

Effect of Interventional Package on Quality of Life of Perimenopausal Women Residing in a Rural Community of Idukki District, Kerala

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Abstract

Perimenopause is a unique stage of female reproductive life cycle. While most women transverse menopause with little difficulty, others may undergo significant stress. Menopausal health demands priority in Indian scenario due to growing population of menopausal women.

This quazi experimental study was conducted to evaluate the effect of an Interventional package consisting of educational empowerment and supervised exercise programme on Quality of Life of 103 perimenopausal women (experimental group(n)=50, control group(n)=53) in a rural community of Idukki district, Kerala.

A structured Questionnaire on sociopersonal and health characteristics and MENQoL Questionnaire were used to collect data. Interventional package consisting of three sessions of informational empowerment clubbed with supervised exercise programme for 12 weeks (30 min x 4days/week) was administered to intervention group. Data were collected at baseline, one month, three month and six months post intervention.

Significant improvement was noted in the Quality of life ($p=0.007$) of experimental group at one month follow-up as compared that of controls and at all the three post tests as compared to their own baseline score. Subjects in control group demonstrated significant deterioration in Quality of life at 3rd post test ($p=0.03$) as compared to the baseline status.

Interventional package was found effective in improving the quality of life of perimenopausal women. These kinds of strategies can creative greater impact on the sense of well being of menopausal women when implemented in their own community setting.

Keywords: Menopause, Quality of Life, Interventional Package

INTRODUCTION

All facts of aging are important to consider from a woman's health perspective. One of the most important of these facets is menopause. The large majority of women (approximately 90%) experience menopause between ages 45 and 55, with only about 5% experiencing it between ages 40 and 45 and about 5% after age 5.¹

In present era with increased life expectancy, women are likely to face long periods of menopause

accounting to approximately a third of her life.² Menopausal symptoms have significant impact on quality of life of menopausal women at different status of menopause.³

According to Indian menopause society research there are about 65 million Indian women over the age of 45 and estimated that in the year 2026, the population in India will be 1.4 billion, people over 60 years will be 173 million and the menopausal population will be 103 million.⁴ Under current demographic trends, menopausal and postmenopausal health has emerged

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as an important public health concern in India owing to improved economic conditions, rapid lifestyle changes, and increased longevity.⁵

Women of the menopausal age are one of most ignored groups and there are few research conducted on their quality of life in Indian context.⁶ Lack of knowledge and access to relevant information is the major challenge faced by menopausal women intensified by contradictory information.⁷ Most of them consider menopause as a natural process of aging, through bothered by symptoms, do not go for consultation due to lack of awareness.⁸ Empowerment during the menopause can contribute to improving the perception about this stage and the importance of self-care.⁹ Interventions that employ suitable learning methods to increase the awareness of postmenopausal women, improve their adaptation to menopause symptoms, and eventually promote their quality of life (QOL) are of utmost importance.¹⁰

Even though many interventions have tried for menopausal symptoms, no single intervention has been proved to be effective in controlling menopausal symptoms. In order to help women better understand and adapt to the inevitable challenges during menopause, empowering methods need to be tailored to the individual needs and characteristics and socio cultural context of the participants.¹¹ Hence this study is planned to investigate the effectiveness of Interventional Package – a combination of educational empowerment and supervised exercise programme on menopause related problems and quality of life of the perimenopausal women.

MATERIALS AND METHODS

After obtaining administrative permission from concerned authorities data were collected between

February 2015 and November 2015. The subjects were recruited in to experimental (n=50) and control group (n=53) based on inclusion criteria. A Structured menopause symptom checklist was used to screen the women for the presence of menopause related problems. Socio personal, menstrual and health related data were collected using a structured questionnaire. Quality of Life was measured using Menopause Specific Quality of life Questionnaire at baseline, one month, three month and six months post intervention.

