

Perceptions of Pelvic Floor Dysfunction and Rehabilitation Care Among Women in Southeast China After Radical Hysterectomy: a Qualitative Study

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Abstract

Objective: To investigate the perceptions of pelvic floor dysfunction and rehabilitation care among women after radical hysterectomy and to explore ways to improve quality of care.

Methods: Thirty-six women who underwent radical hysterectomy at a hospital in southeast China were enrolled via purposive sampling. One-on-one semistructured in-depth interviews were conducted. The texts were analyzed via qualitative content analysis (Graneheim & Lundman).

Results: Four themes were attained: serious lack of knowledge of PFD and rehabilitation care; heavy psychological burden; different coping styles to PFD; and great eagerness to receive multiparty support on PFD rehabilitation care.

Conclusion: The women had a low cognition of pelvic floor dysfunction and rehabilitation care after radical hysterectomy. Poor awareness of pelvic floor dysfunction among women is one of the reasons they do not ask for support from the society and even from family members. Knowledge of pelvic floor dysfunction should be shared and disseminated to the society to raise public awareness of this medical condition. Moreover, knowledge of medical insurance should be popularized, especially in rural areas in southeast of China. Family-centered care is an important way to support women with pelvic floor dysfunction.

1. Introduction

Radical hysterectomy is one of the most recommended surgical procedures for gynecological malignancies owing to its high cure rate [1]. However, radical hysterectomy substantially changes the overall structure of the pelvis, thereby increasing the incidence of pelvic floor dysfunction (PFD) [2]. Disruption of local nerve supplies and distortion of anatomical relationships in the pelvic floor after this operation may be main reasons that lead to diseases related to PFD [3].

PFD is a common but not fully understood disease. Its main symptoms are urinary incontinence, constipation, pelvic organ prolapses, and sexual dysfunction [4]. These symptoms impose heavy physical and mental burden to women and greatly influence their daily lives [5] and psychological health [6], such as by negatively impacting their self-care activity and family and work relationships. A study reported that the prevalence of PFDs in low- and middle-income countries is 25% [7]. A recent meta-analysis of adult Chinese women noted that the prevalence of urinary incontinence is 31.1%, and it has been at a high level since 2005 [8]. Pelvic organ prolapses also affect 9.67% of urban Chinese women [9]. A study in the USA showed that 66.8% of participants are not aware of pelvic floor rehabilitation to address PFD [5]. To the best of our knowledge, perceptions of PFD and rehabilitation care among Chinese women after radical hysterectomy have not been explored yet.

For women who develop PFD after undergoing radical hysterectomy, rehabilitation therapy and care are often the primary choice in postoperative rehabilitation; this treatment modality can remarkably improve

PFD symptoms and prevent its development [10]. Ideally, rehabilitation care for women with this condition should be implemented in the early postoperative period to ensure recovery from this condition [11]. However, women's perceptions of PFD considerably influence their choice and adherence to treatment and care [12]. Therefore, the aim of this study was to investigate the perceptions of PFD and rehabilitation care among women who underwent radical hysterectomy to explore ways to improve quality of care.

2. Materials And Methods

This study was conducted at a provincial hospital in southeastern China from March 2019 to July 2019. Women who underwent radical hysterectomy were recruited via purposive sampling according to their education levels, i.e., junior secondary education (9 years), senior secondary education (12–13 years), and higher education (15–19 years) [13]. The inclusion criteria were as follows: underwent radical hysterectomy, including open radical hysterectomy (ORH) and laparoscopic radical hysterectomy (LRH), had no serious complications, mental state was normal, fluent in Mandarin, and signed informed consent. Participants were excluded if they were unable to complete the interview because of insufficient interview time or were emotionally unstable during the interview. This study was approved by the Ethics Committee of the First Affiliated Hospital of Fujian Medical University (FAHFMU [2018] No. 073). All methods in the study were performed in accordance with the Declaration of Helsinki.

