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A Comparative Study on Assessment of the Effectiveness of Premeal Consumption of Water Versus Warm Footbath on Quality of Life and Body Weight Among Women With Over Weight in Selected Villages, at Kattankulathur Block.

Dr. Judie Arulappan	Assistant Professor, College of Nursing, Sultan Qaboos University, Oman.
K.Kanmani	Lecturer , SRM College of Nursing, SRM University, India
Dr. T. Sujatha	Assistant professor , SRM College of Nursing, SRM University, India
Mr. Sathish Kumar J	Project Officer, IIT- Madras

ABSTRACT

The main aim of the study to assess the effectiveness of premeal consumption of water versus warm footbath on quality of life and body weight among overweight women in selected villages, kattankulathur block. Quasi-experimental comparative group with waitlist control group design. The sampling technique was non-probability convenient sampling technique was used. Investigator selected 90 samples using purposive sampling technique.Three villages are adopted with 30 samples, from each village. Data collection was done for a period of 1 month, assessment of demographic variables and quality of life and body weight followed by posttest assessment of the overweight women was done. The comparison of study group I (premeal consumption of water) versus control group the mean value was found to be statistically highly significant with paired't' test value of t=3.67 at p=0.0004. In study group II (warm footbath) versus control group, the mean value was t=2.044 at p=0.0454 found to be significant. In study group I (premeal consumption of water) versus study group II (warm footbath) the mean score found to be not significant with paired't' test value of t=1.58 at p=0.118. In association, the quality of life among women with overweight and demographic variables, there is significant association in study group I like, age and women with two children's are benefitted and study group II, age and type of family are benefitted. In association between weight score and demographic variables there is significant association in study group I and II, age and previous surgery undergone women are benefitted and there was no significant association of other demographic variables.

KEYWORDS

Introduction

In recent years, occurrence of overweight and obesity are very high affecting both developed and developing countries like India.Being overweight can also affect the overall life expectancy. People more likely die at a young age. The most common problems related to lifestyle today are being overweight. Severe overweight or obesity is a key risk factor in the development of many chronic diseases such as heart and respiratory diseases, non-insulin-dependent diabetes mellitus or Type 2 diabetes, hypertension and some cancers, as well as early death. Obesity and overweight are serious problems that pose a huge and growing financial burden on national resources. However, the conditions are largely preventable through sensible lifestyle changes. In order to help people determine what their healthy weight is, a simple measure of the relationship between weight and height called the Body Mass Index (BMI) is used. BMI is a useful tool that is commonly used by doctors and other health professionals to determine the prevalence of underweight, overweight and obesity in adult.

Overweight and obesity are influenced by many factors including hereditary tendencies, environmental and behavioral factors, ageing and pregnancies. It is clear not that obesity is not always simply a result of overindulgence in highly palatable foods or of a lack of physical activity. Biological factors (hormones, genetics), stress, drugs and ageing also play a role. However, dietary factors and physical activity patterns strongly influence the energy balance equation and they are also the major modifiable factors. Indeed, high-fat, energy-dense diets, and sedentary lifestyles are the two characteristics most strongly associated with the increased prevalence of obesity world-wide. Conversely, weight loss occurs when energy intake is less than energy expenditure over an extended period of time. A restricted calorie diet combined with increased physical activity is generally the advice proffered by dieticians for sustained weight loss.

Statement of the Problem

"A comparative study on assessment of the effectiveness of premeal consumption of water versus warm footbath on Quality of Life and Body weight among women with over weight in selected villages at Kattankulathur Block".

Objectives

1. To assess and compare the pretest and posttest level premeal consumption of water versus warm foot bath on Quality of Life and Body weight among women with overweight between study group I, II and control group.
2. To determine the effectiveness of premeal consumption of water versus warm footbath on Quality of Life and Body weight among women with overweight in study group I, II and control group.
3. To correlate the pretest and posttest level of Quality of Life and Body weight among women with overweight in study group I, II and control group
4. To associate the mean difference level of posttest level of premeal consumption of water versus warm foot bath on Quality of Life and Body weight among women with overweight with selected demographic variables in study group I, II and control group .

