

Experience of Middle Age Women regarding Menopause in Alexandria

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Abstract

*Menopause is a beginning of another phase of women's life. Women's experience of this critical phase probably influenced by their attitude, knowledge and follow-up practices. **Objective:** Assess the menopausal symptoms among middle age women and identify their knowledge, attitude and practices toward menopause in Alexandria. **Settings:** The study was carried out in 8 family health centers in Alexandria. **Subjects:** 240 middle age women (45 to less than 60 years old) were included in the study. **Tools:** Four tools were used for data collection: socio demographic characteristics and health status structured interview schedule, the menopause rating scale for the women to assess the menopausal symptoms among middle age women. The third tool was, the modified attitude rating scale, and women's knowledge toward menopause structured interview schedule. **Results:** Findings of the present study revealed that around one tenth of the women were bothered by severe and very severe menopausal symptoms. Less than half had poor knowledge toward menopause, while 56.7% were non-compliant with follow up practices during menopausal transition. Additionally, slightly less than half of the women had a negative attitude toward menopause. **Conclusion:** The study concluded that the women had poor knowledge toward menopause which reflect on their attitude and follow up practices. **Recommendations:** Health care providers need to play a more visible role in continuously assessing menopausal women's needs as well as to implement appropriate health education program to raise their awareness and to improve their knowledge, attitude, and follow up practices toward menopause.*

Keywords: Menopause, Menopausal rating scale, Middle age women, Menopausal symptoms and experience.

Introduction

Today, menopause is gaining an increasing attention because of growing emphasis on women's rights as well as the increase in the life expectancy of women resulting in increase in the number of women attaining the age of menopause⁽¹⁾. The number of post-menopausal women in India is expected to increase sharply to a total of 1200 million by 2030⁽²⁾. Most women in developed countries will spend a third of their lives after menopause, the increase is substantially faster in developing countries than in industrialized one, where about 76% of women older than 50

years^(1,3). In Egypt the density of older female aged 50 years or more is 11.6%^(4,5).

Menopause refers to the last menstrual bleeding and is generally considered to have occurred retrospectively after one year of amenorrhea. It may occur naturally, be surgically induced or occur secondary to other medical disorders^(6,7). Menopause occurs as a result of increasing ovarian resistance to Follicle Stimulating Hormone (FSH); declining in the total levels of circulating Estrogen and Progesterone, and increasing FSH level. The average age is around 50 years, and may occur at any time between 45 and 55 years⁽⁷⁾. During this period women can experience many symptoms including hot flashes, night

sweats, sleep and mood disorders, impaired memory, lack of concentration, nervousness, depression, insomnia, bone and joint complications and reduction in muscle mass. The duration, severity, and impact of these symptoms vary extremely from person to person and from population to another. Some women have severe symptoms that greatly affect their personal and social functioning and quality of life⁽⁸⁻¹⁰⁾.

Menopausal experience of women during and after menopausal transition is influenced by preconceived attitudes toward menopause, personality type, exposure to life stressors and sociocultural factors. In addition to, women's knowledge of the menopausal transition and symptoms probably influence the management of this period. On the other hands, women's knowledge and attitude toward menopause and the treatment or management of its related disorders have an important impact on their utilization of available health care services⁽¹¹⁻¹³⁾.

Although knowledge related to menopause is an important health issue for women worldwide, little information is known about mid-life Egyptian women's knowledge of menopause. Therefore, nurses should take action toward this⁽¹⁴⁾. Community health nurse today play a key role in health promotion counseling. So, they can provide health counseling and education to middle age women regarding changes that occur at the time of menopause, symptoms, routine medical check-up, community health care resources, healthy life style such as nutrition, exercise program, coping with life stressors... etc. So, raising awareness of women by providing correct knowledge help them in this critical phase of life⁽¹⁵⁾.

Aims of the Study

The aims of the study are to:

- Assess the menopausal symptoms among middle age women in Alexandria.
- Identify middle age women's knowledge, attitude and practices toward menopausal period in Alexandria.

Research Questions:

1. What are the menopausal symptoms experienced by middle age women in Alexandria?
2. What are the middle age women's knowledge, attitude and practices toward menopausal period in Alexandria?
3. What is the relation between middle age women's knowledge, attitude, and follow up practices toward menopause?

Materials and Method

Materials

Design: A descriptive cross sectional study design was used to carry out the study.

Settings: Multistage sampling technique was used to select the study setting as follows:

Alexandria governorate is divided into eight health zones, namely; El- Montazah, East, West, Middle, El-Gomrok, El-Agamy, El-Ameria, and Borg El-Arab. Eight family health centers were randomly selected one from each zone to carry out this study (Four family health centers representing rural area, namely; El- Montazah, Abess 2, Oraby, and Borg El- Arab) and (Four family health centers representing the urban area, namely; Embroozo, El-Kabary, El-Manshia (1), and El- Agamy).

Subjects: According to Epi Info 7 sample size estimation program using the following parameter:

- 1- Population size (618 women); the average number of women attending family health center during the last six months prior to the study.
- 2- Expected frequency (50%).
- 3- Margin of error (5%).
- 4- Confidence co. efficient (95%).
- 5- Minimum sample size (238 women).

The total sample size was 240 middle age women (45 to 65 years old). By using the equal allocation method, 30 women were selected randomly from each of the previously selected family health centers (women who attending family health center different clinics for follow up).

Tools: In order to collect the necessary data for this study, the following tools were used:

Tool I: Socio-demographic Characteristics and Health status Structured Interview for the Middle Age Women

This was developed by the researchers after reviewing the recent literature to collect necessary data from the middle age women. It included the following parts; **the first part:** women's socio-demographic characteristics (age, marital status, level of education, and working condition), **the second part:** women's medical and surgical history (DM, Hypertension, cancer, mastectomy, hysterectomy, previous lab investigation as lipid profile, FBS, pap smear / human papillomavirus test (HPV), and previous history of physical examinations such as mammogram, Bone mineral densitometry, colonoscopy..... etc.), and **the third part:** women's menstrual and gynecological history (age of menarche, history of menstrual disorders, previous history of chemotherapy and hormonal replacement therapy).

Tool II: Menopause Rating Scale for the Women (MRS)⁽¹⁶⁾

It was developed by the Berlin Center for Epidemiology and Research in 1990 to assess the menopausal symptoms among women. It composed of eleven items divided into three subscales: (a) Somatic-vegetative subscale (hot flushes, heart discomfort/palpitation, sleeping problems and muscle & joint problems), (b) Psychological subscale (depressive mood, irritability, anxiety and physical & mental exhaustion) and (c) Urogenital subscale (sexual problems, bladder problems and dryness of the vagina). All items used a five point Likert scale ranging from 0 (no complaints) to 4 (very severe symptom). Reliability analysis was performed on the translated Menopause Rating Scale questionnaire with Cronbach's alpha of somatic subscale (0.712), psychological subscale (0.743), and urogenital subscale (0.821).

