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# **Experience of pelvic floor muscle exercises among women in Taiwan: a qualitative study of improvement in urinary incontinence and sexuality**

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## **Abstract**

**Aims and objectives.** To gain an in-depth understanding of women's experiences of performing pelvic floor muscle exercises for urinary incontinence and the impact on their sexuality.

**Background.** Urinary incontinence is not a life-threatening disorder; however, it has been shown to have detrimental effects on quality of life in terms of psychological, social and sexual dysfunction. Pelvic floor muscle exercises is the first recommended strategy for managing mild to moderate urinary incontinence as it is

Non-invasive and cost effective. Pelvic floor muscle exercises reduce incontinence and strengthen the pelvic floor muscles, which positively affects sexual function in women.

Currently, the data are scarce for qualitative literature regarding the subjective experiences of Taiwanese women undergoing pelvic floor muscle exercises and the impact on their urinary incontinence and sexuality.

**Design.** Qualitative exploratory study.

**Methods.** Semi-structured in depth interviews were undertaken with twelve women who had completed a pelvic floor muscle exercises program in Taiwan.

Data were analysed using thematic analysis.

**Results.** Themes were related to Taiwanese women's initial feelings that urinary incontinence was inevitable and the effects on their sexuality. Three core themes were identified:

perceptions of inevitability, developing awareness and gaining control and sexual taboo.

Through developing awareness and control of their pelvic floor muscles women expressed improvement in urinary incontinence. Sexual enjoyment, body image, self confidence and sexuality were also enhanced.

**Conclusion.** Pelvic floor muscle exercises had a positive effect on urinary incontinence and sexuality. The findings demonstrated that sex is a taboo topic for many Taiwanese women. With the sensitive management of pelvic floor muscle exercises programs this issue can be addressed.

**Relevance to clinical practice.** This study raises awareness of healthcare professionals by identifying how Taiwanese women perceive pelvic floor muscles. The positive impact of pelvic floor muscle exercises upon both urinary incontinence

**Key words:** pelvic floor muscle exercise, sexual taboo, sexuality, urinary incontinence

## **What does this paper contribute to the wider global clinical community?**

- Cultural differences with respect to female sexuality and awareness of health conditions such as urinary incontinence and sexual dysfunction are treatable. These health changes are not an inevitable consequence of ageing, pregnancy or childbirth.

- Taiwanese women who regard sexuality as taboo can discuss this issue in the context of a pelvic floor muscle exercise program.
- Practicing PFME is important to improve pelvic health for all women. Taiwanese women develop awareness and control of their PFM and improve their sexual experience.

## **Introduction**

Urinary incontinence (UI) is one of the most frequent symptoms associated with pelvic floor dysfunction (PFD) and affects women of all ages, cultures and races (Hyland et al. 2014). As the symptoms are intimate, UI is often a 'hidden' problem and adversely affects women's daily lives, work, and recreational activities and may cause them to avoid social contacts (Riss & Kargl 2011). Further evidence exist that UI and problems with the pelvic muscles can also cause significant sexual problems in women. Women avoid sexual intimacy as a result of embarrassment and fear of UI during sexual activity (Lukacz et al. 2007, Rivalta et al. 2010). Urinary leakage that can occur during intercourse may also impact both the frequency and enjoyment of sexual activity (Zielinski et al. 2009). Due to the sensitive nature and Taiwanese social taboo regarding the discussion of sex, it is rarely disclosed to healthcare professionals due to embarrassment. Pelvic floor muscle exercise (PFME) is a non-invasive technique and recommended as the first line management of mild to moderate urinary incontinence (UI) in women (Abrams et al. 2002). Women with UI who practice PFME have found the muscles strengthened and consequently reported improved quality of life and positive effect on their sexual life (Bo et al. 2000, Zahariou et al. 2008, Rivalta et al. 2010). These studies are limited in that they exclusively report quantitative data. They do not explore the subjective experiences of women with UI undergoing PFME in terms of how it affects their sexual relationships and satisfaction. In addition, UI sufferers are under recognised and treated due to its hidden and embarrassing nature (Bartoli et al. 2010). Cultural factors, embarrassment, as well as the lack of awareness of the problem and the belief that the problem is not a medical issue; were the most common reasons cited by Asians for not seeking help (Nicolosi et al. 2005). However, little research exist that focuses on Taiwanese women and the effects of PFME, as sex remains a socially taboo topic for discussion.

