

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

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ABSTRACT

Introduction: Globally, the World Health Organization estimates that by 2030, millions of women will be either premenopausal or postmenopausal, highlighting the need for early identification and effective management of symptoms among menopausal women to improve quality of life.

Aim: To assess the severity of menopausal symptoms and the effectiveness of an interventional package.

Objectives: To assess the severity of perimenopausal symptoms and evaluate the effectiveness of an interventional package on quality of life.

Method: A quantitative approach and a two-group pre-test and post-test research design were adopted. A total of 120 perimenopausal women from a selected rural area of Karad Taluka were selected using purposive sampling and randomly allocated into study and control groups by the lottery method. Six Primary Health Centres and nine villages were selected using the lottery technique. The study group received a structured interventional package comprising a seven-day menopausal diet plan and stretching and strengthening exercises using a Theraband belt, while the participants in the control group received routine care without intervention. Menopausal symptoms were assessed at baseline and at follow-up one, three, and six months post-intervention using the Menopausal Rating Scale and the Menopause-Specific Quality of Life (MENQOL) scale was used to assess quality of life.

Results: At the first visit, women aged 40–42 years in the study group demonstrated a higher baseline severity of perimenopausal symptoms compared to the control group, with a predominance of moderate symptoms across most domains. In the study group, hot flushes (52.7%), sleep problems (61.8%), mood swings (65.4%), irritability (52.7%), anxiety (50.9%), and physical and mental exhaustion (38.1%) were largely reported as moderate, with some severe irritability (20%). In contrast, the control group showed a greater proportion of mild symptoms, particularly for hot flushes (44.6%), heart discomfort (30.7%), sleep problems (47.6%), mood swings (49.2%), irritability (52.3%), and anxiety (50.7%), indicating comparatively lower initial severity. By the fourth visit, a marked improvement was observed in the study group following the intervention; women reported mild or no symptoms across psychological, somatic, and urogenital domains. Hot flushes were predominantly mild, and joint and muscular discomfort was mostly mild or absent. The control group continued to experience moderate to severe menopausal symptoms at the fourth visit. Women reported moderate to severe hot flushes (96.8%), sleep problems (89.1%), mood swings (89.1%), irritability (92.2%), anxiety (86.1%), physical and mental exhaustion (58.4%), sexual problems (32.2% moderate to severe), vaginal dryness (66.1% mild to moderate), and joint and muscular discomfort (50.7% moderate to severe).

Discussion: The present study demonstrates that perimenopausal women aged 40–42 years in the menopausal study group initially experienced a higher severity of symptoms compared to the control group, particularly in vasomotor and psychological domains. This finding is consistent with earlier studies reporting that women in the early menopausal transition commonly present with moderate hot flushes, sleep disturbances, mood swings,

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

anxiety, and irritability (Meenakshi Kalhan et al.; Rathnayake et al.; Arya and Treesa; Wang et al.). The comparatively milder somatic and urogenital symptoms observed may be attributed to the younger age of participants and the early stage of menopausal transition, whereas women in the control group experienced moderate to severe symptoms, highlighting the limited impact of routine care.

Conclusion: The findings demonstrate that a structured menopausal diet combined with regular stretching and strengthening exercises is an effective, feasible, and non-pharmacological approach for reducing perimenopausal symptom severity and improving quality of life.

Keywords: Effectiveness, Interventional Package, Quality of Life, Menopausal Symptom, Perimenopausal Women

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Introduction:

Peri-menopause refers to the transitional phase in a woman's life, which is characterized by gradual changes in ovarian function. During this period, ovulation becomes irregular, leading to fluctuating levels of oestrogen and progesterone, and menstrual cycles become irregular before eventually ceasing. Women in their 40s and early 50s experience hormonal imbalances due to inconsistent ovulation, which is marked by higher oestrogen levels and reduced progesterone production. In this phase in menopause, there are commonly various physical and psychological symptoms observed¹.

