

A Study to Assess the Effectiveness of Self Instructional Module on Level of Knowledge Regarding Importance of Outdoor Physical Activity of Children Between 6-12 Years of Age among Mothers in Selected Area, Bangalore

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ABSTRACT

BACKGROUND OF THE STUDY -

Children will have close physical contact with other children and care through regular daily activities and play. The study was undertaken to “assess the effectiveness of Self instructional module on level of knowledge regarding the importance of outdoor physical activity of children between 6 – 12 years of age among mothers in selected area, Bangalore”.

OBJECTIVES OF THE STUDY –

- To assess the level of knowledge regarding the importance of outdoor physical activity of children between 6- 12 years of age among mothers in selected area.
- To assess the effectiveness of Self Instructional Module regarding the importance of outdoor physical activity of children between 6- 12 years of age among mothers in selected area.
- To determine the association between the post test knowledge score of mothers with their selected demographic variables regarding the importance of outdoor physical activity of children between 6- 12 years of age among mothers in selected area.

METHODOLOGY –

The conceptual framework adopted for this study was Modified Ludwig Von Bertalanffy General System Theory. An evaluative approach with one group pre test and post test design was adopted for this study in order to accomplish the objectives. 50 mothers were selected using non probability convenient sampling technique. The data collection was carried to obtain the data from the mothers by using structured knowledge questionnaire followed by Self instructional module was administered to the sample and post test was conducted. Data collected from the samples are analyzed by using descriptive and inferential statistics.

RESULTS –

The study reveals that majority, 60% of mothers had adequate knowledge, 40% had moderate knowledge and none of them had inadequate knowledge. Thus, the effectiveness of Self instructional module in post test is found to be significant, $df_{49} = 15.42(P < 0.05)$.

CONCLUSION –

Findings of the study reveal that the Self instructional module is effective in all areas of improving the knowledge of the mothers regarding the importance of outdoor physical activity in children.

KEYWORDS: Effectiveness, SIM, Importance of Outdoor physical activity, Children, Mother, Socio-demographic variables

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INTRODUCTION

“Children is that state which ends the moment a puddle is first viewed as an obstacle of an opportunity.”

-Kathy Williams

Children’s time spent in the outdoors has been linked with positive health outcomes such as reduced childhood stress, symptoms of attention deficit disorders, myopia, asthma and increased feelings of well being. The average child however, spends only four to seven minutes in the outdoors each day. Given the strength of the evidence on the separate health benefits of physical activity and on the time spent in the outdoor and the relationships between time spent in the outdoor with participation in more vigorous physical activity among children, the promotion of outdoor physical activity is warranted.¹

Outdoor physical activity is a work of children. It consists of those activities performed for self amusement that have behavioral, social, psychomotor rewards. Outdoor physical activity is a child directed, and the rewards come from within the individual child: it is enjoyable and spontaneous. Outdoor physical activity is so important to optimal child development that it has been recognized by the United Nations High Commission for human rights as a right of every child. It can also explore risk-taking, fine and gross motor development and the absorption of vast amounts of basic knowledge.²

The physical activity is the bodily movement produced by skeletal muscle that requires energy expenditure and is a fundamental means of improving people’s physical and mental health. The physical activity reduces the risks of many non communicable diseases and benefit society by increasing social interaction and community engagement. It is not just a public health issues, it also promotes the well being of communities and the protection of the environment and comprises an investment in future generations. It includes exercise as well as other activities which involve bodily movement and are done as part of playing, working, active transportation, house chores and recreational activities.³

The Health Behavior of School Age Children survey provides the most comprehensive data on activity patterns across Europe among 11 to 15-year-olds. These data do need to be treated with caution, however, due to inconsistencies in the way the questions were asked in each country. It is thought that seasonal variations in particular may affect the data, as the time of year for the survey was not standardized. The survey shows that in all European Member States, the majority of 11-year-olds report exercising twice a week or more, with a great

variation between countries. For example 54% of girls in France are active at this level compared to 89% of girls in Northern Ireland, and 76% of boys in Norway compared to 93% of boys in Northern Ireland. In all countries boys are more active than girls, and time spent in activities declines with age across the majority of countries. By age 15, the most active countries still have around 90% of boys exercising twice a week (Northern Ireland; Austria) and 67% of girls (Germany and Austria) while the least active have around 70% of boys (Denmark Norway and Sweden) and 45% of girls.⁴

Outdoor physical activity allows the children to use their creativity while developing their imagination, dexterity and physical cognitive and emotional strength. Outdoor physical activity is important to healthy brain development. It is through play that children at a very early age engage and interact in the world around them. Outdoor physical activity allows children to create and explore a world they can master, conquering their fears, while participating adult roles, some time in conjunction with other children or adult.⁵

When outdoor physical activity is allowed to be children, children practice decision-making skills, move at their own pace discover their own areas of interest, and ultimately engage fully in the passions they wish to pursue. Ideally much of outdoor physical activity involves adults, but when physical activity is controlled by adults, children acquiesce to adult rules, and concern and lose some of the benefits physical activity offers them, particularly in developing creativity, leaderships, and group skills. In contrast to passive entertainment, physical activity builds active healthy bodies. In fact it has been suggested that encouraging unstructured outdoor physical activity may be an exceptional way to increase physical activity level in children, which is one important strategy in the resolution of the obesity epidemic. Perhaps above all outdoor physical activity is a simple joy that is a cherished part of childhood.⁵

Decreasing sedentary activity is essential for achieving weight control. Increased physical activity not only increase calorie use but also appears to decrease appetite. In children should have < 2hr/day of “Screen Time” (Television, Video Games, Computer) and television should be removed from children’s bedroom. It will encourage the children to do outdoor physical activity.⁵

Children are more likely to feel successful when they can experience active meaningful learning, use complex, challenging and varied materials, learn in a safe non threatening environment and receive accurate and timely feedback: Play equipment should

be chosen with insight into a child's needs and wish a view to providing motivation for learning and the expression of emotions.⁶

Outdoor physical activity is a dynamic process that develops and changes of it becomes increasingly more varied and complex. It is considered a key facilitator for learning and development across domains and reflects the social and cultural context in which they live.⁶

Several environmental factors which are linked to urbanization can discourage people from becoming more active such as fear of violence and crime in outdoor areas, high density traffic, low air quality pollution, lack of parks, sidewalks and sports or recreation. Due to these factors the children are more prone to get cardiovascular diseases, stress, respiratory diseases, diabetes, hypertension, obesity, musculoskeletal disorders, etc.⁷

The parents took an important role for the benefits of physical activity among their children. They have to encourage their children in participating any outdoor physical activity and also help in engaging through play, games and sports gives natural opportunities to express themselves, develop self confidence, relieve tension, achieve success and interact with others as well as learning about the spirit of solidarity and fair play.⁷

In India, the children will make a major proportion of the world's workforce and will drive the country's economy. In around 4 years, India's working population consisting stated reach to around 87 crore. The report indicates that physical activity is a global problem and which will help in bringing higher focus on issues related to physical activity.