## **Background**

Female UI is a major public health problem (Abrams et al. 2002). Although urinary incontinence is not a life-threatening disorder, it has been shown to have detrimental effects on quality of life in terms of psychological, social and sexual problems (Sen et al. 2006). Despite the negative effect on quality of life, approximately only 20–50% of women seek help for UI (Koch 2006). Many women find it difficult to discuss their private and sensitive problems with their health professional. Roos et al. (2012) stated that without health professionals understanding women's concerns, distressing UI or sexual problems could go unnoticed.

Sexuality is a fundamental aspect of well-being and can have a significant impact on women's health. UI has been demonstrated to have a negative impact on a woman's sexuality due to leakage which can lead to a decrease in quality of life, sexual activity and enjoyment while negatively affecting relationships (Achtari & Dwyer 2005, Lukacz et al. 2007, Liebergall-Wischnitzer et al. 2011). Women felt less feminine, less sexually attractive and also suffered poor body image (Coyne et al. 2007, Zielinski et al. 2009, Ratner et al. 2011). In addition, body image generally has been shown to impact sexuality (Seal et al. 2009,

Zielinski et al. 2009). As the population of ageing women grows, increasing numbers of women will be affected by PFD.

Zielinski et al. (2009) stated it is important that health professionals understand how PFD can affect women, not only physically, but also how they view their bodies and how this may influence sexuality. By assessing and acknowledging the issues of body image and sexuality, nurses can better understand and care for women experiencing UI. Qualitative studies have been conducted to gain understanding of the impact of an overactive bladder on women's sexual health (Coyne et al. 2007), and women's experiences of doing long-term PFME for the treatment of pelvic organ prolapse symptoms (Hyland et al. 2014). Currently, no qualitative studies have been conducted that specifically aim to understand the effect of PFME on women's UI and sexuality within the Taiwanese context. This qualitative study was designed to address this gap by conducting an in-depth exploration of the experiences of women performing PFME for UI, and any changes in their sexuality following a program of PFME two years later. By conducting interviews two years later and determining participants actual practice of PFME, the effects of this simple exercise can be better assessed.

## **The study**

### **Aim**

The aim of the study was to gain an in-depth understanding of women's experiences of performing PFME for improvement in UI and sexual functioning.

### **Design**

A qualitative, descriptive study involving semi-structured, in-depth interviews was designed.

### **Participants**

This purposive sample included 12 women aged 44 to 66 (Table 1) recruited from a group of 33 women who had undertaken a PFME educational programme in Taiwan. The programme was provided to those who had attended community-based integrated screening programmes. They were then invited to attend the programme every two weeks for eight weeks (June to July, 2008). The inclusion criteria were women who irregularly or consistently performed PFME, and willingly shared their experiences about PFME on UI and sexuality. Women who agreed to participate received an explanation about the research, and made an appointment for the interview at a place of their choice. To understand the long-term effects of PFME, interviews were conducted two years post-PFME educational programme. The follow up data was collected from July 2010 to March 2011.

### **Data collection**

Data were collected using individual face-to-face interviews that were guided by a series of open-ended interview questions (Table 2). Interviews were audio-recorded and ended when participants indicated that they had no further comments to make. The interviews varied in length from 50 to 100 minutes in duration. The interviews were conducted and transcribed verbatim by the first author. The transcriptions were compared with audio-recordings for accuracy and the co-author verified transcription accuracy.

### **Data analysis**

Data were subject to thematic analysis as suggested by Braun and Clarke (2006). Thematic analysis is a method for identifying, analysing and reporting themes within data. It minimally organises and describes the data set in rich detail (Braun & Clarke 2006). Thematic analysis allows for the opportunity to understand the potential of an issue on a wider basis (Joffe & Yardley 2004). The transcripts were carefully read and reread for line-by-line coding. Significant statements were then selected and coded with extracts of data,

given labels that reflected that particular experience or explanation. The data were examined for patterns that appeared frequently. As data analysis proceeded, these codes were placed in larger sub-themes that represented more substantial elements of the participants' experiences. Finally, sub-themes were placed within larger more substantial themes. Themes were extracted to represent the participants' experiences of PFME for UI and the impact on their sexuality.

