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Kegel's exercise to improve sexual self-efficacy in primiparous women[☆]

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KEYWORDS

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Abstract

Objective: Sexuality is one of the crucial aspects of an individual's quality of life. Women, especially primiparous women could have concerns about sexuality which interrupt their sexual self-efficacy in the postpartum period. This study aimed to identify the effect of Kegel's exercise on sexual self-efficacy in primiparous women.

Method: This quasi-experimental study with one group time series design involved 32 primiparous women as respondent. Sexual self-efficacy was measured in three times: before intervention, the first three weeks after intervention, and the second three weeks after intervention.

Results: Kegel's exercise for six weeks was associated with significant improvement of the sexual self-efficacy of primiparous women ($p=0.001$; CI 95% 10.53–14.18).

Conclusion: Kegel's exercise increases pelvic floor muscle strength which is linked with the improvement of sexual self-efficacy of primiparous women. The women may encourage to perform Kegel's exercise to address sexual concerns in the postpartum period.

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Introduction

Sexual function is a very complex issue which is influenced by several factors including psychosocial situation.¹ Sexual changes in the postpartum period occur as a form of

adaptation to the new role as a mother, which also influence the father.² Women usually have sexual concerns, mostly loss of sexual desire and dyspareunia (about 22–86%), in the postpartum period. They can result from the injury or pelvic trauma during labor; hence, vaginal delivery has more risk compared to Caesarean Section.^{3,4}

Vaginal delivery involves pressure on the base of the vagina that impacts the strength and endurance of the pelvic floor muscles. At birth, the pelvic floor muscles and *levator ani* muscles are under strain. Pelvic floor muscles are part of the pelvis that bulge up to five times the size of the birth of the fetal head.⁵ Pelvic floor muscles play an important role in sexual arousal, response,

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and satisfaction of the women. Disturbances in the structure of these muscles can cause problems during sexual intercourse or orgasm. Pelvic floor muscle dysfunction is one of the significant risk factors of sexual dysfunction in women.⁶ Weak pelvic floor muscles cause an orgasm disturbance and sexual arousal function.⁷ Pelvic floor dysfunction occurs in 38–75% women, of which 10–20% show clinical symptoms. Symptoms that may happen include lower abdominal pain, urinary incontinence, polyuria, and sexual dysfunction.⁸

Pelvic floor dysfunction can be effectively improved by doing Kegel's exercise. This comfortable and practical exercise is designed to strengthen the pelvic floor muscles to improve sexual function, desire, arousal and orgasm.^{9,10} Kegel's exercise is recommended to be performed during pregnancy and postpartum period.^{6,11} It involves repetitive contractions of the pelvic floor muscles to increase the strength of the pelvic floor muscle tone and to enhance support to the perineum. Pelvic floor muscle exercise leads to local skeletal muscle hypertrophy, including the cortical muscle groups, and improves the motor neuron function. Increasing the strength and tone of the pelvic floor muscles can permanently restore the regular reflex activity as well as the existing control mechanism.¹² This mechanism will result in the sexual stimulation that involves the vasocongestion of the veins that are responsible for vaginal lubrication and vasocongestion of the corpus spongiosum to increase sexual arousal. More powerful rhythmic contractions will lead to a better orgasm.¹³ Thus, Kegel's exercise can improve the sexual functions of women.¹⁴

On the other hand, self-efficacy plays a vital role in the intervention to address sexual problems. Sexual self-efficacy is closely related to sexual self-concept, a person's beliefs about his/her ability to manage sexual issues. Sexual self-concept is regarded as the multidimensional construct based on the perception of negative and positive feelings of the individual against him/herself as a sexual being.¹⁵ A good understanding of sexual self-efficacy may contribute to reducing the problems related to sexual behavior. Sexual self-efficacy consists of sexual desire, sensuality, arousal, orgasm, affection, communication, acceptance, and refusing sex.