The recommendations to improve outdoor physical activity in Indian children are

- The majority of the government led strategies are focused on competitive sports and the development of the elite national and international athletes.
- There are numerous barriers to physical activity in built environment and a national survey identified that the Indian cities are having low walk ability ratings as well as high air pollution. The evidence based local urban planning policy is critical to facilitate active living and minimize existing barriers.
- The families and educators plays an important role in providing children to be physically active.⁸

Nurses play an important role for giving awareness and health education regarding the importance of outdoor physical activity. It is helpful for gaining

their knowledge and also to give encouragement for participating in the outdoor activity.

OBJECTIVES

STATEMENT OF THE PROBLEM :

“ A STUDY TO ASSESS THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON LEVEL OF KNOWLEDGE REGARDING IMPORTANCE OF OUTDOOR PHYSICAL ACTIVITY OF CHILDREN BETWEEN 6-12 YEARS OF AGE AMONG MOTHERS IN SELECTED AREA, BANGALORE.”

OBJECTIVES :

- To assess the level of knowledge regarding the importance of outdoor physical activity of children between 6- 12 years of age among mothers in selected area.
- To assess the effectiveness of Self Instructional Module regarding the importance of outdoor physical activity of children between 6- 12 years of age among mothers in selected area.
- To determine the association the post test knowledge scores of mothers with their selected demographic variables regarding the importance of outdoor physical activity of children between 6- 12 years of age.

OPERATIONAL DEFINITIONS :

- **Assess** : It refers to the organized systematic and continuous process of collecting information on knowledge of the mothers in relation to importance of outdoor physical activities.
- **Effectiveness**: It refers to the capability of producing an effect in knowledge of the mothers in relation to importance of outdoor physical activities.
- **Knowledge**: It refers to the responses given from the participants (mothers) regarding importance of outdoor physical activity of children 6-12 years of age by structured questionnaire schedule.
- **Self instructional module** : It refers to a printed material which contains well planned and well organized information regarding the importance of outdoor physical activity for children.
- **Outdoor**: It refers to the activities done outside the house or in open air.
- **Physical activity**: It refers to any bodily activities that enhances or maintain physical fitness and overall health or wellness.
- **Children**: Both boys and girls in the age group between 6-12 years.
- **Mothers**: Women who are having one or more children in the age group of 6-12 years residing in a selected areas at Bangalore.

ASSUMPTION :

The study assumes that:

- The mothers may or may not have adequate knowledge regarding the importance of outdoor physical activity of children.
- Mothers will show interest to know more about the importance of outdoor physical activity of children.

HYPOTHESIS OF THE STUDY :

H₁ : The mean post test knowledge score of mother's will be significantly higher than the mean pretest scores.

H₂ : There will be significant association between the selected demographic variables and the post test knowledge scores of mother regarding the importance of outdoor physical activity of children between 6- 12 years of age.

DELIMITATIONS :

- The investigation limited to a selected areas in Bangalore.
- The study delimited to the mothers who have children age 6-12 years.
- The mothers who are available at the time of data collection.
- The mothers who are able to read, write and understand Kannada and English.

CONCEPTUAL FRAMEWORK :

Good research usually integrates research findings into an orderly, coherent system. Such integration typically involves linking research and existing knowledge through review of prior research on a topic and by identifying or developing an appropriate conceptual framework.

Conceptualization is a process of forming ideas which utilize and form conceptual framework for development of research design. Conceptual framework deals with abstractions that are assembled by virtue of their relevance to a common theme. A conceptual framework model broadly presents an understanding of the phenomenon of interest and reflects the assumptions and philosophic views of the models designer. It also provides the investigator to guidelines and to proceed in attaining the objectives of the study based on theory.

The study is designed to assess the knowledge of mothers about the importance of outdoor physical activity of children between 6-12 years of age. Age, religion, educational status, occupational status, income, type of family, number of children and sources of information regarding importance of outdoor physical activity may have some influencing relationship with the existing knowledge of the mothers of the children. The knowledge is assessed

by giving structured knowledge questionnaire. This will help to find out the level of knowledge of mothers regarding the play in their children. The deficiency of knowledge of mothers can be improved by providing self instructional module.

The conceptual framework adopted for the study is based on General Systems theory with the concepts of input, throughput, output and feedback, first introduced by Von Bertalanffy in 1968.

A system consists of a set of interacting components within a boundary that filters the type and rate of exchange of matter, energy and information. In open systems, there are varying degrees of interaction with the environment from which the systems receives input and gives back output in the form of matter, energy and information.

For survival all systems must receive varying types and amounts of matter, energy and information. Through the process of selection, the system regulates the type and amount of input received. The system uses input through self regulation to maintain the system equilibrium. The system continuously monitors itself and environment for information to guide its operation. This feedback information of environmental responses to the system output is utilized by the system in adjustment, correction and accommodation to the interaction with the environment. Feedback may be positive, negative or neutral.¹⁶

In the present study, these concepts can be explained as follows:

➤ Input :

Input consists of characteristics and conditions of people and the resource. The individual's own personality affects the learning as well as aids in influencing others. In this study, input refers to the mothers who have children between 6-12 years of age and their characteristics like age, religion, educational status, occupational status, income, type of family, number of children and sources of information regarding importance of outdoor physical activity in children.

➤ Process:

Process refers to the different operational procedures of the programme. They include assessment of the existing knowledge of the mothers regarding the importance of outdoor physical activity for children. The assessment of knowledge is essential because the cognitive processes have their own motivational or dynamic force with direct behavior. In this study, assessment exists knowledge of mothers will be assessed by structured questionnaire.