Methodology and Materials

Quasi experimental comparative group with waitlist control group design was adopted for this study. 90 overweight women are selected out of which 30 allotted in each study group I, study group II and 30 to control group. Permission was ob-

tained from the Block development officer Kattankulathur Block. Informed consent was obtained from the study participants, after explaining the nature and duration of the study. The ethical guidelines were followed throughout the study.

Development and Description of the tool
Section A- Demographic data of overweight women
Structured questionnaires were used to elicit demographic variables

Section B- Quality of life assessment tool
Quality of Life: WHO Quality of life (BREF) Questionnaire. It consists of 26 general questions.

Scoring Interpretation

Domain 1	Physical DOM1=MEAN.6(Q3,Q4,Q10,Q15,Q16,Q17,Q18).
Domain 2	Psychological DOM2=MEAN.5(Q5,Q6,Q7,Q11,Q19,Q26).
Domain 3	Social relationship DOM3=MEAN.2(Q20,Q21,Q22).
Domain 4	Environment DOM4=MEAN.6(Q8,Q9,Q12,Q13,Q14,Q23,Q24 ,Q25)

Questions	Score
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26	(1=1) (2=2) (3=3) (4=4) (5=5)
Reverse 3 negatively phrased Items	Q3 Q4 Q26 (1=5) (2=4) (3=3) (4=2) (5=1). (This transforms negatively framed questions to positively framed questions)

Results and Discussions:
Regarding the age group in majority of them 15(50.0%) between the age group of 20-29yrs, 12(40.0%) of them were between 30-39yrs and 3(10.0%) are in the age group of 40-45yrs. Considering marital status majority of them were between 29(96.7%) are married and 1(3.3%) were single and 2(6.7%) are single in control group. Regarding the type of family majority of them were between 21(70.0%) belongs to nuclear family and 9(30.0%) are belongs to joint family. Considering religion majority of them 24(80.0%) were Hindu and 22(73.3%) in control group. Among Christian 6(20.0%) of them are in study group I, II and 8(26.7%) are in control group. Regarding the number of children majority of them 14(46.7%) were in study group I, II and 16(53.3%)are in control group have one child. 9(30.0%)were have two children in study group I, II.6(20.0%)are in control group. 1(3.3%) are have above two children in study group I,II and 3(10.0%) are in control group. 6(20.0%) are have no children in study group I,II and 5(16.7%) are in control group.

Considering diet pattern majority of them 24(80%) are belongs to non-vegetarian in study group I, II and control group. 6(20.0%) of them are belongs to vegetarian in study group I, II and control group.Regarding educational status in study group I, II majority of them had high school education, 10(33.3%) had higher secondary education, 4(13.3%) had primary education and 2(6.7%) are under graduate. In control group 13(43.3%) of them had higher secondary education, 11(36.7%) had high school education, 4(13.3%) had under graduate education and 2(6.7%) had primary education. Considering the occupational status in study group I, II majority of them are 17(56.7%) and control group 13(43.3%) are unemployed. In unskilled worker 7(23.3%) are in study group I, I and 10(33.3%) are in control group. In private job 6(20.0%) are in study group I II and 7(23.4%) are in control group.

Regarding financial status majority of them 17(56.7%) are nil income in study group I II and 12(40.0%) are nil income in control group. Income about 3000-7000 8(26.7%) are earning in study group I, II and 11(36.7%) are earning in control group. Income about 7000-10,000 4(13.3%) are earning in study group I, II and 6(20.0%) are in control group. Income about 10,000 1(3.3%) are earning in study group I, II and control group.Considering previous surgery majority of them 25(83.3%) are not undergone surgery in study group I II, 27(90.0%) of them are in control group. In study group I II 5(16.7%) and 3(10%) are in control group who underwent surgery like puerperal sterilization.

Regarding any measures taken to reduce body weight 30(100%) has not taken any measures to reduce body weight.

