Effectiveness of School-Based Health Education on Prevention of Childhood Obesity is Effective among Teachers Working in English Medium Schools, Urban Maharashtra

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Abstract: _Aim of the study_: *The study aims to find out the effect of Health Education on Prevention of Childhood obesity is effective among teachers.* _Problem statement_: *Does school-based health education on prevention of childhood obesity is effective among teachers working in English medium schools, urban Maharashtra?* _Primary objective_: *The primary objective was used to find out the effect of Health Education on Prevention of Childhood obesity is effective among teachers.* _Secondary objectives_: *1) To assess the knowledge of school teachers on prevention of childhood obesity in experimental and control group before intervention. 2) To assess the knowledge of school teachers on prevention of childhood obesity in experimental and control group after intervention. 3) To find out the effect of school-based health education on prevention of childhood obesity among school teachers. 4) To find out the association between post-test knowledge scores and demographic variable of school teachers in experimental group.* _Method_: *A quasi-experimental design with non-randomized comparison group was used to assess the effect Health Education on Prevention of Childhood Obesity is Effective among 120 Teachers. The data was collected by using self-administered questionnaire.* _Results_: *From the findings, it was observed that the pre-intervention demographic variables of school teachers in control and experimental group were more or less similar revealing both the groups had similar characteristics. It was observed that the percentages of knowledge (control group; 45% & experimental group; 52.2%) on prevention of childhood obesity among school teachers were more or less similar before intervention. However, after an intervention, the percentage of knowledge prevention of childhood obesity was significantly increased from 52.2% to 76.5% in experimental group whereas it was almost remained unchanged in control group. There was a significant difference (p<0.0001) between pre-test and post-test knowledge scores in experimental group. And, there was also a significant difference (p<0.0001) between the post tests of control and experimental group. No significant association (p>0.05) was found between knowledge on prevention of childhood obesity and age, gender, religion, qualification, professional experience, & income of school teachers.* _Interpretation and conclusion_: *The data were analyzed by applying descriptive and inferential statistic. The result of the study indicated that after intervention there was an improvement in the knowledge score. Analysis of data shows that highly difference found between the pre-test and post-test knowledge scores at the level of (p<0.05). The hypothesis proved and accepted.*

Keywords: BMI (Body Mass Index), SAQ (Self-Administered questionnaire), % (Percentage), ANOVA (Analysis of variance)

1. Introduction

The World Health Organization describes overweight and obesity as one of the today's most important public health problems, which is rapidly increasing as a global epidemic. Obesity is a complex disease involving an excessive amount of body fat. Obesity isn't just a cosmetic concern it is a medical problem that increases risk of other diseases and health problems, such as heart disease, diabetes, high blood pressure and certain cancers [1]. Obesity has become a major epidemic causing serious public health concern and contributes to 2.6 million deaths worldwide every year. In the past two decades, the burden of overweight and obesity among children and adolescents has increased significantly in the developed countries, and similar trends is being observed even in India [18] School is the basic foundation where the children learn about education and health. School is the place where the children spend majority of their time and learn through their peers and teachers. Apart from home life, nothing provides more of an immersive experience for children than the time they spend in school. It means schools have a rich opportunity to improve the health of children and tackle obesity at the ideal point in time before the problem take place. Hence it is much essential to provide health education to the teachers regarding prevention of childhood obesity [64].

2. Need for the Study

The Children are the most valuable assets of a country. School age children constitute roughly a quarter of the total population. The children today are going to be adults of future, the more productive group. Childhood obesity also known as, New World Syndrome" is a global health challenge of the 21st century, with morbidity obesity affecting 5% of the country's population. Obesity in teenagers is a growing problem that has worsened in recent times. It is believed that more than 25% of schoolchildren are overweight and in fact, obese, and nearly a fourth of them are at risk of getting heart disease, diabetes, stroke and possibility, early death [86].

For developing countries like India, morbid obesity has not yet become a public health priority. Well, the reasons are still far from clear. Probably, India is, in our own eyes, still a country of poverty, hunger and malnutrition. Yet, statistics suggest otherwise. Childhood obesity is now an epidemic in India with 14.4 million obese children. Presently India ranks second-highest number of obese children in the world, next

to China. The prevalence of overweight and obesity in children is around 15% [87].

Unhealthy, processed food has become much more accessible following India's continued integration in global food markets. Indians are genetically susceptible to weight accumulation especially around waist. In the Indian scenario, even with the growing awareness about health and fitness, more than 3% i.e.3 crores of the Indian population are obese. There is an urgent need to create public awareness about the mechanisms of identification, prevention and treatment of severe obesity than ever before. Childhood obesity affects every organ system in the body. The risks include diabetes, high blood pressure, and high cholesterol [88].

3. Review of Literature

Review of literature was carried out on recent and ongoing research relevant to the present study.

After thorough review, investigator has classified the literature based on variables which support aims and objectives of study.

The literature as follows –
1) Review related to incidence and prevalence of childhood obesity
2) Review related to General information of childhood obesity
3) Review related to Measurement of overweight and obesity in children
4) Review related to influencing factor of childhood obesity
5) Review related to preventive measures on childhood obesity
6) Review related to school-based measure on prevention of obesity among school children.
7) School based health education as a method of teaching

Assumptions:
- School teachers may have some knowledge on prevention of childhood obesity
- Demographic variables of school teachers may have some influence on knowledge about prevention of childhood obesity
- School based health education may enhance the knowledge of school teachers.