An improved sexual function that is achieved through performing Kegel's exercise can also enhance the sexual self-efficacy of women, especially in the postpartum period.¹⁶ This study aimed to examine the effect of Kegel's exercise on sexual self-efficacy in primiparous women.

Method

Study design

This study used a quasi-experimental group time series design. Kegel's exercise intervention was applied to primiparous women who have passed through 4 weeks after delivery. The population in this study is all primiparous women giving birth in March 2017 at a hospital in North Sulawesi province, Indonesia. Using the consecutive sampling method, we recruited 32 primiparous women. This sample size was determined using the formula of mean comparison in a numeric scale for more than two measurements. Inclusion criteria were a woman after four weeks postpartum, living with the husband, willing to become a participant, and being able to read and write. Ethical clearance was approved by the Ethics Committee of the Faculty of Nursing, University of Indonesia.

Instruments and measures

Upon their agreement to take part in the study, the respondents signed the informed consent. Then, they received the education related to Kegel's exercise which was supported by a booklet and video. This media consisted of anatomy and function of the pelvic floor muscles and the Kegel's procedures. In performing Kegel's exercise, the respondents were instructed to lift or pull the pelvic floor muscles and vagina upward and to hold for 5–10s followed by a long exhale. Ten seconds of pelvic muscle holding was followed by 10s of relaxation. This procedure was to be repeated for 20 times in one session. They were asked to perform two sessions per day, 15 min each, and three days a week. The two first practices of the exercise were supervised by the researcher. Afterwards, the respondents performed Kegel exercise at home, and the researcher did the follow up by phone. The follow up was to remind, monitor, and ask if there was any problem with the exercise implementation at home.

Analysis

Data were analyzed using SPSS software version 17. Univariate analyses are presented in the form of the numeric and categorical variables. Numeric variables are shown in central tendencies while categorical variables are presented in the way of frequency and percentage. The bivariate analysis was performed using repeated ANOVA test followed by a post hoc Bonferroni test.

Table 1 Demographic characteristics (*n*=32).

Variable	Median	Minimal	Maximum	Mean (SD)	CI 95%
Women's age	20.5	17	33		
Husband's age	23.5	20	37		
Length of marriage	6.5	3	16		
Body mass index	24.78	17.94	30.22		
Infant's weight at birth				3,079.69 (370.89)	2,945.97-3,213.41

Table 2 History of perineal trauma and time of resuming sexual intercourse after delivery ($n=32$).

Variable	Frequency	%
<i>Perineal trauma</i>		
Rupture	21	65.6
Episiotomy	11	34.4
Intact	0	0
<i>Time of resuming sexual intercourse after delivery</i>		
<6 weeks	4	12.5
>6 weeks	28	87.5

Table 3 The implementation of Kegel's exercise at home ($n=32$).

Kegel's exercise	Session I		Session II	
	Frequency	%	Frequency	%
<i>Number of contractions</i>				
<20 times				
20 times	576	100	576	100
<i>Duration of contractions</i>				
5–6 s	193	33.51	210	36.46
7–8 s	217	37.67	196	34.03
9–10 s	166	28.82	170	29.51

Table 4 Effect of Kegel's exercise on sexual self-efficacy ($n=32$).

Sexual self-efficacy	Mean (SD)	p value
T0 vs T1	6.11 (8.40)	0.001*
T0 vs. T2	12.34 (9.32)	
T1 vs. T2	6.23 (7.44)	

* Repeated ANOVA with post-hoc Bonferroni

Results

The median age of the respondents was 20.5 years old. Whereas, the median age of the husbands was 23.5 years old and the median length of the marriage of 6.5 years. The respondents gave birth to babies with an average weight of 3079.69 g (Table 1). With regard to the latest labor, the majority of the respondents (65.6%) had no perineal rupture. Episiotomy was performed in 34.4% of all respondents. Most respondents (87.5%) also reported having no sexual intercourse until after six weeks postpartum (Table 2).