Tool III: Modified Attitude Rating Scale for the Women toward Menopausal Period (MARS)⁽¹⁷⁾

The Attitude Rating Scale was developed by McKeown in 1999, which is used to assess women's attitude toward menopause. It composed of ten statements, used a five point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree); negative statements were reversed in scoring. Reliability analysis was performed on the Modified Attitude Rating Scale questionnaire with Cronbach's alpha (0.9025).

Tool IV: Women's Knowledge toward Menopause A Structured Interview

This questionnaire was developed by the researchers after reviewing literature to assess women's knowledge toward menopause, it consisted of three main domains; **the first domain** includes six questions to assess the women's knowledge about the beginning of menopausal period, **the second domain** includes thirteen questions to assess the women's knowledge

about menopausal symptoms, and **the third domain** includes six questions to assess the women's knowledge about the important investigations and examinations would done during the menopausal period.

Method

- Approval of the responsible authorities was obtained through official letter from the Faculty of Nursing to the director of MOH in Alexandria to collect the necessary data from the eight selected family health centers.
- After reviewing the recent literature tool I and tool IV was developed by the researchers. It was validated by juries of five experts in the field of Community Health Nursing. Their suggestions and recommendations were taken into consideration.
- A pilot study was carried out on 24 middle age women in order to ascertain the relevance, clarity and applicability of the tools, test wording of the questions and estimate the time required for the interview. Based on the obtained results, the necessary modifications were done.
- Data were collected by the researchers over a period of four months from February 2015 to May 2015.

Ethical considerations:

- Informed oral consent was obtained from all women after providing an appropriate explanation about the purpose of the study and nature of the research.
- The confidentiality and anonymity of individual responses, volunteer participation and right to refuse participating in the study were emphasized to the women.

Statistical Analysis

- The collected data were coded and analyzed using PC with the Statistical Package for Social Sciences (SPSS version 11.5) and tabulated frequency and percentages were calculated.
- The level of significance selected for this study was p value equal to or less than 0.05.
- **Scoring system:**
 - **Menopause Rating Scale Scoring System:** Each woman was asked to respond to 11 statements by using a 5- point Likert self-rating scale which ranged from (0) no complaints to (4) very severe symptoms. The total MRS score ranged from 0 to 44 points, it was divided into five levels according to the following; none (0 to less than 11), mild (11 to less than 22), moderate (22 to less than 33), severe (33 to less than 44), and very severe (44 points).
 - **Women's Knowledge toward Menopause Scoring System:** Firstly, the correct answer was pre-determined according to the literature. A score of "1" was given for the correct answer, and a score of "0" was given for the incorrect (indicate misconception) or missed answer (don't know). After that, the total knowledge score was obtained for each participant, and then the median percent score was defined. Finally, the total knowledge score was classified into two levels which are, poor level of knowledge (less than median percent score), and good level of knowledge (equal to or greater than the median percent score).

- Women's Attitude toward Menopause Scoring System:** Each woman was asked to respond to 10 statements by using a 5- point Likert self-rating scale which ranged from 4 (strongly agree) to 0 (strongly disagree). The negative statements were reversed in scoring as follows 0 (strongly agree) to 4 (strongly disagree). The median percent score was calculated and the total attitude score was classified into two categories these were mainly; negative attitude (less than median percent score), and positive attitude (equal to or greater than the median percent score).
- Women's Follow Up Practices during Menopausal Transition Scoring System:** Each woman was asked to respond to 14 questions related to their follow up practices and to rate them in accordance to whether they do it or not. A score of "1" was given for performing follow up practices, and a score of "0" was given for not performing follow up practices. The median percent score was calculated. The total practice score was classified into two categories namely: non-compliant (less than median percent score), and compliant (equal to or greater than the median percent score).

Results

Table (1) shows that women's age ranged from 45 to less than 60 years with a mean of 51.4 ± 3.9 years. More than three quarters (78.8%) of the middle age women were married. Around one fifth of the middle age women was illiterate or only had basic education (19.2%, 18.8% respectively). The table also portrays that, more than half (61.3%) of them were

working. A statistically significant relation between working and place of residence was observed ($\chi^2: 3.95$, p value: 0.047).

Table (2) reveals that hypertension, DM and GIT disorders were present in 24.6%, 18.3%, and 20.8% of the middle age women respectively. Moreover, goiter was reported by 10.8% of them, followed by cholesestitis that was reported by 10.4% of them. The minority of middle age women was suffering from cancer, musculoskeletal disorders, hepatitis and heart disease (2.9%, 1.7%, 9.8%, and 0.4% respectively). This table also shows that; one fifth (20.8%) of the middle age women had an appendectomy, while 7.9% of them reported that they had hysterectomy and cholecystectomy for both. Finally, mastectomy was reported by 3.3% of the middle age women. Thyroidectomy was reported by 2.1% of the middle age women and radical tracelectomy was reported by 1.3%. Calcium supplementation was received by 12.5% of the middle age women, while only 4.2% were received Hormonal Replacement Therapy (HRT).

Table (3) represents that the age of menarche ranged from 9-18 years, with a mean of 12.35 ± 1.46 years. More than half (56.3%) of the middle age women were having regular menses, with a statistical significant relation between the regularity of menstruation and place of residence ($\chi^2: 10.58$, p value: 0.001). Dysmenorrhea was reported by slightly more than a quarter (25.4%) of the middle age women, followed by menorrhagia and prolonged days of menstruation among less than one fifth of them (15.4% and 15.8% respectively). nearly half (47.9%) of the middle age women reached menopause, the mean age of menopause is 45.15 ± 4.258 years. Less than one tenth (17.4%) of the middle age women had surgical menopause; the reason for surgery was dysfunctional uterine bleeding in 65% of them, fibroid uterus in 30%, endometriosis in 15%, and carcinoma of cervix in 5 % of the middle age women.

The severity of menopausal symptoms was listed in **Table (4)** according to menopausal rating scale total score ;less than one quarter (21.7%) of the middle age women had mild menopausal symptoms, whereas around one tenth of them were bothered by severe and very severe menopausal symptoms (12.1%, 10.4% respectively).

More than one fifth (23.8%) of the middle age women were bothered by psychological manifestation related to menopause and slightly more than one quarter (25.4%) of them had moderate somato-vegetative symptoms. Mild urogenital manifestations were reported by 23.8% of them. Furthermore, slightly more than one quarter (25.4%) of them had very severe joint and muscular discomfort, followed by less than one fifth (18.3%) who had very severe physical and mental exhaustion. Very severe depressive mood and sexual problems were reported by 20.4% and 17.5% of the middle age women respectively.

Figure (1) portrays that slightly less than half (47.5) of the middle age women had poor knowledge toward menopause, compared to only 52.5% who had good knowledge.

