



Health status of Postmenopausal women

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ABSTRACT

Aims and objectives: 1. To study age at menopause

2. To study the health status of postmenopausal women.

Study Design: The study was a cross sectional study conducted in the department of obstetrics and gynaecology at a tertiary care hospital.

Materials and methods: The study was approved by the Institutional ethical committee. All menopausal women attending the gynaecology outpatient departments of obstetrics and gynaecology Division of our institute were enrolled for the study as per the criteria given. Those patients admitted in ward and meeting the study criteria were also included if they showed willingness to be enrolled in the study. Informed consent was taken from all women before enrolling them for the study. The women who attained menopause by surgical or medical methods were excluded from the study.

Results: The mean age of women participating in the study was 52.7 years. The analysis of age of onset of menopause showed that the maximum cases of menopause occurred between age group of 46-50 years. The mean age of menopause was 47.56 ± 2.27 SD. The minimum and maximum age at menopause was 39 and 52 years respectively. Out of the studied subjects 78% were married, 21 % were widowed and 1 woman was divorcee. Maximum cases had done their education till higher secondary school i.e 35% and 14% were illiterate and no one was post graduate. Hot flushes were the most common among vasomotor symptom which were seen in 68% subjects. Night sweats were seen in 47% subjects. Among psychosomatic problems sexual problems, physical exhaustion and sleep disturbances were commonest problems seen in 86%, 81% and 68% respectively. Among urinary problems dysuria (32%), urgency (04%) and incontinence (27%) were commonly seen in postmenopausal women. The most common sexual problem in postmenopausal woman was decreased interest in sexual activity which was seen in 87% women. The common medical problems in the studied women were joint pains and muscular pains, vision problems, dental problems, hypertension and diabetes. 78% of the women were not doing any kind of exercise before or after menopause. Maximum women who were sexually active were amongst the group which was doing routine exercise (6 out of seven). The most common psychomotor symptoms seen in exercise group were hot flushes, night sweats and

irritability. Overall attitude of women towards menopause was negative (66%). Analysis of women further revealed that hot flushes and depressed mood were more common in women with age at menopause between 46-50 years. Women having diabetes and pre diabetes were 7% and 16% respectively while 32% patients were hypertensive. 28% had raised serum total cholesterol and among those 22% had raised LDL cholesterol. 14% had raised triglyceride level. 15% of the patients had abnormal USG findings related to female reproductive or genital tract. Bone mineral study revealed that 84% cases were osteoporotic and 16% were osteopenic. PAP smear examination revealed that 17% had inflammatory changes. Candida infection was most common and it was found in 9% study subjects. 83% had normal PAP report. 21% patients had signs suggestive of urinary tract infection.

Conclusion: *The menopause has a adverse bearing on psychosexual well-being of the women. The proper management of the symptoms caused by menopause and its associated comorbidities may reduce the negative impact it has on the psychology of women. Physical activity, routine physical checkup and investigations, dietary counseling and treatment accordingly may improve the symptoms of menopause, thereby improving quality of life.*

Keywords: *Menopause, Health status, psychosexual impact, quality of life.*

Introduction

During lifetime there are lots of changes that occur in women's life. One of the most critical stages of women's life is menopause. WHO defines menopause as the permanent cessation of menstruation resulting from loss of ovarian follicular activity. Diagnosis of menopause is not made until the individual has had 12 months of amenorrhea. In India, at some point after forties, a woman enters into the third phase of her life. This phase of life is generally ignored. A woman is given adequate care from teen till reproduction. Postmenopausal women have to face a lot of problems, both physically and psychologically. They have to cope with these changes and accept their new role in the society and family. Menopause can have a variety of symptoms related to estrogen deficiency like vaginal dryness, hot flushes and mood swings like irritability etc. In fact some studies have concluded that menopause is one of the major risk factor for major depressive disorder¹. These symptoms may have a negative impact on quality of life in a postmenopausal woman. Menopause is important for 3 reasons. First and foremost the prevalence of menopause is increasing because of improved health care, increased life expectancy of women and decline in maternal mortality. Secondly menopause does have its own morbidity. And lastly menopause acts as risk factors for earlier mortality from subsequent chronic disease.