All respondents (100%) performed Kegel's exercise with 20 contractions per session. Duration of contraction varied in each session, with 5–6 s being the most commonly performed contraction (Table 3).

Table 4 summarizes the mean difference of sexual self-efficacy before and after six weeks of doing Kegel's exercise ($12.34 \pm (10.53-14.18)$). The difference between all time points (T0 vs. T1, T0 vs. T2, T1 vs. T2) measured by using the Post hoc Bonferroni test was shown to be statistically significant ($p=0.001$).

Furthermore, Table 5 presents the mean difference before and after Kegel's exercise in all components of sexual self-efficacy. All components have significant increase (p value <0.05). The highest improvement can be seen in the acceptance score, while the lowest improvement is in sexual arousal score.

Discussion

The self-report of Kegel's exercise at home shows the respondents adherence to the study protocol. The respondents performed Kegel's exercise with 20 contractions regularly for six weeks. Measurement after six-week Kegel's exercise indicates a significant improvement of sexual self-efficacy in general, and in every component. Kegel's exercise makes the highest considerable improvement in the component of acceptance and the lowest increase in arousal.

The least improved sexual self-efficacy components were the physical-related component, including sexual arousal and orgasm. In Indonesian culture that is quite restrictive to the openness of sexual issue; the physical aspect of sexuality might be challenging to express. Whereas, studies conducted in the western world allowed the researchers to record changes in the reproductive organs during a sexual response.¹⁷ Women with physical, sexual problems such as orgasm, low sexual desire, and arousal often hardly deal with the situation by herself. Improving sexual self-efficacy by doing Kegel's exercise can be the key to address these physical, sexual symptoms, not only from the physiological aspect but also the psychological element which is interrelated.

The arousal component of sexual self-efficacy is associated with sexual satisfaction and stimulation before sexual intercourse. A study showed that a fraction of the postpartum women did masturbation to obtain sexual satisfaction after the first week of postpartum.¹⁸ For some postpartum women, sexual desire could re-emerge in a week which is considered as the early weeks of postpartum. But the health care providers commonly advise women to resume their sexual intercourse after six weeks of postpartum, hence the masturbation practice.

Another least affected sexual self-efficacy component is an orgasm. Orgasm is related to the ability to respond sexually, to have vaginal lubrication and sexual intercourse without pain, as well as the ability to reach the peak of orgasm. The decrease in the quality of these aspects can also decrease sexual desire, satisfaction, and intimacy as a whole.¹⁹ The problem may occur when a couple wants a different frequency of sexual activity. Primiparous women's perception plays a vital role in their sexuality. During the postpartum period, many women report to have a lower sexual desire, but they would generally agree to have sexual intercourse to meet the demand of the husband. Having sexual intercourse with a little desire may not lead to a peak of orgasm. Failing to achieve orgasms may in turn cause women's negative attitude toward sexual activity.²⁰

Our results support previous study findings regarding increased sexual function after performing Kegel's exercises.²¹ However, a little improvement in orgasm as shown in our study results is likely to be related to the

Table 5 Effect of Kegel's exercise on sexual self-efficacy components ($n = 32$).

Sexual self-efficacy component	Mean difference			<i>p</i> value
	T0 vs. T1	T0 vs. T2	T1 vs. T2	
Desire	13.97	20.44	6.47	0.001
Sensuality	11.34	20.05	8.70	0.005
Arousal	6.29	12.38	6.08	0.012
Orgasm	10.94	16.57	5.64	0.019
Affection	10.16	18.59	8.44	0.001
Communication	9.90	19.73	9.83	0.001
Acceptance	13.59	23.90	10.31	0.001
Refusing sex	8.90	16.71	7.81	0.002

perineal trauma due to childbirth. Also, hypoestrogenic lactation process in the postpartum women can also result in a decreased sexual function. The majority of postpartum women experiencing dyspareunia had an episiotomy at delivery (66.4%).²² This prior study found that sexual education and counseling significantly improved sexual function, including desire, orgasm, and arousal. Such intervention might be combined with Kegel's exercise to improve sexual function for postpartum women better. Another study about maternal sexuality after childbirth also demonstrated similar results of statistically significant improvement in sexual function including arousal, desire, and lubrication.²³ Moreover, Kegel's exercise was shown to improve women's quality of life and sexual function,²⁴ also in 24 weeks postpartum.²⁵