Delimitations:
The study was limited to -
- Assessment of knowledge
- 120 samples
- School teachers serving in selected english medium schools of urban Maharashtra
- Study was limited to urban area

Hypothesis:
H1: There is a significant difference between pre-test and post-test knowledge scores on prevention childhood obesity in experimental and control group.

H2: There is a significant difference between post-test knowledge scores of school teachers in experimental and Control group on prevention of childhood obesity.
H3: There is a significance association between the post-test knowledge score and demographic variable of school teachers in experimental group

4. Methodology

Research approach: A quantitative research approachwas used for the study

Research design: A quasi-experimental design with non-randomized comparison group

Variables under study:
- Independent variable: The school-based health education on prevention of childhood obesity
- Dependent variable: the knowledge on prevention ofchildhoodobesity

Accessible population –School teachers who were available for research studies were considered as accessible population.

Sample and sampling technique

Sample: School teachers serving in three selected schools were the samples for research study

Sample size: Sample size was 120 however. it was calculated on the basis of sample size determination formula

Sampling technique: non-probability convenient sampling technique was used.

Inclusion criteria
- School teachers those who were consented to participate in the study
- School teachers those who were available at the time of data collection

Exclusion criteria
School teachers who have undergone similar training program.

Tool Preparation

Development of tool:
The tools were developed on the basis of research question and conceptual framework. The investigator has undergone extensive review of literature to develop the tools. However, the following efforts were made by the investigator prior to construction of tools.
- Reviews from various resources like textbooks, journals, periodicals, magazines, published thesis, newsletter etc
- Consultation and discussion with peer group, nursing experts, and others concerned.
- Personal and professional experience of investigator with Staff nurses.
- Preparation and revision of blue print/draft and subject content prior to final draft.

After such deliberations, the investigator has constructed self-administered questionnaire and Health Education for data collection.

5. Description of Tools

Self-Administered Questionnaire (SAQ):
This tool was constructed to assess the knowledge of school teachers regarding prevention of childhood obesity before and after the intervention in control and experimental group. The SAQ contains some questions/ statements (MCQs) on prevention of childhood obesity and some on demographic variables of school teachers serving in selected schools. This instrument was handed over to the school teachers with instructions to complete it in a stipulated time period. It has two parts; Part–A and Part–B.

Part A: Seeks information on demographic variables of school teachers serving in selected hospitals. The variable includes; age, gender, religion, qualification, professional experience, and income..

Part B: Is related to questions/statements that seek information on prevention of childhood obesity among school teachers serving in selected schools. It contains 03 sections / areas. They were; general information on obesity and its influencing factor, Preventive measures of childhood obesity, and school- based measures on prevention of obesity among school children.

Tool Validity
Content validity of SAQ and school-based health education were established in consultation with 10 experts from the field of community health nursing (n=6), community medicine (n=3) statistician (n=1). The suggestion of subject experts were taken in to consideration and reframed the same.

Tool Reliability
Data was collected from 12 school teachers who were working in selected school (other than the main study area) to test reliability of SAQ. Split-half technique was used where the tool was divided in to two parts then both parts given to one group of school teachers at same time. The score from both parts is correlated. Karl Pearson's correlation coefficient was calculated. The tool was found to be reliable (r=0.90).

Pilot Study
Pilot study was conducted among conveniently selected school teachers (12) to find out the effect of school-based health education on prevention of childhood obesity at two selected schools, after a prior permission from the authorities concerned. Informed consent was obtained from the school teachers and data was collected during the month of January 2021

Plan for Data Analysis
Collected data from staff nurses was planned to analyze by using descriptive and inferential statistics. The descriptive statistics includes; percentage, mean, mean percentage and standard deviation. The inferential statistics includes; t test and one-way ANOVA using SPSS software.

6. Results

Section I: Distribution of school teachers according to their demographic variables in experimental and control group (fig – 4.1.1)
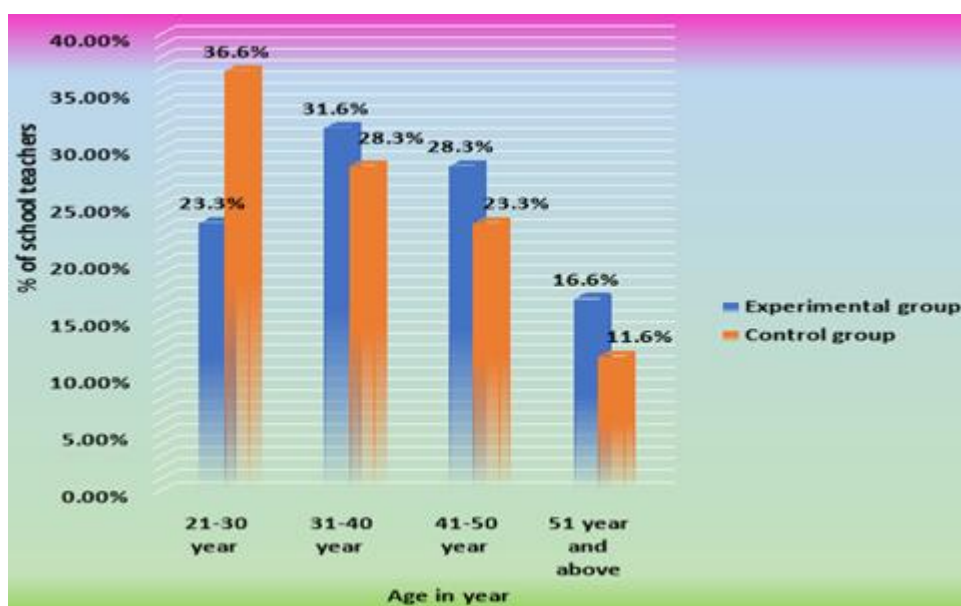