Though menopause is natural phenomenon but it is the fact that it is listed as a disease in international classification of diseases 9-10². The proportion of population of menopausal women is expected to increase drastically everywhere due to increase in life expectancy. The average life expectancy³ of woman in India is 71 years and average age at menopause is approximately 47.5 years given by Indian menopausal society in 2008. Statistics given by union ministry of health and family welfare⁴ shows that life expectancy of women is 69.6 years at 2011 census. Thus more and more women are expected to survive several years after attaining menopause. Therefore there is immense need of public health system to work for post-menopausal women. Management of physiologic, somatic, psychological and sexual symptoms can greatly improve quality of life of a postmenopausal woman. In absence of standardized, valid and reliable measures to assess menopausal symptoms and morbidities associated with menopause it is very difficult to understand the extent to which menopause affects the psychosocial and overall wellbeing of a menopausal women. Assessing or determining the prevalence of morbidities associated with menopause can be the first step towards understanding and managing the morbidities associated with it.

Materials and Methods

This study was a cross sectional study conducted in the department of obstetrics and gynaecology at a tertiary care hospital. The study was approved by the Institutional ethical committee. All Menopausal women attending the gynaecology outpatient departments of obstetrics and gynaecology division of our institute were enrolled for the study as per the criteria given. Those patients admitted in ward and meeting the study criteria were also included if they showed willingness to be enrolled in the study. Informed consent was taken from all women before enrolling them for the study. The women who attained menopause by surgical or medical methods and those not willing to participate in the study were excluded from the study. A detailed history followed by Clinical examination was done in all patients. Basic investigations like CBC, urine routine microscopy, Fasting and post meal blood sugar levels, lipid profile, ECG,

Ultrasound abdomen and pelvis and bone mineral density was done in all patients. percentage of menopausal women having Vasomotor and psychosomatic symptoms, whether the woman was sexually active or not, Presence of medical problems like diabetes, hypertension, asthma etc, level of activity and exercise routine of women were determined and a correlation was drawn and effect of exercise on psychological and vasomotor symptoms was noted. The percentage of women with abnormal tests like bone mineral density, Ultrasound, Pap smear and lipid profile etc was also determined. In the end overall morbidity patterns in women after menopause is studied.

Observations

The mean age of study subject was 52.7 ± 2.27 SD Maximum i.e. 41% cases were in the age group of 51 to 55yrs and minimum 2% cases in the age group of 40 to 45 yrs.(Fig 1)

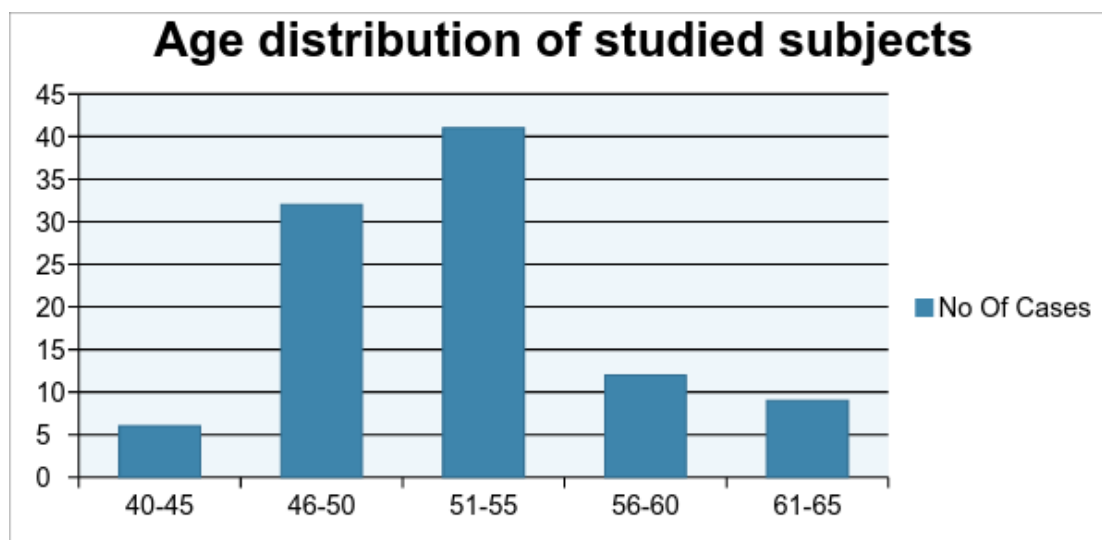


Figure 1: Age wise distribution of study subjects.