**Table 1 List of the participants**

No.	Name	Age	Education	Employment	Menopause status	Parity
1	Selina	55	Junior high school	Unemployed	Postmenopause	2
2	Linda	66	High school	Retired	Postmenopause	4
3	Silvia	48	High school	Unemployed	Premenopause	2
4	Sandy	45	High school	Employed	Premenopause	2
5	Gina	66	Junior high school	Unemployed	Postmenopause	3
6	Betty	53	High school	Unemployed	Postmenopause	2
7	Tess	51	High school	Unemployed	Postmenopause	2
8	Grace	49	High school	Unemployed	Postmenopause	2
9	Lillian	55	Junior high school	Unemployed	Postmenopause	2
10	Liz	62	Primary school	Retired	Postmenopause	2
11	Sarah	63	High school	Retired	Postmenopause	2
12	Carol	44	University	Employed	Premenopause	2

**Table 2 Outline of the semi structured interview**

- 1 Before learning the PFME, did you have any awareness of your pelvic floor muscles?
  - 2 Can you describe your experience of performing PFME?
  - 3 What are your feelings about the advantages of performing PFME?
  - 4 Can you describe your current situation with urinary incontinence since starting PFME?
  - 5 Have there been any changes in your sexuality related to PFME?
  - 6 Could you describe how you and your partner feel about the changes in your sexuality?
- PFME, pelvic floor muscle exercises.

#### Rigor

Trustworthiness of the qualitative data was established using guidelines by Lincoln and Guba (1985) which comprises credibility, dependability, confirmability and transferability. Credibility was enhanced by using open-ended interviews to verify participants' responses and included numerous quotes from the participants' verbal descriptions in the findings of this study. To ensure dependability, all members of the research team were involved in data analysis. Definitions of themes were discussed and agreed upon by the research team as data analysis progressed. To ascertain consistency and a shared understanding of the meanings within the data, each worked, in the first instance, individually on one theme. The resultant themes were then exchanged and checked for cohesiveness. Once attained, data analysis continued to identify more themes. Checking for cohesiveness in this way continued throughout the analytic process, thus establishing confirmability. Transferability was established by providing sufficient description to allow readers to evaluate relatedness to their individual contexts.

#### Ethical considerations

The study was approved by the institutional review board of the relevant teaching hospital. Written informed consent was obtained from all the participants. To assure confidentiality

and to protect privacy, pseudonyms were used for reporting purposes. Participants were advised that they could withdraw from the study at any time.

### **Findings**

Three themes and eight subthemes emerged from the statements that described the participants' experiences of PFME for UI and its impact on their sexuality (Table 3). Each theme is presented below with verbatim extracts selected from the interviews to illustrate their meaning.

**Table 3 Themes and subthemes**

Themes	Subthemes
Perceptions of inevitability	Its just a part of getting old Changes in perception of body image Negative effect of urinary incontinence on sexuality
Developing awareness and gaining control	Lack of awareness of pelvic floor muscles Developing and sharing awareness Gaining control and confidence
Sexual taboo Sex is a cultural taboo	Passive to active control leads to women's empowerment

#### **Perceptions of inevitability**

Based on inquiries about the experience of PFME, participants revealed their perceptions of UI, vaginal laxity, and the impact on their lives. They believed that UI and/or vaginal laxity were just part of getting old and related to childbirth for women. Participants reported that UI and loose vaginal muscles affected their body image, sexual satisfaction and relationship. Changes in body shape post-childbirth and the ageing process left them feeling less feminine, less confident and impacted their daily lives.

It is just a part of getting old

Most participants did not consider the condition of UI to be sufficiently severe, as a result they did not seek professional help. In describing their experiences of UI and vaginal laxity, several participants stated that vaginal laxity was a normal consequence of childbirth and ageing. The participants believed that nothing could be done to improve their condition:

In my opinion, there is a strong correlation with UI and advancing age. The body is like a machine, when we get old our muscles become weaker. Can you return to the age of twenty? No, you *can't*. Right? So it's a normal process, at least that's what I really think. (Gina)

*I think it's normal to have urine leakage when you've given birth to so many children. Also it's a normal process of ageing to have a loose underneath (vagina). My husband once said a woman's there (vagina) becomes loose after childbirth, and was not as tight as before childbirth. (Linda)*

Changes in perception of body image

Most participants experienced changes in body shape and weight. They considered it as a consequence of child birth and advancing age. Participants' self perception was negatively altered in terms of body image, sense of femininity and feelings of attractiveness. Some women reported that UI had affected their body image, and as a consequence, they changed their style of clothing:

My body shape changed after childbirth; a protruding abdomen, bigger butt, and no tight feeling. Now I am getting old, there is no hope. Moreover, I feel ugly and unattractive. *I don't feel feminine.* (Betty)

I have to be very selective with the type and color of clothes. Most are dark, because I worry about the urine leakage wetting my pants, and others seeing it. In that situation I will feel very embarrassed. (Lillian)

Clearly these women remain very concerned about hiding evidence of their UI and the potential for embarrassment due to leakage. Such changes only act to exacerbate feelings of unattractiveness and lack of femininity.

