Conference Paper

Menopause Awareness, Symptoms Assessment and Menqol Among Bahrain Women

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Abstract

Menopause is a normal physiological process of the permanent cessation of ovarian hormone reproduction, thereby offending the regular menstrual cycle. Critical period in women's life occurs 40 to 60 years. Frequently reported symptoms are physiological disturbances, psychological complaints including mood swings and& other changes that may impair the overall quality of life. Menopausal symptoms significantly reduce the Quality of Life (QOL) and further worsens with more severity of the condition. The aim of this study was to assess the menopausal awareness and related symptoms that affects the quality of life. **Methods:** A cross-sectional community survey design was adopted among 128 women through convenience sampling by using Menopause awareness scale and MenQol. **Results:** The domain-wise prevalence of symptoms score on vasomotor was 51.5%(66), psychosocial 35.2%(45), 44.5%(57), sexual 25.8%(33) and others 44.5%(57). Overall score was 40.6%(52). In relation to menopause awareness, low 7.8 % (10), Moderate 82.0% (105) and high 10.2%(13). **Conclusion:** Menopause awareness programs need to be initiated at the community level for better health and the Quality of Life.

Keywords: Menopause, Bahraini women, Menopause related QOL, Awareness

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Received: 18 September 2018
Accepted: 10 October 2018
Published: 15 October 2018

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the Sustainability and Resilience Conference Committee.

1. Introduction

The greatest challenge faced by society in this 21st century is aged population especially women, elderly persons, more number of working-women and prolonged years of life with modern technical advances in medicine. Women are the important person of family health care, the most vital role model for the next generation of educating and motivating healthy living. Even though men and women have more or less related health issues, women are challenged with some precise health problems because of their physical and biological nature.

Menopause is important and inevitable condition in every woman's life. They face many health issues due to decrease in estrogen level. It is a normal physiological and slow process and there is social transition takes place during this time. Most of the women consider this is because of aging and they face psychosomatic disorders. Women's perception regarding menopause is different based on their age, number of children, family income, educational status of the women and environmental factors. Majority of women attain menopause without adequate information and how to deal with the psycho somatic problems. Due to this, women may not be able to handle this challenges and it may lead to depression and social isolation.

Menopausal transition is highly related with noncommunicable diseases like diabetes, hypertension, osteoporosis, cervical cancer, and breast cancer. Furthermore, the menopausal women experience complex psychosocial problems as depression, mood swings, sleep disorders, loss of social, professional roles, and poor ego integrity. Poor compliance to recommended lifestyle modifications and limited knowledge could impede a better overall health-related quality of life (QOL). The QOL among high proportionate of menopausal phase of women would place a significant burden on public health care in developing countries. Menopausal symptoms have negative impact on QOL among women. Considering the many studies that have been reported, our study is the first of its kind that was carried out in Bahrain about the Menopause awareness, symptom assessment and menqol among Bahraini women.

2. Review of Literature

Varuna Pathak, Neetu Ahirwar, Shruti Ghate (2017) Study findings revealed that, 32.72% of women had knowledge regarding menopausal symptoms. 39.09%, 52.72% and 22.72% of women had information menopause increases risk of cardiovascular disorders, osteoporosis and breast cancer. 4.54% of menopausal women were aware of Hormone replacement Therapy. Nearly 64.55% of women with menopausal symptoms observed menopause as loss of feminity, 67.28% experienced menopausal psychological symptoms affect quality of life, 57.28% think that menopause means end of sexual life, 30% think that menopause is associated with maturity. According to their total score, 48.6% of women had good awareness, 24.1% of them had average awareness, and 27.3% of them had low awareness. 85% of the women had recited or overheard some issues about menopause from their families and relatives (26.8%),

associates (25.5%), health care team members (20%), books and periodicals (10.5%), and mass media or other broadcasting (8.6%).

Reda R. Ali, Sayed. A Mohamed Taha, Manal F. Moustafa Sahar F. et.al., (2015) concluded that, more than one- thirds of women (37.2%) had severe hot flushes, less than one-half (41.2%) were severely depressed, more than one – third (38.4%) had a moderate and less than one- third (29.2%) had affected their sexual relationship, hence there was a statistical significant differences in age, and educational status were independent risk variables envisaging more severe menopausal problems.