Maximum cases had age at menopause between 46 to 50 yrs i.e 87% while minimum age at menopause is 39 yrs found in 1 % and maximum

age at menopause is 52 yrs. The mean age at menopause is 47.56 ± 2.27 SD (Fig 2).

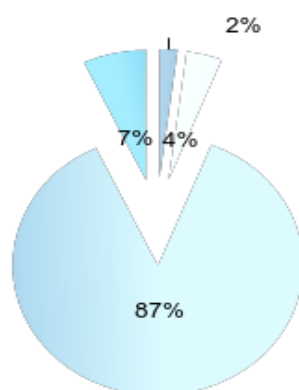
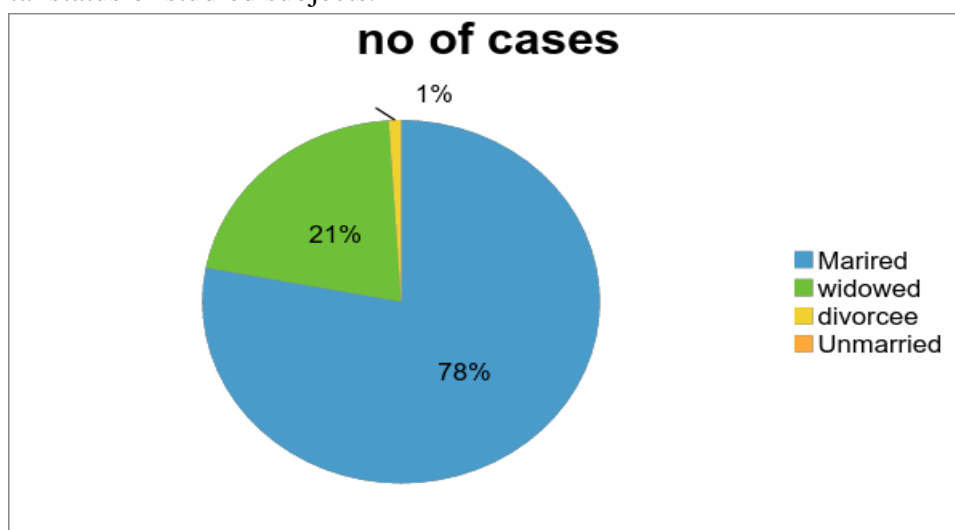


Figure: 2 Age at menopause in studied subject.

Amongst the studied cases 78% females were married 21% widowed and 1% was divorcee. There was no unmarried female (Fig 3)

Figure 3: Marital status of studied subjects.



Maximum cases had done their education till higher secondary school i.e 35% . 14% were illiterate and no one was post graduate (Table 1)

Table 1: Educational status of studied subjects

Education	No. Of cases	Percentage
Illiterate	14	14%
Primary	25	25%
Secondary	35	35%
Higher secondary	18	18%
Graduation	08	08%
Post graduation	00	00%

A study of vasomotor and psychosomatic symptoms amongst the subjects showed that hot flushes were most common symptom among vasomotor symptoms. Hot flushes were seen in 68% subjects. Night sweats were seen in 47%

subjects. Among psychosomatic problems sexual problems, physical exhaustion and sleep disturbances are commonest problems seen in 86%, 81% and 68% respectively (Table 2).

Table 2: Vasomotor and psychosomatic symptoms in studied subjects.

Symptoms	No. Of cases	Percentage
Vasomotor symptoms		
- Hot flushes	68	68%
- Night sweats	47	47%
Psychosomatic symptoms		
Sexual problems	86	86%
Physical exhaustion	81	81%
Sleep disturbances	68	68%
Irritability	32	32%
- Depressive mood	21	21%
- Crying spells	12	12%
- Anxiety	07	07%

Urogenital problems were common in postmenopausal. Among urinary problems dysuria (32%), urgency (04%), incontinence

(27%) were commonly seen in postmenopausal women. Atrophic vaginitis was common finding and was seen in 31% of these women (Table 3).

Table 3: Urogenital Problems in Post-Menopausal women.