Table (5) portrays that more than two thirds (66.7%) of the middle age women in rural residence had good knowledge toward the beginning of menopause, compared to 37.5% of those in urban. There is a statistically significant relation between knowledge toward the beginning of menopause and place of residence (χ^2 :20.45, p value: 0.000). Moreover, two thirds (65.8%) of the middle age women in rural residence had good knowledge toward menopausal symptoms, compared to 53.3 % of the middle age women in urban. There is a statistically significant relation between knowledge toward menopausal symptoms and place of residence (χ^2 : 3.89, p value: 0.048).

More than half (57.5%) of the middle age women in urban residence had poor knowledge toward menopausal transition investigation, compared to more than two fifth (43.3%) of them in rural residence. There is a statistically significant relation between knowledge toward the menopausal transition investigation and place of residence (χ^2 : 4.82, p value: 0.028).

Figure (2) presents that 53.3% of the middle age women had a positive attitude toward menopause, compared to 46.7% of those who had a negative one.

Table (6) shows that two third of middle age woman completely agree that menopause is a medical condition while, 38.8% of them completely agree that menopause is an unpleasant experience and decrease the grace of women's appearance. Moreover, around two fifth of middle age women completely agreed that menopause is the beginning of the period of woman's disablement.

Table (7) presents that only 20.8 % of the middle age women were performing periodic physical examinations, among them mammogram was done by around half of rural and urban residence (50%, 53.3% respectively). Additionally, periodic lab investigation was done by 51.7% of the middle age women, among them, fasting blood sugar (FBS) was done by more than three quarters of middle age women in urban and rural residence (78.1%, 76.7% respectively).

Figure (3) portrays that 56.7% of the middle age women were non-compliant with follow up practices during menopausal transition, compared to 43.3% of those who was compliant.

Table (8) presents that more than half (56.7%) of the urban residence middle age women had poor knowledge score regarding menopause, compared to around two fifth (38.3%) of those in rural residence, with a statistically significant relation (χ^2 : 8.09, p value: 0.004). Moreover, around two thirds (62.5%) of the middle age women in rural

residence had positive attitude toward menopause, compared to more than two fifths (44.2%) of the middle age women residence in urban, with a statistically significant relation (χ^2 : 8.10, p value: 0.004). Finally, more than half of middle age women in urban and rural residence were non-compliant with menopausal practices (57.5%, 55.8% respectively), with no significant relation.

Table (9) portrays that more than half (56.6%) of the middle age women who non-compliant with menopausal follow up practices had poor knowledge toward menopause. There is a significant relation between knowledge toward menopause and follow-up practices (χ^2 : 10.46, p value: 0.001). Furthermore, the majority of the middle age women (85.6) who compliant with menopausal follow up practices had positive attitude toward menopause. There is a significant relation between attitude toward menopause and follow-up practices (χ^2 : 76.66, p value: 0.000).

Table (10) shows that the severity of menopausal symptoms was increased by age where, 40.4% of the middle age women who had severe and very severe menopausal symptoms aged fifty to less than sixty years. There is a significant relation between age and severity of menopausal symptoms (χ^2 : 15.590, p value: 0.004). moreover, 74.1% of married middle age women had severe & very severe menopausal symptoms. There is a statistical significant relation between marital status and severity of menopausal symptoms: (χ^2 57.57, p value: 0.0001).

Table (11) presents that around one quarter (25.9%) of the middle age women who had severe and very severe menopausal symptoms were diabetic. 24.1% of middle age women who suffer from severe and very severe menopausal symptoms were had GIT disorders and around one fifth (20.4%) were suffer from hypertension. There is a significant relation between health history of GIT disorders, hypertension and the severity of

menopausal symptoms (χ^2 : 9.06, p value: 0.01; (χ^2 : 6.7, p value: 0.035 respectively).

Discussion

Modern medicine has significantly prolonged human life. All women who live long enough will make the transition to menopause. In fact, during menopause the ovaries progressively fail to produce estrogen. This failure often begins in the late 30s, and most women experience near-complete loss of production of estrogen by their mid-50s⁽¹⁸⁻²⁰⁾. Our findings are in agreement with this fact, where around half of the middle age women reached menopause, the mean age of menopause was 45.15 ± 4.250 years (**table 3**). The same was acknowledged by Abdul Rahman et al (2010) who stated that, the mean age of menopause was 51.3 years (range 47-56 years)⁽²¹⁾.

Usually, menopause is natural, that means it happens on its own and with no need for medical treatment unless symptoms bothering women. Sometimes menopause is medically induced, which means it's caused by an operation or medication⁽²²⁾. The majority of the middle age women in the current study had natural menopause, while slightly less than one tenth had surgical menopause; the reason for surgery was dysfunctional uterine bleeding, fibroid uterus, endometriosis, and carcinoma of the cervix (**table 3**). This is in line with the findings of a study done by Nisar et al (2008), who found that, more than three quarters of the women had natural menopause, while more than tenth had surgical menopause. The same reason for surgical menopause was identified⁽¹⁸⁾.

Menopausal women mainly bothered by menopausal symptoms; every woman's experience of menopause is unique: she may experience all of the symptoms or none of them⁽²³⁾. Health care workers need significant information on menopause and menopausal symptoms in order to be able to plan health care services⁽²⁴⁾.

Menopause Rating Scale (MRS) questionnaire was used as a basis for assessing menopausal symptoms in this study^(16,21). It is a screening tool which would assist community health nurse and health care workers in primary health care facilities to identify women with severe menopausal symptoms and to refer them to the secondary level of care for appropriate medical attention⁽²⁴⁾. In the present study MRS was revealed that, more than one fifth of the middle age women had mild menopausal symptoms, whereas more than one fifth of them were bothered by severe and very severe menopausal symptoms (**table 4**). These findings were in agreement with a study done in Egypt (2012) which reported that, according to MRS, around half of the women had a moderate menopausal symptoms, and around one third had severe and very severe symptoms, whereas around tenth had a mild symptom⁽²⁵⁾.

Furthermore, around one quarter of the middle age women had very severe joint and muscular discomfort, followed by less than one fifth who had very severe physical and mental exhaustion and anxiety. Very severe depressive mood and sexual problems were reported by around one fifth of the middle age women (**table 4**). Consistent findings were reported by Abdul Rahman et al (2010) and Lutfy et al (2006)^(21, 23).

Today, many women live for 30 years or more after they go through menopause. As they get older, their risk for common chronic conditions increases which include heart disease, breast cancer, fractures, and dementia⁽²⁶⁾. The findings of the present study revealed that, around one fifth of the middle age women had hypertension, DM and GIT disorders (**table 2**). Similar findings were reported by Nisar et al (2008), Ghaderi et al (2010), and Sweed (2012)^(18,25,27).