Table-1 Frequency and percentage distribution of posttest level of premeal consumption of water versus warm footbath on Quality of life score among overweight women in study group I, II and control group
N=90

Posttest	Group						Chi square test
	Study I(premeal consumption of water)		Study II(warm foot bath)		Control group		
	N	%	n	%	n	%	
Poor quality of life score	4	13.3%	7	23.3%	15	50.0%	$\chi 2=10.62$ p=0.03*
Moderate quality of life score	16	53.3%	15	50.0%	10	33.3%	
Good quality of life score	10	33.4%	8	26.7%	5	16.7%	
Total	30	100.0%	30	100.0%	30	100.0%	

*Significant

The analysis reveals that the quality of life score in posttest was poor 13.3% in study group I and 23.3% II, in control group 50.0%. Moderate quality of life score was 53.3% in study group I, in study group II 50.0% and control group was 33.3%. In good quality of life score was 133.3% in study group I, in study group II 26.7% and 16.7% was in control group. In posttest there is significant difference betweenstudy group I, II and control group.

Table-2 Comparison of pretest and posttest level of premeal consumption of water versus warm footbath on bodyweight among women with overweight in study group I, II and control group
N=90

Test	Weight	Group						Oneway ANOVA F-test
		Studygroupl (premeal consumption of water)		Studygroup II(warm foot bath)		Control Group		
		Mean	SD	Mean	SD	Mean	SD	
Pretest	Body Weight	58.92	4.83	60.13	4.14	59.13	4.26	F=0.64 p=0.52
Post test	Body Weight	56.86	4.76	59.61	4.15	59.12	4.24	F=3.39 p=0.04*

*significant

The analysis reveals that in posttest, the mean and Standard deviation of bodyweight was 56.86 and 4.76 in study group I, 59.61 and 4.15 in study group II and 59.12 and 4.24 in control group. The F value in weight was 3.39 and p value was 0.04

Regarding posttest mean there is statistically significant difference in bodyweight between study group I, II and control group.

Table-3 Comparison of posttest level of premeal consumption of water versus warm foot bath on quality of life score among overweight in study group I, II and control group
N=90

Groups	Posttest Level of Quality of life score				Mean difference	Independent t-test
	Mean	SD	Mean	SD		
Study group I vsControl group	65.16	11.85	52.13	14.78	13.03	P=0.0004*** t=3.767
Study group II vsControl group	59.80	14.27	52.13	14.78	7.67	P=0.0454* t=2.044 NS
Study group I vsStudy group II	65.16	11.85	59.80	14.27	5.36	P=0.118 t=1.582 NS

*Significant ** highly significant ***very highly significant

In posttest level of quality of life score premeal meal consumption of water versus control group shows very highly significant mean difference was 13.03 and t value was 3.767 and p value was 0.0004.

In posttest level of quality of life score warm footbath versus control group shows highly significant mean difference was 7.67 and t value was 2.044 and p value was 0.0454.

In posttest level of quality of life score premeal meal consumption of water versus warm footbath not statistically significant mean difference was 5.36 and t value was 1.582and p value was 0.118.

Table-4Mean and Standard deviation of posttest level of premeal consumption of water versus warm footbath on body weight score among overweight women in study group I, II and control group
N=90

Groups	Posttest Level of Body weight score				Mean difference	Independent t-test
	Mean	SD	Mean	SD		
Study group I vsControl group	56.86	4.76	59.12	4.24	-2.26	P=0.057 t=1.941 NS
Study group II vsControl group	59.61	4.15	59.12	4.24	0.49	P=0.652 t=0.452 NS
Study group I vsStudy group II	56.86	4.76	59.61	4.15	-2.75	P=0.020* t=2.38

NS-Not Significant *Significant

The analysis reveals that mean and standard deviation of posttest level of quality of life score in

Study group I versus control group not statistically significant p value was 0.057. In study group II vs control group it was significant p value was 0.452. Regarding study group I versus study group II was significant p-value was 0.020*

The analysis reveals in the post test level of body weight score in study group I versus control group and study group II versus control group was not significant. In study group I versuss study group II it is significant.

