ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 10, Issue, 10, pp.74161-74167, October, 2018

DOI: https://doi.org/10.24941/ijcr.32408.10.2018

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

INFLUENCE OF SOCIODEMOGRAPHIC ARCHITECTURE AND HETEROGENEITY OF MENOPAUSAL COMPLAINTS ON QUALITY OF LIFE: A MONOCENTRIC HOSPITAL BASED CROSS-SECTIONAL APPRAISAL

[1,*]Dr. Priyanka Bharat Aglawe, [2]Dr. Rajesh Kumar Jha, [3]Dr. Vedprakash Mishra, [4]Dr. Kamini Mukesh Sakore, [5]Brihi Joshi, [6]Aditya Chetan and [7]Dr. Deepti Sandeep Shrivastava

[1,2]Department of Pharmacology, D.M.I.M.S. (D.U.), Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India
[3]Department of Physiology, D.M.I.M.S. (D.U.), Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India
[4]Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India
[5,6]Indraprastha Institute of Information Technology, Delhi
[7]Department of OBGY, D.M.I.M.S. (D.U.), Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India

ARTICLE INFO

Article History:
Received 10th July, 2018
Received in revised form
29th August, 2018
Accepted 14th September, 2018
Published online 30th October, 2018

Key Words:
Menopause,
Sociodemographic Architecture,
Heterogeneity of Complaints,
Quality of Life.

ABSTRACT

Menopause appears as an iceberg comprising a vast heterogeneity of extremely troublesome physical and psychological symptoms which profoundly affect the quality of life. The present study was undertaken to appraise the sociodemographic profile and spectrum of menopausal symptoms in women visiting OBGY O.P.D. of Acharya Vinoba Bhave Rural Hospital, Sawangi (Meghe), Wardha and to evaluate the influence of menopause on QoL. This monocentric hospital based cross-sectional study was carried out between 1st October 2016 to 31st August 2018 in OBGY Department, on 330 menopausal women. Data were collected from menopause register maintained in OBGY O.P.D. QoL was assessed by Utian Quality of Life Scale (UQOLS). Out of 330 participants, maximum number attained menopause between 41-45 years (63.94%) followed by 46-50 years (26.37%), 35-40 years (09.39%) and 51-55 years (0.30%). 66.97% had Low, 30.61% had Medium and 02.42% had High socioeconomic status.90.91% were married, 08.18% widow and 0.91% unmarried. Urogenital complaints were the commonest (78.18%) followed by miscellaneous complaints (24.24%), musculoskeletal complaints (03.63%) and vasomotor complaints (0.90%). No patients with psychological problems, sleep architecture disturbances, sexuality hindrances and libido concerns were found during the study period. After assessing QoL it was found that menopause has a negative influence along with undesirable consequences on QoL. A wide spectrum of manifestations was noted but there was a knowledge constrain and awareness default regarding menopause amongst this rural population leading to underreporting. A dedicated menopause clinic with multidimensional status outcome approach is recommended to improve QoL which needs attention to be paid at...as early as possible

Citation: ***Dr. Priyanka Bharat Aglawe, Dr. Rajesh Kumar Jha, Dr. Vedprakash Mishra, Dr. Kamini Mukesh Sakore, Brihi Joshi, Aditya Chetan and Dr. Deepti Sandeep Shrivastavate*****, 2018.** "Influence of sociodemographic architecture and heterogeneity of menopausal complaints on quality of life: a monocentric hospital based cross-sectional appraisal", *International Journal of Current Research*, 10, (10), 74161-74167.

INTRODUCTION

Menopause deals with a vast heterogeneity of symptoms which are extremely troublesome. However, a single woman experiencing all the symptoms is very rare. Approximately, 75% of postmenopausal women experiences acute symptoms which begin in the premenopausal period. The severity, frequency and duration of symptoms may differ depending upon the time of initiation of menopause. These symptoms may be in an on and off pattern or in a continuous episodes (Samsioe, 2006). Various manifestations during the transition of menopause can be broadly categorized into vasomotor symptoms, urogenital symptoms, musculoskeletal symptoms, mood disorders, sleep problems, psychiatric problems, cardiovascular disorders and sexual dysfunction (Coelho *et al*., 2002; Santoro *et al*., 2015; Anastasiadis *et al*., 2002; Prairie *et al*., 2015; Baker *et al*., 2003)**.** These debilitating physical and psychological symptoms during the transition of menopause profoundly diminishes the quality of life (QoL) (Whelan *et al*., 1990). QoL is a crucial outcome measure of health care and impact of menopause on QoL is critically important in symptomatic treatment of postmenopausal women (Greenblum *et al*., 2013). The present study was undertaken to appraise the sociodemographic status and spectrum of menopausal symptoms in women visiting Obstetrics and Gynaecology O.P.D. of Acharya Vinoba Bhave Rural Hospital, Sawangi (Meghe), Wardha; and to evaluate the influence of menopause on their QoL.

*Corresponding author: **Dr. Priyanka Bharat Aglawe,**
Department of Pharmacology, D.M.I.M.S. (D.U.), Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India.