➤ **Output:**

After processing the input, the system returns output to the environment in the form of change of behavior. If there is adequate knowledge, it leads to favorable attitudes whereas inadequate knowledge leads to unfavorable attitudes and improper adjustments.

➤ **Feedback:**

The feedback is the process whereby the output of the system is redirected as part of the input of the same system. The present study does not include feedback.

➤ **Environment:**

Individual's environment is the constant element that influences the knowledge of mothers.

VARIABLES OF THE STUDY:

Research variable are concepts at various levels of abstraction that are measured, manipulated and controlled in a study.⁵⁴

➤ **Independent variable:** Self instructional module on importance of outdoor physical activities in children between 6- 12 years of age was the independent variable in this study.

➤ **Dependent variable:** The Knowledge level of mother on importance of outdoor physical activity in children between 6 -12 years of age was the dependent variable in this study.

➤ **Extraneous variables:** The extraneous variables include age of the mother, educational status, occupation, income, religion, type of family, number of children and source of information.

SETTING OF THE STUDY:

Setting is the physical locations in which data collection takes place.⁵⁴

The study was conducted in Sanjay Nagar PHC, Bangalore. Sanjay Nagar PHC was selected for the study on the basis of

- Geographic proximity
- Feasibility of conducting study
- Availability of sample

POPULATION:

A population is a complete set of persons or subjects that passes common characteristics that is of interest to the researcher. The target population is a group of population that the researcher has to study and to whom the study findings will be generalized.⁵⁴

In this study, the target population is the mothers who are staying in Sanjay Nagar, Bangalore.

SAMPLE:

The sample is a subset of population under the study. The sample for this study is mothers staying in Sanjay Nagar, Bangalore.

CRITERIA FOR SELECTION OF SAMPLE:

➤ **Inclusion Criteria:**

Mothers who are -

- able to read, write and understand Kannada or English language
- staying in selected area
- present at the time of study.

➤ **Exclusion Criteria:**

Mothers who are -

- not willing to participate in the study
- above 40 years of age.
- suffering from some physical and mental illness.

SAMPLING TECHNIQUE:

Sampling technique employed in this study was non probability convenient sampling technique based on inclusion and exclusion criteria. In non probability convenient sampling technique where samples are selected because of their accessibility and proximity to the researcher.

SELECTION AND DEVELOPMENT OF TOOL:

The tool prepared on the basis of the objective of the study. The tool was developed by the investigator with her personal and professional experience. After an extensive of related literature and discussion with subject's experts and guide, the tool developed, refined and validated.

DESCRIPTION OF THE TOOL:

The structured questionnaire was prepared for collecting the data from the samples. The final format of the tool was comprised of two parts.

The tool consists of two parts are –

Section – 1: It consists of 8 items related to demographic variables such as include age of the mother, educational status, occupation, income, religion, type of family, number of children and source of information

Section – 2: Structured questionnaire. It consists of 25 multiple choice questions to assess the knowledge of the mothers regarding the importance of outdoor physical activity in children 6-12 years of age and has divided into six(6) specific topics. The topics are –

- meaning of physical activity
- factors of physical activity
- consequences of physical activity
- methods to improve physical activity
- importance of physical activity
- benefits of physical activity

PILOT STUDY:

Pilot study is a small scale version or trial run of major study. The purpose of the pilot study is to obtain information regarding accessibility and feasibility of the study.

The pilot study was conducted to assess the feasibility and reliability of the tool. Five (5) mothers were randomly selected from Sanjay Nagar, Bangalore to assess the knowledge of mothers pretest by using structured knowledge questionnaire regarding the importance of outdoor physical activity in children 6-12 years of age. Then the Self Instructional Module is given on the same day. After 7 days, the post test was conducted by using the same questionnaire to evaluate the effectiveness of the Self Instructional Module. The subjects selected for the pilot study are not included in the final study.

DATA COLLECTION PROCEDURE:

Data collection is gathering of information needed to address the research problem. Prior to actual data collection, the investigator obtained permission from the Sanjay Nagar PHC, Bangalore. The data collected with the help of structured questionnaire method.

Data collection was carried out by the pre test which was conducted among 50 mothers who met the sampling criteria using non probability convenient sampling method. To assess the knowledge of mothers pretest was conducted using the structured knowledge questionnaire. The Self Instructional Module is administered on the same day after the pre test for the duration of about 45 minutes.

After seven days, post test was conducted using the same structured knowledge questionnaire to evaluate the effectiveness of Self Instructional Module. The investigator was very much planned to observe the excellent responses while administering the post test. Confidentiality and autonomy was maintained throughout the study.

PLAN FOR DATA ANALYSIS:

Statistical procedures are enable investigator to summarize, organize, evaluate, interpret and communicate numerical information. The data obtained were analyzed in terms of objectives by using descriptive and inferential statistics.

The data on sample characteristics were organized in the form of frequencies and percentage. The graphical presentation was also made wherever it is feasible and applicable.

Descriptive statistics –

- organization of data in master sheet
- demographic data analyzed in terms of frequency and percentage
- the level of knowledge of mothers on the importance of outdoor physical activity in children 6-12 years of age before and after Self Instructional Module analyzed in terms of frequency, percentage, mean and standard deviation and is presented in tables and diagrams.

Inferential statistics –

- Paired ‘t’ test used to find out the effectiveness of Self Instructional Module on the importance of outdoor physical activity in children.
- Chi square test used to find out the association between post knowledge scores of mothers with their demographic variables.

RESULTS

DATA ANALYSIS AND INTERPRETATION

- Analysis is a research technique used for systematic, objective and quantitative description of content of research procured through various means of research investigations. The analysis and interpretation of data involve the objective material in the possession of researchers and his subjective reactions and desire to derive from the data, the inherent meanings in that relation to the problem.
- This chapter deals with the analysis and interpretation of data collection from the sample i.e., 50 mothers from Sanjay Nagar, Bangalore. A structured questionnaire used for data collection. The analysis and interpretation was done with descriptive and inferential statistics.
- The present study is aimed to gather information about knowledge of mothers on importance of outdoor physical activity in children 6-12 years of age. Based on this information, the investigator has prepared a self instructional module on the “importance of outdoor physical activity in children 6-12 years of age” to enhance the awareness in mothers.
- The collected data were coded, entered in master sheet, compiling and categorizing the information was done to summarize and organized the data meaningfully. Based on the objective of the study, the findings were organized in the following sections –
- **Section I:** dealt with socio - demographic variables of the samples
- **Section II:** dealt with level of knowledge among mothers regarding the of outdoor physical activity in children 6-12 years of age
- **Section III:** dealt with the effectiveness of self instructional module on knowledge on importance of outdoor physical activity in children 6-12 years of age among mothers.
- **Section IV:** dealt with the association between post test knowledge of the mothers with selected demographic variables.