Natural Menopause is the permanent cessation of menstruation for more than 12 months after the last menstrual period as a result of the ageing of the ovaries, which is a normal physiological event experienced by all women of middle age². Middle age represents a transitional phase between adulthood and old age that requires special attention. During this period, individuals experience various physical changes, such as menopause and ageing, along with social and psychological changes. These transitions may significantly influence overall well-being and positive mental health status³. Therefore, this study was conducted to assess the menopausal related symptoms among peri women and their impact on quality of life and the effect of an interventional package on the quality of life of peri menopausal women.

Objectives: To assess the severity of perimenopausal symptoms and evaluate the effectiveness of an interventional package on quality of life.

Material and Method:

A quantitative approach and a two-group pre-test and post-test research design were adopted. A total of 110 perimenopausal women from a selected rural area of Karad Taluka were selected using purposive sampling and randomly allocated into study and control groups by the lottery method. Six Primary Health Centres and

nine villages were selected using the lottery technique. The study group received a structured interventional package comprising a seven-day menopausal diet plan and stretching and strengthening exercises using a Theraband belt, while the control group received routine care and lifestyle advice. Menopausal symptoms and quality of life were assessed at baseline and at one, three-, and six-month post-intervention using the Menopausal Rating Scale and the Menopause-Specific Quality of Life (MENQOL) scale.

Ethical Consideration:

After obtaining approval from the Institutional Ethical Committee, data collection was carried out. The study was initiated after obtaining formal permission from the Taluka Health Officer, Medical Officers of the selected PHCs and subcentres, and the respective Gram Panchayat Sarpanches. Out of the 11 PHCs in Karad Taluka, Six PHCs were randomly selected using the lottery method. From each selected PHC, villages were chosen, resulting in a total of 18 villages, of which nine were allocated to the study group and nine to the control group. All consecutive eligible perimenopausal (40–42 years) women were enrolled during the data collection period after obtaining written informed consent.

Data Collection Procedure:

Following approval from the Medical Officers of the selected PHCs and sub-centres, and the respective Gram Panchayat Sarpanches, data collection was commenced. Out of the 11 PHCs in Karad Taluka, six PHCs were randomly selected using the lottery method. From each selected PHC, villages were chosen, resulting in a total of 18 villages, of which nine were allocated to the study group and nine to the control group. All consecutive eligible perimenopausal (40–42 years) women were enrolled during the data collection period after obtaining written informed consent. Sociodemographic details were recorded. The Standardized Menopause Rating Scale (MRS) was

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

used to assess menopausal symptoms, and the Menopause-Specific Quality of Life Questionnaire (MENQOL) was used to evaluate quality of life.

In the study group, data collection began with a pre-test assessment of menopausal symptoms using the MRS and quality of life using the MENQOL scale. Following this baseline assessment, participants received a structured 45-minute educational session that covered the definition and phases of menopause, common menopausal symptoms, potential complications, and recommended dietary modifications to improve overall well-being. This session also included a demonstration-based supervised exercise programme designed to enhance musculoskeletal strength and physical functioning during the menopausal transition. Participants in the study group were provided with a TheraBand resistance belt to perform the prescribed exercises correctly. A TheraBand resistance band was utilized for therapeutic exercise tool in the study to facilitate resistance-based stretching and strengthening exercises among menopausal women. The TheraBand is an elastic, latex resistance band commonly used in physiotherapy and rehabilitation to improve muscle strength, flexibility, and joint mobility. It provides adjustable resistance, is safe for home-based exercise programmes, and allows participants to perform controlled movements targeting major muscle groups. Each participant in the study group received an individual TheraBand and was trained in its correct use during the supervised exercise demonstration. The band was used for shoulder movements (flexion, extension, abduction), forearm extension, knee extension exercises in the sitting position, and ankle dorsiflexion exercises, as part of the structured exercise intervention. The exercise regimen consisted of stretching of back muscles in the sitting position; standing strengthening exercises involving flexion, extension, and abduction of both shoulders; standing strengthening of forearm extension; strengthening of knee extension in the sitting position; and strengthening of ankle dorsiflexion in the sitting position. Each movement was performed 5 times 5 repetitions every alternate day, with a total session duration of 20-25 minutes, conducted four days per week for 6 months.