Data were collected via semistructured individual interviews. A self-development interview guide consisting of nine questions about perceptions of PFD and rehabilitation care was used for data collection (Table 1). Following the interview guide, a researcher (Y. L.) interviewed each participant face-to-face for 30–45 min in a separate and quiet room at the hospital. The interviewer noted the nonverbal behavior of the participants. The entire interview was recorded using a digital audio recorder, and then the researcher (Y. L.) transcribed the participants' responses verbatim within 24 h after each interview.

Table 1

Interview guide: Questions about perceptions of pelvic floor dysfunction and rehabilitation care among women after radical hysterectomy.

• What do you know about female pelvic floor function?
• If a woman has pelvic floor dysfunction (such as urinary incontinence), what do you think the cause is?
• How does radical hysterectomy affect you?
• What is your biggest concern after radical hysterectomy?
• How do you think radical hysterectomy will affect pelvic floor function?
• What will you do to treat pelvic floor dysfunction?
• What do you think about the rehabilitation care of pelvic floor function?
• How do you think rehabilitation care of pelvic floor function will affect you?
• What are the factors that affect your rehabilitation care of pelvic floor function?

Data were analyzed using the qualitative content analysis described by Graneheim and Lundman [14]. The analysis included manifest and latent content analysis as follows: (1) the text was read several times to obtain a whole sense of the participants' perception of PFD; (2) the text content was divided into meaning units according to the meaning of expression; (3) the meaning units were compressed and extracted into codes; (4) differences and similarities between codes were compared, and then the sorted codes with commonality were grouped into categories, i.e., manifest content analysis; and (5) the research team fully considered the social and cultural contexts of the interview content, discussed the formed codes and categories, and linked the underlying meanings to form themes, i.e., latent content analysis.

3. Results

Thirty-six women who met the inclusion criteria participated in this study. The median age of the participants was 48 years (42–58). Among the participants, 12 had a low educational level, 12 had a middle educational level, and 12 had a high educational level (Table 2). Four themes were formed from the interview texts: serious lack of knowledge of PFD and rehabilitation care; heavy psychological burden; different coping styles to PFD; and great eagerness to receive multiparty support on PFD rehabilitation care.

Table 2
Participant characteristics (n = 36).^a

Variable	Value
Age, y	48 (42–58)
Educational level ^b	
Junior secondary education (9 y)	12 (33.3)
Senior secondary education (12–13 y)	12 (33.3)
Higher education (15–19 y)	12 (33.3)
Place of residence	
Rural area	20 (55.6)
Urban area	16 (44.4)
Occupation	
Farmer	9 (25.0)
Chef	1 (2.8)
Staff	4 (11.1)
Teacher	5 (13.9)
Trader	8 (22.2)
Lawyer	2 (5.6)
Freelance	4 (11.1)
Retirement	3 (8.3)
Household income, yuan/month	
< 2,000	2 (5.6)
2,000–5,000	16 (44.4)
5,000–10,000	10 (27.8)
> 10000	8 (22.2)
Do you have medical insurance?	
Yes	33 (91.7)
No	3 (8.3)
Did PFD occur before surgery?	

Variable	Value
Yes	7 (19.4)
No	29 (80.6)
Did PFD occur after surgery?	
Yes	18 (50.0)
No	18 (50.0)
Disease type	
Uterine sarcoma	2 (5.6)
Ovarian cancer	11 (30.5)
Endometrial cancer	11 (30.5)
Cervical cancer	12 (33.4)
Surgical approach	
ORH	5 (13.9)
LRH	31 (86.1)
Postoperative time, d	6 (4–208)
Abbreviation: PFD, pelvic floor dysfunction. ORH, open radical hysterectomy. LRH, laparoscopic radical hysterectomy.	
^a Values are given as median (range) or number (percentage).	
^b Classified according to the education statistic data in 2018 [13].	

The first theme (serious lack of knowledge of PFD and rehabilitation care) consisted of two categories: limited knowledge of PFD and some knowledge of PFD but limited knowledge of pelvic floor rehabilitation care (Table 3). During the interview, most participants said that they were unaware of PFD. However, after learning the symptoms of PFD, some of the participants suggested that their advanced age and childbirth might have caused their PFD, but they were unsure if PFD was related to their radical hysterectomy. With regard to dealing with PFD, they did not know how to perform rehabilitation care, although some of them recognized the efficacy of this treatment modality. Several women said that they would not seek pelvic floor function rehabilitation care if they did not have symptoms of PFD. Therefore, the participants were unaware of the importance of early rehabilitation care after surgery. One woman stated that “The symptoms were normal, you know...so big surgery...It is not a disease. It needs to be slowly recovered. Do not need to see doctor for it.”