SECTION – I**DEMOGRAPHIC VARIABLES**

- The demographic variables selected for analysis in the present study are age, religion, educational status, occupational status, family income, type of family, number of children and source of information regarding the importance of outdoor physical activity in children 6-12 years of age.

Table -1: Distribution of samples according to their demographic variables.

Sl. No.	Demographic variables	Frequency (f)	Percentage (%)
1.	Age in years		
	a) 25-30 years	12	24%
	b) 30-35 years	25	50%
2.	Religion		
	a) Hindu	6	12%
	b) Muslim	0	0%
3.	Educational status		
	a) Illiterate	17	34%
	b) Undergraduate	22	44%
4.	Occupational status		
	a) Unemployed	47	94%
	b) Employed	3	6%
5.	Family income		
	a) Less than Rs. 5000/month	8	16%
	b) Between Rs. 5000 to Rs. 10000/ month	30	60%
	c) More than Rs.10000/ month	12	24%

Table 1 narrates the frequency and percentage distribution of samples according to their demographic variables.

Among the 50 mothers, majority 25(50%) were in the age group of 30-35years,13 (26%) were in the age group of above 35 years and 12(24%) were fallen in the age group of 25-30 years.

When moving to the religion, majority 44(88%) of the mothers belongs to Christian, 6(12%) of the mothers belongs to Hindu and none of them belongs to Muslim.

Looking towards to their educational status, majority 22(44%) of the mothers completed under graduation, 17(34%) of the mothers are illiterate and 11(22%) of the mothers completed post graduation.

Out of the 50 mothers participated, majority 47(94%) of the mothers are unemployed and 3(6%) of the mothers are employed.

With regard to family income per month, majority 30(60%) earns between Rs. 5000-Rs. 10000, 12(24%) earns more than Rs. 10000 and only 8(16%) earns less than Rs. 5000.

Among 50 mothers participated, majority 36(72%) of the mothers belong to nuclear family and 14(28%) of the mothers belong to joint family.

Among 50 mothers participated, majority 38(76%) of the mothers are having more than 1 child and 12(24%) of the mothers are having only 1 child.

Among 50 mothers participated in the study, majority 36(72%) of the mothers received the information from the health personnel, 10(20%) of the mothers received information from the mass media and 4(8%) of the mothers received information from their friends and family about the importance of outdoor physical activity.

1. AGE –

Majority of the mothers (50%) were in the age group of 30-35 years, 13 (26%) were in the group of above 35 years and 12(24%) were fallen in the age group of 25-30 years.

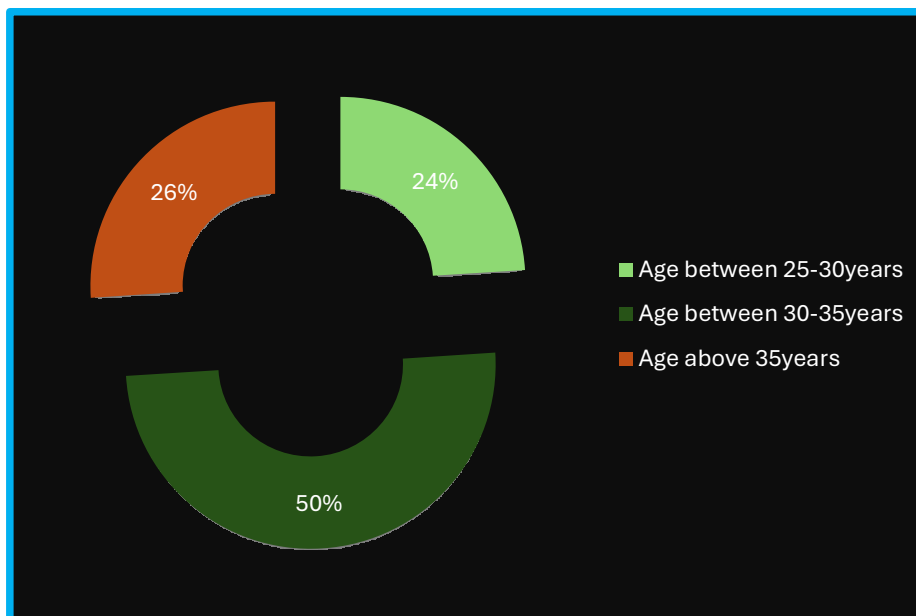


Figure 3 – Pie diagram showing distributions of mothers according to their age.

2. RELIGION

With regard to religion, majority 88% of the mothers were Christians, 12% were Hindu and none of them belongs to Muslim religion. The data is shown in the form of pie diagram in figure 4.

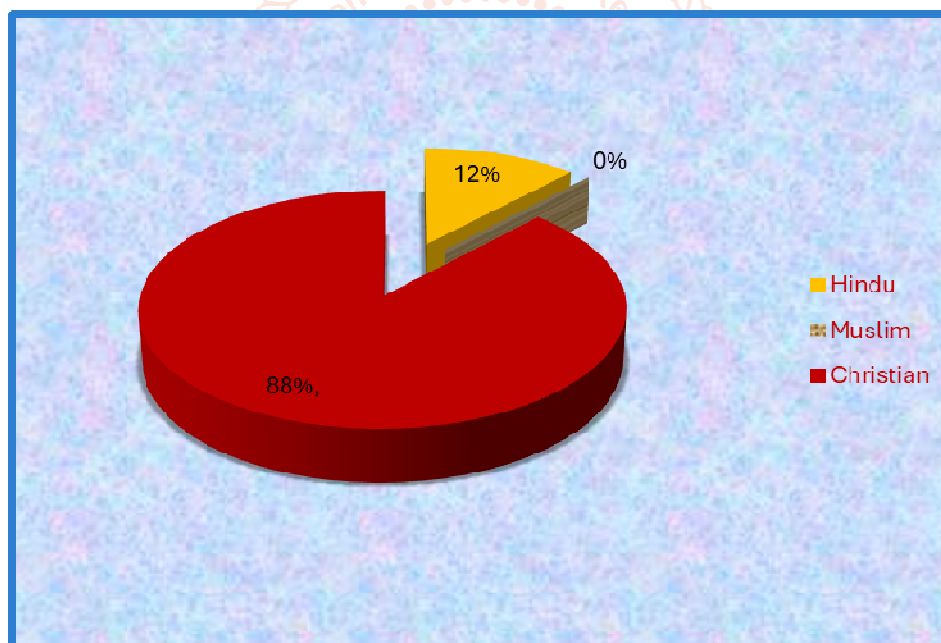


Figure 4 – Pie diagram showing distribution of mothers according to the religion.

