Health Education Effect on Knowledge and Attitude of Peri-Menopausal and Menopausal Women toward Menopause at El-Arabin District in Suez Governorate

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Abstract: Menopause is considered as one of the female reproductive life events facing women in their mid life. It is depletion of ovarian function followed by a cessation of menstruation and is associated with many medical conditions that affect women health. **The aim** of this study was to improve the health of women at menopause through design and application of an educational program about menopause to improve the knowledge and attitude of perimenpausal and menopausal women toward menopause. **An interventional study** was carried out on 144 perimenpausal and menopausal women aged from 40-60 years at El-Arbain district, Suez Governorate by comparing pre-intervention with post intervention questionnaire after a health education program with included items to improve knowledge and attitude about menopause over the period from October 2012 to March 2013. **Results:** The results of this study shows that the main source of information about menopause (44.6%) was television followed by relatives and friends (36.1%) while doctors represented the least source (19.3%). Its also showed a statistically significant improvement of women knowledge and attitude about menopause after the intervention as their satisfactory knowledge was (48.6) before intervention and became (99.3%) and their positive attitude was 4.2% before intervention and became 59% after interventional program. Before intervention, the least level of knowledge was for knowledge about urinary incontinence (3.5%) dyspareunia (5.6%) and hormonal replacement therapy (HRT) (7.6%) after the intervention the highest improvement was for knowledge about weight gain with menopause which was (20%) and became (93.1%) followed by knowledge about hot flushes was (32.6%) and became (96.5%) then knowledge about osteoporosis which was (36.8%) and became (97.2%) other knowledge parameter was improved after intervention but improvement was less than previous parameters. The highest improvement in attitude was for the effect of menopause of health which changed from (4.9%) to (78.5%) and effect on sexual life which changed from (9.7%) to (83.3%) after intervention other attitude parameter was improved after the intervention but improvement was less than previous parameters. In the current study it was found that improvement of knowledge significantly affect improvement of attitude towards. There was statistically significant relation between change of knowledge of women and many factors as education and work of women, and socioeconomic level of them. On the other hand no statistically significant association was found between these factors and the change in attitude. It was concluded that the level of knowledge and attitudes of the studied women towards menopause was low before the health educational program and they improved significantly after program thus there is a strong need to make proper health education programs for perimenopausal women to improve their knowledge and attitude towards menopause. It was recommended to put menopause as priority on public health agenda and to plan and implement health educational programs for women about menopause and this programs should be integrated within the health care system.

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1.Introduction

Menopause is the depletion of ovarian function followed by cessation of menstruation and is usually diagnosed when a women do not have menstrual period for 12 consecutive months without any other biological or physiological cause. Menopause can be induced by surgery, chemotherapy or radiation[(1)].

The menopausal is period of decreasing ovarian function and diminished estrogen level followed by cessation of menstruation. A variety of symptoms such as hot flushes, mucosal dryness, excessive sweating, emotional fluctuations, psychoses, decreased strength and calcification of bones throughout the body are experienced by women in menopause all these symptoms are due to decreased estrogen level[(2)].

Menopausal symptoms have been found to be less common in societies where menopause is viewed as normal aging process rather than a disease[(1)].

Menopause is transitional developmental period in women's life and an essential part of

reproductive health care. It occurs usually between the ages of 45 and 52 years but may vary. The average age of menopause in western countries has risen 5 years in the last century[2].

The mean age of the menopause in Egypt is 46.1 years which is low compared to many countries but this age has been rising recently. The incidence of menopause associated symptoms in Egyptian women is higher than in the west. Probably because of the different sociocultural attitudes towards the menopause in different communities[3].

Women generally known very little about menopause, life style change needed with menopause. HRT (Hormonal replacement therapy) e.g the long-term benefits of HRT, how long therapy should be continued, formulation available etc all can be improved by educations about menapouse[2]. Life expecting throughout the world has been increased so most of women will live through menopause therefore they should have knowledge about health effects of menopause and its prevention[1].

There was evidence that menopausal symptoms can really have an important impact in daily-social and sexual life of postmenopausal women and also some evidence that ethnicity and socioeconomic status may also influence menopausal experience either directly or indirectly by their influence on some psychological factors[17].

Some population based survey largely conducted among Caucasian population have reported a high prevalence of menopausal symptoms ranging between 40-70%[18]. It were concluded there is dramatic decline in female sexual function with menopausal transition[20].

Symptoms experienced by women during and after menopause transition are influenced by preconceived attitudes toward menopause[23].