Table 3

Categories, codes, and meaning units included in the first theme (serious lack of knowledge of PFD and rehabilitation care).

Theme	Category	Code	Meaning unit
Serious lack of knowledge of PFD and rehabilitation care	Limited knowledge of PFD	Does not know what is meant by PFD	"I don't know what this pelvic floor disorder means, I don't understand." (Patient 14)
		Believed that PFD is not a disease	"The symptoms were normal. You know...so big surgery... It (the symptoms) is not a disease. It needs to be slowly recovered. Do not need to see doctor for it." (Patient 22)
		Unsure if PFD is related to radical hysterectomy	"I think a good doctor and very accurate surgery will not cause problems in patient's urinary system at all. I don't know whether previous surgery will cause this problem to women. I have never seen it before." (Patient 6)
	Have some knowledge of PFD but knowledge of pelvic floor rehabilitation care is limited	Does not believe the effect of pelvic floor function rehabilitation	"After this operation, my pelvic floor function was affected. The most obvious symptom is constipation. ...I think pelvic floor function rehabilitation seems to be a psychological comfort. No actual effect. This organ has already been cut off, so physiological change cannot be changed." (Patient 15)
		Does not seek pelvic floor rehabilitation care when without symptoms	"Vaginal delivery may cause the symptoms of PFD, like urinary incontinence. However, if I do not have symptoms of PFD, I will not consider pelvic floor rehabilitation care unless I have such symptoms." (Patient 9)
		Not knowledgeable of how to do pelvic floor rehabilitation care	"When I stand up, I feel that something in my abdomen will fall out, which should be related to the operation. I think the pelvic floor rehabilitation care may improve the situation, but I have no idea what I can do for it." (Patient 23)
Abbreviation: PFD, pelvic floor dysfunction.			

The second theme (heavy psychological burden) was further categorized into fear and worry, shame and self-contempt, and guilt and self-blame (Table 4). Some women felt afraid and worried after they developed PFD symptoms; a woman said, "I fear, I fear that the urine cannot be closed...After I walk a little bit, urine can go itself." Some of them were afraid to know pertinent information on the disease; one of them reported, "I do not want to ask (doctors)...Knowing too much will hurt me even more". A few of them were worried about the development of the disease; they said, "Of course, I am anxious. I am worried day and night that pelvic floor dysfunction cannot be cured and develop... I cannot fall sleep all night." In

general, the participants felt shame and stigma; one woman stated, “It is a terrible thing. I will feel ashamed if I say it (silence). People will say something bad if they know it...” Moreover, they felt self-contempt because they lost their uterus, which meant that they lost their femininity and they considered that they were no longer a full female. Furthermore, a few of them narrated that their family had spent a lot of money for their treatment. Despite the intervention, they did not fully recover and remained sick because PFD appeared after the operation. Hence, they felt guilty and blamed themselves. Several women showed their apologies to their husband for asexual life; a woman expressed, “I’m sorry for him (husband), I can only let him do whatever he wants.”

Table 4

Categories, codes, and meaning units included in the second theme (heavy psychological burden).