Symptoms	No. Of cases	Percentage
Urogenital problems		
- urinary problems	34	34%
Incontinence	27	27%
Dysuria	32	32%
urgency	04	04%
Increased frequency	9	9%
-Vaginal problems	44	44%
Infective vaginitis	13	13%
Atrophic vaginitis	31	31%

The analysis of sexual activity status amongst studied subjects showed that among all postmenopausal women 42% were sexually active and 58% were sexually inactive. 87% had decrease interest in sexual activity as compared to

premenopausal status. 22% had dyspareunia. 28% sexually active women give history of decrease in interest in sexual activity as compared to premenopausal status.

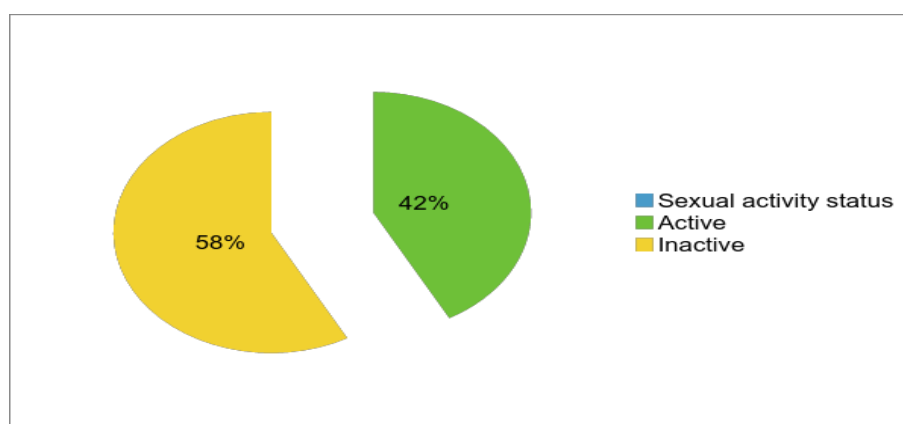


Fig 4: Sexual activity status amongst studied subjects.

Among medical problems in postmenopausal women 87% had complained of joint pain and muscular pain. Vision problems were seen in

Table 4: Medical Problems in Studied Subjects.

Medical problems	No. Of cases	Percentage
Joint pain and muscular pain	86	86%
Vision problems	68	68%
Dental problems	68	68%
Hypertension	32	32%
Diabetes mellitus	07	07%
Cardiovascular events	06	06%
Asthma	05	05%

68%. Dental problems were also seen in 68%. 32% were hypertensive and 7% had diabetes mellitus (Table 4).

Among all postmenopausal women only 7% had done exercise as routine activity. 78% cases had not done any kind of exercise in their lifetime (Table 5). Among 7% who did exercise as a

Table 5: Exercise status of studied subjects.

Exercise status	No. Of cases	Percentage
Exercises done as a routine activity	07*	07%
Exercises on medical advice	15	15%
Not done any exercises	78	78%

routine activity had no hypertension, diabetes mellitus and abnormal lipid profile. Among these 7 cases, 6 were sexually active i.e 85.71%.

The analysis of effect of exercise on vasomotor and psychosomatic problems revealed that in exercising group 57.14% subjects had hot flushes and 42.85 subjects had night sweats. Among psychosomatic symptoms 14.28% subjects had sexual problems, sleep disturbances, anxiety and depressed mood. 28.57% had irritability. There

were no crying spells and physical exhaustion (Table 6).

Table 6: Effect of exercise on psychological and vasomotor symptoms

Effect of exercise on psychological and vasomotor symptoms	No.of cases	Percentage
Hot flushes	04	57.14%
night sweats	03	42.85%
Sexual problems	01	14.28%
Physical exhaustion	00	00%
Sleep disturbances	01	14.28%
Irritability	02	28.57%
Depressed mood	01	14.28%
Crying spells	00	00%
Anxiety	01	14.28%

Amongst 100 post-menopausal women 66% had negative thinking regarding menopause. They thought that menopause means loss of fertility and emergence of medical problem. 34% had positive thinking i.e no menses no worry. The analysis of

age of onset of menopause and occurrence of hot flushes showed that Hot flushes and depressed mood were more common in women with age at menopause between 46-50 years which had significant P value (Table 7).

Table 7: Relationship of symptoms with age at menopause.