Figure 4.1.1: Distribution of school teachers according to age

Distribution of school teachers according to their age reveals that the highest percentage (36.6% & 23.3%) were belonged to the age group of 21–30 years in control & experimental group respectively whereas only 16.6% & 11.6% in experimental and control group of 51 yrs. & above. In addition, more or less similar percentages (31.6% & 28.3%) were in the age group of 31–40 years in control & experimental group respectively. Further, school teachers were in the age group of 41-50 years in experimental group 28.3% whereas it was 23.3% in control group (figure – 4.1.1). Hence, it was interpreted that the age distribution of school teachers in both the groups were more or less similar.

Figure 4.1.2: Distribution of school teachers according to gender

Gender distribution of school teachers depicts that the higher percentage (61.6% & 55%) of them were females in control & experimental group respectively whereas males were (45% & 38.3%) in control and experimental groups (figure – 4.1.2) Hence, it was interpreted that the gender distribution of school teachers were more or less similar in both the groups.
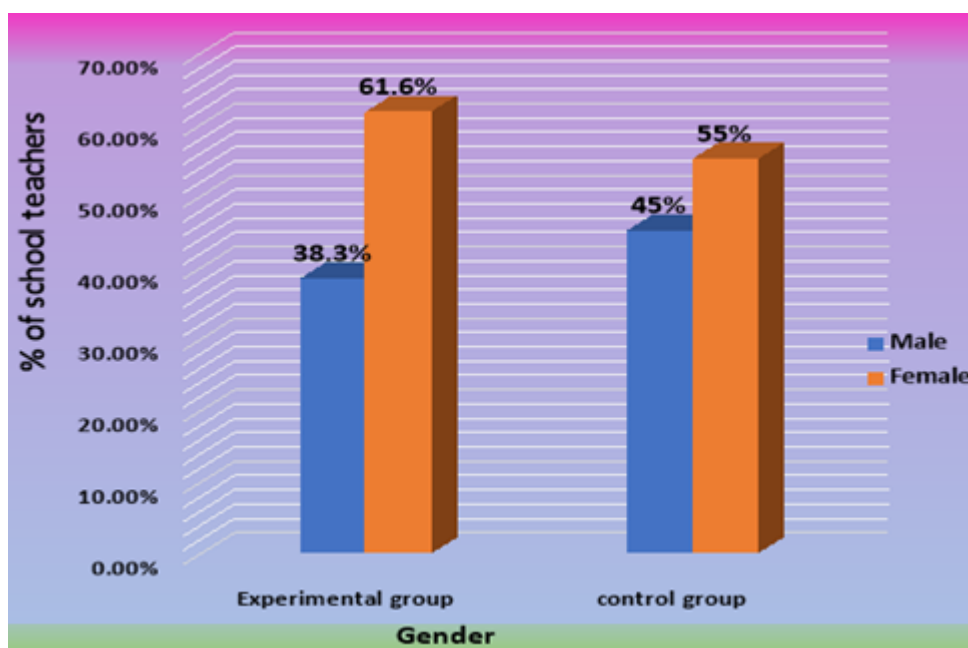

Figure 4.1.2: Percentage distribution of school teachers according to their gender in experimental & control group

Figure 4.1.3: Distribution of school teachers according to religion
Distribution of school
Teachers according to religion shows half of (46.6%) were Hindus in both experimental & control group however none of teachers were belong muslim and other religion. Whereas the teachers belonged to Christian religion 35% & 30% in both the experimental and control groups. On the other hand, the teachers belonged to religion ofbuddhistis 18.3% &23.3%in both the groups (figure– 4.1.3). Hence, it can be interpreted that the place of study was slightly dominated byChristian religion when compared to the latest census of India. It was alsoconcluded that religion wise distribution of school teachers in both groupsmore or less similar
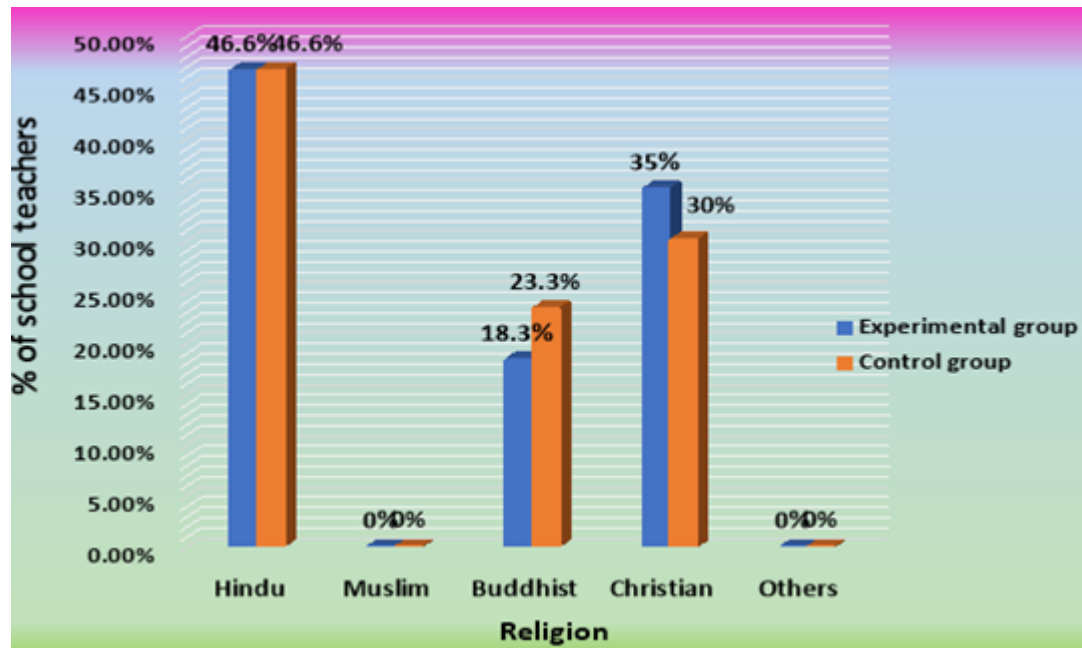
Figure 4.1.3: Percentage distribution of school teachers according to their religion in experimental & control group