Theme	Category	Code	Meaning unit
Heavy psychological burden	Fear and worry	Fear the symptoms of PFD	“I fear, I fear that the urine cannot be closed...After I walk a little bit, urine can go itself.” (Patient 21)
		Fear the information about PFD	“I do not want to ask (doctors)...Knowing too much will hurt me even more” (Patient 10)
		Worried about PFD development	“Of course, I am anxious. I am worried day and night that pelvic floor dysfunction cannot be cured and develop... I cannot fall sleep all night” (Patient 7)
	Shame and self-contempt	Shameful of PFD	“It (PFD) is a terrible thing. I will feel ashamed if I say it (silence). People will say something bad if they know it...” (Patient 31)
		Feelings of self-contempt due to losing uterus	“The psychological burden is very heavy, and I am self-contemptuous that I do not be like a whole woman after the operation (silent), just like what they say.” (Patient 2)
	Guilt and self-blame	Feelings of guilt for being sick for a long time	“After cost so much money on the disease, I would feel guilty if I am always a sick person after I go back home (silent). ... I don't want my family to be worried about me too much.” (Patient 13)
		Self-condemned for asexual life with their husbands	“Tell you the truth... I did the operation and now I have the disease (PFD) again...At this point, I'm sorry for him (husband), I can only let him do whatever he wants.” (Patient 4)
Abbreviation: PFD, pelvic floor dysfunction.			

The third theme presented two coping styles to PFD: one was being positive and the other was being passive (Table 5). Most women with PFD described that they adjusted their mentality, actively sought information on this condition, actively treated the disease, and focused on their recovery. A woman indicated, “First found it out from internet how to deal with it. Then, I went to the hospital for help...I am doing whatever the doctor says.” However, a woman chose not to seek treatment and merely accepted her situation as “destiny”. Some women only went to see a doctor when their symptoms started to affect their lives. A woman completely stop seeking help because of her advanced age; she said, “My life is definitely getting worse because of the symptoms...I didn’t see doctor. Life is getting worse day by day if you are old. It doesn't matter.”

Table 5

Categories, codes, and meaning units included in the third theme (different coping styles to PFD).

Theme	Category	Code	Meaning unit
Different coping styles to PFD	Positive coping mechanism	Actively seek treatment	“First found it out from internet how to deal with it. Then, I went to the hospital for help...” (Patient 6)
		Adjust mentality	“At the same time of treatment, I also adjust my mentality, should not be pessimistic. Even when facing a very serious matter, we must be optimistic and accept it.” (Patient 5)
		Follow doctor’s advice	“I am doing whatever the doctor says. I rest more, exercise properly, and eat more for nutrition.” (Patient 13)
	Passive coping mechanism	See a doctor only when symptoms affect their lives	“Well, if it doesn't affect my normal life and work, I usually don't go to the hospital, unless the symptoms of PFD are very serious.” (Patient 29)
		Give up seeking help due to old age	“My life is definitely getting worse because of the symptoms...I didn’t see doctor. Life is getting worse day by day if you are old. It doesn't matter.” (Patient 1)
		Accept the situation as their fate	“I think... Everyone has everyone's fate. It is destined, can't be changed... it is better to let nature take its course instead of fighting against the fate... Accept the arrangements of fate.” (Patient 25)
Abbreviation: PFD, pelvic floor dysfunction.			

The fourth theme was great eagerness to obtain multiparty support for PFD rehabilitation care; it included family support, professional support, and social support (Table 6). All women asked for understanding and support from their family, especially from their husband. A woman mentioned, “I do not know

whether my husband permit me see doctor or not. I will come if my husband let me come.” In addition, most of the participants hoped that health care staff could provide professional knowledge, skill support, and care for them. They stated that they would adhere to the health care staff’s suggestions. The participants also hoped to receive social support. A woman said that she wanted to receive financial support from the government. They believed that poor awareness of PFD in the society was one of the reasons they did not seek support from the society and even from family members. A woman said, “Although I often read popular medical magazines, I was blank in this field before the doctor told me about the knowledge of pelvic floor dysfunction. I do think it is not known well by people in society. How can we get understanding and support from people around and society?”

Table 6

Categories, codes, and meaning units included in the fourth theme (great eagerness to receive multiparty support on PFD rehabilitation care).