Symptoms	Age at menopause				P value
	35-40 (2)	41-45 (4)	46-50 (87)	51-55 (7)	
Irritability	0	2	30	0	>0.05,NS
Night sweats	1	1	44	1	>0.05,NS
Physical exertion	2	4	70	5	>0.05,NS
Sleep disturbance	1	4	60	3	>0.05,NS
Hot flushes	2	4	60	2	0.04,S*
Depressed mood	2	1	18	0	0.02,S*
Anxiety	0	1	6	0	>0.05,NS
Crying spells	1	1	9	1	>0.05,NS

The analysis of medical conditions in studied subject revealed that , 7% cases were having diabetes mellitus and 16% cases were pre diabetic. Out of 7 cases 6 are previously diagnosed as diabetic and on oral hypoglycemic drugs with uncontrolled sugar level. Further 32% were hypertensive and 12% cases were previously diagnosed hypertensive and on antihypertensive medication. 20% cases are diagnosed as hypertensive during this study. And these cases referred to physician for treatment. AN estimation of lipid profile revealed that 28% had raised

serum total cholesterol and among those 22% had raised LDL cholesterol and 14% had raised triglyceride levels.

Ultrasound examination of studied subjects revealed that, 4% cases had atrophic uterus and 4% cases had renal parenchymal disease. 3% had ovarian tumor on USG and 2% had fibroid uterus. 2% had fatty liver. On bone mineral density examination 84% cases were osteoporotic and 16% were osteopenia. There was not a single postmenopausal woman having normal bone mineral density.

PAP smear reports in study subjects showed that 17% had inflammatory changes. Candida infection was most common and it was found in

Table 8: pap smear in studied subjects.

PAP REPORT	NO OF CASES	PERCENTAGE
Inflammatory Changes	17	17%
Nonspecific	07	7%
Candida	09	9%
Trichomonas	01	1%
Normal	83	83%
CIN / Malignancy	00	00

96% postmenopausal women were anemic, 22% had deranged postmeal blood sugar level while 21% had deranged fasting blood sugar level which includes diabetic and pre diabetic group. 30% had deranged lipid profile and 21% had urinary tract infection. Urine routine microscopy 21% cases had pus cells on report out of which 6 cases had E coli on culture report and 1 was klebsiella positive on culture report.

Discussion

In the present study, total 100 cases were studied over a period of 1 year. The detailed history was recorded and clinical examination done and required investigation sent with patients' consent. The data was recorded in master sheet and tabulated to observe outcome. The results obtained were analyzed by suitable statistical method. The mean age of studied subjects in our study was found to be 52.7 years. Similiar mean age was there in studies conducted by Shahedur et al⁵, borker et al⁶ and Joseph et al⁷ who found mean age of menopause to be 54 years, 56.7 years and 54.2 years respectively. While mean of menopause in our study was found to be 47.56 years other studies like those done by Shahedur et al, Sagar et al and Chim et al⁸ found it to be 51.14 years, 48.26 years and 49.1 years respectively. Muscle & joint pain was seen in 69.2%. Hot Flushes was seen in 37% and Irritability was seen in 63.6%. In 2011 Shahedur R et al found that Feeling of tiredness experienced by 92.9%.

9% study subjects. 83% had normal PAP report (Table 8).

Headache was seen in 88.8%. Joint & muscle discomfort was seen in 76.2%. Physical exhaustion was seen in 60.9%. Sleeping Problems was seen in 54.4% and Hot flushes was seen in 35.8%. In present study sexual problems were commonest and seen in 86% in the form of loss of interest in sexual activity, pain during intercourse and loss of arousal. While physical exhaustion is seen in 81%. These women experienced physical exhaustion on routine work as compared to their premenopausal status. Among vasomotor symptoms hot flushes seen in 68% and night sweats seen in 47%. Shahedur R et al in 2011 showed frequency of vaginal problems were 36% and Urological problems were 12.8% in postmenopausal women. Borker S et al in 2013 showed that frequency of Vaginal problems were 9.3% and Urological problems were high i.e. 58.9%. Joseph n et al analyzed that vaginal problems were 41.8% and Urological problems were 43.6% in postmenopausal women. While in present study, Urological problems are seen in 34% postmenopausal women in the form of incontinence, dysuria, increased frequency and Vaginal problems are seen in 44% postmenopausal women in the form of atrophic and infective vaginitis. Though we got 44% postmenopausal women with vaginitis but we did not get any patient of CIN, Carcinoma Cervix or breast lump.