The interventional package was administered to experimental group. The first part of intervention consisted of an educational sessions of 45 minutes duration that cover structured teaching programme on menopause followed by demonstration and return demonstration of stretching strengthening exercises in the subsequent days. The duration of the demonstration and return demonstration sessions was 30 minutes. The exercises included were stretching back muscles in sitting position, standing strengthening flexion of both shoulders, standing strengthening extension of both shoulders, standing strengthening abduction of both shoulders, standing strengthening extension of both forearms, strengthening extension of both knees in sitting position and strengthening dorsiflexion of both ankles in sitting position. Each movement was repeated for 10-12 times. For the strengthening movements 1Kg weight was used on either side using sand bags.

The second part of the Interventional Package was the exercise programme in which the subjects performed the selected stretching-strengthening movements of different parts of the body under the supervision of the researcher for 30 minutes per day, 4 days per week for 12 weeks.

RESULTS

Table 1. Distribution of perimenopausal women based on Socio personal characteristics (n=103)

Socio personal characteristics		Experimental group n ₁ =50		Control group n ₂ =53	
		(f)	(%)	(f)	(%)
Age in years	Mean±SD	47.88±3.87		48.53±3.45	
	40-45	20	40.00	13	24.52
	46-50	16	32.00	24	45.28
	51-55	14	28.00	16	30.19

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Education	Primary	12	24.00	2	3.77
	Secondary	27	54.00	28	52.83
	Higher secondary	5	10.00	15	28.30
	Collegiate	06	12.00	8	15.09
Occupation	Home maker	29	58.00	34	64.15
	Employed	21	42.00	19	35.85
Religion	Hindu	23	46.00	36	67.92
	Christian	9	18.00	14	26.42
	Muslim	18	36.00	3	5.66
Type of family	Nuclear family	32	64.00	29	54.72
	Joint family	16	32.00	21	39.62
	Extended family	2	04.00	3	5.66
Family income per month (in Rupees)	<6000	7	14.00	3	5.66
	6000-10000	22	34.00	19	35.84
	10001-20000	17	44.00	23	43.40
	>20000	4	08.00	8	15.09

A major portion of the study participants (40%) were between 40 to 45 years in the experimental group whereas in the control group majority (45.28%) belonged to 46 to 50 years. The mean age of women in experimental and control group were 47.88±3.87 and 48.53±3.45 respectively. Most of the women in experimental group (54%) and control group (52.83%) had secondary level education. More than half of the subjects in experimental group (58%) and 64.15% in control group were

home makers. Majority in both experimental (46%) and control group (67.92%) belonged to Hindu religion. Nearly two-third (64%) of participants in experimental group and 54.72% in control group belonged to nuclear family. Monthly family income ranged between Rs.6000 and 10000 among 34% women in experimental group and 35.84% of women in control group. 44% of women in experimental group and 43.40% of women in control group had monthly family income of Rs.10001 to 20000

Table 2. Distribution of subjects based on menopause and health characteristics (n=103)

Menstrual and health characteristics		Experimental group (n ₁ =50)		Control group (n ₂ =53)	
		f	%	f	%
Menopause status	Premenopausal	24	48.00	24	45.28
	Early post menopausal	26	52.00	29	54.72
Age at menopause among post menopausal women (n=26)	Mean ±SD	48.27±1.15		48.28±1.22	
	≤46	2	7.69	3	10.34
	47-49	22	84.62	23	79.31
	≥50	2	7.69	3	10.34
Medical help seeking behaviour for menopause related problems	Yes	16	32.00	16	30.19
	No	34	68.00	37	69.81
History of Premenstrual syndrome	Yes	24	48.00	18	33.96
	No	26	52.00	35	66.04

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Body Mass Index(BMI)	18.5-24.99	20	40.00	21	39.62
	25-29.99	22	44.00	27	50.94
	30	8	16.00	5	9.43

Comparatively higher proportion of the participants of experimental group (52%) and control group (54.72 %) belonged to early postmenopausal status . The mean age at menopause was 48.27±1.15 for experimental group and 48.28±1.22 for control group. Majority of the participants in experimental group (84.62%) and control group (79.31%) attained menopause between the age of 47 and

49. Only less than a third (32%) in experimental group and 30.19 % in control group had sought medical help for menopause related problems. History of premenstrual syndrome was present in 48% of women in experimental group and 33.96 % of women in control group. For 44% of women in experimental group and 50.9% of subjects in control group BMI ranged between 25 and 29.99.