OBJECTIVES

- To study the sociodemographic profile

- To appraise critically the spectrum of menopausal complaints
- To study the influence of menopause on quality of life in females visiting OBGY Department of Acharya Vinoba Bhave Rural Hospital, Sawangi (Meghe), Wardha.

MATERIALS AND METHODS

Type of study: A Monocentric, Hospital based, Cross-sectional study

Locus of administrative control: **Department of Pharmacology**, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha

Locus of study: Acharya Vinoba Bhave Rural Hospital Sawangi (Meghe)**,** Wardha.

Study population: Females with menopausal symptoms coming to. Obstetrics and Gynaecology (OBGY) O.P.D/I.P.D of A.V.B. R. H. Sawangi (Meghe), Wardha

Duration of study: 1st October 2016 to 31st August 2018

Sample size: 330

Ethical Clearance: The research protocol was approved in the meeting held on 09/07/ and the Letter of Approval was received on 11/07/2016 (Ref. No. DMIMS (DU) / IEC / 2016-17 / 3016). The study was carried out only after obtaining a written informed consent from all the study participants individually.

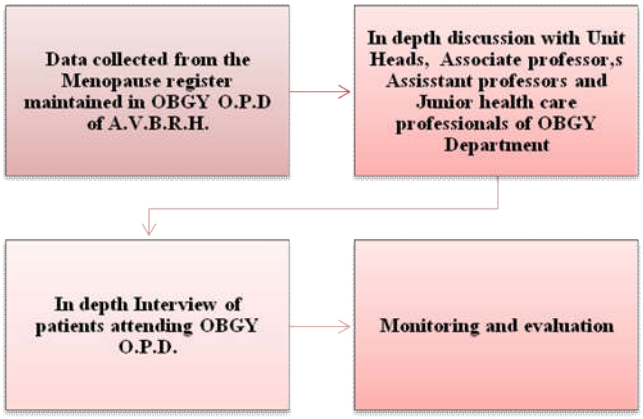


Figure 1. Study Design

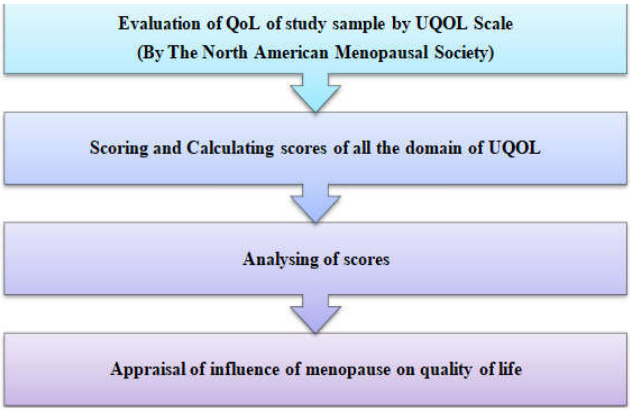


Figure 2: Modus Operandi: Standard Operating Procedure (S.O.P.)

Inclusion Criteria

- Women above 35 years of age who has been diagnosed with
  - Natural menopause
  - Chemotherapy induced menopause
  - Pelvic radiation induced menopause
  - Surgical menopause
- Menopausal women presenting with menopausal complaints.
- Menopausal women who are willing to participate in the study.

Exclusion Criteria

- Women below 35 years of age.
- Women with complaint of amenorrhoea associated with polycystic ovarian syndrome.
- Women with history of Malignancy
  - Psychiatric disorder
  - Musculoskeletal disorder
  - Urogenital disorder

Confidentiality: The identity and personal information of all the patients enrolled in the study was kept strictly confidential.

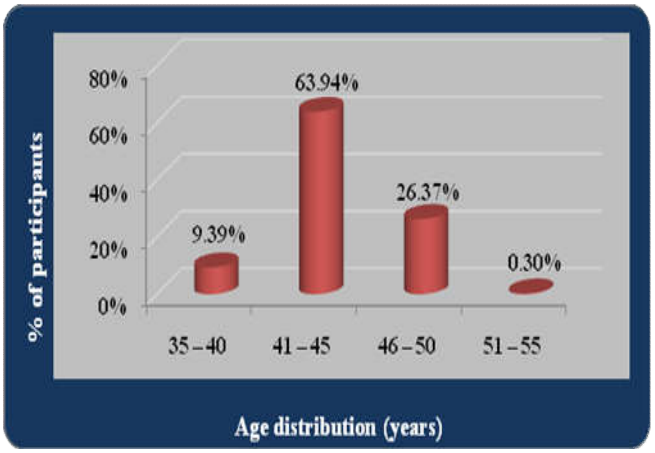
Statistical Analysis: Descriptive and inferential statistics using Chi-square test. Software used: SPSS 22.0 version Graph Pad Prism 6.0 version and $p < 0.05$ (level of significance)

RESULTS

Age distribution: 330 patients were divided into four groups viz. 35-40 years, 41-45 years, 46-50 years and 51-55 years according to their age at menopause.