To ensure adherence, each participant was given an exercise diary to record the frequency, duration, and completion of the exercises performed during each session. The investigator reviewed these diaries during weekly follow-up visits, during which participants' progress was monitored, exercise techniques were corrected if needed, and motivation was reinforced. Follow-up assessments were conducted twice weekly to ensure continuous supervision and adherence to the intervention protocol. Post-test assessments were carried out at one month, three months, and six months for both the study and control groups, although the control group did not receive any intervention. This comprehensive intervention approach ensured fidelity, consistency, and accurate monitoring of participants' engagement throughout the study period.

The collected data were analyzed using both descriptive and inferential statistical methods. Descriptive statistics, including frequency and percentage distributions, were used to summarize the sociodemographic characteristics of the participants as well as the patterns of menopausal symptoms and quality-of-life scores.

Mean and standard deviation were calculated for each domain of the Menopause Rating Scale (MRS) and the Menopause-Specific Quality of Life Questionnaire (MENQOL).

Results: Regarding socio-demographic characteristics, the majority of women belonged to the age group of 55 (15.71%) in the study group and 65 (18.57%) in the control group. Most of the participants in both groups were from the Hindu Religion. In terms of educational status, women in the study group had primary education, whereas those in the control group had secondary education. The majority of women in both groups were housewives by occupation. With respect to the type of family, participants in the study group belonged to nuclear families, while in the control group, the majority were from joint families.

Table 1 : Distribution of women according to symptoms of menopause in the age group 40-42 Years in 1st visit

n = 55 +65

Symptoms of menopause	Study Group				Control Group			
	None	Mild	Moderate	Severe	None	Mild	Moderate	Severe
Hot flushes/Sweating	3 (5.45%)	12 (21.8%)	29 (52.7%)	11 (20%)	10 (15.3%)	29 (44.6%)	22 (33.8%)	4 (6.1%)

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

Heart discomfort	47 (85.4%)	3 (5.45%)	4 (7.2 %)	1 (1.8 %)	31 (47.6%)	20 (30.7 %)	14 (21.5 %)	0
Sleep Problems	9 (16.3 %)	10 (18.1%)	34 (61.8 %)	2 (3.6 %)	18 (27.6%)	31 (47.6 %)	14 (21.5 %)	2 (3.07%)
Depressive mood	4 (7.2 %)	12 (21.8%)	36 (65.4 %)	3 (5.45%)	13 (20 %)	32 (49.2 %)	15 (23 %)	5 (7.6 %)
Irritability	2 (3.6 %)	13 (23.6%)	29 (52.7 %)	11 (20 %)	8 (12.3%)	34 (52.3 %)	18 (27.6 %)	5 (7.6 %)
Anxiety	3 (5.45 %)	18 (32.7%)	28 (50.9 %)	6 (10.9%)	6 (9.2 %)	33 (50.7 %)	21 (32.3 %)	5 (7.6 %)
Physical and mental exhaustion	10 (18.1%)	22 (40%)	21 (38.1%)	2 (3.6 %)	16 (24.6%)	30 (46.1%)	15 (23%)	4 (6.1%)
Sexual problems	34 (61.8%)	13 (23.6%)	7 (12.7%)	1 (1.8%)	42 (64.6%)	19 (29.2%)	3 (4.6%)	1 (1.5%)
Bladder problems	36 (60.54%)	13 (23.6%)	6 (1.9%)	0	48 (73.8%)	15 (23 %)	1 (1.5%)	1 (1.5%)
Dryness of the vagina	33 (60%)	14 (25.4%)	6 (10.9%)	2 (3.6%)	49 (75.3%)	13 (20%)	2 (3.07%)	1 (1.5%)
Joint and muscular discomfort	13 (23.6%)	25 (45.4%)	12 (21.8%)	5 (9.09%)	29 (44.6%)	20 (30.57%)	13 (20%)	3 (4.6%)