Table - 5 Effectiveness of pretest and posttest level of premeal consumption of water versus warm footbath on quality of life and Body weight among overweight women in study group I, II and control group
N=90

Variables	Group	Pretest	Posttest	Mean Difference in score with 95% Confidence interval
QOL	Study group I (premeal consumption of water)	53.12	65.17	12.05(10.10 – 13.99)
	Study group II (warm foot bath)	51.68	59.80	10.12(8.60 – 11.64)
	Control group	49.09	52.13	3.04(0.02 – 13.99)
Body Weight	Study group I (premeal consumption of water)	58.92	57.86	1.06(0.97 – 1.14)
	Study group II (warm foot bath)	60.13	59.61	0.52(0.45 -0.59)
	Control group	59.13	59.12	0.01(0.00 -0.04)

The analysis reveals that in Quality of life, the pretest value was 53.12 and posttest value was 65.17 and mean difference score 12.05(10.10-13.99) study group I, in study group II the pretest value was 51.68, posttest value was 65.17 and mean difference score was 10.12(8.60-11.64) and in control group the pretest value was 49.09 in posttest the value was 52.13 and the mean difference score was 3.04(0.02-13.99)

The analysis showed that in Body weight, the pretest value was 58.92 and posttest value was 57.86 and mean difference score 1.06(1.97 -2.14) in study group I, in study group II the pretest value was 60.13, posttest value was 59.61 and mean difference score was 0.52(0.45-0.59) and in control group the pretest value was 59.13 in posttest the value was 59.12 and the mean difference score was 0.03(0.00-0.04)

Table-6 To correlate the mean and standard deviation between posttest weight and quality of life score in study group I, II and control group
N=90

Group	Variables	Mean ± SD	Karl pearson correlation coefficient	Interpretation
Study I (premeal consumption of water)	Weight	56.86±4.76	r= **0.44**p=0.001***	**Moderate negative correlation** between body weight and QOL of study group I women
	QOL	65.16±11.85		
Study II (warm foot bath)	Weight	59.61±4.15	r= **-0.26**p=0.01*	**Fair negative correlation** between body weight and QOL of study group II women
	QOL	59.80±14.27		
Control	Weight	59.12±4.24	**r=- 0.12** p=0.46	**Poor negative correlation** between body weight and QOL of control group women
	QOL	52.13±14.78		

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

The analysis reveals that with respect to quality of life and body weight in overweight women among study group I the mean value weight was 56.86 and SD was 4.76 and quality of life mean value was 65.16 and SD was 11.85 posttest projects that 'r' value as 0.44 was very highly statistically significant p=0.00. In study group II the mean value weight was 59.61 and SD was 4.15 and quality of life was 59.80 and SD was 14.27 posttest projects that 'r' value as 0.26 was highly statistically significant p=0.01. In control groupthe mean value weight was 59.12 and SD was 4.24 and quality of life was 52.13 and SD was 14.78 and the 'r' value was 0.12 and statistically not significant p=0.46

Table-7 Association between on quality of life and demographic variables among overweight women in study group I
N=90

S.No	Demographic variables		QOL score						Oneway ANOVA/t-test
			Posttest		Pretest		Mean difference		
			Mean	SD	Mean	SD	Mean	SD	
1	Age	20 -29 years	68.63	11.70	52.76	13.94	15.97	5.19	F=3.37 p=0.05*
		30 -39 years	65.88	12.66	54.42	16.99	11.46	5.53	
		40 -45 years	69.11	9.81	58.82	9.81	10.29	3.00	
2	No. of children	No children	68.16	17.66	57.49	21.39	10.67	5.42	F=4.35 p=0.01**
		One child	66.11	10.93	55.23	13.18	10.89	3.73	
		Two children	60.63	8.77	44.74	9.46	15.89	4.94	
		> two children	74.92	0.00	72.84	0.00	2.08	0.00	

*significant **highly significant

The analysis reveals that there was a statistically significant association between study group I demographic variables among overweight women with their level of QOL score in two children women are benefitted more than others.