#### Negative effect of UI on sexuality

Several women reported that incontinence and/or vaginal laxity lead to sexual avoidance. Participants stated they had UI since perimenopause. They felt frustrated that leakage may occur during sex and feared to have sex, which in turn led to a reduction in their sexual desire. This negatively affected their sexual satisfaction and intimate relationship:

It really disturbed me. UI impacts my sexual life. I fear leakage occurring during sex and want to finish it quickly. This annoys me. *Why did this happen to me? So that's been a definite turn off.* The feelings of not being in control of your body and not able to stop leakage, upset me and I sometimes think I am useless. (Liz)

Regarding discussions on vaginal muscle strength, women often expressed the following: vaginal walls were too loose to experience any sensation, and vaginal laxity affects their sexual satisfaction. Participants described that not only was sex less satisfying due to vaginal laxity, but they also worried that they could not satisfy their husband's sexual needs:

I think my underneath (vaginal) became loose after giving birth which was as wide as a freeway. My husband might have no feeling. I was worried about not being attractive, and he might go out to find other women. If my husband had an extramarital affair it would be my fault. (Betty)

Most participants were postmenopausal and complained of a dry vagina. This common effect of menopause leads to painful and uncomfortable sexual intercourse further reducing sexual desire:

*I don't have any sexual interest or desire since menopause.* I feel pain and seldom have sex with my husband because of dryness or feeling less lubrication during sex. This disturbed me a lot. *My husband saw my pain and he didn't want sex at all.* Therefore, we had almost no sex life. I think sex is not that important at my age. *I don't want to talk about sex with my husband or others.* (Gina)

Concerns about not being able to sexually satisfy their husbands during intercourse were very real, and led to fear of their husbands seeking sex outside of the marriage. The centrality of sexual intercourse in these women's relationships was therefore highlighted.

#### **Developing awareness and gaining control**

Prior to the PFME programme most of the participants were unaware of pelvic floor muscles (PFM). They had never learned to contract their PFM before and were uncertain of PFM contraction. Through learning PFME women became aware of their PFM, their function, dysfunction and the advantages of PFME. As they experienced control over their PFM, the strength improved and their UI reduced. The women became more confident of gaining control and were willing to share their experiences with others.

#### Lack of awareness of PFM

Most participants did not know of the existence of PFM, and were unable to perform correct PFM contractions prior to the PFME class. PFM are almost unknown muscles for most participants, as they did not realize these muscles could be voluntarily contracted through training and practice:

At my age, I had never heard of PFM and *I didn't know their location*. I never experienced the contraction of muscles (PFM) before. Also, I am not sure how to do the correct contraction. You know, I have no feeling of my underneath (vagina). (Sarah)

I never tried to squeeze underneath (vagina) before. I remember when you taught me to contract there (vagina), my first thought was: Could they be contracted? *I didn't even know where they were. I couldn't feel them, because they could not be touched and also, you are not touching them.* (Lillian)

#### Developing and sharing awareness

Through learning PFME women were able to feel and become aware of PFM. Some participants initially found it difficult, until they identified the feeling and the techniques of PFME. Women experienced and were made aware that PFM could be voluntarily contracted. Several participants experienced the benefits of improved PFM strength and felt a strong desire to share their new knowledge and awareness of PFM with their friends or relatives. This was both in terms of the potential to treat or prevent UI, and also to improve their sexual lives:

I found the condition of urine leakage improve a lot. So, I taught my friends how to perform PFME. It was not that easy for them to perform PFME correctly in the beginning. After I shared my experience and technique of PFME and the benefits, they became very interested. (Grace)

I must teach my daughter, she just married last month. It is very important for her and the relationship with her husband. This is a very important exercise. PFME not only prevents urine leakage post childbirth, but also strengthens vaginal muscles, and this might improve their sex life. (Silvia)

#### Gaining control and confidence

Through voluntary PFM contraction, women gained control over their bodies and felt more confident. Participants experienced they could control the muscle for UI. Most of the participants still perform PFME as they are aware of PFM and they also demonstrated that PFM can be controlled voluntarily at any time and place. Furthermore, participants stated that PFME is economical, convenient, have more advantages; and should be considered as a health promotion behaviour:

I am getting older and sometimes I feel loose and suffer urinary leakage. When I learned how to perform PFME, I found it an easy daily exercise. You can easily contract there (PFM), whenever you think about it. I feel strength there (PFM) and can control my UI. Furthermore, it improves my quality of life. I will perform PFME continuously. (Sarah)