Table 1. Age distribution of patients with menopause

Sr. No.	Age group (years)	No. of patients (n)	Percentage of patients (%)
01.	35 – 40	31	09.39
02.	41 – 45	211	63.94
03.	46 – 50	87	26.37
04.	51 – 55	01	0.30
	Total	330	100



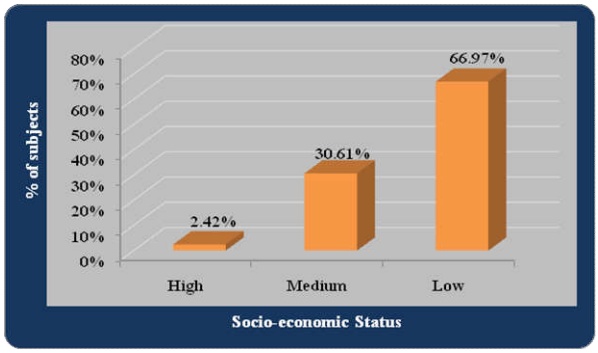
Graph 1. Age Distribution of patients with menopause

Socioeconomic status of women with menopausal complaints

Table 2. Socioeconomic status of patients with menopausal complaints

Sr. No.	SES	No. of patients (n)	Percentage of patients (%)
01.	High	08	02.42
02.	Medium	101	30.61
03.	Low	221	66.97
	Total	330	100

SES: Socioeconomic status

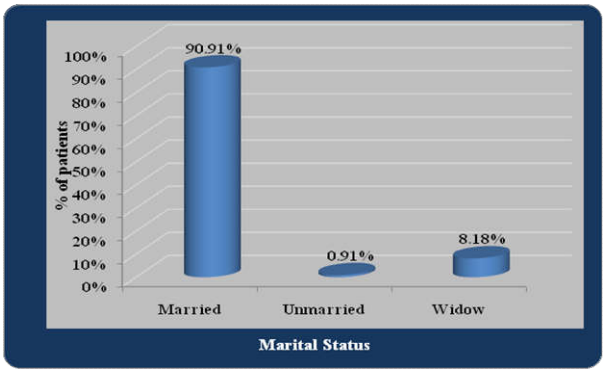


Graph 2. Socioeconomic status of patients with menopausal complaints

Marital status

Table No. 3. Marital status of menopausal women

Sr. No.	Marital status	No. of patients (n)	Percentage of patients (%)
01.	Married	300	90.91
02.	Unmarried	03	0.91
03.	Widow	27	08.18
	Total	330	100



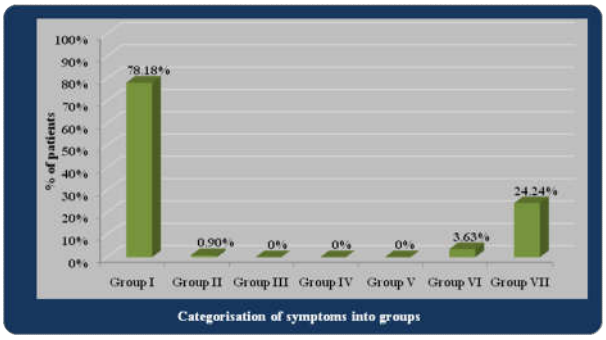
Graph No. 3. Marital status of menopausal women

Spectrum of presenting complaints

Table 4. Spectrum of presenting complaints of menopausal women

Sr. No.	Groups of symptoms	No. of patients (n)	Percentage of patients (%)
01.	Group I	258	78.18
02.	Group II	03	0.90
03.	Group III	00	0
04.	Group IV	00	0
05.	Group V	00	0
06.	Group VI	12	03.63
07.	Group VII	80	24.24

Group I: Urogenital
Group II: Vasomotor
Group III: Psychological
Group IV: Sleep disturbances
Group V: Sexuality and libido
Group VI : Musculoskeletal
Group VII: Miscellaneous

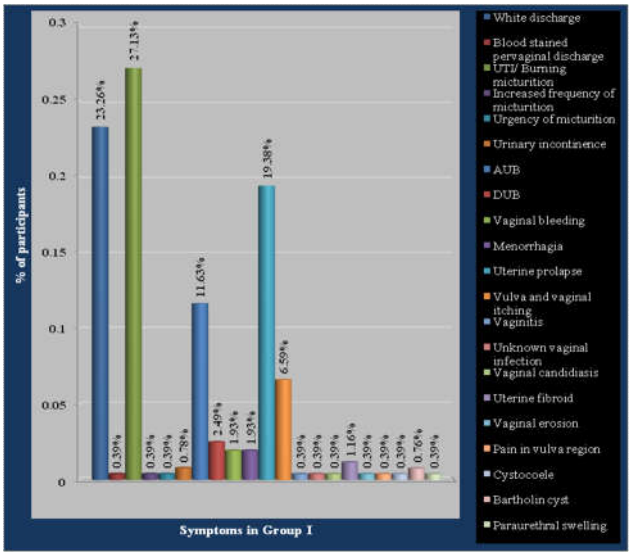


Graph No. 4. Spectrum of presenting complaints of menopausal women

Symptoms in Group I (Urogenital symptoms; n – 258, % - 78. 18)