Moreover, chronic diseases affect on the severity of menopausal symptoms. In this regards, the current study showed that

around one quarter of the middle age women who had severe and very severe menopausal symptoms were diabetic (**table 11**). The severity of menopausal symptoms was increased by age (**table 10**). These findings were congruent with Sweed et al (2012) who reported that, the mean total MRS score was higher among diabetics and hypertensive, and he added that the total MRS score increased with increasing age⁽²⁵⁾. In contrast, Khatri et al (2013) stated that, the correlation between the participant's age and menopausal symptoms showed statistically insignificant differences ($p > 0.7888$)⁽²⁸⁾.

Although, the women should have knowledge about the health effects of menopause and its prevention, most of women reach menopausal age without having adequate knowledge about the events of this critical period and the ways to deal with this phenomenon. Shakila et al (2015) reported that, there is an evidence that health education and information provision can help to reduce menopausal symptoms^(18,29). At this regard it was sad to find that around half of the middle age women in the current study had poor knowledge toward menopause (**table 8**). There is a statistically significant relation between women's knowledge toward menopause and place of residence. These findings were in line with, a study done in Pakistan (2008) which revealed that more than three quarters of the women had little knowledge about menopause, while more than tenth of women knew about the effects and symptom of menopause⁽¹⁸⁾. Also Sallam et al (2006) added that, Egyptian women do not know much about the menopause and their attitude towards the menopause is generally positive and about one-third of them regard the menopause as 'a normal physiological change'⁽³⁰⁾.

All of these findings shed the light on the community health nurse who plays an integral part in providing accurate information about menopausal transition for women. Often this education takes place at

a community level and includes written resources, public programs, or media talk shows. It will reflect positively on women's attitude toward menopausal transition. Theisen et al (2015) study suggests that women's knowledge about menopause is positively related to their attitudes toward it⁽³¹⁾.

Positive attitude towards menopause are important factors helping women to live well. This insight and attitude may differ from one female population to another population. The current study reported that, more than half of the middle age women had a positive attitude toward menopause (**table 8**). Around two fifth of the middle age women completely agreed that menopause is un pleasant experience and 40% of them stated that it is a medical condition (**table 6**), while Osarenren et al (2009) stated that about 83% of the respondents consider menopause as an unpleasant experience⁽³²⁾ and Loutfy et al (2006) added that many of the women in the study, perceived menopause as a normal event in their lives that does not necessitate medical consultation and it is a personal issue that should not be discussed with others⁽²³⁾. Furthermore, in the current study 53.3% of the middle age women had positive attitude toward menopause (**table 6**) this is in consistent with Noroozi et al (2013) who found that, 81.5% of the women had a positive attitude toward menopause. Also, he added that positive attitude is an important parameter that guide women to have better practices during menopause⁽³³⁾.

This study presents that more than half of the middle age women were non-compliant with follow up practices (**table 8**). Consistent findings were reported by Loutfy (2006), Nisar (2008) and Ghaderi et al (2010)^(18, 23,27).

Moreover, there is a significant relation between knowledge toward menopause and follow-up practices (**table 9**), and there is a significant relation between attitude toward menopause and follow-up practices. In this regards, a study done in United Arab

Emirates (2014) confirmed that, the positive attitude towards menopause among the participants in the study was reflected on their follow up practices⁽³⁴⁾.

The current study sheds the light on the important role that must be fulfilled by the community health nurse in order to improve women's knowledge, attitude, and practices toward menopause. Noroozi et al (2013) stated that, Nowadays, in developed countries, the key role of mass media, health training associations and health care systems is to informing public about various issues related to menopause, while in developing countries, yet the role of education and informing public for empowering individuals is slight, where after the end of the pregnancy period, women do not have a special place in the health care system and practically receive no tendency in this period⁽³³⁾, while trying to improve women's knowledge for self-care helps to improve their life during this critical period through developing positive attitude and better practices.

Conclusion

The findings of the present study revealed that, middle age women suffering from different menopausal symptoms, but few of them had severe or very severe symptoms. They tend to have poor knowledge toward menopause which reflect on their attitude and follow up practices.

Recommendations

Based on the results of the present study, the following recommendations are suggested:

- Establishing a special unit for women's checkups and health counseling about menopause within the family health centers.
- Use mobile equipped units to provide appropriate health care services for women in remote areas.

- Developing comprehensive coordination and cooperation protocol among Alexandria Health Directorate, Alexandria University, NGOs, and other different sectors of the community to raise community awareness about this critical period of women's life.
- Health care providers need to play a more visible role in continuously assessing menopausal women's needs as well as to implement appropriate health education program to raise their awareness and to improve their knowledge, attitude, and practices toward menopause.
- Encouraging the mass media to highlight women's health needs and coping measures of this critical phase of life.
- Further researches on menopause with more emphasis on misconception and myths regarding menopause, which might hinder utilization of community health services.

Table (1): Distribution of the middle age women according to their socio-demographic characteristics (no. 240)

| Characteristics | Place of residence | | | | Total n(240) | | Test of significance |
|------------------------------------|--------------------|------|-------------------|------|--------------|------|--------------------------------------|
| | Rural area n(120) | | Urban area n(120) | | No | % | |
| | No | % | No | % | | | |
| Age (years) | | | | | | | χ^2 (0.07) P (0.791) |
| - 45 to less than 50 | 48 | 40.0 | 46 | 38.3 | 94 | 39.2 | |
| - 50 to less than 60 | 72 | 60.0 | 74 | 61.7 | 146 | 60.8 | |
| $\bar{x} \pm SD$ | 51.4 \pm 3.9 | | | | | | |
| Marital status | | | | | | | χ^2 (7.72) P (0.052) |
| - Married | 94 | 78.3 | 95 | 79.2 | 189 | 78.8 | |
| - Divorced | 2 | 1.7 | 10 | 8.3 | 12 | 5.0 | |
| - Widow | 18 | 15.0 | 10 | 8.3 | 28 | 11.7 | |
| - Single | 6 | 5.0 | 5 | 4.2 | 11 | 4.6 | |
| Level of education | | | | | | | χ^2 (3.50) P (0.479) |
| - Illiterate | 27 | 22.5 | 19 | 15.8 | 46 | 19.2 | |
| - Basic education | 20 | 16.7 | 25 | 20.8 | 45 | 18.8 | |
| - Secondary education | 34 | 28.3 | 34 | 28.3 | 68 | 28.3 | |
| - University | 29 | 24.2 | 26 | 21.7 | 55 | 22.9 | |
| - Postgraduate | 10 | 8.3 | 16 | 13.3 | 26 | 10.8 | |
| Occupation | | | | | | | χ^2 (3.95) P *(0.047) |
| - Non- working | 54 | 45.0 | 39 | 32.5 | 93 | 38.8 | |
| - Working | 66 | 55.0 | 81 | 67.5 | 147 | 61.3 | |

FET: Fisher Exact Test

χ^2 : Chi square Test

*Significant at P<0.05.