Figure 4.1.4: Distribution of school teachers according to qualification

Distribution of school teachers according to qualification shows that higher percentage of graduate teachers with (70.3% & 70%) in experimental & control group respectively whereas the teachers with other qualification below 25% in both the groups (figure– 4.1.4). Therefore, it can be interpreted that the place of study was dominated byregistered teachers with a graduation qualification. It was also concluded thatthe distribution of teachers according qualification were more or less similar inboth thegroups.
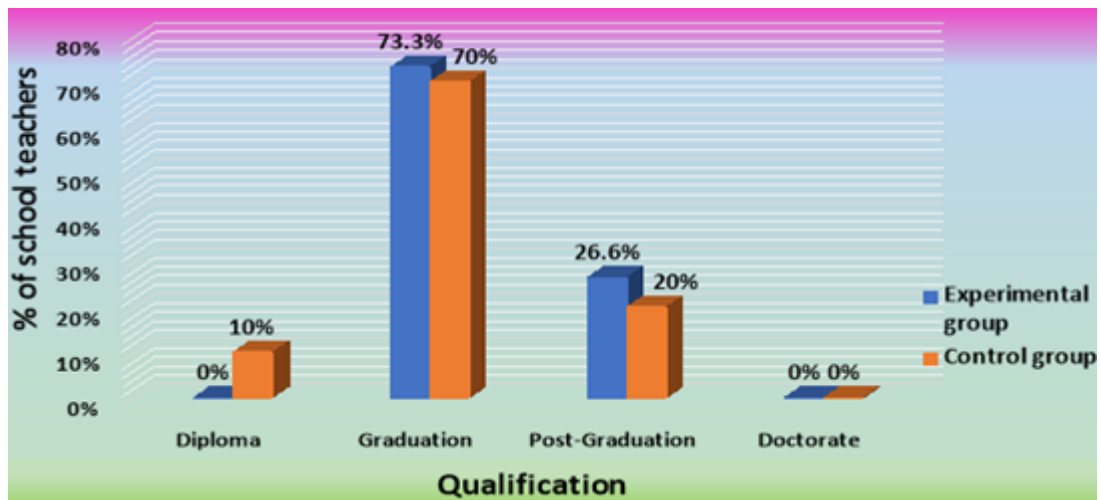

Figure 4.1.4: Percentage distribution of school teachers according to their qualification experimental &control group

Figure 4.1.5: Distribution of school teachers according to their experience

The professional experience of school teachers depicts that around 40% & 26.6% had 5yrs & below experience in experimental & control group respectively whereas the teachers with 11 & above year of experience were <27% in both the groups. However, 28.3% of them had 6-10 years of experience in experimental & control group respectively (figure –4.1.5). Hence, it was interpreted that the experience of school teachers were more less similar in both the groups.
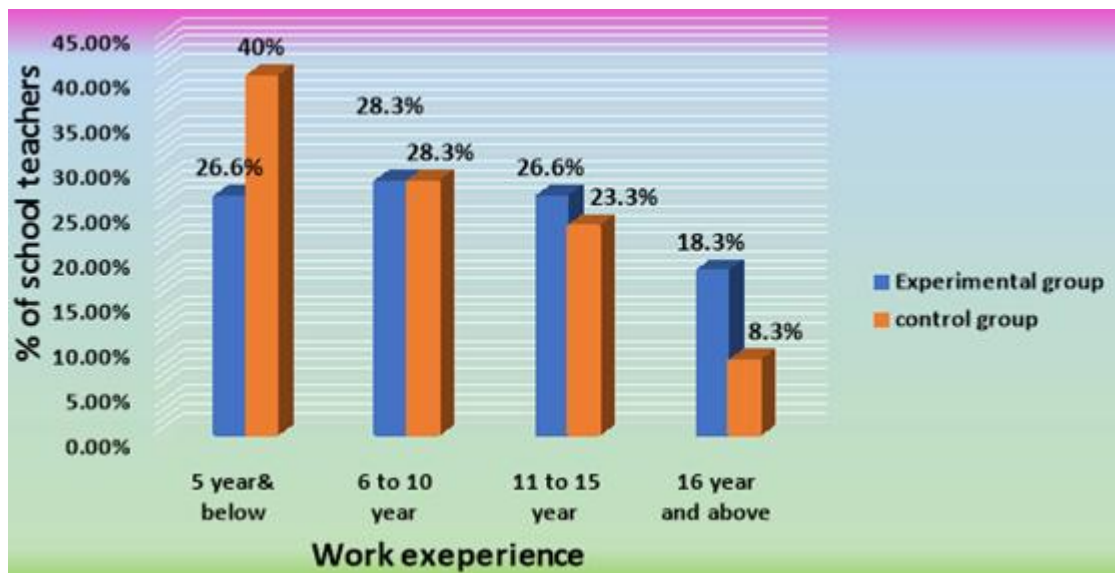
Figure 4.1.5: Percentage wise distribution of school teachers according to their professional experience in experimental group and control group

