Enferm Clin. 2019;29(S2):390–395

Enfermería Clínica

www.elsevier.es/enfermeriaclinica

Sexual function improvement of the menopausal women in South Sumatra, Indonesia after 'Mentari' health education☆

Lisda Maria, Setyowati Setyowati*, Dewi Gayatri

Faculty of Nursing, Universitas Indonesia, Depok, West Java, Indonesia

Received 13 November 2018; accepted 17 April 2019
Available online 10 July 2019

KEYWORDS
Health education;
Sexual function;
Menopause

Abstract
Objective: The onset of menopause declines the sexual activity, that may contribute to divorce among married couples. This study aimed to identify the effect of ''Mentari'' health education on sexual function among menopausal women in South Sumatra, Indonesia.
Method: A quasi experimental pre–post tests with control group design was used in this study. A total of 64 menopausal women participated in the study (32 participants in each groups). We used Female Sexual Functioning Index (FSFI) questionnaire to assess the participants' sexual function.
Results: The participants reported improvement in their sexual function within the domains of sexual desire, arousal, lubrication, orgasm, satisfaction, and pain during sexual intercourse after taking part in the ''Mentari'' health education. These changes were found to have a significant difference compared with the control group ($p < 0.05$).
Conclusion: ''Mentari'' health education may help improve the sexual function of the women having menopause. This health education can be provided by the nurses to this group of women.

Introduction

The number of divorce cases according to the Religious Courts throughout Indonesia reached 382,231 cases in 2014, rising from 251,208 cases in 2010.[1] One of the leading causes of divorce is the menopause which leads to a reduction in the frequency of sexual intercourse in 52% of married couples.[2] In Susanti's study[3] it was shown that 68% of menopausal women do not get support from their husband while facing the menopause transition. The high population of menopausal women is becoming an important concern for the government, especially in regard to the dysfunction of reproductive organs and dyspareunia.[4]

The psychological changes in menopausal women such as stress can be caused by various factors including painful

* Corresponding author.
E-mail address: wati123@ui.ac.id (S. Setyowati).
☆ Peer-review under responsibility of the scientific committee of the Second International Nursing Scholar Congress (INSC 2018) of Faculty of Nursing, Universitas Indonesia. Full-text and the content of it is under responsibility of authors of the article.

https://doi.org/10.1016/j.enfcli.2019.06.006
1130-8621/

Table 1 Demographics and homogeneity test in the intervention group and control group in menopausal women in South Sumatra in 2018 ($n = 64$).

Variable	Group	N	Mean	Median	SD	Min–max	CI	p value
Age	Intervention	32	16.28	16.0	0.99	15–20	15.92;16.63	0.054*
	Control	32	17.00	16.0	1.81	14–22	16.34;17.65	
	Total	64	16.64	16.0	1.49	14–22	16.26;17.01	
Status	<2,700,000	10	31.3	3	9.4	13	20.3	0.062*
Economy	>2,700,000	22	68.8	29	90.6	51	79.7	
Education	Elementary school	15	46.9	14	43.8	29	45.3	0.972*
	Junior high school	9	25.0	8	25.0	16	25.0	
	General high school	7	21.9	7	21.9	14	21.9	
	College	2	6.3	3	8.4	5	7.8	

* $p < 0.05$.

sexual intercourse, fear of being left by the husband, and fear of getting old and becoming unattractive.[5] Whereas, the physiological changes manifest through declining functions of the reproductive and sexual organs. Another physiological problem is urinary incontinence which also has a psychological impact on many menopausal women who become less confident and afraid to travel far away from their homes.[6] Other indicators of psychological changes in menopausal women are insomnia (sleep deprivation), decreased memory, anxiety and emotional changes.[7]

Educational intervention for menopausal women is particularly important. Women are aware that menopause is an unavoidable natural phase of life and they must go through this difficult phase alone. This aim of this research was to examine the effect of ''Mentari'' health education on sexual function in menopausal women.

Method

This study used a quasi-experimental pre-test and post-test with control group design. The participants were selected by using consecutive sampling technique. There were 64 participants in the study. 32 participants in Prabumulih, Sumatra, Indonesia were assigned for the intervention group, and another cohort of 32 participants in Palembang, South Sumatra, Indonesia were allocated as the control group. Inclusion criteria for this study were menopausal women who stopped having period within the preceding year, willing to be a participant, able to read and write in Bahasa, no significant morbidity, no history of mental illness, have a husband and live with the husband.

''Mentari'' health education was designed to promote a healthy lifestyle for menopausal woman. The contents include physical exercise, communication, foreplay and some intervention in sexual intercourse education.