3. EDUCATIONAL STATUS –

With regards to the qualification, majority 44% of the mothers completed under graduation, 34% of the mothers were illiterate and 22% of the mothers completed post graduation. The data is shown in the form of bar diagram in figure 5.

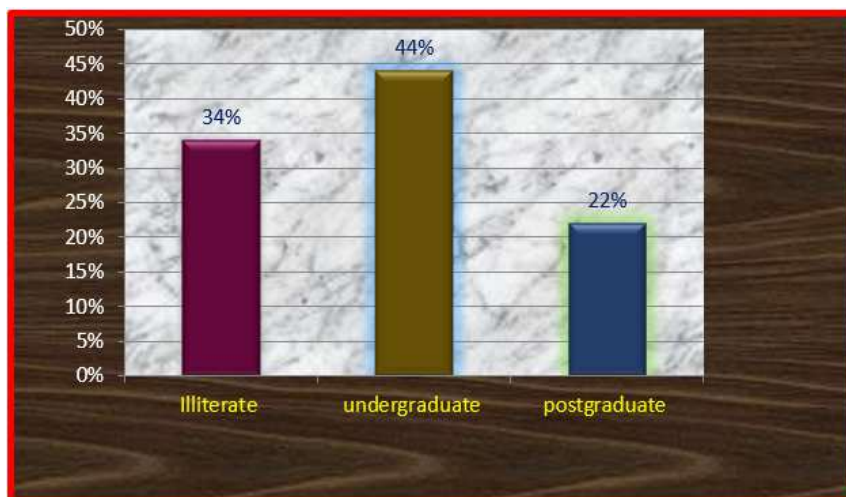


Figure 5 – Bar diagram showing distribution of mothers according to educational status.

4. OCCUPATIONAL STATUS –

Among 50 mothers, majority 94% were unemployed and 6% were employed. The data is shown in the form of bubble diagram in figure 6.

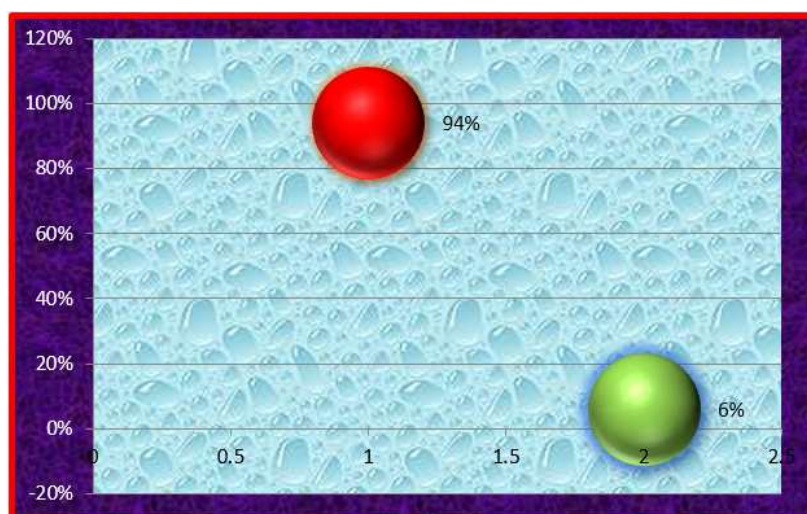


Figure 6 – Bubble diagram showing the distribution of mothers according to occupational status.

5. FAMILY INCOME PER MONTH –

With regard to family income per month, majority 60% earns between Rs. 5000-Rs. 10000, 24% earns more than Rs. 10000 and only 16% earns less than Rs. 5000. The data is shown in the form of pyramid diagram in figure 7.

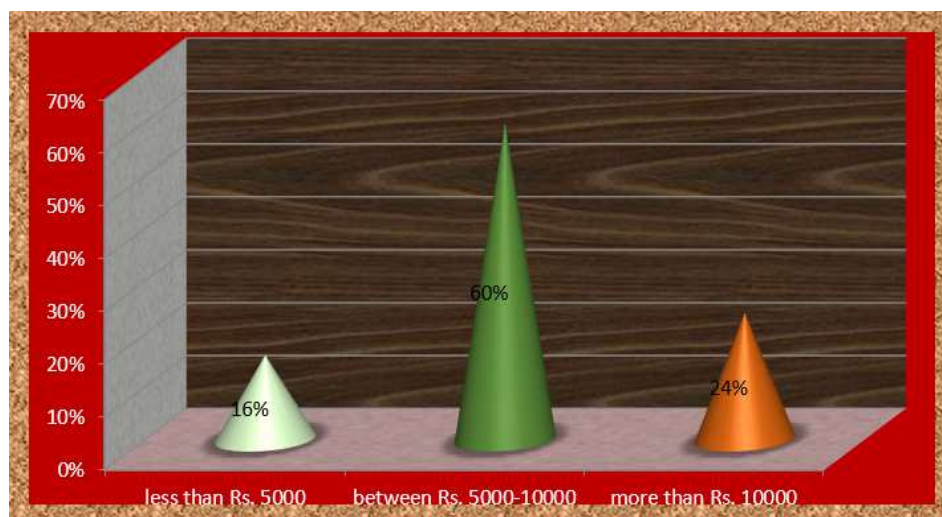


Figure 7 – Pyramid diagram showing the distribution of mothers according to family income per month

6. TYPE OF FAMILY –

Majority of mother 72% belongs to nuclear family and 28% belong to joint family. The data is shown in the form of pie diagram in figure 8.