Table 5. Symptoms in Group I

Sr. No.	Symptoms	No. of patients (n)	Percentage of patients (%)
01.	White discharge	60	23.26
02.	Blood stained pervaginal discharge	01	0.39
03.	UTI/ Burning micturition	70	27.13
04.	Increased frequency of micturition	01	0.39
05.	Urgency of micturition	01	0.39
06.	Urinary incontinence	02	0.78
07.	AUB (Abnormal uterine bleeding)	30	11.63
08.	DUB (Dysfunctional uterine bleeding)	09	02.49
09.	Vaginal bleeding	05	01.93
10.	Menorrhagia	05	01.93
11.	Uterine prolapse	50	19.38
12.	Vulva and vaginal itching	17	06.59
13.	Vaginitis	01	0.39
14.	Unknown vaginal infection	01	0.39
15.	Vaginal candidiasis	01	0.39
16.	Uterine fibroid	03	01.16
17.	Vaginal erosion	01	0.39
18.	Pain in vulva region	01	0.39
19.	Cystocoele	01	0.39
20.	Bartholin cyst	02	0.76
21.	Paraurethral swelling	01	0.39

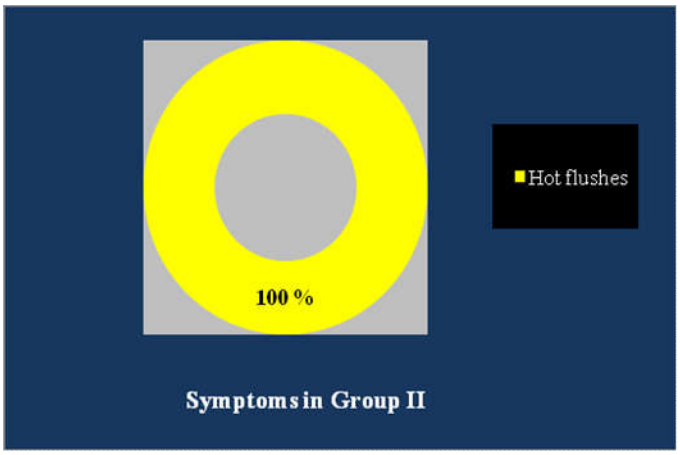


Graph 5. Symptoms in Group I (Urogenital symptoms)

Symptoms in Group II (Vasomotor symptoms; n – 03, % - 0.90): Hot flush **(100%)** was the only presenting complaint in the patients with vasomotor symptoms.

Table 6. Symptoms in Group II

Sr. No.	Symptoms	No. of patients (n)	Percentage of patients (%)
01.	Hot flush	03	100

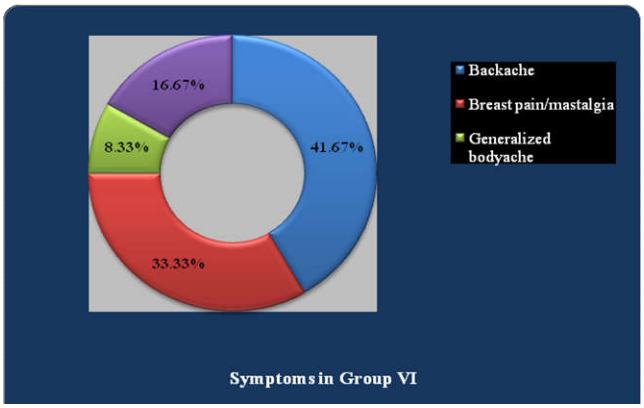


Graph 6. Symptoms in Group II (Vasomotor symptoms)

Symptoms in Group VI (Musculoskeletal symptoms; n – 12, % - 03.63)

Table 7. Symptoms in Group VI

Sr. No.	Symptoms	No. of patients (n)	Percentage of patients (%)
01.	Backache	05	41.67
02.	Breast pain/mastalgia	04	33.33
03.	Generalized bodyache	01	08.33
04.	Pain in legs	02	16.67



Graph 7. Symptoms in Group VI (Musculoskeletal symptoms)

Symptoms in Group VII (Miscellaneous symptoms; n – 80, % - 24.24)

Table 8. Symptoms in Group VII

Sr. No.	Symptoms	No. of patients (n)	Percentage of patients (%)
01.	Breast itching	01	01.25
02.	Pain abdomen	79	98.75

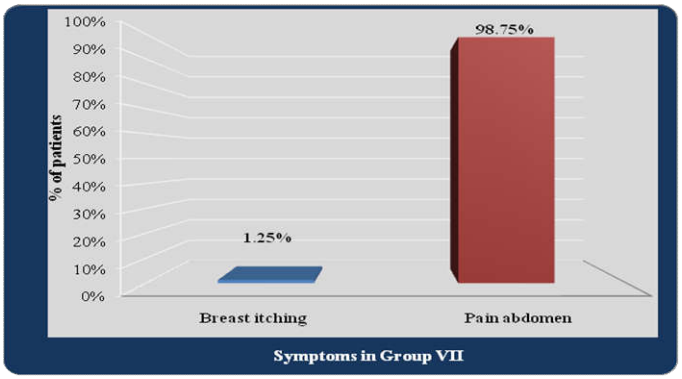
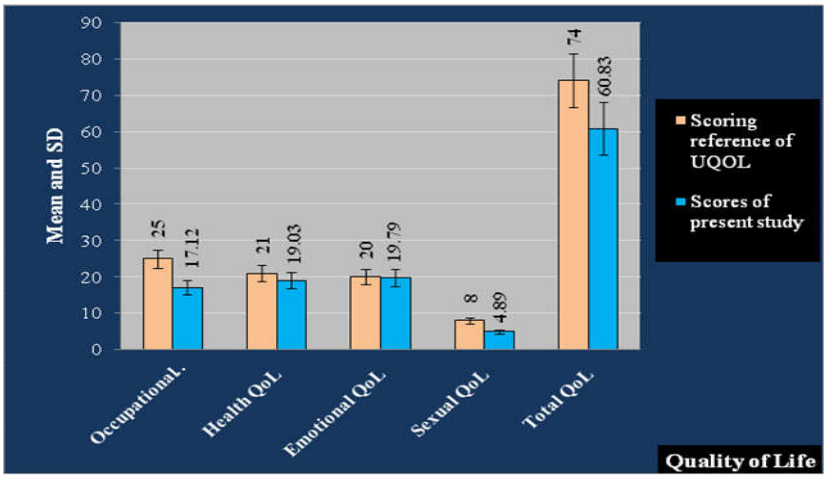