Participants revealed that they had paid little attention to their pelvic health. Women play a multiple role, they gave first priority to family and a low priority to themselves. They found PFME has more advantages; such as UI improvement, better physique and better quality of life or health. This is also view as another way of confidence for some women:

I had to work, and take care of my family when I was young. There was no time to pay more attention to myself. However, *PFME has other advantages for women's health*. PFME brought several tangible benefits to me. My physique is looking better, most importantly, my underneath (vagina) strengthened. I can control my muscles for leakage and have no more fear of it happening. . . *That's made me more confident.* (Tess)

### **Sexual taboo**

A number of participants referenced PFME as having a positive effect on their sex lives. Through voluntary contraction of PFM, vaginal sensation was enhanced during sexual intercourse. They started to discuss the different experiences during sex. Some women expressed more sexual satisfaction and enjoyment. Due to the heightened pleasure during sex as another effect of PFME, the participants felt greater empowerment in their sexuality. However, others were more conservative and suppressed their feelings of sexual desire, which later was revealed to be due to cultural influences on sexuality.

Sex is a cultural taboo

Sex remains a taboo topic for many of the participants due to cultural norms. Prior to PFME, the women were unaware of their PFM and only some noticed their PFM after menarche or post partum. They associated the vagina with their sex life. While talking about the change in their sexuality related to PFME, several women described their embarrassment talking about sex. One participant shared her experience of feeling embarrassed about having a sexual relationship even though she was married. She became pregnant after one year of marriage, a visual indicator of sexual activity:

I was ashamed to let others know I was pregnant. Because I had done that thing (sex) with a man, and my belly became bigger. I felt uncomfortable and ashamed for the entire pregnancy. It was embarrassing to do such a thing (having sex); you know that thing. . .eh. that kind of thing happening made me feel so embarrassed. I felt better when I had my second baby, I was not as embarrassed as with the first one. Maybe I am a conservative. In the beginning, when you asked me to contract there (vaginal muscle), I associated with that thing (sex). When I twitched and contracted there (vagina) I felt embarrassed. (Sandy)

Sandy disclosed her perception of sex as embarrassing because she was influenced by her mother who taught her to be conservative as it was socially acceptable. Being brought up in a family where sex is taboo, this clearly influenced her beliefs about sexual activity as an adult. Another participant said:

I am from a very traditional and conservative family. When I grew up, my mother told me, females shouldn't get too close with a male and mustn't have sex before getting married. This

is in accordance *with the concept of “liang gia fu nu” (Chinese pronunciation, meaning; a respectable, good, and proper woman).* (Linda)

These quotations illustrate the significance of the cultural context within which the women were born and raised; sexual activity was not only taboo, it was firmly associated with marriage and women were expected to be submissive. Another prominent finding was that the women who performed PFME had increased feelings of sexual desire. One participant feared the feeling of sexual desire and repressed the feeling:

I practiced PFME during the lunch break. I had a strange feeling, when I exercised for a few minutes. I had that desire to, you know that. . .the thing between you and your husband. It happened not just once it happened many times when I contracted my PFM and I felt warm from inside there (vagina), then that feeling comes. A feeling of sexual desire, such feeling *that I shouldn't have at my age.* I had gooseflesh and I felt fear and embarrassed and thought it is not proper for women to have sexual desire. Oh, I wondered was I normal to have that feeling. *How could this happen? I don't want to be considered as having a strong desire for sex.* (Carol)

Due to the cultural taboo, women fear their feelings of sexual desire as they believe that it is improper.

#### *Passive to active control leads to women's empowerment*

Some participants emphasised that they play a passive role in their sex life, and accommodated their husband's sexual requests. This indicates that men's sexual needs take precedence over women's needs. Most participants regard sex as a means for procreation and a duty. Due to cultural attitudes towards women and sex, Taiwanese women remain passive partners even with active control of PFM and improved sexual experience:

I have never been active (in sex life). *I do have my needs, but I've never asked.* I never thought how my sexual life was. It was not good or bad. When my husband requests sex, I give it to him. *That's my duty. Otherwise, why is he married to me?* (Tess)

Several women discussed doing the exercises with the intention to tighten their vaginal muscles and improve their own sexual pleasure. They were taught that practicing PFME during sexual intercourse increased tightness and friction, leading to greater pleasure for both. They gained different experiences and were encouraged by their husbands:

One time I tried to contract my vaginal muscles voluntarily during *having that (sex), I didn't let my husband know.* I contracted as much as I could and I found I had a special strong feeling, a feeling of pleasure. . . After that, I tried again and you know it happened again and we both felt pleasant. I told him I had been contracting there (vagina) and asked what he felt. He said he had more feeling, the feeling like it (penis) was squeezed and more friction. He likes that feeling and so do I. So he encourages me to practice PFME harder and keep going. (laughs) (Grace)

By becoming aware of PFM and doing PFME, not only are the symptoms of PFD improved, they can also control PFM. This results in increased sexual desire, pleasure, and sense of femininity. The liberation from fear of UI and personal autonomy results in empowerment.