Data collection was commenced after the ethical approval was granted by the Faculty of Nursing, Universitas Indonesia Ethics Committee (reference number: 100/UN2.F12.D/HKP.02.04/2018). We also obtained a permission from the local Office of National Unity and Politics to access the clinics in Palembang and Prabumulih.

Data were analyzed using univariate and bivariate data analysis. For numerical data, we used the independent *t* test, while for categorical data we used chi-square tests.

Results

The changes in sexual function of the menopausal women before and after ''Mentari'' health education are summarized in Table 1.

There were no significant differences in the demographics of participants in the control and intervention groups. A homogeneity test showed that the two groups were equal or homogeneous (Table 2).

There were six different domains (desire, arousal, lubrication, orgasm, satisfaction, and pain during sexual intercourse) of the sexual function. Overall results showed significant differences in the sexual function of the participants in the intervention group before and after the ''Mentari'' health education ($p < 0.05$).

Table 3 provides all domains of sexual function of the participants with a significant difference between the control and intervention groups ($p < 0.05$). The overall results showed a significant difference in sexual function between participants in the control group and the intervention group after the intervention given.

Table 4 shows the significant differences of participants' sexual functions based on the average scores in all domains between the intervention and control groups ($p < 0.05$).

Table 5 describes the confounding variables related to changes in sexual function in the intervention group. Lifestyle variables, support from the spouse, and cultural values are not significantly associated with changes in sexual function in menopausal women ($p > 0.05$). In this result, all the confounding variables did not significantly influence the dependent variable and were not included in multivariate analysis.

In addition, Fig. 1 shows the self-monitoring activities used for the evaluation of sexual function after we delivered ''Mentari'' health education to the intervention group. The most frequent activity was *Kegel* (pelvic floor) exercise, followed by communication with the spouse, warming up before sexual intercourse, consuming nuts, seeds, vegetables and fruits in a balance quantity.

Discussion

In this study, we assessed six sexual domains of sexual function in menopausal women after providing them with a

Table 2 Changes in sexual function based on its domains in participants from the intervention group before and after delivering ''Mentari'' health education ($n = 32$).

No	Sexual function(s)	Mean	Median	SD	MD (CI)	*p* value
1	*Desire*					
	Pre	1.91	2.10	0.75	−1.57	0.001*
	Post	3.48	3.60	1.03	(−1.79 to 1.35)	
2	*Excitatory*					
	Pre	1.95	1.91	0.77	−1.57	0.001*
	Post	3.52	3.90	1.23	(−1.85 to 1.29)	
3	*Lubrication*					
	Pre	2.00	2.10	0.81	−1.47	0.001*
	Post	3.47	4.20	1.25	(−1.72 to 1.20)	
4	*Orgasm*					
	Pre	2.15	2.40	0.98	−1.70	0.001*
	Post	3.85	4.40	1.39	(−2.04 to 1.35)	
5	*Satisfaction*					
	Pre	2.40	2.40	1.16	−1.81	0.001*
	Post	4.21	4.80	1.47	(−2.20 to 1.41)	
6	*Pain*					
	Pre	2.31	2.40	1.05	−1.45	0.001*
	Post	3.76	3.80	1.19	(−1.85 to 1.04)	
	Sexual function					
	Pre	12.73	14.20	4.90	−9.58	0.001*
	Post	22.31	25.10	6.70	(−10.93 to 8.23)	

* $p \leq 0.05$.

Table 3 Changes in sexual functions comparison based on all domains between the control and intervention groups after delivery of ''Mentari'' health education on the intervention group ($n = 64$).

No	Sexual functionGroup	Mean	Median	SD	MD (CI)	*p* value
1	*Desire*					
	Control	1.78	1.20	0.68	−1.70	0.001*
	Intervention	3.48	3.60	1.03	(−2.14 to 1.26)	
2	*Excitatory*					
	Control	1.56	1.20	0.85	−1.959	0.001*
	Intervention	3.52	3.90	1.23	(−2.48 to 1.43)	
3	*Lubrication*					
	Control	1.54	1.20	0.85	−1.93	0.001*
	Intervention	3.47	4.20	1.25	(−2.46 to 1.39)	
4	*Orgasm*					
	Control	1.47	1.20	0.89	−2.37	0.001*
	Intervention	3.85	4.40	1.38	(−2.96 to 1.78)	
5	*Satisfaction*					
	Control	1.52	1.20	0.81	−2.68	0.001*
	Intervention	4.21	4.80	1.47	(−3.28 to 2.09)	
6	*Pain*					
	Control	1.55	1.20	0.89	−2.21	0.001*
	Intervention	3.76	3.80	1.19	(−2.73 to 1.68)	
	Sexual function					
	Control	9.44	7.50	4.79	−12.87	0.001*
	Intervention	22.31	25.10	6.70	(−15.78 to 9.95)	

* $p \leq 0.05$.