Hoda A. E, Mohamed, Sahar M, Lamadah, Luma G H. et.al., (2014) reported in their study findings the most severe symptoms of physical, psychological and sexual issues were hot blooms (29%), live through poor memory (48.3%), being dissatisfied with their personal life (44.8%), muscular skeletal problems(41.9%), and alteration in sexual longing (36.8%). The overall scores of menopausal quality of life for each aspect are indicated that the highest mean score in sexual domain (3.19 ± 1.99), followed by psychosocial (2.94 ± 1.45).

Hassan M. Al-Musa et.al (2017) concluded in their study most of the women expressed joint and muscular problems (96.1%), irritability (94.7%), nervousness (89.0%) and hot flushes and perspiration (80.7%). The mean total score for Menopause Related Symptoms (MRS) scale was 15.25 ± 6.01. The mean score was 6.36 ± 3.01 for physical symptoms, 6.05 ± 2.54 for emotional symptoms and 2.84 ± 2.25 for urogynecology symptoms. Marital status of the women, lower education level, no of children, lack of physical activity and chronic health issues were significantly associated with higher MRS and poor quality of life.

Karmakar N, Majumdar S, Dasgupta A, Das S (2017) Their study results showed among 100 peri and postmenopausal women (40-60 years) in West Bengal. Incidence of vasomotor symptoms was average with 60% of them reporting hot flushes and 47% sweating. Most prevalent psychosocial symptoms reported were emotion of anxiety and apprehension (94%) and overall depression (88%). Physical symptoms like feeling drained or exhausted decrease in physical power and lack of vigor in 93% of the women to only 5% suffering from growth of facial hair. Overall sexual changes were reported among 49% reported of avoiding relationship with a partner and 26% complained of vaginal dryness.

Aida Al Dughaither, Hind AlMutairy & Mohammed Al Ateeq (2015) Cross-sectional study was conducted among 119 women aged 45–60 years were interviewed using a questionnaire. Women were divided into three categories: premenopausal (n=31),

perimenopausal (n=49), and postmenopausal (n=39). The Menopause Rating Scale (MRS) assessed the prevalence and severity of eleven menopausal symptoms. Mean scores of menopausal categories were compared for different symptoms. The mean age at menopause was 48.3±3 years (median, 49 years). The symptoms reported to be most prevalent were joint and muscle pain (80.7%), physical and mental exhaustion (64.7%), and hot flushes and sweating (47.1%). Somatic and psychological symptoms were highly prevalent in perimenopausal women compared to other groups. The mean overall quality-of-life score was higher in perimenopausal women, while the total MRS score indicated that the symptoms were mild in severity (MRS <9).

Sudeshna Ray & Aparajita Dasgupta (2012) assessed the QOL among 315 post-menopausal women and the data were collected using the modified menopause quality of life questionnaire of Hilditch. Out of the 315 women who have been interviewed 243 (77%) had poor quality of life.

3. Conceptual Approach

Heath promotion model was used to enhance the behavior of the women. The Health Promotion Model (HPM) proposed by Nola J Pender (1982; revised, 1996) was designed to be a "complementary counterpart to models of health protection." And this model is well fitted to our study.

4. Research Methodology

Descriptive, quantitative and non-experimental cross sectional survey was carried out to measure menopause awareness, symptom assessment and effect of menopause on quality of life among Bahraini women. Population consists of Bahraini menopausal females aged between 45 and 55 years old. The sample size was calculated based on the reviews related to similar studies & sample size estimation and it was 128. Based on the following inclusion criteria women who had attained natural pre, peri & post menopause, women whose age ranged between 45 and 55 years old having menopausal symptoms associated with presence of regular or irregular menstrual cycles or absence of menstrual cycles and women were excluded from the study as women who use Hormone Replacement Therapy, women younger than 45 years old, women who had chemotherapy, who had undergone oophorectomy and hysterectomy. Non probability convenience technique was followed to recruit the samples.

The study was carried out in the community settings and the structured survey questionnaire was distributed to the four governorates of Bahrain.