Figure 8. Symptoms in group VII (Miscellaneous symptoms)

Table 9. Mean score of each domain of UQOL questionnaire in menopausal women

Sr. No.	Type of QoL	Q. No.	Total Q.	Lower QoL -2SD	-1SD	Mean ± SD (n=330)	+1SD	Higher QoL +2SD
01.	Occupational QoL	2, 3, 6, 17, 18, 19, 23	07	12.82	14.97	17.12±2.15	21.42	19.27
02.	Health QoL	7, 8, 9, 10, 16, 21, 22	07	14.35	16.69	19.03±2.34	23.71	21.37
03.	Emotional QoL	1, 11, 12, 13, 15, 20	06	16.31	18.05	19.79±1.74	23.27	21.53
04.	Sexual QoL	1, 5, 14	03	2.55	3.72	4.89±1.17	7.23	6.06
05.	Total QoL		23	53.71	57.27	60.83±3.56	67.95	64.39

QoL: Quality of life



Graph 9. Mean score of each domain of UQOL questionnaire in menopausal women

Quality of life: When comparing the scores of the individual domains in the UQOL questionnaire, the highest score was seen in Emotional QoL (19.79±1.74) domain and the lowest in Sexual QoL (4.89±1.17) domain.

DISCUSSION

Sociodemographics

Age

Sample size: 330
41 – 45: 63.94%
46 – 50: 26.37%
35 – 40: 09.39%
51 – 55: 0.30%
Mean Age: 44 ± 2.92
Mean age of menopausal women in other studies

Sr. No.	Authors	Mean Age of menopause (years)	Standard deviation
01.	Kriplani *et al*. (2005)	46.7	± 4.2
02.	Ley *et al*. (2017)	48.8	± 5.1
03.	Yisma *et al*. (2017)	43.5	± 5.8
04.	Ahsan *et al*. (2017)	49.62	± 2.9

Yisma *et al.* (2017) in their study showed that the maximum menopausal women belonged to 45 – 49 years of age group which was not in accordance with the present study. **Socio** economic status (LSES: Low Socio Economic Status**,** MSES: Medium Socio Economic Status, HSES: High Socio Economic Status)

Sample size: 330
LSES: 66.97%
MSES: 30.61%
HSES: 02.42%

These findings were inconsonance with the findings of Nusrat *et al*. (2010) which also showed that the majority of the women in their study (64.6%) were from poor socioeconomic class while only 5.7% were from higher class. Wani *et al*. (2013) and Ganapathy *et al*. (2018) had opposite findings. Our study was carried out in the rural based hospital of Vidarbha region in Maharashtra.The maximum population visiting the hospital belonged to the adjacent rural areas and, therefore, it was observed that maximum inhabitants belonged to LSES.

Marital status

Sample size: 330
Married: 90.91%
Widow: 8.18%
Unmarried: 0.91%

These findings could be correlated to the fact that the standard age of marriage in India is around 21 – 30 years which varies in different meridians. Women are seen to get married at an earlier age in the rural framework compared to the urban setup. By the time the women attains menopause especially in the rural areas like Vidarbha region, majority of women are noted to be married and few unfortunate females lose their married hood. Women who do not get married are the minorities in the country like India which can be correlated to the finding of our study.

Spectrum of presenting complaints

Sample size: 330
Urogenital symptoms: 78.18%
Miscellaneous symptoms: 24.24%
Musculoskeletal symptoms: 03.63%
Vasomotor symptoms: 0.90%
Psychological symptoms: 0%
Sleep disturbances: 0%
Sexuality and libido concerns: 0%

These findings are in contrast to the studies by Malla *et al*. (2014) and Martinez *et al*. (2013) These variations could be explained by the fact that there are individual variations worldwide; variations within the country if compared to rural is to urban population (Unni, 2010) . No lady presented to the O.P.D. with psychological symptoms, sleep disturbances and sexuality and libido concerns. This could be ascribed to the fact that the psychological symptoms and sleep disturbances which are subjective in nature, experienced during menopause cannot be self assessed until these appear to be in the severe form, especially in the rural population of Vidarbha region where there is lack of understanding due to low level of education and knowledge. Also, majority of the families in this region are conservative and, therefore, women are not willing to show up in the hospitals or take medical assistance for sexuality and libido concerns, as discussing such topics appears to be a taboo in the rural framework.