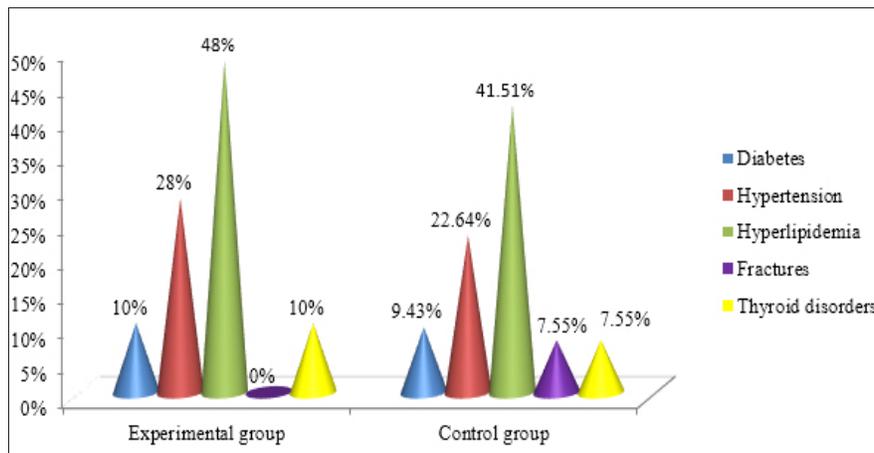


Figure 1. Prevalence of medical comorbidities among perimenopausal women (n=103)

Hyperlipidemia was the most common co morbidity among women of both experimental (48 %) and control(41.51%) group followed by Hypertension (28% & 22.6% respectively)

Table 3. Between the group comparison of mean score of Quality of Life for the experimental and control group

Assessment period	Experimental group (n ₁ =50) mean ± SD	Control group (n ₂ =53) mean ± SD	t statistic (df=101)	p value
At Baseline	106.98±26.09	101.47±21.36	1.17	0.24
Post test-1(One month)	91.7±20.05	102.79±20.99	2.73	0.01**
Post test-11 (Three months)	99.08±19.21	102.96±21.14	0.97	0.33
Post test-111 (Six months)	99.64±19.99	103.17±20.55	0.88	0.37

Level of significance P<0.01**

No significant difference was observed in the mean score of Quality of life at baseline assessment (p=0.24) between experimental group (106.98±26.09) and control group (101.47±21.36). At one month posttest the mean of total score of Quality of life markedly reduced in experimental group (91.7±20.05) as compared to that of control group (102.79±20.99). The difference observed in the score of two groups at first post test was found statistically significant

(P=0.01). Even though the mean score of experimental group at second and third post test were lower than that of control group the difference observed was not found to be statistically significant (p>0.05). As per the scoring system of MENQol Questionnaire higher score indicates poor quality of life. Hence it is assumed that the Quality of life significantly improved in experimental group at first post test as compared to that in control group.