## **Discussion**

The results of the present study support earlier research which indicates that women believe UI to be a consequence of ageing or childbirth and accept incontinence as inevitable (Shapiro et al. 2003, O'Dell et al. 2008, O'Reilly et al. 2009). The perception of inevitability may affect women's behaviour with respect to seeking help. Participants experienced loss of control over their bodies and believed that little could be done to change their situation or prevent UI, and gave rise to a sense of futility. Similarly, Hagglund and Ahlstrom (2007) showed that women's lack of control over UI lead to a sense of powerlessness. Physical changes as a consequence of childbirth and advancing age, lead to feelings of discontentment with their body image. Participants' self perception was negatively altered in terms of body image, sense of femininity and feelings of attractiveness. This finding is consistent with Sacomori et al. (2010), who found women with lower PFM strength were less satisfied with their body image and self-perception. Coyne et al. (2007) study found UI negatively affects women's sexual health, reducing sexual desire and ability to achieve orgasm. They also found that women were embarrassed by incontinence which resulted in low self-image and loss of self-confidence. Women in this study experienced that UI negatively affects their sexuality, sexual satisfaction and intimate relationship, due to feelings of a loss of femininity and confidence. As Roos et al. (2014) showed, UI is related to women's body image and is an important factor influencing their sex lives. This finding is aligned with fear of incontinence during intercourse causing women to feel less attractive and insecure about their partner's sexual experience. This study shows that the perceived inevitability of UI can be overcome with education and provides a better understanding with respect to the impact on sexuality.

Increased awareness of PFM via PFME lead to reduction of UI and improved body image. The improvement in their sexual experience and UI reduction lead to greater self confidence and may act as a positive motivator to maintain PFME. Similarly, Mattsson et al. (2000) showed that body awareness enhances confidence and had an empowering effect on women. In addition, Kuo et al. (2014) showed that women experienced exercise as beneficial to their health which lead to one of the factors determining their exercise behaviour and motivation. The theme awareness of PFM, highlights the effect of gaining physical control. It illustrates the differences between the perceived PFME experience (confidence, empowerment) and the actual PFME experience (reduction in UI, improved sexual experience).

In discussions with participants on the experience of PFME and PFM awareness, other factors were linked directly to their sexuality, namely child birth, menopause, family responsibility and marital sexual relationship. As such, the implications of PFME for UI extend far beyond a biomedical perspective.

Sexual self disclosure amongst Taiwanese women is extremely rare due to the cultural sexual taboos (Tanget al. 2013). Taiwanese culture is derived from the traditional Chinese Confucian background which values female chastity and submissiveness. It is not concerned with the emotional or sexual needs and preferences of women. Embarrassment discussing sex is exemplified by the word choice of the participants. In the present study, the words 'underneath' or 'there' were used to represent vagina and 'do such a thing' or 'that thing' represented sex. Similarly, 'feel strange' was used to distract from the embarrassment when contracting vaginal muscles. Nicolosi et al. (2005) found cultural factors influenced how people felt about discussing sexual problems and indicated 'embarrassment' was cited as a reason for not seeking help.

Most participants regard sex as a means for procreation and a duty. They behave conservatively in order to be socially accepted and are affected by their family values. Gao et

al. (2012) explained traditional family values and gender roles influence women's sexual behaviour. The participants in the present study stated that they were sexually conservative, passive or receptive, acting only to accommodate their husbands' requests in order to maintain the marital relationship. Furthermore, they felt it inappropriate to have sexual desires of their own and suppressed them. Due to the conundrum of the silence surrounding female sexuality in Taiwanese culture: the women who performed PFME were confused by their increased desire for sex. Guan (2004) reported the traditional Confucian culture for thousands of years has defined sexual behaviour as procreative and disregarded female sexual needs. Traditionally, men are considered 'Yang', strong and active, where as women are 'Yin' yielding and submissive (Higgins et al. 2002). As Nicolosi et al. (2005) found, Asians are more sexually conservative, male-orientated and less sexually active than in the West. Due to cultural conservatism, Taiwanese women remain passive partners in their sexual relationships. However, as a result of PFME, some women discovered that active control of their PFM during sex improved sexual satisfaction. This empowered exploring their sexual needs, which acted to strengthen the intimate relationship.