A former study on sexual self-efficacy in primiparous women after Kegel's exercise showed that after performing Kegel's exercise for eight weeks, the women had increased sexual self-efficacy, i.e., desire, sensuality, arousal, orgasm, affection, communication, acceptance, and refusing sex.²⁶ Kegel's exercise improves sexual function.²⁷ Improvement of sexual function is plausibly due to the increasing strength of the pelvic floor muscles that are trained in Kegel's exercise, thus affecting the anatomical position of the erectile tissues of the clitoris which is directly related to sexual stimulation. Sexual response in women is generated by a feedback mechanism between the hormones secreted by the ovaries to the hypothalamus and anterior pituitary gland to produce sex cells and sex steroid hormones. Sexual stimulation results in vasocongested veins that are responsible for vaginal lubrication. Desire or arousal is characterized by myotonia (increased muscle tension), which produces rhythmic and accidental contractions.¹³ Vestibular bulb and contraction of bulbocavernosus muscles cause vaginal contractions during orgasm. Vasocongestion also occurs in the corpus spongiosum of the urethra which increases sexual desire.¹⁷ Sexual education and Kegel's exercise performed for 12 weeks were shown to increase the physiological components of sexual self-efficacy; desire (3.92), arousal (3.38), and orgasm (4.12).²⁷

In this study, the component of sexual self-efficacy with the most significant improvement after the intervention was acceptance. This component is related to the mother's adapt to her postpartum condition and the comfort of the mother in having sexual intercourse with her partner.

Perception of intimacy with a partner significantly affects sexual satisfaction. For women, body image is closely correlated to sexual satisfaction. A woman with a good self-image of his body would usually have higher sexual satisfaction. A woman's sexual satisfaction starts from the phase in which she accepts and feels the emotional closeness with her partner.²⁸

A study on sexual self-efficacy in married couples who are still teenagers also showed similar results.²⁹ The mostly improved component of sexual self-efficacy was the psychological component; that is communication. Good communication between spouses can improve sexual self-efficacy due to the dyadic nature of the sexual relationship. Sexual satisfaction is significant to be maintained to enhance women's quality of life, as well as the husbands'.³⁰ Sexual satisfaction depends on the desire to have sexual intercourse that comes from the personal desire and consent of the spouse.³¹ The husbands, however, are expected to understand the changes in sexuality in postpartum women. Self-awareness between the husband and wife is a predictor of desire, intimacy and partner satisfaction. The desire will bridge differences and intimacy that will lead to better sexual desire and satisfaction. Therefore, the awareness in a relationship should come before sexual desire, intimacy and partner satisfaction.³²

Sexual self-efficacy is closely related to the quality of marriage, including relationships, intimacy, and emotional satisfaction.³³ The sexuality of husband and wife after a child-birth showed that sexual satisfaction in the marital relationship is affected by the length of the intimate relationship undertaken by married couples.³ Affection plays the most important role in the quality of the relationship. As the psychological factors are met, the physiological factors are more likely to improve as well.³⁴ Therefore, sexual self-efficacy is found to be associated with a positive attitude among couples.³⁵

It can be concluded from this study that Kegel's exercise can help alleviate sexual problems and improve sexual self-efficacy in primiparous women. The core procedures of Kegel's exercise, i.e., stretching and strengthening the pelvic floor muscles can improve blood supply and microvascularity to the pelvic and reproductive organs, thereby increasing lubrication, efferent nerve sensation and autonomous stimulation response.³⁶

Conflict of interests

The authors declare no conflict of interest.

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