Urogenital symptoms: In the present study, Urinary tract infection and Burning micturition (27.13%) were found be the most common presenting urogenital complaint, followed by White discharge (23.26%), Uterine prolapse (19.38%), AUB (11.63%), Vulva and vaginal itching (06.59%), DUB (02.49%), Vaginal bleeding and Menorrhagia 01.93% each, Uterine fibroid (01.16%), Urinary incontinence and Bartholin cyst 0.78% each. Blood stained pervaginal discharge, Increased frequency of micturition, Urgency of micturition, Vaginitis, Unknown vaginal infection, Vaginal candidiasis, Vaginal erosion, Pain in vulva region, Cystocoele and Paraurethral swelling were found to be the least common presenting urogenital complaint with 0.39% each. Nath *et al*. (2016) in their study found that loss of libido (34.6%) was the commonest urogenital complaint; whereas Oskay *et al*. (2005) found vaginal dryness to be the commonest (43.2%). The findings of the present study were not in correlation with any other study due to variation in the study population and the region where the study was conducted. The present study was conducted in a rural population where maximum women belong to a low socioeconomic state, there is poor practice of hygiene and there are differences in their ethnicity. All these factors might be correlated to the above findings of the present study.

Vasomotor symptoms: In the present study, hot flush (100%) was the only vasomotor symptom presented by the study population in this group. It was seen in only 3 (0.90%) of the study population. Study by Bansal *et al*. (2013) showed headache to be the commonest (94.1%), followed by dizziness (81.5%), palpitations (64.4%), hot flushes (59.3%) and night sweats (35.6%). Two studies conducted in India by Aaron *et al*. (2002) and Kaur *et al*. (2004); one in Pakistan by Yahya *et al*. (2002) and one in Sri Lanka by Goonaratna *et al*. (1999) were reviewed and the prevalence rate was found to be 14 - 42% for hot flushes and 19-58% for night sweats or sleep disturbances.

Musculoskeletal symptoms: In the present study, backache (41.67%) was the commonest presenting complaint amongst the musculoskeletal symptoms, which was followed by breast

pain/ mastalgia (33.33%), pain in legs (16.67%). Generalized bodyache (08.33%) was the least presenting musculoskeletal complaint. However, Ogwumike *et al*. (2016) in their study found lower extremity pain (61%) to be highest followed by back pain (52.9%) which was in contrast to the findings of the present study. Study by Gao *et al*. (2013) on 743 Chinese women showed that maximum percentage of women had frequent back pain which was comparable to the findings of the present study. Although, osteoporosis is one of the common symptoms in late menopause, no cases were found in the present study this could be attributed to the fact that there is lack of awareness about the manifestations of menopause due to which there is low reporting of such patients to the OBGY O.P.D. Our study was confined to the OBGY department of A.V.B. R. H. and it was out of the scope of the present study to gather data from other departments, there is a possibility that few patients have directly visited the orthopaedics department for many musculoskeletal symptoms which could have contributed to low enrolment of women presenting musculoskeletal symptoms in the present study.

Miscellaneous symptoms: In the present study, pain abdomen which was presented by 98.7% women, was the leading presenting complaint in this group of symptoms and only 01.25% showed breast itching. Pain abdomen could be manifestation of a number of diseases including urogenital disorders such as endometriosis or uterine fibroid or ovarian cyst (Bates, 2013) in postmenopausal women. It can also be due to any gastrointestinal ailment or ovarian or uterine carcinoma (2014). However, the present study was about the presenting menopausal complaint and as there was no follow up conducted it was out of the study scope to reveal the concrete cause of pain abdomen. Search Engines could not find breast itching with menopause, however, due to the hormonal changes during menopause, there is less production of collagen and acid mucopolysaccharides and hyaluronic acid in the skin. Collagen maintains the thickness of the skin; and acid mucopolysaccharides and hyaluronic acid keeps the skin moist. Their less production may cause the skin to become dry which may eventually lead to itching (Shah, 2001).

Quality of life: In the present study, impact of menopause on quality of life was assessed by Utian quality of life (UQOL) questionnaire as it is one of the menopause specific scale available freely to all the researchers. The Mean score in the present study was found to be lower in Occupational, Health, Sexual and Total QoL domain in comparison with the standard scoring reference of UQOL. The Mean in the Emotional domain was found to be almost equal and comparable with the mean of reference UQOL.

UQOL Domain	Mean score In the present study	Mean By UQOL
Occupational QoL	17.12	25
Health QoL	19.03	21
Emotional QoL	19.79	20
Sexual QoL	4.89	08
Total QoL	60.83	74

Dotlic *et al*. (2015) exhibited the scores of quality of life of Serbian women using UTIAN scale. Mean scores of our study was less in comparison to findings of Dotlic *et al*. (2015).