Table (2): Distribution of the middle age women according to their health status (no. 240)

| Health status | Place of residence | | | | Total n (240) | | Test of significance | P value |
|--|--------------------|------|--------------------|------|---------------|------|----------------------|---------|
| | Rural area n (120) | | Urban area n (120) | | | | | |
| | No | % | No | % | No | % | | |
| Previous medical history[#] | | | | | | | | |
| - Hypertension | 29 | 24.2 | 30 | 25.0 | 59 | 24.6 | $\chi^2: 0.02$ | 0.881 |
| - DM | 15 | 12.5 | 29 | 24.2 | 44 | 18.3 | $\chi^2: 5.45$ | 0.019* |
| - GIT disorders | 28 | 23.3 | 22 | 18.3 | 50 | 20.8 | $\chi^2: 0.91$ | 0.340 |
| - Goiter | 14 | 11.7 | 12 | 10.0 | 26 | 10.8 | $\chi^2: 0.170$ | 0.678 |
| - Bronchial asthma | 13 | 10.8 | 16 | 13.3 | 29 | 12.1 | $\chi^2: 0.35$ | 0.552 |
| - Cholesestitis | 10 | 8.3 | 9 | 7.5 | 19 | 7.9 | $\chi^2: 0.06$ | 0.811 |
| - Cancer | 5 | 4.2 | 2 | 1.7 | 7 | 2.9 | FET:1.32 | 0.0446 |
| - Musculoskeletal disorders | 4 | 3.3 | 0 | 0.0 | 4 | 1.7 | FET:4.07 | 0.122 |
| - Hepatitis | 2 | 1.7 | 0 | 0.0 | 2 | 0.8 | FET:2.02 | 0.498 |
| - Heart disease | 1 | 0.8 | 0 | 0.0 | 1 | 0.4 | FET:1.0 | 1.0 |
| Previous surgical history[#] | | | | | | | | |
| - Appendectomy | 19 | 15.8 | 31 | 25.8 | 50 | 20.8 | $\chi^2:3.64$ | 0.056 |
| - Cholecystectomy | 5 | 4.2 | 14 | 11.7 | 19 | 7.9 | $\chi^2:4.63$ | 0.031* |
| - Hysterectomy | 6 | 5.0 | 13 | 10.8 | 19 | 7.9 | $\chi^2:2.8$ | 0.094 |
| - Mastectomy | 5 | 4.2 | 3 | 2.5 | 8 | 3.3 | FET:0.52 | 0.472 |
| - Thyroidectomy | 5 | 4.2 | 0 | 0.0 | 5 | 2.1 | FET:5.11 | 0.059 |
| - Radical Trachelectomy | 0 | 0.0 | 3 | 2.5 | 3 | 1.3 | FET:3.04 | 0.346 |
| Received treatment | | | | | | | | |
| - Hormonal Replacement Therapy (HRT) | 6 | 5 | 4 | 3.3 | 10 | 4.2 | FET:0.416 | 0.519 |
| - Calcium supplementation | 8 | 6.7 | 22 | 18.3 | 30 | 12.5 | $\chi^2:7.47$ | 0.006* |

Multiple response FET: Fisher Exact Test χ^2 : Chi-square Test *Significant at P<0.05.

Table (3): Distribution of the middle age women according to their obstetric and gynecological history (no. 240)

| Obstetric and gynecological history | Place of residence | | | | Total n(240) | | Test of significance |
|---|-----------------------------------|------|-------------------|------|----------------|------|-------------------------------|
| | Rural area n(120) | | Urban area n(120) | | No | % | |
| | No | % | No | % | | | |
| Age of menarche (Years) | | | | | | | χ^2 : 4.65 P(0.098) |
| - 9 to less than 15 | 100 | 83.3 | 95 | 79.2 | 195 | 81.3 | |
| - 15 to less than 17 | 17 | 14.2 | 25 | 20.8 | 42 | 17.5 | |
| - 17 and more | 3 | 2.5 | 0 | 0.0 | 3 | 1.3 | |
| Min-Max | 9-18 years | | | | | | |
| $\bar{X} \pm SD$ | 12.35\pm1.46 | | | | | | |
| Regularity of menses | | | | | | | χ^2 : 10.58 P(0.001)* |
| - Yes | 80 | 66.7 | 55 | 45.8 | 135 | 56.3 | |
| - No | 40 | 33.3 | 65 | 54.2 | 105 | 43.8 | |
| History of menstrual disorders | | | | | | | χ^2 : 6.427 P(0.093) |
| - No | 46 | 38.3 | 58 | 48.3 | 104 | 43.3 | |
| - Dysmenorrhea | 37 | 30.8 | 24 | 20 | 61 | 25.4 | |
| - Menorrhagia | 15 | 12.5 | 22 | 18.3 | 37 | 15.4 | |
| - Prolonged days of menses | 22 | 18.3 | 16 | 13.3 | 38 | 15.8 | |
| Cessation of menstruation | | | | | | | χ^2 : 3.76 P(0.053) |
| - Yes | 65 | 54.2 | 50 | 41.7 | 115 | 47.9 | |
| - No | 55 | 45.8 | 70 | 58.3 | 125 | 52.1 | |
| Age of cessation of menstruation | n (65) | | n (50) | | n (115) | | χ^2 : 0.1 P(0.749) |
| - Early menopause before 48 years | 46 | 70.8 | 34 | 68.0 | 80 | 69.6 | |
| - Normal age of menopause after age 48 years | 19 | 29.2 | 16 | 32.0 | 35 | 30.4 | |
| $\bar{X} \pm SD$ | 45.15\pm4.258 | | | | | | |
| Type of menopause | n (65) | | n(50) | | n(115) | | χ^2 :1.964 P(0.161) |
| - Natural menopause | 58 | 89.2 | 37 | 74.0 | 95 | 82.6 | |
| - Surgical menopause | 7 | 10.8 | 13 | 26.0 | 20 | 17.4 | |
| Reasons for surgical menopause[#] | n(7) | | n(13) | | n(20) | | ----- |
| - Dysfunctional uterine bleeding | 4 | 57.1 | 9 | 69.2 | 13 | 65 | |
| - Fibroid uterus | 3 | 42.9 | 3 | 23.1 | 6 | 30 | |
| - Endometriosis | 1 | 14.3 | 2 | 15.3 | 3 | 15 | |
| - Carcinoma of cervix | 0 | 0 | 1 | 7.7 | 1 | 5 | |

FET: Fisher Exact Test χ^2 : Chi-square Test *Significant at P<0.05 #: Multiple responses.