Table-8 Association between quality of life and demographic variables among overweight women in study group II
N=90

S.no	Demographic variables		QOL score						Oneway ANOVA/ t-test
			Posttest		Pretest		Mean difference		
			Mean	SD	Mean	SD	Mean	SD	
1	Age	20 -29 years	66.97	13.35	54.97	14.20	12.97	3.84	F=3.35 p=0.05*
		30 -39 years	64.91	14.55	54.65	14.41	10.16	3.48	
		40 -45 years	65.55	17.74	57.52	21.83	8.03	8.29	
2	Type of family	Nuclear family	61.60	15.61	52.31	16.02	9.29	4.17	F=2.16 p=0.04*
		Joint family	62.27	11.34	49.61	12.80	12.66	3.23	

*significant **highly significant

The analysis reveals that there was a statistically significant association between study groupI demographic variables among overweight women with their level of QOL score joint family womenare benefitted more than others.

Table-9 Association between weight reduction score and demographic variables among overweight women in study group I
N=90

S.no	Demographic variables		Weight reduction score						Oneway ANOVA/t-test
			pretest		posttest		Mean difference		
			Mean	SD	Mean	SD	Mean	SD	
1	Age	20 -29 years	59.14	5.03	56.85	4.93	2.29	.27	F=8.10 p=0.01**
		30 -39 years	59.16	4.89	57.15	4.86	2.01	.17	
		40 -45 years	56.83	4.66	54.93	4.57	1.90	.10	
2	Previous surgery undergone	Yes	59.64	4.85	57.82	4.85	1.82	.27	F=2.08 p=0.05*
		No	58.77	4.91	56.70	4.83	2.07	.24	

This analysis reveals that the association between study group I and demographic variables among overweight women with their level of Body weight score. There are no previous surgeries women are benefitted more than others. Statistical significance was calculated using chi square test.

Table-10 Association between weight reduction score and demographic variables among overweight women in study group II
N=90

S. no	Demographic variables		Weight reduction score						Oneway ANOVA/ t-test
			Posttest		Pretest		Mean difference		
			Mean	SD	Mean	SD	Mean	SD	
1	Age	20 -29 years	60.77	4.65	59.08	5.16	.69	.19	F=2.33 p=0.02*
		30 -39 years	58.94	3.80	56.73	3.88	.49	.27	
		40 -45 years	61.67	1.53	61.10	1.71	.33	.20	
2	Previous surgery undergone	Yes	56.32	4.78	55.90	4.59	.42	.26	F=2.62 p=0.01**
		No	60.89	3.64	60.20	4.47	.69	.20	

This analysis reveals that the association between study group II demographic variables among women with overweight with their level of weight score. There is no previous surgeries women are benefitted more than others. Statistical significance was calculated using chi square test.

Conclusion

The interventional study was done to assess and compare the effectiveness of premeal consumption of water versus warm footbath on quality of life and body weight among overweight women in selected villages, kattankulathur block. The result of the study concluded that the quality of life and body weight among overweight women in study group I was good, in study group II it was moderate and control group it was good after the intervention taught to the group.

The 'r' test was computed between study group I, II and control group about the quality of life and body weight among

overweight women. The comparison of study group I (premeal consumption of water) versus control group the mean value was found to be statistically highly significant with paired't' test value of t=3.67 at p=0.0004. In study group II (warm footbath) versus control group, the mean value was t=2.044 at p=0.0454 found to be significant. In study group I (premeal consumption of water) versus study group II (warm footbath) the mean score found to be not significant with paired't' test value of t=1.58 at p=0.118. In association, the quality of life among women with overweight and demographic variables, there is significant association in study group I like, age and women with two children's are benefitted and study group II, age and type of family are benefitted. In association between weight score and demographic variables there is significant association in study group I and II, age and previous surgery undergone women are benefitted and there was no significant association of other demographic variables.Hence it was concluded that the study group through the selected interventions like premeal consumption of water and warm foot bath, it was effective therefore the investigator felt that the interventions will be enhanced by creating awareness on the effects of reducing body weight among overweight women to restore the positive health.

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