Table 1 : The above table indicates that in the 1st visit among women aged 40–42 years, the study group reported 12 (21.8 %) mild and a higher proportion of moderate hot flushes 29 (52.7%), while in the control group, most experienced mild 29 (44.6%), moderate 22 (33.8%). Heart discomfort was less frequent in the study group 4 (7.2% moderate) compared to the control group, where 20 (30.7%) had mild and 14 (21.5%) moderate symptoms. Sleep problems were mainly moderate in the study group 10 (18.1%), mild and 34 (61.8%) moderate whereas mild problems were more common in the control group 31 (47.6%) and 14 (21.5 %) moderate. Mood swings were predominantly moderate in the study group 36 (65.4%), while the control group showed an increase in mild 32 (49.2%) and moderate 15(23%) symptoms and 5(7.6%) severe. Irritability was mostly moderate, 29 (52.7%) in the study group, with some severe cases 11(20%), while the control group had an increase in mild 34(52.3%) and moderate 18 (27.6%) and 5(7.6%) severe symptoms. Anxiety was largely moderate in the study group 28 (50.9%), whereas the control group showed a higher proportion of mild cases 33(50.7%) and 21 (32.3%) moderate. Physical and mental exhaustion was reported as mild 22 (40%) and moderate 21 (38.1%) in the study group, compared to 30 (46.1%) mild and 15 (23%) moderate in the control group. Sexual problems were reported as mild by 13 (23.6%) in the study group and 19 (29.2%) in the control group. Bladder problems were mainly moderate in the study group 13 (23.6%), while mild cases increased in the control group 15

(23%). Vaginal dryness was mild in both groups 14 (25.4%), 6 (10.9%), moderate in the study group, while in the control group, 13 (20%) had mild symptoms. Joint and muscular discomfort was mostly mild, affecting 25 (45.4%), 12 (21.8%), moderate in the study group and 20 (30.5%) mild and 13 (20%) moderate in the control group.

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

Table II: Distribution of women according to symptoms of menopause in the age group 40-42 Years n = 55 +65 in the 4th visit.

Symptoms of menopause	Study Group				Control Group			
	None	Mild	Moderate	Severe	None	Mild	Moderate	Severe
Hot flushes/Sweating	3 (5.4 %)	46 (83.6 %)	6 (10.9%)	0	2 (3.07%)	0	36 (55.3%)	27 (41.5%)
Heart discomfort	52 (94.5 %)	3 (5.45 %)	0	0	35 (53.8%)	18 (27.6%)	12 (18.4 %)	0
Sleep Problems	33 (60 %)	20 (36.3 %)	2 (3.6 %)	0	1 (1.5 %)	6 (9.2%)	51 (78.4 %)	7 (10.7%)
Depressive mood	33 (60 %)	20 (36.3 %)	2 (3.6 %)	0	1 (1.5 %)	6 (9.2%)	36 (55.3 %)	22 (33.8%)
Irritability	34 (61.8 %)	18 (32.7 %)	3 (5.4 %)	0	1 (1.5 %)	4 (6.1 %)	26 (40 %)	34 (52.3%)
Anxiety	30 (54.5 %)	22 (40 %)	3 (5.4 %)	0	2 (3.07%)	7 (10.7%)	35 (53.8 %)	21 (32.3%)
Physical and mental exhaustion	37 (67.2 %)	17 (30.9 %)	1 (1.8 %)	0	3 (4.6 %)	24 (36.9%)	29 (44.6 %)	9 (13.8%)
Sexual problems	46 (83.6 %)	9 (16.3%)	0	0	16 (24.6%)	28 (43 %)	18 (27.6%)	3 (4.6 %)
Bladder problems	48 (87.2 %)	7 (12.7 %)	0	0	43 (66.1%)	20 (30.7%)	2 (3.07 %)	0
Dryness of the vagina	40 (72.7 %)	15 (27.2 %)	0	0	22 (33.8%)	30 (46.1%)	13 (20%)	0
Joint and muscular discomfort	21 (38.1%)	34 (61.8 %)	0	0	5 (7.6 %)	27 (41.5%)	27 (41.5%)	6 (9.2 %)