Table (4): Distribution of the middle age women according to their menopausal symptoms (using Menopause Rating Scale (MRS) (no. 240)

| Menopausal symptoms | Severity of menopausal symptom | | | | | | | | | |
|---|--------------------------------|------|------|------|----------|------|--------|------|-------------|------|
| | None | | Mild | | Moderate | | Severe | | Very severe | |
| | No | % | No | % | No | % | No | % | No | % |
| I-Somato-vegetative symptoms | | | | | | | | | | |
| - Hot flushes, sweating (episodes of sweating) | 85 | 35.4 | 31 | 12.9 | 56 | 23.3 | 32 | 13.3 | 36 | 15.0 |
| - Heart discomfort (unusual awareness of heartbeat, heart skipping, heart racing, tightness) | 88 | 36.7 | 40 | 16.7 | 48 | 20.0 | 34 | 14.2 | 30 | 12.5 |
| - Sleep problems (difficulty in falling asleep, difficulty in sleeping through, waking up early) | 78 | 32.5 | 36 | 15.0 | 55 | 22.9 | 38 | 15.8 | 33 | 13.8 |
| - Joint and muscular discomfort (pain in the joints, rheumatoid complaints) | 47 | 19.6 | 36 | 15.0 | 46 | 19.2 | 50 | 20.8 | 61 | 25.4 |
| Somato-vegetative ($\bar{X} \pm SD$) | 7.1±4.3 | | | | | | | | | |
| II- Psychological symptoms | | | | | | | | | | |
| - Depressive mood (feeling down, sad, on the verge of tears, lack of drive, mood swings) | 76 | 31.7 | 39 | 16.3 | 43 | 17.9 | 33 | 13.8 | 49 | 20.4 |
| - Irritability (feeling nervous, inner tension, feeling aggressive) | 83 | 34.6 | 40 | 16.7 | 42 | 17.5 | 30 | 12.5 | 45 | 18.8 |
| - Anxiety (inner restlessness, feeling panicky) | 81 | 33.8 | 39 | 16.3 | 47 | 19.6 | 35 | 14.6 | 38 | 15.8 |
| - Physical and mental exhaustion (general decrease in performance, impaired memory, decrease in concentration, forgetfulness) | 65 | 27.1 | 45 | 18.8 | 44 | 18.3 | 42 | 17.5 | 44 | 18.3 |
| Psychological ($\bar{X} \pm SD$) | 6.2±5.1 | | | | | | | | | |
| III- Urogenital symptoms | | | | | | | | | | |
| - Sexual problems (change in sexual desire, in sexual activity and satisfaction) | 87 | 36.3 | 41 | 17.1 | 39 | 16.3 | 31 | 12.9 | 42 | 17.5 |
| - Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence) | 113 | 47.1 | 26 | 10.8 | 47 | 19.6 | 23 | 9.6 | 31 | 12.9 |
| - Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse) | 99 | 41.3 | 34 | 14.2 | 43 | 17.9 | 28 | 11.7 | 36 | 15.0 |
| Urogenital ($\bar{X} \pm SD$) | 5.9±3.8 | | | | | | | | | |
| Overall MRS ($\bar{X} \pm SD$) | 17.8±6.9 | | | | | | | | | |
| - MRS score | | | | | | | | | | |
| - Somato-vegetative subscale | 67 | 27.9 | 66 | 27.5 | 61 | 25.4 | 20 | 8.3 | 26 | 10.8 |
| - Psychological subscale | 82 | 34.2 | 42 | 17.5 | 57 | 23.8 | 39 | 16.3 | 20 | 8.3 |
| - Urogenital subscale | 96 | 40.0 | 57 | 23.8 | 39 | 16.3 | 22 | 9.2 | 26 | 10.8 |
| - Total MRS | 86 | 35.8 | 52 | 21.7 | 48 | 20.0 | 29 | 12.1 | 25 | 10.4 |

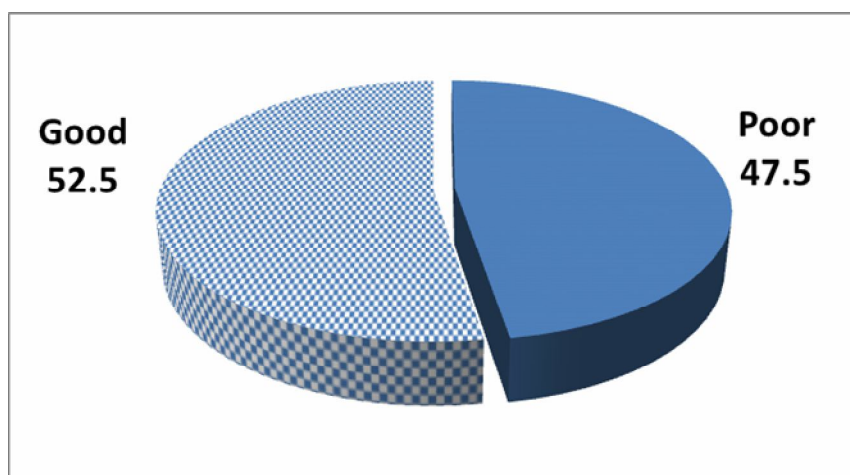


Figure (1): Middle age women's total knowledge score toward menopause

Table (5): Distribution of the middle age women according to their knowledge toward menopause (no. 240)

| Knowledge domains | Women's knowledge | | | | | | | | Test of significance |
|--|----------------------|------|------|------|----------------------|------|------|------|-------------------------------|
| | Rural area n(120) | | | | Urban area n(120) | | | | |
| | Poor | | Good | | Poor | | Good | | |
| | No | % | No | % | No | % | No | % | |
| Mother's knowledge toward the beginning of menopause | 40 | 33.3 | 80 | 66.7 | 75 | 62.5 | 45 | 37.5 | χ^2 : 20.45 P*(0.000) |
| $\bar{x} \pm SD$ | 12.9±6.6 | | | | | | | | |
| Mother's knowledge toward the menopausal symptoms | 41 | 34.2 | 79 | 65.8 | 56 | 46.7 | 64 | 53.3 | χ^2 : 3.89 P*(0.048) |
| $\bar{x} \pm SD$ | 21.7±13.2 | | | | | | | | |
| Mother's knowledge toward investigation that done during the menopause | 52 | 43.3 | 68 | 56.7 | 69 | 57.5 | 51 | 42.5 | χ^2 : 4.82 P*(0.028) |
| $\bar{x} \pm SD$ | 9.3±7.1 | | | | | | | | |
| Total knowledge scores | 46 | 38.3 | 74 | 61.7 | 68 | 56.7 | 52 | 43.3 | χ^2 : 8.09 P*(0.004) |
| $\bar{x} \pm SD$ | 43.2±25.8 | | | | | | | | |