Theme	Category	Code	Meaning unit
Great eagerness to receive multiparty support on PFD rehabilitation care	Hope for receiving support from family members	Hope for receiving understanding from family members	"My family refused to pay the cost (silence)...They do not understand my suffering..." (Patient 18)
		Hoping for family members taking workload off	"I have a shop...I still don't have energy now... I have to work in my shop as soon as I am discharged from hospital. I need my family help me..." (Patient 13)
		Hope for receiving economic support from family members	"I do not know whether my husband permit me see doctor or not. I will come if my husband let me come." (Patient 30)
	Hope for receiving support from professionals	Hope for receiving knowledge and skills from professionals	"My friends and I never heard about it (PFD)... Doctor and nurse teach me how to exercise. I want to know more from them. I do want that they can teach me more and guide me more." (Patient 6)
		Hope for receiving care from professionals	"Leaking urine makes me feel embarrassed. I don't dare to talk about it to others...Doctors and nurses are professionals. I especially hope that they can understand me and care me. I will at least relieve some of my anxiety." (Patient 16)
	Hope for receiving support from the society	Hope for receiving financial support from the government	"If this (PFD) happens after discharge, oh well, it will cost a lot of money to see a doctor. How can I still have money to go to the hospital for pelvic floor rehabilitation, unless government gives me financial support." (Patient 4)
		Hope for popularizing knowledge of PFD	"Although I often read popular medical magazines, I was blank in this field before the doctor told me about the knowledge of pelvic floor dysfunction. I do think it is not known well by people in society. How can we get understanding and support from people around and society? " (Patient 26)
Abbreviation: PFD, pelvic floor dysfunction.			

4. Discussion

Radical hysterectomy unavoidably damages pelvic floor tissues [2]. Early postoperative rehabilitation can effectively restore pelvic floor functions and reduce the incidence of PFD [15]. Perception is to use self-cognition to explain sensory signals across multiple spatial and temporal scales; thus, perception leads to action [16]. Therefore, perceptions of PFD and rehabilitation care are the key to the recovery of pelvic floor functions for women after radical hysterectomy.

The participants in this study had a serious lack of knowledge of PFD and rehabilitation care. Most of them did not know that radical hysterectomy would result in PFD. The first reason might be that all participants had a malignant tumor. They focused on the treatment and surgical removal of tumor and neglected the impact of the procedure on pelvic floor functions. This observation was consistent with the rule of perception, that is, humans focus on more important tasks in a complex environment [17]. The second reason might be the poor public awareness of PFD that seriously influenced the attitudes and behaviors of the women toward rehabilitation care of PFD. A low social popularization of diseases would lead to misconceptions about the disease among patients and other people in their social circle [18]. A study showed that discussing PFD symptoms among friends is one of the factors that prevent women from actively seeking medical treatment [19]. The third reason might be insufficient health education about PFD in hospitals and the society. Health education from professionals is one of the most economical and effective ways for improving awareness of diseases among patients and the public [20, 21]. However, a systematic review noted a huge gap in knowledge of PFD among most women [22]. Therefore, knowledge of PFD and rehabilitation care should be popularized and strengthened in hospitals and the society via multiple channels, such as brochures, posters, internet, television, and radio.

The occurrence of PFD after radical hysterectomy brings women not only great physical suffering but also huge psychological trauma. In this study, the women feared their diseases and postoperative changes in their body. Given that they lost their uterus after the operation and owing to the specificity of PFD symptoms and location, the women stated that they suffered from negative feelings, such as shame and guilt, which seriously affected their quality of life. The present study indicated that, among the participants, losing their uterus meant losing their femininity, an observation also reported by a previous study [23]. A qualitative study of the psychological consequences of pelvic floor trauma after vaginal birth also reported that the women plunged in negative emotions, such as anxiety, stigma, and failure [24]. Another study showed that feelings of shame about the disease is the main factor why women do not see a doctor [25]. However, the women in the present study affirmed that they were eager to receive professional help. Therefore, health care professionals should focus on the psychological and mental health of affected women, strengthen their confidence that they would recover, and enhance their sense of self-worth sense while conducting health education/pelvic floor function rehabilitation care. In addition, an excellent intervention might be to organize a group of women who suffers from PFD with the assistance of health care professionals. Doing so might alleviate their suffering, and they could receive understanding and support from each other.