Table-II - The above table depicts that among women aged 40–42 years in the study group, the majority reported mild or no menopausal symptoms across most domains. Hot flushes were predominantly mild (83.6%), with only a small proportion experiencing moderate symptoms. Nearly all women had no heart discomfort, and more than half reported no sleep problems and only mild symptoms. Psychological symptoms such as mood swings, irritability, and anxiety were largely absent or mild. Physical and mental exhaustion were mostly mild, and urogenital

complaints, including sexual problems, bladder issues, and vaginal dryness, were minimal. Joint and muscular discomfort was commonly reported but remained mild in most women.

In the control group, the majority of women experienced moderate to severe menopausal symptoms across almost all domains. Hot flushes were highly prevalent, with more than half reporting moderate symptoms and a large proportion experiencing severe symptoms. Heart discomfort and sleep problems were more commonly observed, with sleep disturbances

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

predominantly at a moderate to severe level. Psychological symptoms, including mood swings, irritability, and anxiety, were widespread, women reporting moderate to severe intensity. Physical and mental exhaustion was also common, ranging from mild to severe levels. Urogenital symptoms like bladder disturbances and vaginal dryness were more frequent and severe compared to the study group. Joint and muscular discomfort affects many women, with

moderate and severe symptoms. The findings indicate a substantially higher symptom burden in the control group compared to the study group.

Table III: Effectiveness of interventional package on the severity of symptoms and quality of life of menopausal women in the age group of 40-42 yrs

n =55 +65 = 120

Study Group			Control Group	Mann-Whitney U	(-2-tailed) P Value
Subscale	Visit	Mean± SD	Mean ± SD		
Somato Subscale (Hot flushes/ Sweating Heart discomfort Sleep Problems Joint and muscular discomfort)	I	0.30 ± 0.76	0.18 ± 0.70	1581	0.065
	II	0.36 ± 0.75	0.23 ± 0.78	1595.5	0.111
	III	0.54 ± 0.95	0.26 ± 1.03	1424	0.004
	IV	0.36 ± 0.70	0.35 ± 1.02	1608.5	0.169
Psychological Subscale (Depressive mood /Mood swings Irritability Anxiety Physical and mental exhaustion)	I	2.34 ± 3.16	1.35 ± 2.85	1470.5	1567.5
	II	1.6 ± 2.13	1.47 ± 3.04	0.039	0.152
	III	0.89 ± 1.48	1.61 ± 3.28	1614.5	0.265
	IV	0.76 ± 1.38	2.03 ± 3.99	1710.5	0.61
Urogenital Subscale (Sexual problems Bladder problems Dryness of vagina)	I	0.29 ± 0.85	0	1495	<0.001
	II	0.41± 0.76	0	1300	<0.001
	III	0.34 ± 0.84	0	1430	<0.001
	IV	0.45 ± 1.08	0	1365	<0.001

Table- III - In the age group 40–42 years for the Somato Subscale, comparison between the study and control groups showed no significant difference at the 1st visit (p = 0.065) and 2nd visit (p = 0.111). A significant difference emerged at the 3rd visit (p = 0.004), while the 4th visit again showed no significant difference (p =0.169). Regarding Psychological Subscale, comparison between the Study and control groups showed no significant difference at the 1st visit (p = 0.24), 2nd visit (p = 0.152), 3rd visit (p = 0.265), and 4th visit (p = 0.61). The Urogenital Subscale showed a highly significant difference between the study and control groups across all four visits. The Mann-Whitney U (p < 0.001) at the 1st visit, (p < 0.001) at the 2nd visit, (p < 0.001) at the 3rd visit, and (p < 0.001) at the 4th visit, indicating consistent statistical significance throughout the study period. The analysis of subscale mean±SD scores indicated differential effects of the intervention. The Somato

subscale reflected a mild rise in symptoms up to the 3rd visit, followed by a reduction at the 4th visit, suggesting a temporary increase but eventual stabilization of somatic complaints. Psychological subscale demonstrated a consistent decline from the 1st to the 4th visit, highlighting a sustained positive impact of the intervention on reducing psychological symptoms. The Urogenital subscale showed slight fluctuations across visits, indicating that the intervention had a limited and variable effect on urogenital symptoms.