UQOL Domain	Mean ± SD (n=330) In the present study	Mean ± SD (n=200) By Dotlic *et al*.[31]
Occupational QoL	17.12 ± 2.15	25.11 ± 5.53
Health QoL	19.03 ± 2.34	23.56 ± 4.66
Emotional QoL	19.79 ± 1.74	21.75 ± 5.01
Sexual QoL	4.89 ± 1.17	10.12 ± 3.18
Total QoL	60.83 ± 3.56	80.53 ± 13.58

The above comparison of the scores of individual domain in UQOL in our study revealed that the scores of the entire individual domain were low. Therefore, it can be interpreted that the participants of our study had a huge negative impact on their quality of life in terms of all the domains.

Mean scores of quality of life of menopausal women by Koundi *et al*. (Koundi *et al*., 2006) and Spence (Spence, ?) using UQOL has been compared below with the mean scores of the present study.

UQOL Domain	Mean ± SD (n=330) In the present study	Mean ± SD (n=216) By Koundi *et al*.	Mean ± SD (n=52) By Spence
Occupational QoL	17.12 ± 2.15	24.0 ± 5.0	30.6 ± 5.4
Health QoL	19.03 ± 2.34	23.7 ± 4.7	26.0 ± 6.4
Emotional QoL	19.79 ± 1.74	20.3 ± 4.2	23.6 ± 5.5
Sexual QoL	4.89 ± 1.17	8.4 ± 3.0	11.3 ± 4.0
Total QoL	60.83 ± 3.56	76.5 ± 11.8	91.4 ± 15.5

Comparison of the mean scores of quality of life of menopausal women using UQOL of the present study with the results by Koundi *et al*. (2006) and Spence showed that the Indian women especially those belonging to the rural region has a significantly lower quality of life in terms of all the domain of UQOL which calls out for more attention to this aspect of menopause. Early detection and intense integrated treatment is necessary for such prone population of the rural Vidarbha region. However, more studies have to be carried out in other parts of the country in order to generalize the findings.

Conclusion

Sr. No.	Objectives	Conclusion
01.	To study the sociodemographic profile: (a)Age Group	(a) ➢35-40 years (09.39%) ➢41-45 years (63.94%) ➢46-50 years (26.37%) ➢51-55 years (0.30%) ➢Mean Age: 44 ± 2.92
	(b)Socioeconomic status	(b) ➢Low (66.97 %) ➢ Medium (30.61%) ➢ High (02.42%)
	(c)Marital status	(c) ➢Married (90.91%) ➢Unmarried (0.91%) ➢Widow (08.18%)
02.	To appraise critically spectrum of menopausal complaints	➢Urogenital complaints (78.18%) ➢Vasomotor symptoms (0.90%) ➢Psychological symptoms (0%) ➢Sleep disturbances (0%) ➢Sexuality and libido (0%) ➢Musculoskeletal symptoms (03.63%) ➢Miscellaneous symptoms (24.24%)
03.	To study the influence of menopause on QoL	There was a negative influence of menopause on QoL of menopausal women.

Acknowledgement

The authors are very much thankful to Dr. Swanand S. Pathak, (Professor and Head), Department of Pharmacology, all the unit heads, associate professors, assistant professors and J.R. III, J.R. II and J.R. I of OBGY Department for their co-operation, support and help at various levels. Our sincere thanks to Dr. Vijay Babar, Assistant professor in Statistics, Department of Community Medicine for his help in statistical analysis. The authors are highly obliged for the need based contributions of Dr. Rupali Sarode.

REFERENCES

Aaron R., Muliyil J., Abraham S. 2002. Medico-social dimensions of menopause: a cross-sectional study from rural south India. *Natl. Med. J India*. Feb;15(1):14–7.

Ahsan M., Mallick AK. 2017. The Effect of Soy Isoflavones on the Menopause Rating Scale Scoring in Perimenopausal and Postmenopausal Women: A Pilot Study. *J. Clin. Diagn., Res.,* JCDR. Sep;11(9):FC13-FC16.

Anastasiadis AG., Davis AR., Ghafar MA., Burchardt M., Shabsigh R. 2002. The epidemiology and definition of female sexual disorders. *World J. Urol.,* Jun;20(2):74–8.

Baker L., Meldrum KK., Wang M., Sankula R., Vanam R., Raiesdana A. *et al*., 2003. The role of estrogen in cardiovascular disease. *J. Surg. Res.,* Dec;115(2):325–44.

Bansal P., Chaudhary A., Soni RK., Kaushal P. 2013. Menopausal problems among rural middle aged women of Punjab. Dec;1(3):103–9.

Bates CM., Plevris JN. 2013. Clinical evaluation of abdominal pain in adults. Medicine (Baltimore). Feb 1;41(2):81–6.

Coelho G., Frange C., Siegler M., Andersen ML., Tufik S., Hachul H. 2002. Menopause Transition Symptom Clusters: Sleep Disturbances and Sexual Dysfunction. *J Womens Health.* 2015 Nov;24(11):958–9.

Dotlic J., Gazibara T., Rancic B., Radovanovic S., Milosevic B., Kurtagic I. *et al*., 2015. Translation and validation of the Utian Quality of Life Scale in Serbian peri- and postmenopausal women. Menopause N Y N. Sep;22(9):984–92.