Clinician have less time to spend on patients and increasing numbers of patients visit primary health care with vague symptoms a fast cost-effective first screening for menopause would be a welcome aid[24].

Aim of work

This study aimed to improve the health of women at menopause.

Objectives:

- To assess knowledge and attitude of women toward menopause.
- To implement a health education program to increase knowledge and improve attitude about menopause.
- To assess the role of that health education program to perimenopausal women on their knowledge and attitude about menopause.

2.Subjects and Methods

Setting: This is intervention study which was carried out on the perimenopausal and menopausal women (40-60 years) of El-Arbein district of Suez Governorate. The total estimated population of El-Arabin district in 2011 was about 150,000 including about 20,000 females in (40-60 years). The study was carried out during the period from October 2012 to March 2013.

Sample size:

A random sample was selected from attendants of primary health care facilities of El-Arbaien district. The sample size was calculated using Epi-Info software version (6.04)[4].

Assuming the prevalence of woman knowledge and attitudes was (21.7%)[5] at 95% confidence interval and power of 80%. The calculated sample size was 144 to be taken half from rural and half from urban primary health care units.

Type of sampling technique:

A multistage sampling method:

(1) First stage: A simple random sampling for rural and urban unit.

The total number of primary health carte units and centers in El-Arabin district were 6 units 3 urban and 3 rural, one urban primary health center (El-Eman) and one rural primary health unit (El-Sadat) was selected randomly.

(2) Second staff: A systematic random sample technique within each unit. Perimenopausal women were taken from the selected PHC units using the systematic random sample technique. The average number of women visiting the unit in month preceding to the study was 15 women/day. We visit unit 3 times per week one out of each three women visiting the unit in these days.

Inclusion criteria:

Women aged 40-60 years, visiting the unit for different reasons.

Exclusion criteria:

Women below 40 years or above 60 years and women with chronic disease e.g diabetes, chronic heat dise etc.

Operational design:

Data collection:

Data were collected via personal interview with the perimenopausal and menopausal through the whole work including informed consent and confidentiality. A questionnaire sheet was designed to assess knowledge and attitude towards menopause include following data.

(1) Socio-demographic data bout age, residence educational level, occupation, husband education and occupation, family income, number of family member and number of house room. Crowding index was then calculated.

(2) Socio-economic class was calculated from women educational level, occupation, husband education and

occupation, crowding index, family income by modified method of El-Sherbini and Fahmy[6].

The total score was 24 degrees, score equal or more than 75% (≥18) was considered high social class, 50% to <75 (12-<18) was considered as moderate social class and <50% (<12) was considered low social class.

Intervention:

It was a health education intervention program for the studied perimopausal and menopausal women to increase their knowledge about menopause and correct their wrong beliefs about it.

a- Message: The studied women were given educational sessions to cover knowledge about definition of menopause, the age of natural and premature menopause, basic physiology of menopause, health problem with menopause and their causes, how to deal with menopause through life style changes and drug, and hormonal therapy and other types of therapy.

b- Method: Lectures and discussion were the available teaching methods used in this study in addition the use of teaching aid posters helped to enriched and facilitate the educational process.

c- Time: Each educational session lasted about 45 minutes and the whole course of intervention stage lasted about two months.

3- Evaluation: (Post-test)

Two months after implementing the health education sessions, all studied women were asked to complete a questionnaire from which was the same as that used in the cross sectional study.

Scoring of knowledge and attitude:

1- Questions with or no answer were scored as follow yes = 1 and No = zero.

2- Question with open answers were used as follows: Don't know = zero, know incomplete answer = 1 and complete answer = 2.

3- Question with various answers were scored as follows, energy answer took 2 degree from 0 to 4 (bad attitude = 0 and good attitude = 4). Total score of all items of knowledge about menopause was 12 degrees and total score of all items of attitude about menopause was 28 degree.

Adequacy of knowledge and attitude ws considered as follows:

1- Score equal to 60% or more of total score was considered satisfactory score.

2- Score less than 60% of totals core was considered unsatisfactory score.

Changes of knowledge after the interventional program was calculated as follows:

$$\frac{\text{Total knowledge after intervnetion - total knowledge before intervnetion}}{\text{Total knwoeldge before intervention}}$$

If the result was less than 60% it was considered unsatisfactory change and the same was done for change of attitude.

Ethical consideration:

- An official permission was obtained from Suez Health directorate.
- An official permission was obtained from El-Sadat and Elman family health's units mangers.
- Confidentiality of the data was insured.
- Informed verbal consent was obtained from every studied women before filling the questionnaire.