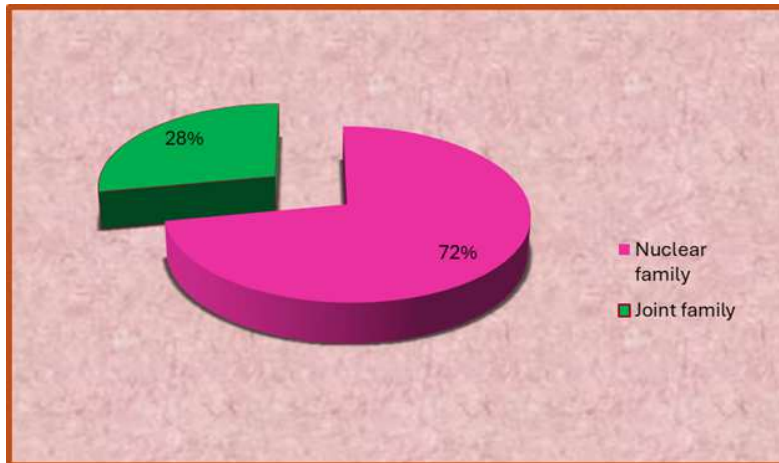


Figure 8 – Pie diagram showing distribution of mothers according to the type of family.

7. NUMBER OF CHILDREN –

Majority 76% of mothers had more than 1 children and 24% of mothers had only 1 child. The data is shown in the form of bar diagram in figure 9.

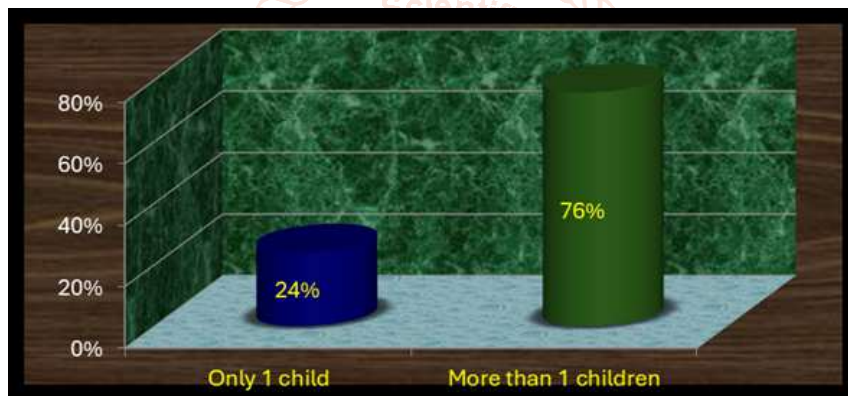


Figure 9 – Bar diagram showing distribution of mothers according to the number of children.

8. SOURCE OF INFORMATION REGARDING THE IMPORTANCE OF OUTDOOR PHYSICAL ACTIVITY –

It is evident that majority 72% of the mothers received information from health personnel, 20% of mothers received information from mass media and 8% of the mothers received from family and friends. The data is shown in the form of bubble diagram in figure 10.

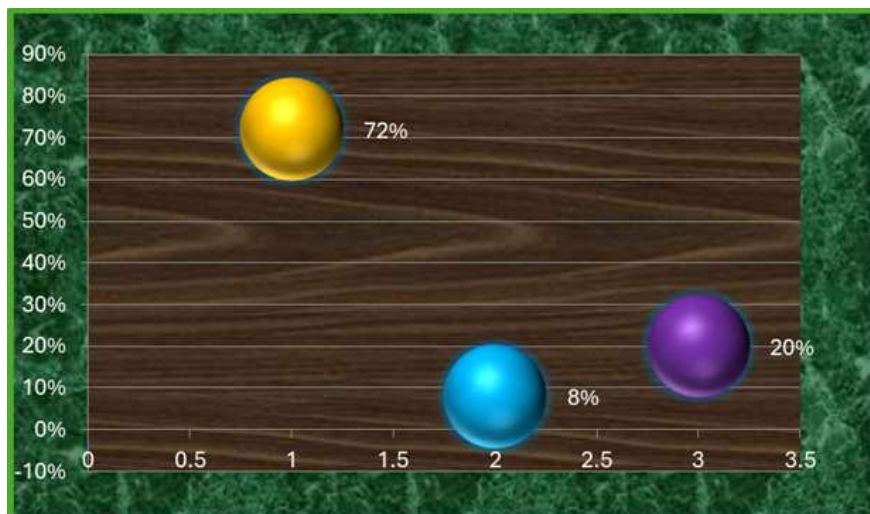


Figure 10 – Bubble diagram showing distributions of mothers according to source of information.

SECTION – II

To assess the level of knowledge on importance of outdoor physical activity in children 6-12 years of age among mothers.

Table - 2: Aspect wise pretest and posttest knowledge score regarding the importance of outdoor physical activity in children 6-12 years of age among mothers.

N = 50

ASPECTS	MAXIMUM SCORE	PRE TEST			POST TEST		
		Mean	Mean %	Standard deviation	Mean	Mean %	Standard deviation
Meaning of physical activity	2	1.04	52	0.36	1.86	93	0.34
Factors affecting outdoor physical activity	2	0.72	36	0.46	1.76	88	0.4
Consequences for reducing outdoor physical activity	3	0.92	30.6	0.45	2.36	78.6	0.68
Methods for the improvement of outdoor physical activity	11	4.1	37.2	1.13	7.3	66.36	1.9
Importance of outdoor physical activity	3	1.02	34	0.45	2.3	76.6	0.7
Benefits of outdoor physical activity	4	1.34	33.5	0.53	2.92	73	0.83

The above data shows the mean, mean percentage and standard deviation of knowledge scores regarding the importance of outdoor physical activity in children 6-12 years of age among mothers before and after delivery of Self instructional module.

With regard to the meaning of physical activity, 52% of mean percentage score found in pre test and 93% in post test. In the context of factors affecting outdoor physical activity, 36% of mean percentage score identified in pre test and 88% of mean percentage in post test. In relation to the consequences of reducing outdoor physical activity, 30.6% of mean percentage shown in pre test and 78.6% in post test. In the methods of improvement of outdoor physical activity, 37.2% of mean percentage found in pre test and 66.36% of mean percentage found in post test. In the importance of outdoor physical activity, 34% of mean percentage found in pre test and 76.6% of mean percentage found in post test. Looking towards benefits of outdoor physical activity, 33.5% and 73% of mean percentage found in pretest and posttest respectively.