Ganapathy. 2018. Health-related quality of life among menopausal women [Internet]. [cited 2018 Aug 31]. Available from: http://www.amhsjournal.org/ article.asp? issn=2321-4848;year=2018;volume= 6;issue= 1;spage= 16; epage=23;aulast=Ganapathy

Gao H.L., Lin S.Q., Wei Y., Chen Y., Wu ZL. 2013. The effect of age and menopausal status on musculoskeletal symptoms in Chinese women aged 35-64 years. Climacteric *J. Int. Menopause Soc.,* Dec;16(6):639–45.

Goonaratna C., Fonseka P., Wijeywardene K. 1999. Perimenopausal symptoms in Sri Lankan women. *Ceylon Med J.,* Jun;44(2):63–9.

Greenblum CA., Rowe MA., Neff DF., Greenblum JS. 2013. Midlife women: symptoms associated with menopausal transition and early postmenopause and quality of life. Menopause N Y N. Jan;20(1):22–7.

Kaur S., Walia I., Singh A. 2004. How menopause affects the lives of women in suburban Chandigarh, India. Climacteric *J. In.t Menopause Soc.,* Jun;7(2):175–80.

Koundi KL., Christodoulakos GE., Lambrinoudaki IV., Zervas IM., Spyropoulou A., Fexi P. *et al*., 2006. Quality of life and psychological symptoms in Greek postmenopausal women: association with hormone therapy. *Gynecol Endocrinol Off J. Int. Soc. Gynecol Endocrinol*. Dec; 22(12):660–8.

Kriplani A., Banerjee K. 2005. An overview of age of onset of menopause in northern India. Maturitas. Dec;52(3–4):199–204.

Ley S., Li Y., Tobias D., E. Manson J., Rosner B, B. Hu F. *et al*. 2017. Duration of Reproductive Life Span, Age at Menarche, and Age at Menopause Are Associated With Risk of Cardiovascular Disease in Women. *J Am Heart Assoc.* Nov 1;6:e006713.

Malla VG., Tuteja A. 2014. Menopausal spectrum of urban Indian women. *J .Life Health.,* 5(2):99–101.

Martínez JA., Palacios S., Chavida F., Pérez M. 2013. Urban-rural differences in Spanish menopausal women. *Rural Remote Health.* Jun;13(2):1865.

Munro MG. 2014. Investigation of Women with Postmenopausal Uterine Bleeding: Clinical Practice Recommendations. *Perm J.,* 18(1):55–70.

Nath A., Ahmed SJ., Saikia H., Sharma UK. 2016. Urogenital Problems of Postmenopausal Women: A Community Based Study in Slums of Dibrugarh Town. IJCMR. Oct;3(10):2953–6.

Nusrat N., Ahmed Sohoo N. 2010. Severity of Menopausal symptoms and the quality of life at different status of Menopause: A community based survey from rural Sindh, Pakistan. *Int. J. Collab Res. Intern Med. Public Health*. May 1;2.

Ogwumike OO., Adeniyi AF., Orogbemi OO. 2016. Musculoskeletal pain among postmenopausal women in Nigeria: Association with overall and central obesity. *Hong Kong Physiother J.,* Jun 1;34:41–6.

Oskay UY., Beji NK., Yalcin O. 2005. A study on urogenital complaints of postmenopausal women aged 50 and over. *Acta. Obstet. Gynecol. Scand.,* Jan;84(1):72–8.

Prairie BA., Wisniewski SR., Luther J., Hess R., Thurston RC., Wisner KL. *et al*., 2002. Symptoms of depressed mood, disturbed sleep, and sexual problems in midlife women: cross-sectional data from the Study of Women's Health Across the Nation. *J. Womens Health.,* 2015 Feb;24(2):119–26.

Samsioe G., Dören M., Lobo RA. 2006. Acute symptoms of the menopause. *Womens Health Med.,* Nov 1;3(6):282–6.

Santoro N., Epperson CN., Mathews SB. 2015. Menopausal Symptoms and Their Management. *Endocrinol Metab Clin. North. Am.,* Sep;44(3):497–515.

Shah MG., Maibach HI. 2001. Estrogen and skin. An overview. *Am. J. Clin. Dermatol.,* 2(3):143–50.

Spence T. Validation of the Utian Quality of Life Scale in the Metro West region of Cape Town.

Unni J. 2010. Third consensus meeting of Indian Menopause Society (2008): A summary. *J. Life Health.,* 1(1):43–7.

Wani RJ., Gupta AS. 2013. Money & Menopause: The Relationship Between Socioeconomic Class and Awareness about Menopause in Women in Mumbai, India. *J. Obstet Gynaecol India.* Jun;63(3):199–202.

Whelan EA., Sandler DP., McConnaughey DR., Weinberg CR. 1990. Menstrual and reproductive characteristi.cs and age at natural menopause. *Am. J. Epidemiol.,* Apr;131(4):625–32.

Yahya S., Rehan N. 2002. Age, pattern and symptoms of menopause among rural women of Lahore. J Ayub Med Coll Abbottabad JAMC. Sep;14(3):9–12.

Yisma E., Eshetu N., Ly S., Dessalegn B. 2017. Prevalence and severity of menopause symptoms among perimenopausal and postmenopausal women aged 30-49 years in Gulele sub-city of Addis Ababa, Ethiopia. *BMC Womens Health*. Dec 8;17(1):124.

****