Data management:

Collected data were completed and reviewed, coded and analyzed by computer using statically package of social sciences (SPSS) version 14.

3.Results

This study included 144 premopausal and menopausal women the majority of the current study were house wives women (71.5%) while only (28.5%) of studied women were working. As regard social class only 7% had high social class, low and moderate social class had same percentage (46.5%) Table (1).

From Table (2) it shows that the majority of women (70.1%) began menstruation between 11-<14 years, (40.3%) of studied women had regular cycles and (39.6%) stopped menstruation about 89.5% of menopausal women began menopause below 50 years.

As regard the main source of information about menopause Table (3) shows that the main sources of information about menopause was television (44.6%) followed by relatives and friends (36.1%) while doctors represented the least source (19.3%).

The Table (4) shows significant improvement in all knowledge parameters about menopause after intervention. The highest percent of improvement is for knowledge about weight gain which was (20.1%) and changes to (93.1%) and knowledge about hot flushes was (32.6%) and changed to (96.5%) after intervention.

From Table (5) show significant improvement in all attitude parameters after intervention. The highest percent of improvement is for effect of menopause on health which changed from (4.9%) to (78.5%) and effect on sexual life which changed from (9.7%) to (83.3%) after the intervention.

A significant improvement in total knowledge and total attitude about menopause after intervention $P<0.00$ Table (6).

Table (7) shows that there is statistically significant positive relation between change of knowledge and change of attitude $r = 0.37$, $P<0.00$.

Table (8) shows that variations in age <50 or ≥50 also residence (urban and rural) did not significantly affect the change in knowledge after intervention.

Regarding the educational level (Table 9) the improvement in knowledge was significantly higher in essentially educated and illiterate and read & writes women (66.7 and 53.0%) respectively than secondary and highly educated women who had lower satisfying change (31.1%).

Table (10) showed that the only factors predicting the satisfactory change of knowledge was not working status (being a housewife).

From Table (11) it shows that the variation in educational level and work of studied women did not significantly affect the change in attitude after intervention $P>0.05$.

Table (12) shows also no significant effect on change of attitude after intervention with the variation of income and socioeconomic parameter of studied women.

Table (1): Socio-demographic character of the studied perimenopausal and menopausal women.

Characteristics	Frequency (N = 144)	Percent %
Age (years):		
* 40-	103	71.5%
* 50 +	41	28.5%
Mean±SD	47.63±4.78	
Residence		
Urban	72	50%
Rural	72	50%
Educational status:		
* Illiterate	54	37.5%
* Read and write	14	9.7%
* Essential	15	10.4%
* Secondary	57	39.4%
Highly education	4	2.8%
Occupational status:		
* Working	41	28.5%
* House wife	103	71.5%
Income:		
* Enough	78	54.2%
* Not enough	66	45.8%
Socio-economic level:		
* Low	67	46.5%
* Middle	67	46.5%
* High	10	7.0%

Table (2): Characteristics of menstrual status of studied perimenopausal and menopausal women.

Character	Frequency (N = 144)	Percent %
Age of beginning of menstruation (years)		
* 11-	101	70.1%
* 14 +	43	29.9%
Mean±SD	13±1.1	
Regularity of cycle:		
* Regular	58	40.3%
* Irregular	29	20.1%
* Stopped	57	39.6%
Age of beginning of menopause in years (N = 57)		
* 40 -	54	37.5%
* 45 -	14	9.7%
* 50 +	15	10.4%
Mean±SD	46.8±2.8	

Table (3): Sources of knowledge of perimenopausal and menopausal about menopause.

Items	Frequency (N = 83)	Percent %
Relatives & friends	30	36.1%
Mass media (T.V)	37	44.6%
Doctors	16	19.3%

The number of women who have correct definition of menopause before intervention.

Table (4): Women knowledge parameters about menopause before and after the intervention program.

Knowledge parameters	Before intervention (n=144)		After intervention (n=144)		*P*-value
	Correct		Correct		
	No	%	No	%	
Definition of menopause	83	57.6	140	97.2	0.000
Hot flushes	47	32.6	139	96.5	0.000
Heart problem	31	21.5	92	63.9	0.000
Weight gain	29	20.1	134	93.1	0.000
Mood changes	43	29.9	94	65.3	0.000
Menses changes	32	22.2	84	58.3	0.000
Osteoporosis	53	36.8	140	97.3	0.000
Insomnia and irritability	18	12.5	103	71.5	0.000
Dyspareunia	8	5.6	90	62.5	0.000
Urinary incontinence		46.5	67	3.5	5
Knowledge about hormonal replacement therapy (HRT)	58.3	84	7.6	11	0.000

Table (5): Women attitude parameters about menopause before and after intervention program.