Figure 4.1.6: Distribution of school teachers according to their income

Distribution according to income reveals that the school teachers belonged tothe income group Rs. 10,001/- 15000/- (41.6% & 31.6%) in both the groups.Whereas the teachers with Rs.15001–20000/ income is (32.3% & 26.6%) had more or less similar in both experimental and control group however, teachersbelonged to 10,000/- & below is (35% & 10%) and Rs. 20000/- & above were (<16%) in experimental and control group (figure– 4.1.6). Hence, it was interpreted that the income distribution of school teachers weremore or less similar.
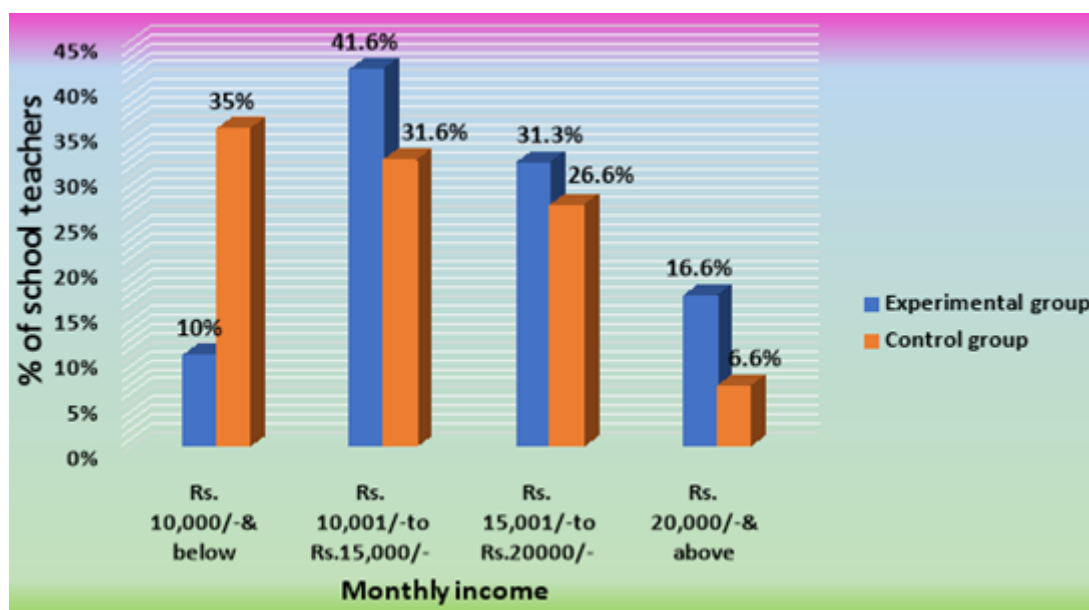
Figure 4.1.6: Percentage distribution of school teachers according to their monthly income in experimental & control group

Section II

Section II: Assessment of knowledge on prevention of childhood obesity among school teachers before intervention in experimental group and control group

Table 4.2.1: Percentage distribution of knowledge scores on prevention ofchildhood obesity among school teachers in experimental and control group before intervention, *n=120*

Level of knowledge	Control group		Experimental group	
	f	%	*f*	%
Poor	0	0%	0	0%
Average	11	38.7%	0	0%
Good	49	46.5%	53	50.5%
Very good	0	0%	7	64.5%
Excellent	0	0%	0	0%
Overall	60	45%	60	52.2%

Section II: Assessment of knowledge on prevention of childhood obesity among school teachers before intervention in experimental group and control group

Table 4.2.2: Mean knowledge scores on prevention of childhood obesity among school teachers in experimental and control group before intervention, *n=120*

Level of knowledge	Controlgroup		Experimental group	
	f	Mean ± SD	f	Mean ± SD
Poor	0	0+0	0	0+0
Average	11	15.5+0.6	0	0+0
Good	49	18.6+1.5	53	20.2+1.9
Verygood	0	0+0	7	25.8+0.8
Excellent	0	0+0	0	0+0
Overall	60	18.0+1.8	60	20.9+2.6

Section II: Assessment of knowledge on prevention of childhood obesity among school teachers before intervention in experimental group and control group