Discussion: Menopause is marked by the natural estrogen-deficient state, as a decrease in estrogen level affects several estrogen-sensitive organs, giving rise to physical, psychological and sexual changes.⁴ Ageing is an inevitable phenomenon, which is associated with conditions that can affect the quality of life. Menopause is a natural phase of life that women experience.

Regarding socio-demographic characteristics, the majority of women belonged to the age group of 55

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

(15.71%) in the study group and 65 (18.57%) in the control group. Participants in both groups belonged to the Hindu Religion and were housewives. In terms of educational status, women in the study group predominantly had primary education, whereas those in the control group had completed secondary education. With respect to the type of family, most women in the study belonged to nuclear families, while in the control group, the majority were from joint families. Study Madhu Gaikwad⁵ women were Hindu (79.2%), and (73.61%) belonged to a nuclear family. Meenakshi Kalhan⁶ women were Hindu by religion, housewives with low literacy level.

In the present study, Hot flushes in the study group (52.7 % moderate and 20% severe) and in the control group (44.6 % mild, 33.8 % moderate) were studied by Vangara⁷, hot flushes (52.2%), and by Arwinder Kaur⁸ et al, hot flushes (85.3%),

In the present study in the study group, joint and muscular pain (45.4% mild, 21.8 % moderate) and in the control group (30.57 %mild, 20 % moderate), study by Vangara Sushmitha et al. (88.8%), followed by depressive mood (68.3%). Study by Sindhu L⁹ (2023) Joint and Muscular discomfort (76.6%) as a somatic symptom, Irritability (37%) in the study. Cheng et al¹⁰, Hafiz et al¹¹ & Rahman et al¹² also found joint and muscular pain as a prevalent symptom. In the control group, heart discomfort was (30.7 % mild, 21.5 % moderate) study by Vangara supported having heart discomfort (60%), whereas physical and mental exhaustion (60 %). In the present study group, (40 % mild, 38.1 % moderate, whereas in the control group, (46.1% mild, 23 % moderate) physical and mental exhaustion. Study by Meenakshi Kalhan, anxiety (80%), physical and mental exhaustion (71.5%), sleep problems (61.2%), irritability (60.7%), Joint and muscular discomfort (56%) and heart problems (54%). In present study sleep problems 61.8 % moderate in study group and (47.6 % mild, 21.5 % moderate), irritability in study group 52.7 % moderate and in control group (52.3 % mild, 27.6 % moderate), anxiety in study group (50.9 %) moderate, in control group 50.7 % mild, 32.3 % moderate followed by depressive mood in study group (21.8 % mild, 65.4% moderate) in control group (49.2% mild, 23 % moderate).

Study by Shraddha Thorat¹³ joint and muscle pain (95.68%), depressive mood (93.68%), and sleep disturbance (73.27%). Study by Ujjwala S. Patankar¹⁴ Hot flushes (79%), heart discomfort/palpitation 2(2%), and muscle and joint problems (20%). Depressive mood (2%), Irritability (12%), anxiety (22%), physical and mental exhaustion (34%), sexual problems (32%),

bladder problems 8 (8%), and dryness of the vagina 35 (35%). Madhuvarshini¹⁵ observed that irritability (68.5%), physical and mental exhaustion (66.1%), and joint and muscular pain (66.2%) were predominant. Prof. V. Umamaheswari¹⁶ hot flushes (85%), mental and physical exhaustion (80%), sleep disturbance (45%), and joint and muscle pain (70%). Study by Arwinder Kaur, mood swing (10%), sleep disturbances (29.3%) and irritability (58.6%). Study by Vangara, sleep problems (50%), irritability (46.1%), and anxiety (42.2%).