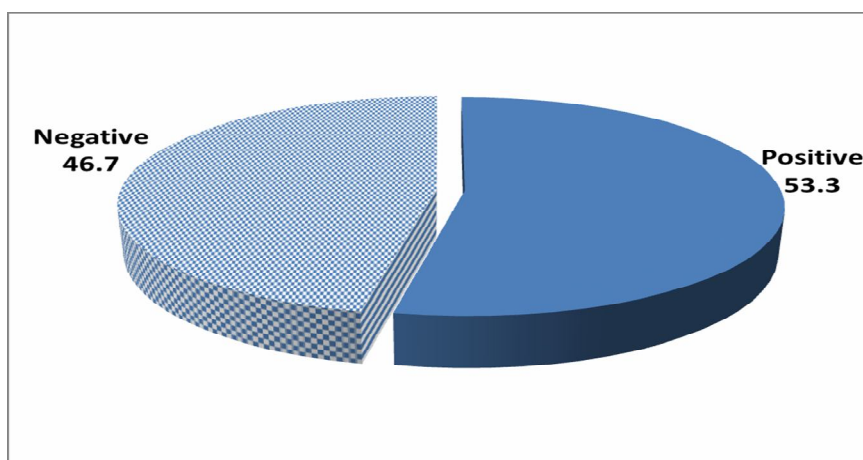


Figure (2): Middle age women's attitude toward menopause

Table (6): Distribution of the middle age women according to their attitude toward menopause (no. 240)

| Statements | Women's response n (240) | | | | | | | |
|--|--------------------------|------|-------|------|-------------|------|---------------------|------|
| | Completely agree | | Agree | | Disagree | | Completely disagree | |
| | No | % | No | % | No | % | No | % |
| 1. Menopause is the period of women's loneliness. | 92 | 38.3 | 48 | 20.0 | 80 | 33.3 | 20 | 8.3 |
| 2. Menopause is the period of eradicating the problems of menstruation and preventing pregnancy. | 59 | 24.6 | 35 | 14.6 | 89 | 37.1 | 57 | 23.8 |
| 3. During menopause period, interest and attention of woman to her husband decreases. | 85 | 35.4 | 55 | 22.9 | 85 | 35.4 | 15 | 6.3 |
| 4. Menopause is the beginning of the period of women's disablement. | 91 | 37.9 | 42 | 17.5 | 76 | 31.7 | 31 | 12.9 |
| 5. Women's life in the menopausal period is more stable than before menopause. | 77 | 32.1 | 68 | 28.3 | 67 | 27.9 | 28 | 11.7 |
| 6. Menopause decreases the grace of women's appearance. | 93 | 38.8 | 44 | 18.3 | 71 | 29.6 | 32 | 13.3 |
| 7. Menopause is a natural phenomenon in women's life. | 62 | 25.8 | 26 | 10.8 | 78 | 32.5 | 74 | 30.8 |
| 8. Menopause is a medical condition | 96 | 40.0 | 74 | 30.8 | 51 | 21.3 | 19 | 7.9 |
| 9. Menopause is an unpleasant experience | 93 | 38.8 | 54 | 22.5 | 70 | 29.2 | 23 | 9.6 |
| 10. Menopause can be a time of change and maturation. | 67 | 27.9 | 61 | 25.4 | 73 | 30.4 | 39 | 16.3 |
| Median (IQR) | 24.7 (15.3-28.8) | | | | | | | |
| Total attitude scale scores | | | | | | | | |
| - Positive attitude | | | | | 128 (53.3%) | | | |
| - Negative attitude | | | | | 112 (46.7%) | | | |

Table (7): Distribution of the middle age women according to their follow up practices during menopausal transition (no. 240)

| Women's practices | Place of residence | | | | Total n(240) | | Test of significance |
|--------------------------------------|--------------------|------|-------------------|------|---------------|------|------------------------------|
| | Rural area n(120) | | Urban area n(120) | | No | % | |
| | No | % | No | % | | | |
| Periodic physical examination | | | | | | | $\chi^2 : 2.53$ P (0.112) |
| - Yes | 20 | 16.7 | 30 | 25.0 | 50 | 20.8 | |
| - No | 100 | 83.3 | 90 | 75.0 | 190 | 79.2 | |
| Physical examination types# | n (20) | | n (30) | | n(52) | | ----- |
| - Mammogram | 10 | 50.0 | 16 | 53.3 | 26 | 50 | |
| - Bone mineral densitometry | 5 | 25.0 | 13 | 43.3 | 18 | 34.6 | |
| - Colonoscopy | 8 | 40.0 | 7 | 23.3 | 15 | 28.8 | |
| - Pap smear | 8 | 40.0 | 4 | 13.3 | 12 | 23.1 | |
| - Occult blood test | 9 | 45.0 | 1 | 3.3 | 10 | 19.2 | |
| Periodic lab investigation | n(120) | | n(120) | | n(240) | | $\chi^2 : 0.267$ P(0.605) |
| - Yes | 64 | 53.3 | 60 | 50 | 124 | 51.7 | |
| - No | 56 | 46.7 | 60 | 50 | 116 | 48.3 | |
| Lab investigation types# | n(64) | | n(60) | | n(124) | | ----- |
| - Fasting Blood Sugar | 50 | 78.1 | 46 | 76.7 | 96 | 77.4 | |
| - Cholesterol level | 32 | 50 | 37 | 61.7 | 69 | 55.6 | |
| - Lipid profile | 35 | 54.7 | 23 | 38.3 | 58 | 46.8 | |
| - Thyroid function test | 17 | 26.6 | 18 | 30 | 35 | 28.2 | |
| - Hemoglobin level | 7 | 10.9 | 2 | 3.3 | 9 | 7.3 | |
| Practices score | n(120) | | n(120) | | n(240) | | $\chi^2 : 0.07$ P(0.794) |
| - Non compliance | 67 | 55.8 | 69 | 57.5 | 136 | 56.7 | |
| - Compliance | 53 | 44.2 | 51 | 42.5 | 104 | 43.3 | |

Multiple responses

χ^2 : Chi-square Test

*Significant at P<0.05

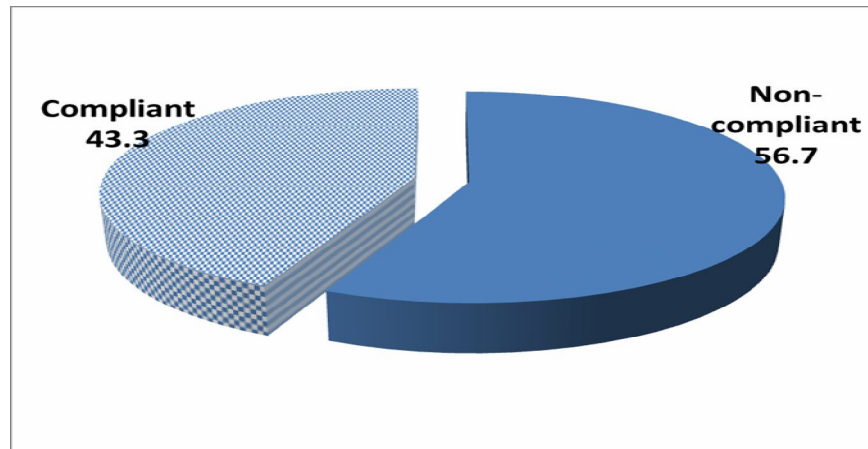


Figure (3): Middle age women's follow up practices during menopausal transition.