P-value	After intervention (n=144)		Before intervention (n=144)		Knowledge parameters
	Positive		Positive		
	%	No	%	No	
0.000	97.9	141	56.9	82	Consider it natural aging
0.000	79.2	114	22.2	32	Counsel a doctors
0.000	78.5	113	4.9	7	Effect on health
0.000	83.3	120	9.7	14	Effect on sexual life
0.000	74.3	107	15.3	22	Effect on family
0.000	25	36	9	13	Effect on work colleagues
0.000	56.9	82	5.6	8	Attitude toward HRT

Table (6): Total knowledge and attitude changes before and after intervention.

P-value	After intervention (n=144)		Before intervention (n=144)		Character
	Correct		Correct		
	%	No	%	No	
0.000	99.3	143	48.6	70	Knowledge
0.000	59.0	85	4.2	6	Attitude

Table (7): Correlation coefficient change of knowledge and change of attitudes among studied women.

Change of attitude		Change of knowledge
P	r	
0.000	0.37	

Table (8): The relation of change of knowledge with age and residence of studied perimenopausal and menopausal women.

P-value	X^2	Knowledge				Parameter
		Satisfactory change		Unsatisfactory change		
		%	N=65	%	No79	
0.352	0.865	47.6 39.0	49 16	52.4 61.0	54 25	Age (years): * <50 (N=103) * ≥ 50 (N=41)
0.241	1.374	50.0 40.3	63 29	50.0 59.7	36 43	Residence: * Rural (N = 72) * Urban (N = 72)

Table (9): The relation between change of knowledge and education & work of studied perimenopausal and menopausal women.

P-value	X^2	Knowledge				Parameter
		Satisfactory change		Unsatisfactory change		
		%	N=65	%	N=79	
0.009	9.301	53.0 66.7 31.1	36 10 19	47.0 33.3 68.9	32 5 42	Educational level: * Illiterate and read & write (n=68) * Essential education (n=15) * Secondary education (n=61)
0.016	5.830	51.5 29.3	53 12	48.5 70.7	50 29	Work: * Housewife (n=103) * Working (n=41)

Table (10): Forward logistic regression analysis of factors predicting satisfactory change of knowledge.

P	OR (95% CI)	Valid	SE	B	Predictor
0.01	2.56 (1.17-5.65)	5.64	0.39	0.94	Work status housewife

Table (11): The relation between change of attitude and education & work of studied women.

P-value	X^2	Attitude				Parameter
		Satisfactory change		Unsatisfactory change		
		%	N=115	%	N=29	
0.367	2.00	79.5 93.3 77.0	54 14 47	20.5 6.7 23	14 1 14	Educational level: * Illiterate and read & write (n=68) * Essential education (n=15) * Secondary education (n=61)
0.207	1.60	82.5 70.7	85 30	17.5 29.3	18 11	Work: * Housewife (n=103) * Working (n=41)

Table (12): The relation between change of attitude and income & socioeconomic level of studied women.

P-value	X^2	Attitude				Parameter
		Satisfactory change		Unsatisfactory change		
		%	N=115	%	N=29	
0.903	0.015	81.3	53	19.7	13	Income: * Note enough (n=66)
		79.5	62	20.5	16	* Enough (n=78)
0.723	0.65	80.6	54	19.4	13	Socio-economic level: * Low (n=67)
		80.6	54	19.4	13	* Moderate (n=67)
		70.0	7	30.0	3	* High (n=10)