4.1. Ethical considerations

The purpose and significant of the study was explained to participants and it respected the autonomy and dignity of participants. The study maximizes the benefits to research participants and do no harm. An written informed consent form was given to the women to seek their willingness to participate in the study.

4.2. Instruments

Three instruments were used to collect the necessary data: Part I. Sociodemographic &Obstetrics & Gynecological variables, Part II. Menopause specific Quality of Life (MENQOL) & Part III. Menopause awareness scale. The Sociodemographic and Obstetrics & Gynecological variables(OBGYN) which includes age, education, family income, education, marital status, family type, support available for women, diet, occupation & age of menarche, frequency of menstruation, type of menstrual flow, parity, mode of delivery, children, duration of attainment of menopause. MENQOL developed by Hilditch J R,(1996) and added few components to the questionnaire, having 32 survey questionnaires describing quality of life in menopausal women. It consists of 5 domains vasomotor (hot flushes, night sweats and sweating), psychological(anxiousness, poor memory, lowered ability, feeling depressed, impatient, wanting to be alone), physical (flatulence, muscles and joints pain, tiredness, difficulty sleeping, backaches, decreased stamina, lack of energy, dry skin, weight gain, weakness, increased facial hair, change in skin texture, bloating, low back ache, frequent and/or involuntary urination) sexual(changes in sexual desire, vaginal dryness and avoiding intimacy) and others (palpitation, headache, dizziness). In addition, the menopause awareness scale was used, this was designed to assess knowledge on menopause. The scale was consisted of 32statements that some of them were true and some were false. All the tools were translated from English version into Arabic version and followed by back to back translation was done to ensure the content and meaning of the tool was not altered.

4.3. Reliability and Validity of the tool

The Part I (Sociodemographic & OBGYN variables) was given to medical and nursing experts and having same specialty for the content validity. Item level and content level validity were calculated. A pilot study was carried out among 12% was recruited from the total sample (128) to conduct the pilot study and to assess the usability and ease of administration of tool.

4.4. Data collection procedure

The data collection was carried out in the community setting during community health clinical postings from March to May 2018. Participant information sheet was handed over to the women, which includes researchers qualifications, purpose of the research and contact information. After obtaining the written informed consent, self-administered questionnaire was distributed to all the women with time limit of 15-20 minutes in the presence of research investigator.

4.5. Statistical analysis

Statistical package for the social sciences (SPSS, version 18) was selected for the statistical analysis. A descriptive and inferential statistics were used to analyze the data. The frequency and percentage distribution were applied to analyze the sociodemographic and obstetrics & gynecological variables. Mean, standard deviation, minimum and maximum scores were derived on the prevalence of menopausal symptoms and menopause awareness. Chi square test was used to see the association between level of awareness and demographic variables& OBGYN variables. Karl Pearson correlation co efficient test was used to correlate menopausal awareness and menopausal symptom scores

5. Findings of the Research

5.1. Sample characteristics

Of the 128 women assessed, he mean age of the women was 47.94 ±2.11The largest category belonged to the age group of 45-47 years. More than 45 (35.16%) of women completed their high school education. In regard to family income, 57.81% of

women were having the average income per month. Among the participated women, 108(84.38%) were married, 78(60.94%) were residing as nuclear family, 78(60.94%) were receiving support from relatives and 120 (93.74%) were having non vegetarian dietary pattern. Most of the women 102(79.69%) were housewife. (Refer Table 1)

Regard to the Obstetrics & Gynecological variables, the mean age of menarche was 12.86 ± 1.90. Most of the women had regular menstrual cycle 98(76.56%).Most of them had 80 (62.5%) scanty menstrual flow, 110 (85.94%) were grand multipara & delivered normally 98(76.56%).Large number of women were having more than two children 99(77.34%) and attained menopause within 2-3 years 85(66.41%). (Refer Table 2)