The findings are limited to the experiences of sexuality among a small number of women performing PFME for UI. This sample of middle-aged and postmenopausal Taiwanese women highlights the generational and cultural influences on the experience of PFME and sexuality. These findings are not representative of all women due to the small sample size. However, the similarities within the Taiwanese and Chinese culture remain consistent. Further, the cultural taboo limiting the discussion of sex was not easily overcome. Despite these limitations, the current findings make a valuable contribution to the literature by identifying women's perceptions of PFM and the link to their sexuality. These findings have important implications in nursing practice to aid nurses in understanding women's perspectives. All aspects of care should involve the voice of women to support an empowering experience. Research in other settings and cultures is necessary to extend this understanding. Taiwanese women who regard sexuality as a taboo topic can more readily discuss this issue in the context of a PFME programme. However, further research focusing on the best approaches related to raise the issues of sexuality in a culture steeped in a tradition of sexual taboo is important.

### **Conclusion**

Through the practice of PFME, women both manage UI and improve their sexual experience. Sex is traditionally a taboo subject within the Taiwanese culture, but with sensitive management of PFME programmes, this private issue can be successfully addressed. Taiwanese women are less vocal about their sexual issues due in large part to social taboo. Providing PFME programmes is an effective entry point for nurses to approach women's sexual issues. It is important that health professionals address PFM awareness and the benefits of PFME when advocating women's sexual health. This would validate women's UI and sexual concerns, while positively encouraging their adherence to PFME in the future.

### **Relevance to clinical practice**

This study raises important issues for healthcare professionals to consider by identifying how women perceive PFM. The positive impact of PFME upon both UI and sexual well-being within the Taiwanese context are addressed. Nurses may also, with greater confidence initiate discussion of women's sexual concerns as part of managing UI.

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#### Disclosure

The authors have confirmed that all authors meet the ICMJE criteria for authorship credit ([www.icmje.org/ethical\\_1author.html](http://www.icmje.org/ethical_1author.html)), as follows: (1) substantial contributions to conception and design of, or acquisition of data or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, and (3) final approval of the version to be published.

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#### Conflict of interest

No conflict of interest has been declared by the authors.

#### References

Abrams P, Cardozo L, Fall M, Griffiths D, Rosier P, Ulmsten U, van Kerrebroeck P, Victor A & Wein A (2002) The standardisation of terminology of lower urinary tract function: report from the standardisation sub-committee of the international continence society. *American Journal of Obstetrics and Gynecology* 187, 116–126.

Achtari C & Dwyer PL (2005) Sexual function and pelvic floor disorders. *Best Practice & Research Clinical Obstetrics & Gynaecology* 19, 993–1008.

Bartoli S, Aguzzi G & Tarricone R (2010) Impact on quality of life of urinary incontinence and overactive bladder: A systematic literature review. *Urology* 75, 491–500.

Bo K, Talseth T & Vinsnes A (2000) Randomized controlled trial on the effect of pelvic floor muscle training on quality of life and sexual problems in genuine stress incontinent women. *Acta Obstetrica Et Gynecologica Scandinavica* 79, 598–603.

Braun V & Clarke V (2006) Using thematic analysis in psychology. *Qualitative*

research in psychology 3, 77–101.

Coyne KS, Margolis MK, Jumadilova Z, Bavendam T, Mueller E & Rogers R (2007) Overactive bladder and women's sexual health: what is the impact? *Journal of Sexual Medicine* 4, 656–666.

Gao E, Zuo X, Wang L, Lou C, Cheng Y & Zabin LS (2012) How does traditional confucian culture influence adolescents' sexual behavior in three asian cities? *Journal of Adolescent Health* 50, S12–S17.

Guan J (2004) Correlates of spouse relationship with sexual attitude, interest, and activity among chinese elderly. *Sexuality & Culture* 8, 104–131.

Hagglund D & Ahlstrom G (2007) The meaning of women's experience of living with long-term urinary incontinence is powerlessness. *Journal of Clinical Nursing* 16, 1946–1954.

Higgins LT, Zheng M, Liu Y & Sun CH (2002) Attitudes to marriage and sexual behaviors: a survey of gender and culture differences in china and united kingdom. *Sex Roles* 46, 75–89.

Hyland G, Hay-Smith J & Treharne G (2014) Women's experiences of doing long-term pelvic floor muscle exercises for the treatment of pelvic organ prolapse symptoms. *International Urogynecology Journal* 25, 265–271.