Table 4 The mean differences in respondent's sexual function scores based on all domains between the intervention and control groups ($n = 64$).

No	Sexual functionGroup	Mean difference (CI)	SE difference	*p* value
I	*Desire*			
	Control	−1.63	0.12	0.001*
	Intervention	(−1.88 to 1.37)		
2	*Excitatory*			
	Control	−1.73	0.16	0001*
	Intervention	(−2.05 to 1.41)		
3	*Lubrication*			
	Control	−1.62	0.15	0.001*
	Intervention	(−1.93 to 1.30)		
4	*Orgasm*			
	Control	−1.97	0.19	0.001*
	Intervention	(2.35 to 1.59)		
5	*Satisfaction*			
	Control	−2.05	0.21	0.001*
	Intervention	(−2.46 to 1.59)		
6	*Pain*			
	Control	−1.57	0.22	0.001*
	Intervention	(−2.02 to 1.12)		
	Sexual function			
	Control	−10.58	0.77	0.001*
	Intervention	(−12.12 to 9.04)		

* $p \leq 0.05$.

Table 5 Influences of confounding factors on sexual function changes in the intervention group ($n = 32$).

Variable(s)	Sexual function				
	Mean	Median	Df	Min–max	*p* value
Cultural values	16.28	19.0	31	20–32	0.299
Lifestyle	18.75	16.0	31	14–24	0.455
Spousal support	24.81	24.0	31	15–20	0.376

health education package. The results showed that when taking all domains into account, the mean score of sexual function in the control group were insignificant while in the intervention group it was statistically significant. Also, the results of the statistical tests showed the differences in sexual function with an increase in the sexual function of menopausal women in the intervention group after having ''Mentari'' health education. A similar study conducted by Abedi et al.[6] which provided vaginal cream as a mean of intervention for postmenopausal women, concluded that the intervention was an effective way to increase sexual activity and was shown to affect all six domains of sexual function. Nursanti et al.[7] also showed that their health education package named ''Kemilau Senja'' positively affected the sexual function of the menopausal women. Another study by Hurrahmi[8] which surveyed postmenopausal women in Surabaya, also showed an increase in sexual dysfunction among menopausal women due to an imbalance in the six sexual domains.

A previous study conducted by Erbil, Felek, and Karakaşli[9], aimed at exploring beliefs and attitudes toward the levels of depression with regards to sexual function changes in postmenopausal women in Mexico, found that positive attitudes were associated with a better sexual function. Whilst, negative attitudes were associated with poor sexual function within the domains of sexual desire, arousal, orgasm, and satisfaction.[9] These negative attitudes were managed to change into positive attitudes after the health education, but there were no significant changes in terms of lubrication and pain during sexual intercourse[9]

The results of this study are in agreement with the study results of Maserejian et al.[10] which investigated the relationship of female characteristics with clinically-diagnosed hypoactive sexual desire disorder (HSDD) in non-menopausal women with sexual function disorder. The results of Maserejian's study showed an increasing likelihood of arousal difficulty and lubrication that occur together; and was associated with menopausal characteristics. The conclusions of this study defining the problem of sexual arousal or lubrication in women who have not yet entered menopausal transition were very similar to the status of Maserejian's women with menopause.[10] Menopausal women are not provided with appropriate services especially in the eastern part of Indonesia as they face a variety of issues ranging