Bladder problems in the study group (23.6 % mild in the control group, 23 % mild), dryness of vagina (25.4 %mild in the study group and 20 % mild in the control group). Avani et al.¹⁷ found bladder problems (56%) and vaginal dryness (53.3%) were more prevalent. Study by Vangara (30%), dryness of vagina (26.1%). Regarding sexual problems in the study group, 23.6 % mild, 29.2% mild in the control group. The study by Vangara sexual problems (21.9%). Rahman et al also found similar results in physical and mental exhaustion (67%) and sleep problems (52%), depressive mood (32%) and heart discomfort (18%) were less prevalent in their study. Thomas T, Kamath N¹⁸ hot flushes and 71%, difficulty in sleeping 60%, feeling anxious (52%). Physical symptoms among study participants were tiredness 80%, lack of energy (71.2%) and difficulty in sleeping (60%). Mili JA, Munny M¹⁹ joint/muscular discomfort (60.3%), anxiety (50.8%), and bladder problems (35.3%). A. Beбина Vincia Anjala Mary²⁰ hot flashes 212 (72%) in vasomotor symptoms. felt anxious 216 (73%) in psychosocial symptoms. fatigue 247 (84%) and joint pain 207 (70%) in physical symptoms, and reduced sexual desire 112 (49%) in sexual problems.

Frequency and severity of menopausal symptoms as assessed by the Menopausal Rating Scale.

Regarding the severity of the symptoms, it is observed that hot flushes (44.6 %), sleep problems (61.8%), Physical and mental exhaustion (46.1%), joint and muscular pain symptoms (30.57%), Depressive mood (65.4%), anxiety (50.9%), and irritability (52.7%) were of moderate quality. In the present study, hot flushes, heart discomfort, sleep problems, irritability, anxiety, physical and mental exhaustion, dryness of the vagina and joint and muscular discomfort. Bladder and sexual problems were minimal. Regarding the effectiveness of severity of symptoms and QoL, the mean score for the Somato subscale domain of the QOL in the study group was 0.30 ± 0.76 in the first follow-up and in the control group 0.18 ± 0.70 , whereas in the 4th follow-up, 0.36 ± 0.70 in the study and in the control group $0.35 \pm$

Assessment on severity of menopausal symptom and effectiveness of interventional package on quality of life among perimenopausal women

1.02. In the psychological Subscale in study group 1st visit, 2.34 ± 3.16 , and in the control group, 1.35 ± 2.85 , as well as in the fourth visit, study group, 0.76 ± 1.38 and in the control group, 2.03 ± 3.99 . Regarding the urogenital subscale in the study group, 0.29 ± 0.85 and in the 4th visit, 0.45 ± 1.08 ($p < 0.001$). A study by Meenakshi Kalhan the total mean score of perimenopausal women was 12.48 ± 6.6 . The mean score of the Somato-vegetative and psychological domains was higher among women in peri-menopausal group. Study by Muhseenah, Nallapu SS²¹, the mean score for the physical domain of the QOL was 32.05 ± 11.73 , the psychological domain of the QOL was 33.11 ± 13.33 , and the social and environmental domain was 17.52 ± 5.89 .

Conclusion:

The study concludes that result of the study demonstrated that the structured intervention significantly reduced the severity of menopausal symptoms and improving quality of life in the study group. Significant improvements were observed, particularly in the psychological and urogenital domains, with stable and lower symptom scores in the somatic domain across follow-ups. Overall, the intervention contributed to better quality of life outcomes compared to the control group.

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Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee. Written informed consent was secured from all participants, and confidentiality was maintained.

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- Cross-Sectional Study Indian Journal of Public Health Research & Development, April 2020, Vol. 11, No. 04:125-130
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