Table 4.2.3: Areawise percentage distribution of knowledge scores on prevention of childhood obesity among school teachers in experimental and control group before intervention, *n=120*

Area of Knowledge	Number of items	Knowledge in %	
		Control group	Experimental group
General information on obesity and its influencing factor	17	48.5%	54.2%
Preventive measures of childhood obesity	11	48.4%	53.6%
School based measures on prevention of obesity among school children	12	37.2%	48.1%
Overall	40	45.1%	52.2%

Section II: Assessment of knowledge on prevention of childhood obesity among school teachers before intervention in experimental group and control group

Table 4.2.4: Area wise Mean knowledge scores on prevention of childhood obesity among school teachers in experimental and control group before intervention, *n=120*

Area of Knowledge	Number of items	Control group		Experimental group	
		Mean	SD	Mean	SD
General information on obesity and its influencing factor	17	8.2	1.0	9.2	1.6
Preventive measures of childhood obesity	11	5.3	1.0	5.9	1.0
School based measures on prevention of obesity among school children	12	4.4	1.7	5.7	1.5
Overall	40	18.0	1.8	20.9	2.6

Section III

Section III: Comparison of knowledge scores on prevention of childhood obesity among school teachers after intervention in experimental group and control group

Table 4.3.1: Comparison of knowledge scores on prevention of childhood obesity among school teachers in experimental and control group after intervention, *n=120*

Level of knowledge	Control group				Experimental group			
	Pre-test		Post-test		Pre-test		Post-test	
	f	%	*f*	%	*f*	%	*f*	%
Poor	0	0%	0	0%	0	0%	0	0%
Average	11	38.7%	13	39.5%	0	0%	0	0%
Good	49	46.5%	47	47%	53	50.5%	3	52.5%
Very good	0	0%	0	0%	7	64.5%	40	75.2%
Excellent	0	0%	0	0%	0	0%	17	83.5%
Overall	60	45%	60	45.2%	60	52.2%	60	76.5%

Section III: Comparison of knowledge scores on prevention of childhood obesity among school teachers after intervention in experimental group and control group

Table 4.3.2: Comparison of Mean knowledge scores on prevention of childhood obesity among school teachers in experimental and control group after intervention, *n=120*

Level of knowledge	Control group				Experimental group			
	Pre-test		Post-test		Pre-test		Post-test	
	f	Mean ± SD	*f*	Mean ± SD	*f*	Mean ± SD	*f*	Mean ± SD
Poor	0	0+0	0	0+0	0	0+0	0	0+0
Average	11	15.5+0.6	13	15.8+0.3	0	0+0	0	0+0
Good	49	18.6+1.5	47	18.8+1.3	53	20.2+1.9	3	21+0
Verygood	0	0+0	0	0+0	7	25.8+0.8	40	30.1+1.7
Excellent	0	0+0	0	0+0	0	0+0	17	33.4+0.6
Overall	60	18.0+1.8	60	18.1+1.7	60	20.9+2.6	60	30.6+3.0

Section III: Comparison of knowledge percentage on prevention of childhood obesity among school teachers after intervention in experimental group and control group

Table 4.3.3: Comparison of area wise knowledge percentage on prevention of childhood obesity among school teachers in experimental and control group, *n=120*

Area of Knowledge	Number of items	Control group		Experimental group	
		Pre- test	Post- test	Pre-test	Post- test
General information on obesity and its influencing factor	17	48.5%	45.1%	54.2%	73.5%
Preventive measures of childhood obesity	11	48.4%	52.1%	53.6%	79.6%
School based measures on prevention of obesity among school children	12	37.2%	39.5%	48.1%	76.3%
Overall	40	45.1%	45.4%	52.2%	76.5%

Section III:

Comparison of knowledge scores on prevention of childhood obesity among school teachers after intervention in experimental group and control group

Table 4.3.4: Comparison of areawise Mean knowledge scores on prevention of childhood obesity among school teachers after intervention in experimental and control group knowledge scores, *n=120*

Area of Knowledge	Number of items	Control group				Experimental group			
		Pre- test		Post- test		Pre-test		Post- test	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
General information on obesity and its influencing factor	17	8.2	1.0	7.6	1.6	9.2	1.6	12.5	2.4
Preventive measures of childhood obesity	11	5.3	1.0	5.7	1.1	5.9	1.0	8.7	1.4
School based measures on prevention of obesity among school children	12	4.4	1.7	4.7	1.8	5.7	1.5	9.1	1.8
Overall	40	18.0	1.8	18.1	1.7	20.9	2.6	30.6	3.0

Section IV: Significant difference in the post-test knowledge scores on prevention of childhood obesity among school teachers in control and experimental group

Table 4.4.2: Area wise significant difference between pre-test and post-test knowledge score on prevention of childhood obesity among school teachers in control and experimental group, *n=120*

Area of Knowledge	Control group				Experimental group			
	Pre- test	Post- test	't' value	p value	Pre- test	Post- test	't' value	p value
	Mean ± SD	Mean ± SD			Mean±SD	Mean±SD		
General information on obesity and its Influencing factor	8.2±1.0	7.6±1.6	3.29	0.0017 S.p<0.05	9.2±1.6	12.5±2.4	8.88	0.0001*** S.p<0.05
Preventive measures of childhood obesity	5.3±1.0	5.7±1.1	2.42	0.0184 S.p<0.05	5.9±1.0	8.7±1.4	12.27	0.0001*** S.p<0.05
School based measures on prevention of obesity among school children	4.4±1.7	4.7±1.8	1.12	0.2669 S.p<0.05	5.7±1.5	9.1±1.8	10.40	0.0001*** S.p<0.05
Overall	18.0±1.8	18.1±1.7	0.5230	0.6030 NS.P>0.0 5	20.9±2.6	30.6±3.0	17.67	0.0001*** S.p<0.05

*P value<0.0001 ***highly significant, table value<0.001 **moderately significant, table value <0.05 *significant*

Paired 't' test was computed to find out the significant difference between area wise pre-test and post-test knowledge score on prevention of childhood obesity among school teachers in control and experimental group.