5.2. Menopause symptoms among Bahraini women

Based on the prevalence of menopause related symptoms, the study results revealed that in the vasomotor domain, sweating was the predominant symptom 88 (68.75%) experienced by most of the women. The most reported symptom in the psychosocial domain was accomplishing the task that was reduced compare to the previous work output 64 (50%) and being impatient with other people 51(39.84%), feeling anxious & feeling wanting to be alone 45(35.16%) &(4535.16%) respectively and experiencing poor memory 44(34.38%). In the physical domain most of the women reported feeling tired (or) worn out 85(66.41%), aching in muscles and joints 84(65.63%), flatulence or gas pain 76(59.38%), involuntary urination 73(57.03%) decreases in stamina 63(49.22%), decrease in physical strength and aches in back or neck or head scored the same number and percentage as 62(48.44%). And the woman scored least score in the physical domain was changes in the skin texture or tone 21(16.41%). Almost the scores were similar on feeling bloated 33(25.78%) low back ache 32(25.0%) and frequent urination 32(25.00%). Importantly the sexual domain affected their menopausal life seriously in terms of changes in sexual desire 67(53.34%), vaginal dryness 33(25.78%) and avoiding partners intimacy 32(25.00%) (Refer Table3)

5.3. Aggregate number of menopausal symptoms on different domains:

Among 128 Bahraini women we studied, 66(51.6%) women complained of vasomotor disturbances as highest number followed by 57(44.5%) women experienced physical

Table 1: Frequency and percentage distribution of Socio-demographic and Obstetrics & Gynecological variables of the Bahraini women.

Demographic variables		No. of women (n=128)	%
Age in years	45-47	77	60.16%
	48-50	22	17.19%
	51-53	12	9.38%
	54-55	17	13.28%
Education	No formal education	19	14.84%
	Primary	26	20.31%
	Middle	19	14.84%
	High school	45	35.16%
	Intermediate	9	7.03%
	Graduate	10	7.81%
	post graduate	0	0.00%
Family Income	Below average	7	5.47%
	Average	74	57.81%
	Above Average	47	36.72%
Marital status	Married	108	84.38%
	Separated	3	2.34%
	Widow	12	9.38%
	Divorced	5	3.91%
Family type	Joint family	78	60.94%
	Nuclear family	44	34.38%
	Extended family	6	4.69%
Support available for women	Self-help group	19	14.84%
	Friends	27	21.09%
	Relatives	78	60.94%
	Others	4	3.13%
Diet	Vegetarian	8	6.25%
	Non vegetarian	120	93.75%
Occupation	Housewife	102	79.69%
	Working	21	16.41%
	Retired	5	3.91%

changes and 57(44.5%) in others changes such as palpitation, headache & dizziness. And 45(35.2%) women suffered with psychosocial changes, 33(25.8%) reported alteration in their sexual behavior (Refer Figure 1).

Table 2: Frequency and percentage distribution of Obstetrics & Gynecological variables of the Bahraini women.

OBGYN variables	Categories	No. of women (n=128)	%
Age of menarche	<11 yrs	2	1.56%
	11-13 yrs	56	43.75%
	14-16 yrs	64	50.00%
	>16 yrs	6	4.69%
Frequency of menstruation	Regular	98	76.56%
	Irregular	30	23.44%
Type of menstrual flow	Normal	21	16.41%
	Scanty	80	62.50%
	Heavy flow	27	21.09%
Parity	Nullipara	5	3.91%
	Primipara	13	10.16%
	Multipara	110	85.94%
	Grand multipara	0	0.00%
Mode of delivery	Normal	98	76.56%
	Assisted	4	3.13%
	Caesarean	17	13.28%
	Combined	9	7.03%
living children	One	10	7.82%
	Two	16	12.50%
	>Two	99	77.34%
	None	3	2.34%
Duration of attainment menopause in years.	1-2	0	0.00%
	>2-3	85	66.41%
	>3-4	27	21.09%
	>4-5	16	12.50%

5.4. Overall prevalence of menopausal symptoms

In nut shell, 40.6% of Bahraini women were experiencing the menopausal symptoms in the 95% confidence interval ranging from 32.1%-49.1%.(Refer table 4)

5.5. Menopause related Quality of Life

The present study showed that the menopause specific quality of life on symptoms of vasomotor, psychosocial, physical and sexual domains. The overall scores of menopausal quality of life for each domain are indicated that the highest mean score

Table 3: Frequency and percentage distribution of menopausal symptoms on four domains.