The study done by Igweh JC et al⁹ showed that significant increase in LDL in postmenopausal

women and no significant reduction in total cholesterol and TG. Acra m et al¹⁰ in 2014 showed increase in TC, TG, LDL & decrease in HDL cholesterol in postmenopausal women. In present study 28% subjects have increase TC & 22% have increase in LDL cholesterol while 14% had increase in TG. Article published by JF Owens et al¹¹ in 1993 showed increase in ambulatory blood pressure in post-menopausal women. In 1989 study done by Jan Staessen et al¹² showed high prevalence of hypertension and increase in pulse pressure in post-menopausal women.

CH Zehnacker and A Bemis-Dougherty¹³ in 2007 concluded that weighted exercises can be beneficial in maintaining bone mineral density (BMD) in postmenopausal women, and in increasing BMD of the spine and hip in women with osteopenia and osteoporosis. Lars R. Hedlund and J.C. Gallagher M.D¹⁴ analysis in 2009 revealed that BMD decreased faster at all sites in the early postmenopausal years. During the first 6 years post menopause, the decrease in BMD of the femoral neck and trochanter was 3–10 times higher than the change in the decade prior to menopause. About 20% of the lifetime femoral neck loss and 30% of the trochanteric loss occurred in the early postmenopausal period. Jeffrey M Muirthat et al¹⁵ in 2013 concluded that a step increase in the amount of physical activity performed each day resulted in a positive effect on bone mineral density at the hip, Ward's triangle, trochanter and femoral neck. It indicated that a step increase in the amount of daily activity, using simple, daily performed tasks, can help prevent decreases in post-menopausal bone mineral density. In present study 86% subjects had osteoporosis and only 14 % subjects had osteopenia. Not a single subject had normal BMD. And 7% subjects were doing exercise as a routine activity had high BMD and none among them is osteoporotic.

Catherine Kim¹⁶ in 2012 concluded the diabetes mellitus epidemic have recently raised the

possibility that the menopause may increase diabetes mellitus risk. This report reviewed studies of menopause and diabetes risk, as well as the potential mechanisms through which menopause might affect traditional and more novel diabetes risk factors.

Miriam E. Tucker¹⁷ in 2012 conducted a study. The findings of this study were of interest in light of the high prevalence of type 2 diabetes among postmenopausal women. The direct effect of early menopause may be relevant for the prevention of diabetes in women. A shorter reproductive life span was also associated with increased risk for type 2 diabetes. Reasons for the association were not clear but may relate to duration of estrogen exposure and/or the menopausal shift toward androgenicity. Jackson SL et al¹⁸ in 2005 concluded Urinary incontinence was highly prevalent among postmenopausal women. Women with diabetes were more likely to experience severe and symptomatic urinary incontinence. In present study 7% subjects had diabetes and 16% are pre-diabetic. Out of 7 cases 6 were previously diagnosed as Diabetic and were on oral hypoglycaemic drugs with uncontrolled sugar level. Out of 7 diabetic subject 6 subject had urinary problems i.e. 85.71%.

Raul Raz¹⁹ in 2011 concluded that Urinary tract infection (UTI) is the most common bacterial infection in women in general and in postmenopausal women in particular. Bacteriuria, particularly asymptomatic bacteriuria, is a very frequent finding in both healthy postmenopausal and institutionalized women. Urological factors, such as urinary incontinence, presence of any grade of cystocele and postvoiding residual volume, together with previous UTI and nonsecretor status, are associated with recurrent UTI in this population. In present study 27% subjects had urinary complaints in the form of incontinence, increase frequency, dysuria. On urine examination 21% subjects had infections and most common organism is E coli.

Marjan Beigi et al²⁰ In 2012 concluded that there are some physiological and pathological changes in the menopause period that result in sexual problems, the attitude of the women toward menopause has an important role in creating or eliminating these problems. They showed that the relative frequency of sexual dysfunctions was 38% in the productive period and 72.4% in the menopause period. There was a significant association between sexual dysfunctions before and after the menopause. Akiko Kamezaki et al²¹ in 2005 analyzed that the impact of menopause on sexuality was greater for postmenopausal women when compared with premenopausal women. Impact of menopause on activeness of sexual behaviour and intensity of sexual excitement was greater for postmenopausal women compared to premenopausal women. In present study 58% subjects were sexually inactive and 86% subject had decrease interest in sexual activity and 22% had dyspareunia. Thus menopause had greater impact on sexual behaviour of subject.