Highly significant difference (p<0.0001) was found with a 't' value of 12.2 inthe area of Preventive measures of childhood obesity when compared to otherareas in experimental group. However, the calculated 't' value in experimentalgroup were similar (p<0.0001) in the areas of General information on obesityand its influencing factor ('t' =8.88) and School based measures on preventionof obesity among school children ('t' =10.40). On the other hand, no suchsignificant difference (p<0.05) was observed in any of the areas of preventionofchildhood obesity incontrolgroup (table- 4.4.2).

Hence, it was interpreted that the difference observed between pre-test & post-test area wise knowledge score of school teachers in experimental group weredue to an effect of school-based health education on prevention of childhoodobesity.

Section IV: Significant difference in the post-test knowledge scores onprevention of childhood obesity among school teachers in control and experimental group

Testing of hypothesis

H2: There is a significant difference in post-test knowledge scores on prevention of childhood obesity among school teachers between experimentaland controlgroup.

Table 4.4.3: Significant difference between the post-test knowledge scores of control and experimental group, n=120

Group	Test	Mean ± SD	Mean difference	df	't' value	p value
Control	Post- test	30.6±3.0	12.5±1.3	1, 118	27.44	0.0001***
Experimental	Post- test	18.1±1.7				S.p<0.05

*table value<0.0001 ***highly significant, table value<0.001 **moderatelysignificant,tablevalue<0.05 *significant*

Unpaired 't' test was computed to find out the significant difference between the post- test knowledge scores of control and experimental group. Highly significant difference (p<0.0001) was found between the post tests of control group and experimental group with a calculated 't' value of 27.4 (table -4.4.3).

Hence, it was interpreted that highly significant difference between the post-test knowledge score was due to an effect of school-based health education onprevention of childhood obesity among school teachers. Therefore, the school-based health education as a teaching tool on prevention of childhood obesity among school teachers was considered as effective. However, a difference observed between the post-test knowledge score value in control group and experimental group was true difference; hence a research hypothesis is accepted.

Section V

Section V: Association between post-test knowledge scores on prevention of childhood obesity and demographic variables of school teacher in experimental group

Testing of hypothesis
H3: There is a significant association between the post-test knowledgescoreon prevention of childhood obesity among school teachers and their age inyearsin experimental group

Table 4.5.1: Association between post-test knowledge score and age, *n=60*

Age (yrs.)	f	Mean & SD	F- value	p- value
21-30 yrs.	14	29.2±4.1		
31-40 yrs.	19	30.7±3.1	1.4049	0.2509 NS,p>0.05
41-50 yrs.	17	31±2.2		
≥51yrs.	10	31.5±1.9		

*df – 3,56, table value - 0.2509 * significant, NS- not significant* Analysis of variance (F-test) was computed to find out the significant association between the post- test knowledge score and the age of school teachers. The finding of F value shows that there is no significant association (p>0.05) between post-test knowledge score and age (table-4.5.1).Hence, it was interpreted that the age of school teachers were not associatedwith the knowledge on prevention of childhood obesity. However, the F valuewas true difference and not by chance. Therefore, the research hypothesis is rejected.

Section V: Association between post-test knowledge scores on prevention of childhood obesity and demographic variables of school teachers in experimental group

Testing of hypothesis
H3: There is a significant association between the post-test knowledge score on prevention of childhood obesity and gender in years of school teachers in experimental group

Table 4.5.2: Association between post- test knowledge score and gender, *n=60*

Gender	No. of	Mean post-test	F-value	p-value

	School teachers	knowledge score		
Male	23	30.3±3.2	0.252	0.6176 NS,p>0.05
Female	37	30.7±2.9		

*df – 3,56, table value - 0.6176 * significant, NS- not significant*

Analysis of variance (F-test) was computed to find out the significant association between the post- test knowledge score and the gender of school teachers. The finding of F value shows that there is no significant association (p>0.05) between post-test knowledge score and gender (table-4.5.2). Hence, it was interpreted that the gender of school teachers was not associatedwith the knowledge on prevention of childhood obesity. However, the F valuewas by chance and not true difference. Therefore, the research hypothesis was rejected.

Section V: Association between post-test knowledge scores on prevention of childhood obesity and demographic variables of school teachers in experimental group

Testing of hypothesis
H3: There is a significant association between the post-test knowledge score on prevention of childhood obesity among school teachers and their religion in experimental group

Table 4.5.3: Association between post-test knowledge score and religion, n=60

Religion	No. of school teachers	Mean post-test Knowledge score	F-value	p-value
Hindu	28	30.8571±3.4		
Muslim	0	-		
Buddhist	11	29.8182±3.9	0.4577	0.6351 NS,p>0.05
Christian	21	30.6667±1.8		
Others	0	-		

*df – 3,56, table value – 0.6351 * significant, NS- not significant*

Analysis of variance (F- test) was computed to find out the significant association between the post-test knowledge score and the religion of school teachers. The finding of F value shows that there is no significant association (p>0.05) between post-test knowledge score and religion (table-4.5.3).