Domains	Symptoms	Responses (n=128)	
		No.	%
Vaso-motor	Hot flashes	46	35.94%
	Night sweats	63	49.22%
	Sweating	88	68.75%
Psycho-social	Being dissatisfied with my personal life	27	21.09%
	Feeling anxious	45	35.16%
	Experiencing poor memory	44	34.38%
	Accomplishing less than I used to	64	50.00%
	Feeling depressed down or blue	40	31.25%
	Being impatient with other people	51	39.84%
	Feeling wanting to be alone	45	35.16%
Physical	Flatulence or gas pain	76	59.38%
	Aching in muscles and joints	84	65.63%
	Feeling tired or worn out	85	66.41%
	Difficulty sleeping	56	43.75%
	Aches in back or neck or head	62	48.44%
	Decrease in physical strength	62	48.44%
	Decrease in stamina	63	49.22%
	Feeling lack of energy	27	21.09%
	Dry skin	51	39.84%
	Weight gain	56	43.75%
	Increased facial hair	37	28.91%
	Changes in skin texture or tone	21	16.41%
	Feeling bloated	33	25.78%
	;Low back ache	32	25.00%
	Frequent urination	32	25.00%
	Involuntary urination	73	57.03%
Sexual	Changes in sexual desire	67	52.34%
	Vaginal dryness	33	25.78%
	Avoiding intimacy	32	25.00%
Others	Palpitation	32	25.00%
	Headache	73	57.03%
	Dizziness	67	52.34%

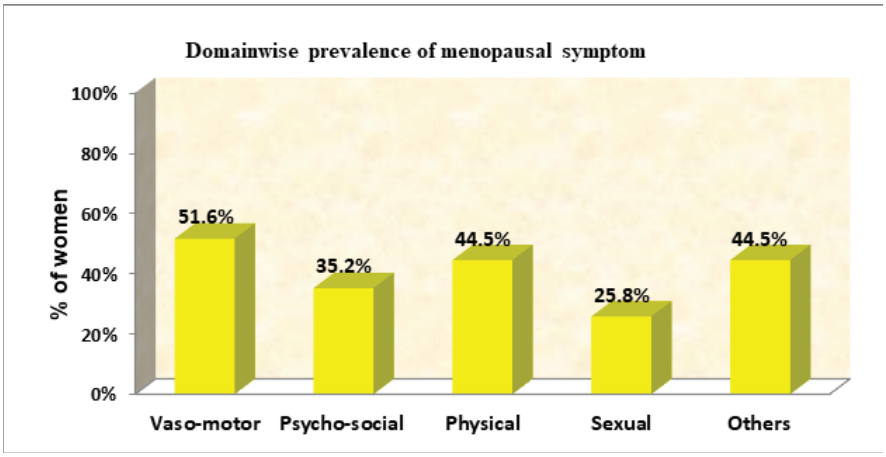

Figure 1: Domain wise prevalence of menopausal symptoms.

Table 4: Overall prevalence of menopausal symptoms.

	Average number of women with symptoms	% of women with symptoms	95% confidence interval for symptom score
Overall Scores	52	40.6%	32.1% -49.1%

in Vaso-motor domain (0.51 ± 0.28), followed by sexual domain (0.25 ± 0.33).(Refer table 5)

Table 5: Mean and standard deviation of Menqol Items and domain distribution(N=128).

Domain	Mean Scores	SD
Vaso-motor	0.51	0.28
Psycho-social	0.35	0.24
Physical	0.44	0.21
Sexual	0.25	0.33
Others	0.45	0.31
Overall	**11.17**	**4.41**

5.6. Menopause awareness

The analysis of level of menopause awareness revealed that there was a moderate level of awareness on menopause but there is less percentage on high level of scores as10.2%.(Figure 2)

In relation to the awareness of menopause, majority of the women were understood that menopause is a natural and unavoidable truth of life (96%), menopause means end of your monthly period (menses) (82%), at menopause ovaries begin to fail and the production of estrogen falls, Menopause generally occurs at the age of late