Summary

In this study mean age at menopause was 47.5+/- 2.27 years. Maximum women had done their education till higher secondary school i.e 35% cases and 14% cases were illiterate and no one was post graduate. This indicates poor education status of women.

Vasomotor symptoms like hot flushes and night sweats were highly prevalent in study subjects. Most of postmenopausal women were complaining of physical exhaustion on minimal work i.e 81%. Sexual problems like decrease or loss of interest in sexual activity, dyspareunia were very common in study subjects' i.e 86%, 22% respectively. 7% women in study group do regular exercise in the form of daily 1 to 1 1/2 hours daily morning walk and/ or yoga. Those who do regular exercises had less sexual complaints. Patient with atrophic vaginitis had complaint of dyspareunia. Sleep disturbances were also very common in study subjects i.e 68%.

Among psychological symptoms irritability and depressive mood are commonly experienced in postmenopausal women.

Urogenital problems were very common in postmenopausal women. Atrophic vaginitis is a common finding. Vaginal problems seen in 44% cases and urinary problems seen in 34% cases. 21% cases found to have Urinary tract infection during study. Most common causative micro-organism is E-Coli and had been treated on opd basis. Patients who had urinary incontinence are referred to physiotherapy department for bladder training exercises. Among the medical problems joint and muscular complaints are very high in postmenopausal women i.e 86% cases. Bone mineral density is very poor in postmenopausal women. Not a single postmenopausal woman in study had normal bone mineral density. 86% cases had osteoporosis and 14 % cases had osteopenia. All the women in postmenopausal group were given calcium supplementation, proper dietary counseling and exercises. Among the postmenopausal women under study only 7% women do exercise as routine activity and had high value of bone mineral density as compared to non-exercising women. Thus exercise and balanced diet is the key of health in postmenopausal women. There is high prevalence of visual problems (68%) and dental problems (68%) in postmenopausal women under study. Accordingly women are referred to dentist and ophthalmologist for further management. Hypertension and diabetes mellitus are also found in study subjects. Hypertension found in 32% cases and out of which 12 women were previously diagnosed as hypertensive and on antihypertensive medication. 20 subjects are diagnosed as hypertensive during study period and were referred to physician for further management. Thus there is immense need of regular blood pressure checkup in postmenopausal women. Diabetes is found in 7% cases in study subjects and out of which 6% were previously diagnosed cases of diabetes mellitus. 16% cases are found in

prediabetic group and are advised regular exercise, dietary counseling. This group is also referred to physician for further evaluation. Lipid profile evaluation also done under study and found that 28% cases had raised total cholesterol and 22% had raised LDL cholesterol. These deranged profiles are more commonly found in diabetic and hypertensive patients.

USG was done in postmenopausal women and found that 3 women had ovarian tumor and 2 women had fibroid uterus. All these patients have been operated surgically. Patient with ovarian tumor were found to be had serous cystadenocarcinoma of ovary on histopathological examination and sent for chemotherapy.

Conclusion

Our study concludes that hormonal replacement therapy can be advised to those women who have psychosomatic symptoms and vasomotor symptoms. Routine ultrasonography should be done in all postmenopausal women. Thus routine checkup of blood pressure, sugar levels and lipid profile is mandatory to prevent morbidity. Every woman should be counseled regarding benefits of exercise and should be advised regular exercise. All post-menopausal women should be given calcium supplementation. Regular exercise and nutritious diet should be advised to reduce morbidity. If feasible bone mineral density should be done to create awareness and to prevent further complications of osteoporosis.

Thus, high proportion and severity of menopausal symptoms observed in this study group proves that menopausal symptoms are common and cannot be ignored. Physical activity, routine physical checkup and investigations, dietary counseling and treatment accordingly may improve the symptoms of menopause, thereby increasing quality of life.

Such studies help in creating awareness. Health education for postmenopausal women is of prime importance. To be truly healthy an Individual need not to be only healthy on the physical level

but also on the psychological level. Thus, there is necessity of women's clinic to achieve goal of healthy population.

Conflict of interest : None.

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