4.Discussion

The menopausal is the final menstrual period and is known in a year or more after the event [(7)]. In the current study the sample size included 144 women, the majority were house wives (71.5%), while only 28.5% of studied women were working (Table 1) and this can be attributed to that most of working women go to their work at morning which is the time the health care unit so the majority of consumers were house wives, as regard social class only 7% had high social class, low and moderate social class had the same percentage (46.5%) to each (Table 1). The low percentage of high social class people may be attributed to most of them prefer going to private clinic to seek medical advice and go to health units rarely, unlike people of low and moderate social classes who depend mainly on the governmental health units about (40.3%) of studied women had regular menstruation and (39.6%) entered to menopause, the mean age of menopause was 46.8 years (Table 2) which agreed to Sallam*et al*.[(3)] who mentioned that the mean age of menopause in Egypt was 46.7, it is also in agreement with Biri*et al*.[(8)] who mentioned that the mean age of menopause in Turkey was 48 years, it is also going with Tanira*et al*.[(2)] which reported that menopause occurs in Bangladish between 45-52 years, also as in study conducted by Eposito*et al*.[(10)], average onset of menopause among Brazilian women was 47.9 years, also to some extent in study done by Nedstrand*et al*.[(15)] they founded than menopausal age among South American women who immigrated to Sweden was 47 years. In current study also in compatible with study carried out by Boulet et al.[(16)] among observed Philippines women menopausal age which ranged from (47-48 years) but. In study conducted by Gold *et al*.[(26)] they reported that the mean age of menopause of western women was 51.4 years the explanation of different mean age at menopause among different countries may be related to different factors as ethnic, biological and culture which may have an impact on menopausal age.

According to this study the most common source of information among perimenopausal women's information about menopause were television (44.6%), relatives and neighbors (36.1%) and doctors (14.3%) (Table (3). This result is going with result of Kotb[(9)] who found that in Egypt the source of perimenstural women's information about menopause were television (4835), relatives and neighbors (32%) and doctors (19.5), it is also going with Sallam*et al*.[(3)] who mentioned that 45% of women in Egypt received their information about menopause from television 38% from neighbors and relatives which only 17% received information from medical personnel.

Also in study carried out by Unal*et al*.[(19)] about menopausal status among Turkish female that most respondents women reported that mass media (television 71.2%) was major source if information about menopause followed by news paper 37.4% and magajene 20.2%, this results shows that media is an important source of information about health matter it seems that women depend mainly on television as the main source of knowledge and they had lack of consistent communication with health care providers so they are generally have little information about menopause and its related issues.

Before interventions the level of knowledge about hot flashes was 32.6 and marked improvement to 96.5% after intervention also the same improvement occurs about knowledge parameters definition of menopause, weight gain, osteoporosis from 57.6%, 20.1%, 36.8% to 97.2%, 93.1%, 97.3%, respectively $p<0.00$ (Table 4) about urinary in continence and dyspaurina the least percentage of knowledge among studied women was observed 3.5%, 5.6% respectively but also improvement in knowledge had occurred after interventions (Table 4). The last two knowledge items (urinary incontinence and dyspaurina) are usually shameful symptoms among menopausal women so they are rarely covered by media and women rarely discuss also the same item about HRT (Hormonal replacement therapy) knowledge rarely covered by media and even so it may be difficult to be understood by women (improvement from 7.6% to 58.3% respectively) before and after intervention the variation in improvement level from one item to

another may be explained by the women were more interested to know about these issues (weight gain, hot flushes and osteoporosis than other like urinary incontinence or mood problems, dyspaurina also educational program may give more details about some items in comparison to others.

These result is in agreement with another study conducted in Egypt by Salem[5] who concluded that there was significant improvement in different knowledge parameters after the program with variation in improvement level from one knowledge parameter to another also in study conducted by Espositol*et al.*[10] about education intervention study on menopausal women in Brazil they noticed decreased the depression domain mode after intervention program more over these result are in agreement with Turkish study by Unal*et al.*[19] among Turkish women also the same result reported by WHO researcher on menopause[21]. In contrast to current study some researcher have indicated that 45% of subjects have hot flushes among menopausal women in movimaBolivius[22]. Also in study carried out by Omidar*et al.*[25]. They reported that 55% reported dyspaurina among menopausal women in Iran.

Regarding the total knowledge was 48.6% before intervention which improvement to 99.3% after intervention (Table 6). These result is higher than the result reported in other studies Salem[5] found that 21.7% of women had correct knowledge about menopause and improvement to 82.6% after program. The higher baseline correct knowledge of women in the present study may be due to the more wide spread of media and more improvement of educational level of women and so more awareness of women at present. Variation in improvement of knowledge from one study to another could be also attributed to differences in efficacy and acceptance of educational program by studied group as well as to difference of communities. According to previous studies it is evident that health education program plays an important role in improving information about menopause.

In current study it was found that improvement of knowledge significantly affected improvement of attitude toward menopause (Table 7). Thus the more improvement in knowledge the better the attitude became, this result is similar to Salem[5] and Liaoki and Hunter[11] they showed that health education about menopause improved women knowledge and that was reflected on women attitude which improved consequently.