Table (8): Distribution of middle age women's knowledge and attitude according to their place of residence (no. 240)

| Items | Place of residence | | | | Total n(240) | | Test of significance |
|------------------------|--------------------|------|-------------------|------|--------------|------|------------------------------|
| | Rural area n(120) | | Urban area n(120) | | No | % | |
| | No | % | No | % | | | |
| Knowledge score | | | | | | | χ^2 : 8.09 P*(0.004) |
| - Poor knowledge | 46 | 38.3 | 68 | 56.7 | 114 | 47.5 | |
| - Good knowledge | 74 | 61.7 | 52 | 43.3 | 126 | 52.5 | |
| Attitude scores | | | | | | | χ^2 : 8.10 P*(0.004) |
| - Positive attitude | 75 | 62.5 | 53 | 44.2 | 128 | 53.3 | |
| - Negative attitude | 45 | 37.5 | 67 | 55.8 | 112 | 46.7 | |
| Practice scores | | | | | | | χ^2 :0.07 P(0.794) |
| - Non compliance | 67 | 55.8 | 69 | 57.5 | 136 | 56.7 | |
| - Compliance | 53 | 44.2 | 51 | 42.5 | 104 | 43.3 | |

χ^2 : chi-square test

*Significant at $P \leq 0.05$

Table (9): Relation between women knowledge and attitude toward menopause and their follow up practice scores (no. 240)

| Items | Practices | | | | Total n(240) | | Test of significance |
|-------------------------|-----------------------------|------|----------------------|------|-----------------|------|--------------------------------|
| | Non compliance n(136) | | Compliance n(104) | | | | |
| | No | % | No | % | No | % | |
| Knowledge scores | | | | | | | $\chi^2 : 10.46$ P* (0.001) |
| - Poor knowledge | 77 | 56.6 | 37 | 35.6 | 114 | 47.5 | |
| - Good knowledge | 59 | 43.4 | 67 | 64.4 | 126 | 52.5 | |
| Attitude scores | | | | | | | $\chi^2 : 76.66$ P*(0.000) |
| - Positive attitude | 39 | 28.7 | 89 | 85.6 | 128 | 53.3 | |
| - Negative attitude | 97 | 71.3 | 15 | 14.4 | 112 | 46.7 | |

χ^2 : chi-square test

*Significant at $P \leq 0.05$

Table (10): Relation between middle age women's socio-demographic characteristics and severity of menopausal symptoms (no. 240)

| Socio-demographic Characteristics | Severity of menopausal symptoms | | | | | | | | Test of significance |
|-----------------------------------|---------------------------------|------|-----------------------------|------|---------------------------------|------|-----------------|------|---------------------------------------|
| | None n(86) | | Mild& Moderate n(100) | | Severe& very severe n(54) | | Total n(240) | | |
| | No | % | No | % | No | % | No | % | |
| Age (years) | | | | | | | | | X ² : 15.590 P*(0.0004) |
| - 45 to less than 50 | 48 | 55.8 | 30 | 30.0 | 16 | 29.6 | 94 | 39.2 | |
| - 50 to less than 60 | 38 | 44.2 | 70 | 70.0 | 38 | 70.4 | 146 | 60.8 | |
| Marital status | | | | | | | | | X ² : 27.57 P* (0.0001) |
| - Married | 63 | 73.3 | 86 | 86.0 | 40 | 74.1 | 189 | 78.8 | |
| - Divorced | 6 | 7.0 | 5 | 5.0 | 1 | 1.9 | 12 | 5.0 | |
| - Widowed | 17 | 19.8 | 6 | 6.0 | 5 | 9.3 | 28 | 11.7 | |
| - Single | 0 | 0.0 | 3 | 3.0 | 8 | 14.8 | 11 | 4.6 | |
| Level of education | | | | | | | | | X ² : 8.696 P(0.368) |
| - Illiterate | 17 | 19.8 | 19 | 19.0 | 10 | 18.5 | 46 | 19.2 | |
| - Basic education | 10 | 11.6 | 20 | 20.0 | 15 | 27.8 | 45 | 18.8 | |
| - Secondary education | 30 | 34.9 | 23 | 23.0 | 15 | 27.8 | 68 | 28.3 | |
| - University | 20 | 23.3 | 26 | 26.0 | 9 | 16.7 | 55 | 22.9 | |
| - Postgraduate | 9 | 10.5 | 12 | 12.0 | 5 | 9.3 | 26 | 10.8 | |
| Occupation | | | | | | | | | X ² : 3.88 P(0.144) |
| - Working | 48 | 55.8 | 60 | 60.0 | 39 | 72.2 | 147 | 61.3 | |
| - Non working | 38 | 44.2 | 40 | 40.0 | 15 | 27.8 | 93 | 38.8 | |

 χ^2 : chi-square test*Significant at P \leq 0.05

Table (11): Relation between middle age women's health history and severity of menopausal symptoms (no. 240)

| Health history | Severity of menopausal symptoms | | | | | | | | Test of significance |
|------------------------------|---------------------------------|------|-----------------------|------|---------------------------|------|--------------|------|-------------------------------------|
| | None n(86) | | Mild& Moderate n(100) | | Severe& very severe n(54) | | Total n(240) | | |
| | No | % | No | % | No | % | No | % | |
| Hypertension | 15 | 17.4 | 33 | 33.0 | 11 | 20.4 | 59 | 24.6 | X ² : 6.7 P*(0.035) |
| Goiter | 8 | 9.3 | 14 | 14.0 | 4 | 7.4 | 26 | 10.8 | X ² : 1.90 P(0.386) |
| DM | 13 | 15.1 | 17 | 17.0 | 14 | 25.9 | 44 | 18.3 | X ² : 2.79 P(0.248) |
| GIT disorders | 9 | 10.5 | 28 | 28.0 | 13 | 24.1 | 50 | 20.8 | X ² : 9.06 P* (0.01) |
| Cholesestitis | 7 | 8.1 | 7 | 7.0 | 5 | 9.3 | 19 | 7.9 | X ² : 0.25 P(0.88) |
| Cancer | 2 | 2.3 | 0 | 0.0 | 5 | 9.3 | 7 | 2.9 | X ² :10.78 P* (0.005) |
| Hysterectomy | 4 | 4.7 | 7 | 7.0 | 8 | 14.8 | 19 | 7.9 | X ² :4.9 P(0.086) |
| Mastectomy | 2 | 2.3 | 3 | 3.0 | 3 | 5.6 | 8 | 3.3 | X ² : 1.13 P(0.677) |
| Cessation of menstruation | 40 | 46.5 | 50 | 50.0 | 25 | 46.3 | 115 | 47.9 | X ² : 0.30 P(0.861) |
| Hormonal replacement therapy | 0 | 0.0 | 6 | 6.0 | 4 | 7.4 | 10 | 4.2 | X ² : 6.0 P*(0.049) |

χ²: chi-square test

*Significant at P≤0.05

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