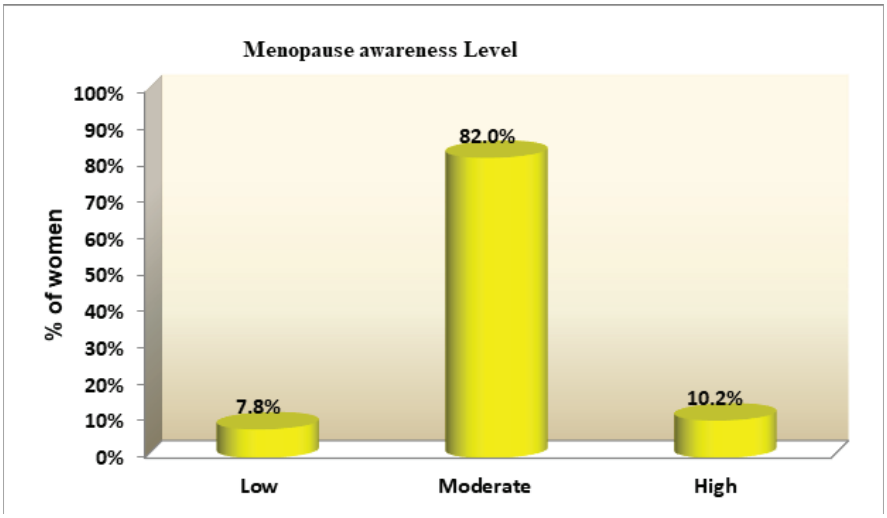

Figure 2: Percentage of distribution of menopause awareness level (n=128).

40s or early 50s (76.5%), Menopause can occur early or late due to various reasons (78.0%).Interestingly most of the women were aware of Menopause causes hormonal changes (80.5%).

5.7. Correlation between menopause awareness and symptoms

There was a significant, positive, moderate correlation between menopause specific quality of life and menopause awareness scores (Table 6)

Table 6: Correlation between Menopause awareness and symptom score among Bahraini women.

Correlation	Mean score Vs ± SD	Karl Pearson correlation coefficient & P-value
Menopause awareness score Vs Symptom score	M45.32 ±6.96 Vs 211.17 ±4.41	R r=0.55 P<0.001

5.8. Association of awareness with socio demographic and OBGYN variables

There was significant association found on awareness and age(p=0.01), family income (p=0.03) marital status (p=0.02), frequency of menstruation (p=0.02, type of menstrual flow (p=0.02) and type of delivery (p=0.01).There was no significant association with other variables such as education, family type, support, diet, occupation, age at menarche, parity, living children and duration of menopause.

6. Discussion of Findings and Conclusion

Menopause is a critical transition period in the life of women which affects quality of life (Chedraui P et.al, 2009). It affects all the spheres of life in a women and its associated with physical changes, psychological changes, vasomotor changes and altered sexual activity. We recruited 128 Bahraini women aged between 45 to 55 years with menopausal symptoms. Our study results revealed that women entering into the menopausal life were undergoing lot of changes especially muscle and joint pain, feeling tired or worn out, sweating, reduced work output, flatulence or gas pain, decreased stamina, irritability, sleep problems, weight gain, head ache &dizziness there by it affects their quality of life. These study results are consistent with other international studies and reported the same symptoms as sweating and depression, dry skin and changes in sexual desire or worse sexual function related to menopause specific symptoms in diverse population among Latin Americans, Chinese and Spanish women (Chedraui P. et.al.,2007; Chou M F, et.al., 2014; Blumei J E.et.al., 2011; Pérez-López F R.et.al., 2012; Olaolorun FM.et.al., 2009;). A recent study conducted among Saudi women on reported menopausal symptoms revealed that joint and muscle pain (80.7%), physical and mental exhaustion (64.7%), and hot flushes and sweating (47.1%). Moreover, (Zain A. Al-Safi, MD, 2015) stated that the Weight was the most reported symptom among midlife women.

Somatic and psychological symptoms were highly prevalent in perimenopausal women which affect their quality of life (Aida Al Dughaither.et.al., 2015). These findings are very relevant to our study findings may be due to the same geographical location as Bahrain and Saudi are neighboring countries. The characteristics of population and climatic condition also play a key factor in exhibiting the symptoms related to menopause reported by Sievert L.et.al., (2005).