The interviews revealed that most of the participants adopted a positive coping mechanism in the face of PFD after radical hysterectomy. However, some of them adopted a negative coping mechanism, such as

seeing a doctor only when the symptoms had affected their lives, gave up seeking help, and accepted their condition as their fate. Several reasons may explain these observations. First, some of them believed that PFD is an inevitable suffering brought by aging, and disease management is unnecessary in their old age. This belief was similar to that described by Vethanayagam et al. [26]. Second, the public's misconceptions on PFD stigmatized the women with this disease because of poor social awareness. The stigma reduces the possibility of women disclosing their illness and seeking help [27]. Third, owing to the overarching influence of traditional Chinese concepts, some women in rural areas have a low degree of self-identity and largely rely on their husbands when it comes to making decisions about major family affairs [28]. As wives and mothers, women in traditional Chinese culture assume the responsibility as caregivers in the family, prioritizing family obligations over their own health and hiding their own needs to decrease the burden and not impose on the family [29]. These reasons not only highlighted the importance of popularizing PFD knowledge in the society but also emphasized the importance of improving women's self-identity.

An effective support system for individuals can reduce psychological burden, improve the level of disease response, and ultimately promote disease recovery [30]. With regard to family support, the participants hoped to receive understanding and support from their families, especially from their husbands. A study reported that cooperation between husbands and wives is necessary in the prevention and treatment of chronic diseases, such as PFD [31]. The closer the family relationship is, the stronger the couple's coping ability will be, and the better they can deal with the problems caused by the disease [32]. Given that PFD is related to privacy and sex, understanding and support from husbands are especially important. Therefore, family-centered care is an important way to support women with PFD. Health care professionals should focus on husbands, help women receive understanding and support from family members, and encourage family members to actively participate in women's rehabilitation care.

Moreover, the participants hoped to receive social support. Social support can not only promote patients' healthy behaviors but also promote their compliance with medical regimens [33, 34]. A low income usually negatively affects people's awareness of diseases and willingness to seek medical treatment [35]. Owing to the increasing number of patients with PFD, basic medical insurance for pelvic floor function rehabilitation care is also necessary to reduce the financial burden on women and increase their willingness to seek medical help. The medical insurance system in China covers all Chinese citizens living in the country. Thus, people can enjoy preferential medical treatment at a relatively low price [36]. However, some women from rural areas revealed during the interviews that they did not have medical insurance, suggesting that the public, especially in rural areas, not only lacks knowledge of PFD but also of medical insurance.

This study has several limitations. First, the data may not be sufficient. The results might have been affected by some nuances in the translation of the texts from Chinese to English. Nevertheless, a qualitative study through detailed interviews and observations can provide insights into individuals' thoughts, behavior, and understanding in life [37]. This study offered evidence on the low cognition of PFD and rehabilitation care after radical hysterectomy among women and the society. This study

explored the underlying reasons and specified various ways to improve the quality of care for women with PFD.

In conclusion, this study explored the low cognition of pelvic floor dysfunction and rehabilitation care among women living in southeast China after radical hysterectomy. The poor awareness of PFD in the society is one of the reasons women did not seek support from the society and even from family members. Therefore, knowledge of PFD must be popularized to raise public awareness of this condition. In rural areas in southeast of China, knowledge of medical insurance must also be popularized. Family-centered care is an important way to support women with PFD.

Declarations

Ethics approval and consent to participate

The study was approved by the Ethics Committee of the First Affiliated Hospital of Fujian Medical University (Ethics Approval Number: FAHFMU [2018] No. 073). All participants have signed informed consent. We also confirm that all methods were carried out in accordance with the regulations of Declaration of Helsinki.

Consent for publication

Not Applicable.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

All authors declare that they have no competing interests.

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Authors' contributions

Y. L. participated in the design of the study, data collection, data analysis and writing the main manuscript text. A. L. participated in the design of the study, data collection, data analysis and preparing the manuscript. L. G. participated in the design of the study, data analysis, preparing the manuscript, interpretation, and critical revision of the manuscript for important intellectual content. Z. Z. participated in data analysis, interpretation, and critical revision of the manuscript for important intellectual content. Y. W. participated in data analysis, interpretation, and critical revision of the manuscript for important intellectual content. H. Y. participated in data analysis, preparing the manuscript. X. J. participated in data analysis, preparing the manuscript. All authors read and approved the final manuscript.

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