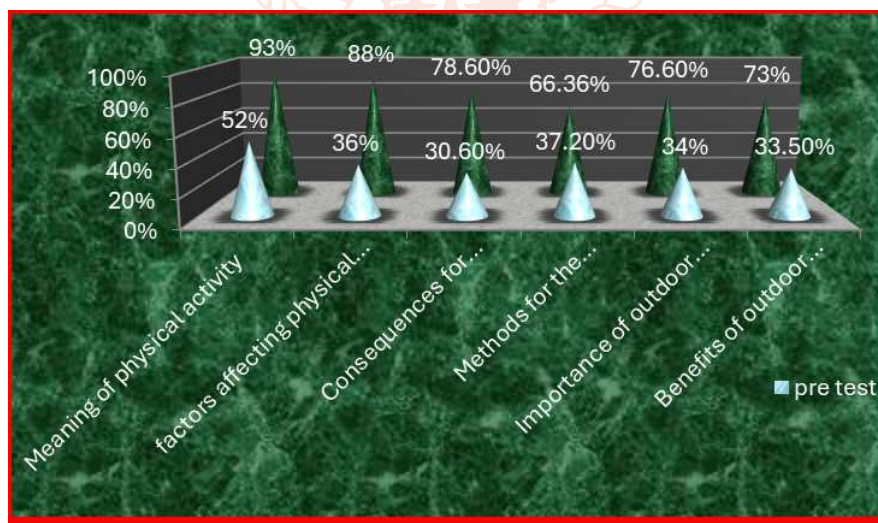


Figure - 11: Pyramid diagram showing aspect wise pretest and posttest knowledge regarding the importance of outdoor physical activity in children 6-12 years of age among mothers.

Assessment of overall pretest and posttest knowledge scores regarding the importance of outdoor physical activity in children 6-12 years of age among mothers.

Table -3: Overall knowledge percentage of the sample in pretest and posttest.

N=50

LEVEL OF KNOWLEDGE	PRE TEST		POST TEST	
	Frequency	Percentage	Frequency	Percentage
Inadequate knowledge (<50 %)	45	90%	0	0%
Moderate knowledge (50-75%)	5	10%	20	40%
Adequate knowledge (>75%)	0	0%	30	60%

The above table signifies the level of pretest and posttest knowledge regarding the importance of outdoor physical activity in children 6-12 years of age among mothers. From the table it is revealed that among the 50 sample, majority 45(90%) had inadequate knowledge, 5(10%) had moderate knowledge and none of them had adequate knowledge in pre test.

After the delivery of Self instructional module in post test the level of knowledge increased as none of samples had inadequate knowledge, majority 30(60%) had adequate knowledge and 20(40%) had moderate knowledge.

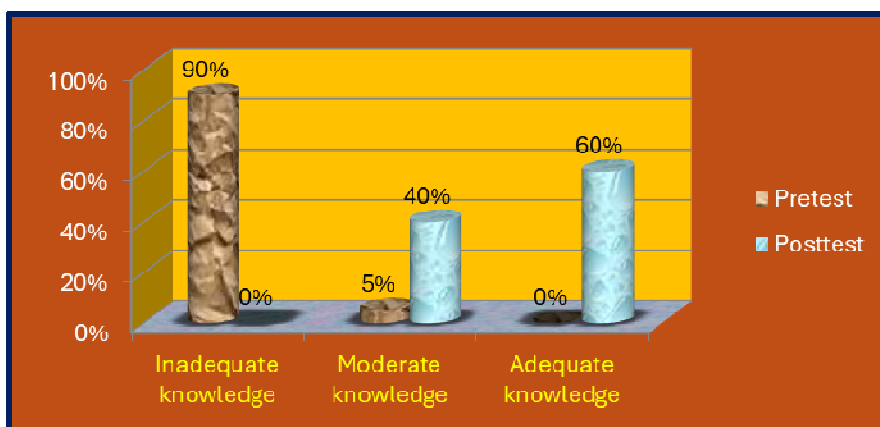


Figure -12: Bar diagram showing overall knowledge score of samples in pretest and posttest.

Aspect wise level of pretest and posttest knowledge scores among mothers regarding the importance of outdoor physical activity in children 6-12 years of age.

Table – 4: Aspect wise pre test and post test knowledge score.

ASPECTS OF KNOWLEDGE	INADEQUATE KNOWLEDGE				MODERATE KNOWLEDGE				ADEQUATE KNOWLEDGE			
	Pre test		Post test		Pre test		Post test		Pre test		Post test	
	f	%	f	%	f	%	f	%	f	%	f	%
Meaning of physical activity	5	10%	0	0%	38	76%	7	14%	7	14%	43	86%
Factors affecting outdoor physical activity	20	40%	1	2%	24	48%	10	20%	6	12%	39	78%
Consequences for reducing outdoor physical activity	41	82%	6	12%	9	18%	20	40%	0	0%	24	48%
Methods for the improvement of outdoor physical activity	44	88%	6	12%	6	12%	26	52%	0	0%	18	36%
Importance of outdoor physical activity	42	84%	7	14%	7	14%	21	42%	1	2%	22	44%
Benefits of outdoor physical activity	49	98%	18	36%	1	2%	18	36%	0	0%	14	28%

The above table narrates the aspect wise pre test and post test percentage distribution regarding the importance of outdoor physical activity in children 6-12 years of age among mothers.

It is revealed that in meaning of physical activity 10%, 76% and 14% of knowledge score level shown as inadequate, moderate and adequate knowledge level respectively during the pre test. Meanwhile, in post test 0%, 14% and 86% of knowledge score level shown as inadequate, moderate and adequate knowledge level respectively.

When moving to factors affecting outdoor physical activity, there were 40%, 48% and 12% of mothers were shown as inadequate, moderate and adequate level of knowledge respectively during the pre test where as during the post test, 2%, 20% and 78% of mothers were shown as inadequate, moderate and adequate level of knowledge respectively.

With regards to consequences for reducing outdoor physical activity, 82%, 18% and 0% of mothers were inadequate, moderate and adequate level of knowledge respectively during pre test. Yet, 12%, 40% and 48% of mothers were identified as having inadequate, moderate and adequate level of knowledge respectively in post test.

Moving to the methods for improving the outdoor physical activity, 88%, 12% and 0% of mothers identified as inadequate, moderate and adequate level of knowledge in pre test respectively. During, post test 12%, 52% and 36% are founded as inadequate, moderate and adequate level of knowledge respectively.