Joffe H & Yardley L (2004) Content and thematic analysis. In *Research methods for clinical and health psychology*. (Marks D & Yardley L eds). Sage, London, pp. 56–68.

Koch LH (2006) Help-seeking behaviors of women with urinary incontinence: an integrative literature review. *Journal of Midwifery & Women's Health* 51,

e39–e44.

Kuo Y-L, Wu S-C, Hayter M, Hsu W-L, Chang M, Huang S-F & Chang S-C (2014) Exercise engagement in people with prediabetes – a qualitative study. *Journal of Clinical Nursing* 23, 1916–1926.

Liebergall-Wischnitzer M, Paltiel O, Hochner-Celnikier D, Lavy Y, Manor O & Woloski Wruble AC (2011) Sexual function and quality of life for women with mild-to-moderate stress urinary incontinence. *Journal of Midwifery & Women's Health* 56, 461–467.

Lincoln YS & Guba EG (1985) Establishing trustworthiness. In *Naturalistic Inquiry*, (Lincoln YS & Guba EG eds). Sage, Beverly Hills, CA, pp. 289–331.

Lukacz ES, Whitcomb EL, Lawrence JM, Nager CW, Contreras R & Luber KM (2007) Are sexual activity and satisfaction affected by pelvic floor disorders? Analysis of a community-based survey. *American Journal of Obstetrics and Gynecology* 197, 88.e1–88.e6.

Mattsson M, Wikman M, Dahlgren L & Mattsson B (2000) Physiotherapy as empowerment - treating women with chronic pelvic pain. *Advances in Physiotherapy* 2, 125–143.

Nicolosi A, Glasser DB, Kim SC, Marumo K & Laumann EO (2005) Sexual behaviour and dysfunction and helpseeking patterns in adults aged 40–80 years in the urban population of asian countries. *British Journal of Urology International* 95, 609–614.

O'Dell KK, Jacelon C & Morse AN (2008) 'I'd rather just go on as i am' – pelvic floor care preferences of frail, elderly women in residential care. *Urologic*

Nursing 28, 36–47.

O'Reilly R, Peters K, Beale B & Jackson D (2009) Women's experiences of recovery from childbirth: focus on pelvic problems that extend beyond the puerperium. *Journal of Clinical Nursing* 18, 2013–2019.

Ratner ES, Erekson EA, Minkin MJ & Foran-Tuller KA (2011) Sexual satisfaction in the elderly female population: a special focus on women with gynecologic pathology. *Maturitas* 70, 210–215.

Riss P & Kargl J (2011) Quality of life and urinary incontinence in women. *Maturitas* 68, 137–142.

Rivalta M, Sighinolfi MC, Micali S, De Stefani S & Bianchi G (2010) Sexual function and quality of life in women with urinary incontinence treated by a complete pelvic floor rehabilitation program (biofeedback, functional electrical stimulation, pelvic floor muscles exercises, and vaginal cones). *Journal of Sexual Medicine* 7, 1200–1208.

Roos A-M, Sultan AH & Thakar R (2012) Sexual problems in the gynecology clinic: are we making a mountain out of a molehill? *International Urogynecology Journal* 23, 145–152.

Roos A-M, Thakar R, Sultan AH, Burger CW & Paulus ATG (2014) Pelvic floor dysfunction: women's sexual concerns unraveled. *Journal of Sexual Medicine* 11, 743–752.

Sacomori C, Cardoso FL & Vanderlinde C (2010) Pelvic floor muscle strength and body self-perception among Brazilian pregnant women. *Physiotherapy* 96, 337–343.

Seal BN, Bradford A & Meston CM (2009) The association between body

esteem and sexual desire among college women. *Archives of Sexual Behavior* 38, 866–872.

Sen I, Onaran M, Aksakal N, Acar C, Tan M, Acar A & Bozkirli I (2006) The impact of urinary incontinence on female sexual function. *Advances in Therapy* 23, 999–1008.

Shapiro M, Setterlund D & Cragg C (2003) Capturing the complexity of women's experiences: a mixedmethod approach to studying incontinence in older women. *Affilia* 18, 21–33.

Tang N, Bensman L & Hatfield E (2013) Culture and sexual self-disclosure in intimate relationships. *Interpersona: An International Journal on Personal Relationships* 7, 227–245.

Zahariou AG, Karamouti MV & Papaioannou PD (2008) Pelvic floor muscle training improves sexual function of women with stress urinary incontinence. *International Urogynecology Journal* 19, 401–406.

Zielinski R, Low LK, Tumbarello J & Miller JM (2009) Body image and sexuality in women with pelvic organ prolapse. *Urologic Nursing* 29, 239–246.