As regard the age of women this study found that age of women had no significant effect on improvement of knowledge about menopause after intervention (Table 8). This result was similar to Nacar*et al.*[12] who mentioned that age did significantly affect improvement of knowledge of studied women this result can be explained by that improvement of people knowledge depends mainly on their desire to acquire more information and availability of sources of knowledge regardless their age. Regarding the residence of women this study found that residence of women had no significant effect on improvement of knowledge about menopause after intervention (Table 8). This result is similar to another study by Liaoki and Hunter[11].

They mentioned that residence did not affect improvement of knowledge about menopause, this may be attributed that the media and other sources of information are now available for all ages in both urban and rural areas. Regarding the educational level (Table 9). The improvement in knowledge was significantly higher in essentially educated and illiterate and read & writes women (66.7%, 53.0%) respectively than secondary and high educated women who had lower satisfying change (31.1%). This may be attributed to that secondary and highly educated women had more information about menopause before intervention than women of other educational levels. So after the program change was more obvious in lower educational level. This result is contradicted to Salem[5] who found that the improvement in knowledge after educational program was higher among secondary and high educated women than lower educational levels and attributed this to the more awareness and easier communication of secondary and higher educated women.

As regard the occupational status of the women (Table 9). This study showed that the improvement in knowledge was significantly higher among house wives (51.5%) than among working women (29.3%). This can be explained to that working women may have more information because they communicate with different people from different levels. So, the improvement after program was more in house wives who had little information from the start this result is contradicted to results of other studies Brand and Lehert[13], Salem[5] they found that improvement in knowledge was more in working women than house wives and attributed this to more awareness and easier communication of working women than house wives. Forward logistic regression analysis of factors predicting the satisfactory change of knowledge was found that the only predicting the satisfactory change of knowledge was the not working women being house wife (Table 10).

Attitude about menopause:

The present study show that there is significant improvement in attitude after program (Table 5). This result can be explained by that when women have a good knowledge about menopause and its health problems and how to deal with it. They have

more positive attitude toward it. This result was in agreement with another study Salem[5] which showed that there was significant improvement in attitude after health education program but in study conducted by Unal*et al.*[19]stated that 75.7% of Turkish women in epidemiological study about attitude towards menopause is considered normal phase in women's life in contract to current study 56.9% considered it natural aging this may be attributed to different socio-cultural factors among women in the previous above studies.

As regard the total attitude (Table 6) it was found that total positive attitude toward menopause was 4.2% before intervention which improved to be 59% after intervention. This improvement differ from the results obtained from Salem[5] who stated that only 8.6% of studied women had positive attitude toward menopause before intervention and changed to be 55.5% after program. Olfosson*et al.*[14] found that 30% of Swedish women had positive attitude toward menopause and improved to be 70% after health educational program. These differences may be due to different locality studies, time of studies and degree of orientation of women about menopause.

Regarding the education and work of women the present study showed that there is no significant relation between improvement of attitude and the education and work of women (Table 11). This may be attributed to the change of attitude is usually slower than change of Knowledge and needs repetition of health education in order to improve attitude. In contrast to current study there is significant relation between attitude and education level among study conducted by Unal*et al.*[19] among studied Turkish women. This can be attributed to higher level of education among Turkish women which is reflected on their attitudes toward menopause.

As regard the income and socioeconomic level of women, the present study showed that there is no significant relation between improvement of attitude and income and socioeconomic level of women (Table 12). This may be attributed to that the change of attitude take apart of time than change of knowledge and needs support and repetition of information till the desired response of attitude occurs. This result is going with results of Joellen*et al.*[27] who found that majority of studied in Chiago USA 149 sample women regardless of ethnicity or socioeconomic status had neutral feeling toward menopause and most of negative attitudes toward menopause were related to psychological problems it is also going with the study done by Doyel&Subla[28] they mentioned that attitude did not differ significantly among different sociodemographic menopausal women of west Bengal.

Conclusion and Recommendations

Based on finding of the present study, it can be concluded that:

1- The level of knowledge and attitudes of the studies women towards menopause was low before the health educational program and they improved significantly after the program.
2- Mass media, relatives and friends represented the main source of women's information about menopause while health system played only a minor role.
3- Change of knowledge is related to non working status of studied women and effect of health education.
4- Change of attitude is related only to the role of health education.

We recommended the following:

1- Health education programs about menopause need to be integrated within health care system.
2- Proper training of health care providers to be able to communicate optimally with premenopausal and menopausal women in primary health care centers.
3- Further studies are recommended for assessment of common health problem associated with menopausal period.

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