In regard to menopause specific quality of life, our study revealed vasomotor domain gained the highest score (Mean=0.51,SD=0.28), physical & other symptoms scored equal(Mean =0.44, SD =.21) & (Mean=0.45, SD=0.31), psychological domain scored fairly (Mean =0.35, SD=0.24) and finally the sexual domain scored less (Mean =0.25, SD=0.33). These findings are in line with other study findings done by Aida Al Dughaither.et.al., (2015) reported that physical and vasomotor domains were the most prevalent symptoms among Muslim population. Further, the study results are supported by William R. et.al.,(2009), Waidysakera H.et.al.,(2009) & Hoda A.et.al., (2014) stated as the presence of menopausal symptoms significantly reduces quality

of life and further worsened with more severity of condition. According to Nanette Santoro et.al, (2016)) stated that Vasomotor symptoms badly affects the women during menopausal transition, but their severity, frequency, and duration differ between women. In contrast a study done by Chedraui P. et.al., (2010) found that psychological menopausal symptoms were the most frequent symptoms experienced by the perimenopausal women associated with parity.

In relation to menopause awareness, Bahraini population was having good percentage on moderate level of awareness, less percentage on low and high level of awareness. Our study results were supported by Fatemeh Bakouei (2013) reported 48.6% of women had good, 24.1% of them had average, and 27.3% of them had low awareness among Iranian women. The correlation between menopausal symptoms and awareness had moderate level of correlation.

6.1. Implications for practice

Our study results recommend that menopausal transition is an unavoidable condition yet manageable with proper support and education. Educational programs can be organized to create an awareness among women who are in need of knowledge to overcome the menopausal symptoms. Mass media also can serve as an important tool to reach the women and this was proved by Fatemeh Bakouei (2013) on the impact of mass media (television, radio, journals, newspaper, medical doctors, and medical team) among menopausal women to create an awareness, to manage the condition and thereby increasing their quality of life. Nurses and other healthcare team members can utilize each and every opportunity to counsel the menopausal woman to cope up with the condition to achieve high-level functioning.

6.2. Conclusion

Menopausal awareness program need to be initiated at the community level to create an awareness on menopause, better health and quality of life. Thereby reducing future complications related to menopausal symptoms.

References

[1] Aida Al Dughaither, Hind Al Mutairy, Mohammed Al Ateeq. (2015) Menopausal

symptoms and quality of life among Saudi women visiting primary care clinics in Riyadh, Saudi Arabia. International Journal of Women's Health, Vol. 7, 645-53. https://doi.org/10.2147/IJWH.S84709.

[2] Blümel J.E., Chedraui P, Baron G, Belzares E, Bencosme A, et.al.,(2011) Collaborative Group for Research of the Climacteric in Latin America (REDLINC). A large multinational study of vasomotor symptom prevalence, duration, and impact on quality of life in middle-aged women., 18(7):778-85. doi: 10.1097/gme.0b013e318207851d.

[3] Chedraui P, San Miguel G, Avila C.(2009) Quality of life impairment during female menopausal transition is related to personal and partner factors. Gynecol Endocrinol, 25(2):130-135

[4] Chedraui P1, Hidalgo L, Chavez D, Morocho N, Alvarado M.(2007) Menopausal symptoms and associated risk factors among postmenopausal women screened for the metabolic syndrome, 275(3):161-8.

[5] Chedraui P, Pérez-López FR, Mendoza M, Morales B, Martinez MA et.al.,(2010) Severe menopausal symptoms in middle-aged women are associated to female and male factors, 281(5):879-85. doi: 10.1007/s00404-009-1204-z.

[6] Chou M.F., Wun Y.T., Pang S.M.,(2014) Menopausal symptoms and the menopausal rating scale among midlife Chinese women in Macau, China. Women Health, 54(2):115-26. doi: 10.1080/03630242.2013.871767.

