team-midwifery care - a follow-up study. J Nurs Manag 2010;18(4):383–90.
[39] Gottvall K, Waldenstrom U. Does a traumatic birth experience have an impact on future reproduction? BJOG: Int J Obstetrics Gynaecol 2002;109(3):254–60.
[40] Fornell EU, Matthiesen L, Sjodahl R, Berg G. Obstetric anal sphincter injury ten years after: subjective and objective long term effects. BJOG: Int J Obstetrics Gynaecol 2005;112(3):312–6.
[41] Jangö H, Langhoff-Roos J, Rosthøj S, Saske A. Long-term anal incontinence after obstetric anal sphincter injury—does grade of tear matter? Am J Obstet Gynecol 2018;218(2). 232.e231–232.e210.
[42] Palm A, Israelsson L, Bolin M, Danielsson I. Symptoms after obstetric sphincter injuries have little effect on quality of life. Acta Obstet Gynecol Scand 2013;92(1):109–15.
[43] Sundquist JC. Long-term outcome after obstetric injury: a retrospective study. Acta Obstet Gynecol Scand 2012;91(6):715–8.