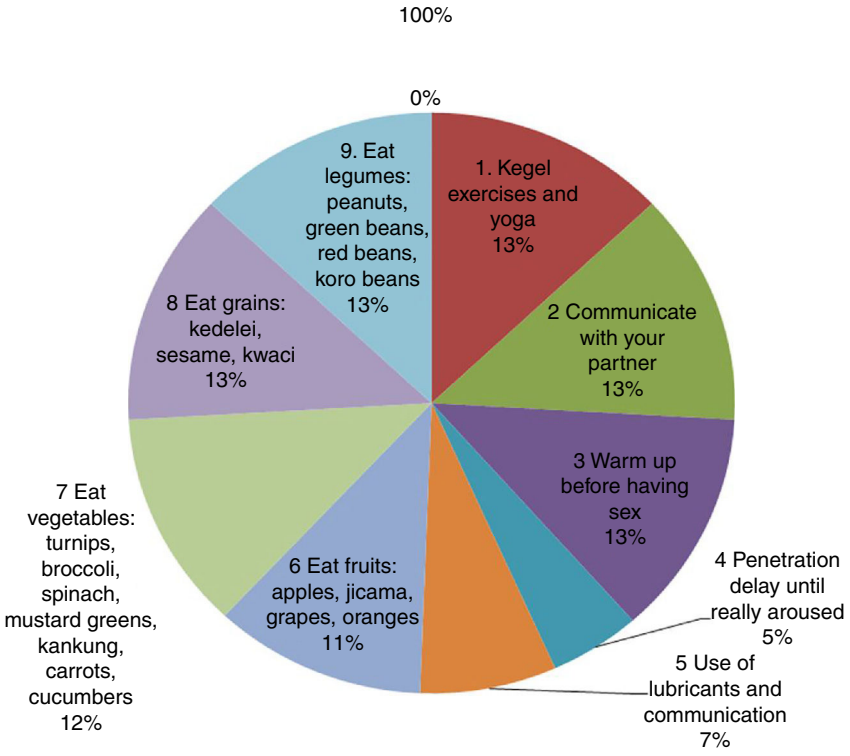

Figure 1 Analysis of self-monitoring results from participants in the intervention group ($n = 32$).

from physical, psychological, sexual, spiritual and economic issues.[11]

The main limitation of this study was our consecutive sampling technique. A random sampling technique with a greater number of participants may be more effective and better used in further research, as it can better reflect the population size within the city.

In conclusion, our results showed that ''Mentari'' health education could have a significant, positive influence on sexual function among menopausal women. This study proved that the ''Mentari'' health education was effective in improving sexual function in menopausal women. We therefore recommend its use as a health education package that can be provided by the nurses for menopausal women.

Conflict of interests

The authors declare no conflict of interest.

Acknowledgements

This works is supported by Hibah PITTA 2018 funded by DRPM Universitas Indonesia No. 1854/UN2.R3.1/HKP.05.00/2018.

References

1. Statistics Indonesia. Data cerai di Indonesia 2015; 2015. Retrieved from https://www.bps.go.id/linkTableDinamis/view/id/893
2. Susanti EH. Hubungan dukungan suami dengan tingkat kecemasan istri dalam menghadapi menopause. Jurnal Biometrika dan Kependudukan. 2014;3:114–5.
3. Setyowati. The needs and services of elderly women based on kinship in Indonesia: a qualitative study. Am J Nurs Sci. 2017;6:141–5, http://dx.doi.org/10.11648/j.ajns.20170603.11.
4. Dewi Gayatri [unpublished thesis] Hubungan Tingkat Pemahaman tentang Inkontinensia Urin terhadap Keinginan Mencari Pertolongan. Depok: Universitas Indonesia; 2000.
5. Siegler M, Frange C, Andersen ML, Tufik S, Hachul H. Effects of bach flower remedies on menopausal symptoms and sleep patterns: a case report. Altern Ther Health Med. 2017;23. Retrieved from https://remote-lib.ui.ac.id:6066/docview/1914193533?accountid=17242
6. Abedi P, Najafian M, Yaralizadeh M, Namjoyan F. Effect of fennel vaginal cream on sexual function in postmenopausal women: a double blind randomized controlled trial. J Med Life. 2018;11:24. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5909942/pdf/JMedLife-11-024.pdf
7. Nursanti, Elly Nurachmah, Setyowati SP [unpublished thesis] Pengembangan ''paket kemilau senja'' dan pengaruhnya terhadap pemahaman serta kemampuan mengatasi permasalahan perempuan menopause di Jakarta Timur. Depok: Universitas Indonesia; 2015.
8. Hurrahmi M, Sulistiawati S. Profile of sexual function using Female Sexual Function Index (FSFI) in post-menopausal women in a Geriatric Clinic, Dr Soetomo Hospital, Surabaya. Majalah Obstetri & Ginekologi. 2018;25:54–8, http://dx.doi.org/10.20473/mog.V25I22017.54-58.
9. Erbil N, Felek N, Karakaşlı E. The relationship between attitudes towards menarche and current attitudes towards menstruation of women: a comparative study. J Hum Sci. 2015;12:1120–30, http://dx.doi.org/10.14687/ijhs.v12i2.3239.

10. Maserejian NN, Shifren J, Parish SJ, Segraves RT, Huang L, Rosen RC. Sexual arousal and lubrication problems in women with clinically diagnosed hypoactive sexual desire disorder: preliminary findings from the hypoactive sexual desire disorder registry for women. J Sex Marital Ther. 2012;38:41–62, http://dx.doi.org/10.1080/0092623X. 2011.569642.

11. Moore M [unpublished thesis] Assessment of the quality of life in perimenopausal and postmenopausal Latina women using the Utian Quality of Life (UQOL) Scale. Chicago: The Chicago School of Professional Psychology; 2017.