[7] Fatemeh Bakouei, Zahra Basirat, Hajar Salmalian, Shabnam Sareh Bakouei (2013).Assessment of women's awareness level about symptoms and complications of menopause and methods to their prevention. Journal of local, global Health Science,:6. http://dx.doi.org/10.5339/jlghs.2013.6

[8] Hassan M. A l-Musa. et al. (2017) The prevalence of symptoms experienced during menopause, influence of socio-demographic variables on symptoms and quality of life among women at Abha, Saudi Arabia, Research Article - Biomedical Research, 28, Issue 6.

[9] Hilditch JR, Lewis J, Peter A, Maris B, Ross A. et.al.,(1996). A Menopause-specific Quality of life questionnaire: development and psychometric properties. Maturitas,24: 161-75.

[10] Hoda A. E. Mohamed, Sahar M, Lamadah, Luma Gh. Al. Zamil. (2014) Quality of Life among of Menopausal Women in Saudi Arabia. Int J Reprod Contracept Obstet Gynecol, 3(3):552-561 www.ijrcog.org

[11] Karmakar N, Majumdar S, Dasgupta A, Das S. (2017) Quality of life among menopausal women: A community-based study in a rural area of West Bengal. J

Midlife Health. 8(1):21-27. doi: 10.4103/jmh.JMH_78_16.

[12] Nanette Santoro, C. Neill Epperson, Sarah B. Mathews.(2016) Menopausal Symptoms and Their Management. Endocrinol Metab Clin North Am., 44(3): 497–515. doi: 10.1016/j.ecl.2015.05.001

[13] Olaolorun F.M, Lawoyin T.O.(2009) Experience of menopausal symptoms by women in an urban community in Ibadan, Nigeria. Menopause, 16(4):822-30. doi: 10.1097/gme.0b013e318198d6e7.

[14] Pérez-López FR1, Fernández-Alonso AM, Trabalón-Pastor M, Vara C, Chedraui. P. (2012).MenopAuse RIsk Assessment (MARIA) Research GroupAssessment of sexual function and related factors in mid-aged sexually active Spanish women with the six-item Female Sex Function Index. Menopause. 19(11):1224-30. doi:10.1097/gme.0b013e3182546242.

[15] Reda R. Ali, Sayed. A Mohamed Taha, Manal F. MoustafaSahar F.El saied (2015) Assessment the Menopausal Symptoms of Women by Using the Menopausal Rating Scale In Qena City IOSR Journal of Nursing and Health Science (IOSR-JNHS), 4(2): 79-88.

[16] Sievert L.L, Flanagan E.K.(2005) Geographical distribution of hot flash frequencies: considering climatic influences. Am J Phys Anthropol.128(2):437–443. [PubMed]

[17] Solues M.R, Sherman S, Parrott E, Rebar R, Santoro N.(2001) Executive summary, stages of reproductive aging workshop (STRAW). Fertil Steril. 8:874–878.

[18] Sudeshna Ray. (2012) An assessment of QOL and its determining factors of post menopausal women in a rural area of West Bengal, India: A multivariate analysis. International Journal of Medicine and Public Health. 2 (4).

[19] Varuna Pathak, Neetu Ahirwar, Shruti Ghate. (2017) Study to assess knowledge, attitude and practice regarding menopause among menopausal women attending outdoor in tertiary care centre. Int J Reprod Contracept Obstet Gynecol, 6(5):1848-1853 www.ijrcog.org.

[20] William R, Levine K, Kalini L, Lewis J, Clark R. Res. 200;9 Menopause –Specific Questionnaire assessment in US population-based study shows negative impact on Health related Quality of life.Maturitas, 62(2):153-159.

[21] Waidysakera H, Wijewardena K, Linmark G, Naessen T. (2009) Menopausal symptoms and Quality of Life during the menopausal transition in Sri Lankan women. Menopause, 16(1): 164-170.

[22] World Health Organization. Research on Menopause in the 1990s: Report of WHO Scientific Group. WHO Technical Report Series 866. Geneva: World Health Organization; 1996.

[23] Zain A. Al-Safi, Nanette Santoro. (2014). Menopausal hormone therapy and menopausal symptoms. Fertility and Sterility®, 101(4), Copyright ©2014 American Society for Reproductive Medicine, http://dx.doi.org/10.1016/j.fertnstert.2014.02.032.