Hence, it was interpreted that the religion of school teachers was not associated with the knowledge on prevention of childhood obesity. However, the F value was by chance and not true difference. Therefore, the research hypothesis was rejected.

Section- V: Association between post-test knowledge scores on prevention of childhood obesity and demographic variables of school teachers in experimental group

Testing of hypothesis
H3: there is a significant association between the post-test knowledge score onprevention of childhood obesity among school teachers and their qualificationinexperimental group

Table 4.5.4: Association between post-test knowledge score and qualification, *n=60*

Qualification	No. of school teachers	Mean post- test Knowledge score	F-value	p-value
Diploma	6	30.1+2.1		
Graduation	25	30.2+4.0	0.4404	0.725 NS, p>0.05
Post- Graduation	19	30.8+2.2		
Doctorate	10	31.4+1.8		

*df – 3,56, table value – 0.725 * significant, NS- not significant* Analysis of variance (F-test) was computed to find out the significant association between the post- test knowledge score and the qualification of school teachers. The finding of F value shows that there is no significant association (p>0.05) between post-test knowledge score and qualification (table- 4.5.4)

Hence, it was interpreted that the qualification of school teachers was notassociated with the knowledge on prevention of childhood obesity. However,the F value was by chance and not true difference. Therefore, the research hypothesis was rejected.

Section V: Association between post-test knowledge scores on prevention of childhood obesity and demographic variables of school teachers in experimental group

Testing of hypothesis
H3: there is a significant association between the post-test knowledge score on prevention of childhood obesity among school teachers and their work experience in experimental group

Table 4.5.5: Association between post-test knowledge score and work experience, *n=60*

Work Experience	No. of school teachers	Mean post-test knowledge score	F-value	p-value
5 year & below	0	-		
6 to 10 year	44	30.4+3.2	0.4979	0.4833 NS,p>0.05
11 to 15 year	16	31.0+2.2		
16 years and above	0	-		

df-3, 56, table value– 0.4833 significant, NS-not significant*

Analysis of variance (F- test) was computed to find out the significant association between the post-test knowledge score and the work experience ofschool teachers. The finding of F value shows that there is no significant association (p>0.05) between post-test knowledge score and work experience (table– 4.5.5).

Hence, it was interpreted that the work experience of school teachers was notassociated with the knowledge on prevention of childhood obesity. However, the F value was by chance and not true difference. Therefore, the research hypothesis was rejected.

Section V: Association between post-test knowledge scores on prevention of childhood obesity and demographic variables of school teachers in experimental group

Testing of hypothesis
H3: there is a significant association between the post-test knowledge score onprevention of childhood obesity among schoolteachers and their monthly income in experimental group

Table 4.5.6: Association between post-test knowledge score and monthly income, n=60

Monthly income	No. of school teachers	Mean post-test knowledge score	F-value	p-value
Rs.10,000/-& below	16	29.4+3.9		
Rs.10001/-to Rs.15000	17	30.7+3.2	1.1537	0.3356 NS, p>0.05
Rs.15001/-to Rs.20000	16	31.0+2.3		
Rs. 20001/- & above	11	31.3+1.8		

*df–3,56,tablevalue–0.3356*significant, NS-not significant*

Analysis of variance (F-test) was computed to find out the significant association between the post-test knowledge score and the monthly income of school teachers. The finding of F value shows that there is no significant association (p>0.05) between post-test knowledge score and monthly income (table- 4.5.6).

Hence, it was interpreted that the monthly income of school teachers was notassociated with the knowledge on prevention of childhood obesity. However, the F value was by chance and not true difference. Therefore, the research hypothesis was rejected.

7. Summary

The study was undertaken to assess the effectiveness of Health education on prevention of childhood obesity among working school teachers. A quantitative approach with quasi-experimental design was used to collect data among 120school teachersdrawn with non-probability convenient sampling technique using inclusion and exclusion criteria.

8. Conclusion

From the findings of present study, it was concluded that the pre-interventiondemographic variables of school teachers in control and experimental groupwere more or less similar revealing both the groups had similar characteristics. Percentage of knowledge and the mean scores of school teachers were more or less similar in both the groups before intervention.

However, after an intervention, the percentage of knowledge and the meanscores of school teachers were significantly increased in experimental groupwhereas it was remained unchanged in control group. There was a significantdifference between pre-test and post-test knowledge scores in experimentalgroup. And, there was also a significant difference between the post tests ofcontrolandexperimental group.

9. Recommendations

- Similar study with large sample can be undertaken to bring out more generalization of findings.
- Comparativestudy can be undertaken to find out the difference in knowledge among school teachers attending urban and rural schools /government or private hospital/

English or Marathi medium schools.
- A similar study can be conducted by using VATM / SIM on preventionofchildhood obesity.
- A similar study can be conducted among community nurse/ nurse working in paediatric ward / school children / school going children'sparents.
- Recommended to conduct true experimental design with random sampling.

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