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Table 4. Pair-wise comparison of mean score of Quality ofLife with each observation for the experimental group

Time interval	Mean difference	Standard Error	t-value	p-value	Repeated measures ANOVA
Baseline Vs.One month	15.28	1.32	11.61	<0.001***	F=46.80 P<0.001***
Baseline Vs.Three month	7.90	1.60	4.93	<0.001***	
Baseline Vs.Six month	7.34	1.71	4.28	<0.001***	
One month Vs.Three month	-7.38	1.03	7.13	<0.001***	
One month Vs.Six month	-7.94	1.01	7.84	<0.001***	
Three month Vs.Six month	-0.56	0.81	0.68	0.49	

Level of significance P<0.05* , p<0.01** , p<0.001***

Significant reduction was noted in the mean score of Quality oflife in experimental group at 1st post test (p<0.001) , 2nd (p<0.001) and 3rd post test(p<0.001) as compared to pretest score. The difference observed in the scores on repeated measurements was found statistically significant

(p<0.001) in the group. As per the scoring system of MEN QOL questionnaire lower score indicate better quality of life. Hence it is interpreted that there was significant improvement in Quality of life of women when measured at all the three post tests as compared to pretest.

Table 5: Pair-wise comparison of mean score of Quality of Life with each observation for control group

Time interval	Mean difference	Standard Error	t-value	p-value	Repeated measures ANOVA
Baseline Vs.One month	-1.32	0.54	2.43	0.07	F=1.72 P=0.16
Baseline Vs.Three month	-1.49	0.92	1.61	0.11	
Baseline Vs.Six month	-1.70	0.75	2.23	0.03*	
One month Vs.Three month	-0.17	0.79	0.21	0.83	
One month Vs.Six month	-0.38	0.72	0.51	0.60	
Three month Vs.Six month	-0.21	1.10	0.18	0.85	

Level of significance P<0.05*

Comparison of mean scores of baseline assessment and 3rd post test at six months revealed a significant difference (p=0.03) due to significant deterioration of Quality of life over time in controlgroup . The difference observed in the scores on repeated measurements was not found to be statistically significant (p=0.16)) in the group.

DISCUSSION

The finding mimics the findings of various trials on this topic. An interventional study conducted by Teoman etal¹²concluded that quality of life of postmenopausal women could be improved by a regular controlled exercise program of six weeks. Elavsky¹³ found that physical activity and menopausal symptoms were

related to physical self-worth and positive effect, and in turn, greater levels of physical self-worth and positive effect were associated with higher levels of menopause-related quality of life. Similarly Nikpour and Haghani¹⁴ found significant improvement in Quality of life of post menopausal women in experimental group following participation in a sub-maximal aerobic exercises programme for an 8-week period 5 times a week. Another experimental study that tested the effect of a twelve-week Endurance Exercise Programme on quality of life among One hundred and seventy five menopausal women also supports this finding.¹⁵ McAuley et al ¹⁶had similar observation that in older women physical activity influences global QoL indirectly via the mediation of physical and mental

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health status and self-efficacy. The present study finding confirms that of Keefer *et al.*¹⁷ who reported an improvement in the quality-of-life following education on menopause symptoms and coping skills in the study group while the controls, due to progressive nature of climacteric complications, registered some worsening. Another quazi experimental study¹⁸ also revealed significant improvement in the health-related quality of life of menopausal women in the experimental group following a 12-month programme of cardiorespiratory, stretching, muscle-strengthening and relaxation exercises, whereas the quality of life of the control group significantly worsened. Similarly an educational intervention was found to be effective in improving quality of life of post menopausal women when assessed three months following the intervention in the study conducted by Forouhari *et. al*¹⁹.

Impaired quality of life among subjects of control group over time is explained with the fact that the increasing burden of physical and psychological discomfort along with the problems associated with ageing process directly affect the perceived sense of well being of women.

CONCLUSION

In the present study interventional package created a positive impact on quality of life of perimenopausal women. As perception on Quality of life is greatly influenced by the women's sense of wellbeing ,the spectrum of care should be targeted to deal the issues in a holistic way rather than considering only the physiologic context. Through participating in these kinds of empowerment strategies, women become equipped to take informed decisions about their health care and attain a sense of responsibility for the same. In order to ensure lasting results the intervention need to be tailored to the daily activities on regular basis.

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