On view to the importance of outdoor physical activity, 84%, 14% and 2% of mothers identified as inadequate, moderate and adequate knowledge score respectively. In post test, 14%, 42% and 44% of mothers identified as inadequate, moderate and adequate knowledge score respectively.

Looking to the benefits of outdoor physical activity, 98%, 2% and 0% of mothers identified as inadequate, moderate and adequate knowledge in pre test respectively meanwhile, in post test 36%, 36% and 28% of mothers identified as inadequate, moderate and adequate knowledge score respectively.

From, the above information it is clear that the level of knowledge of the samples has increased in post test than in pre test.

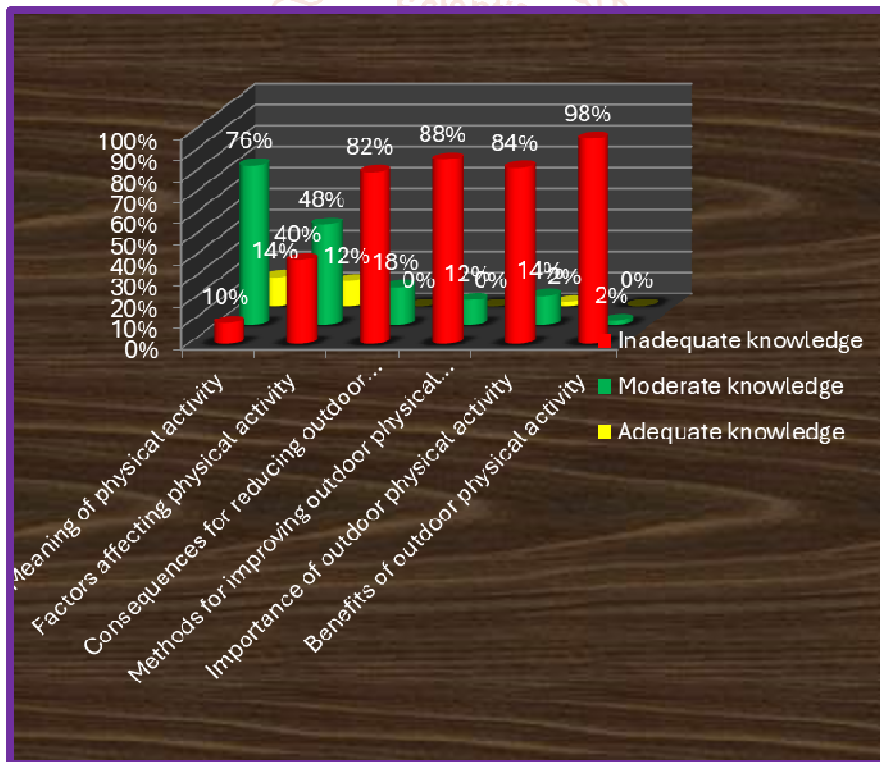


Figure – 13: Bar diagram showing percentage distribution of aspect wise knowledge level during pre test.

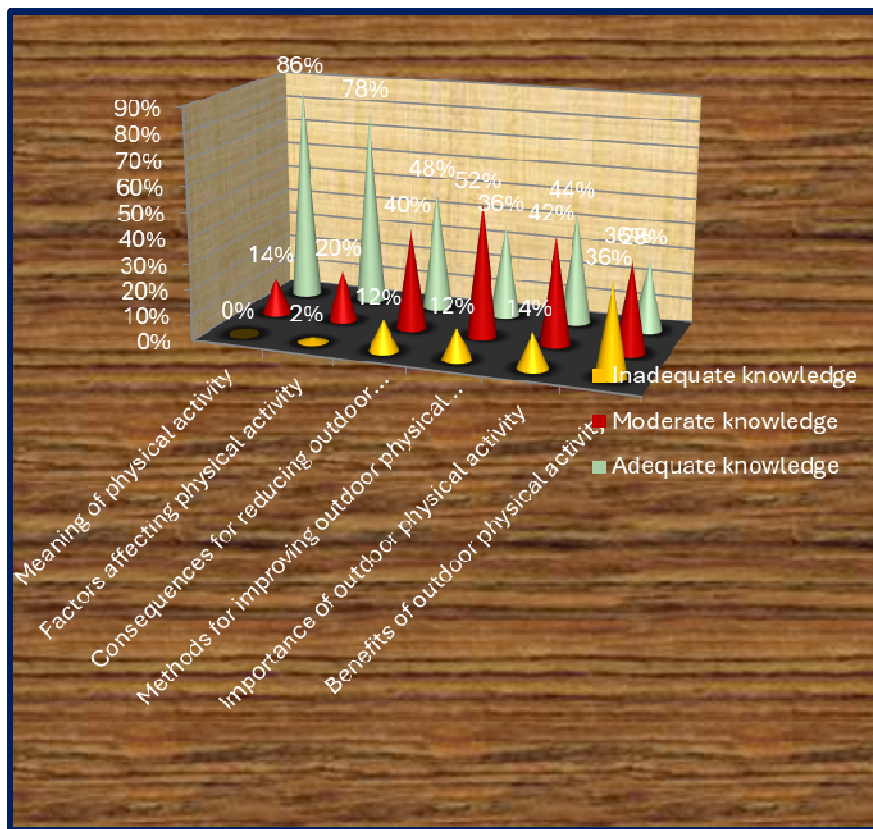


Figure – 14: Pyramid diagram showing percentage distribution of aspect wise knowledge level during post test.

SECTION - III

Assess the effectiveness of Self instructional module on knowledge regarding the importance of outdoor physical activity in children 6-12 years of age among mothers.

Table – 5: Paired “t” test value between pre test and post test knowledge score.

N=50

Knowledge	Mean	Mean Difference	Standard Deviation	df Value	Calculated Paired “t” Value	Paired “t” Table Value	Significance
PRE TEST	9.14	9.36	3.38	49	15.42	1.671	P<0.05
POST TEST	18.5		4.85				

From the table, it is revealed that the mean of pre test knowledge score is 9.14(36.56%) and post test is 18.5 (74%). The mean difference found out is 9.36. The paired “t” valued at df (49) obtained is 15.42 at the level of significance 0.05. The tabulated “t” value at the level of significance 0.05 (1.671) is less than calculated “t” value (15.42) i.e. p<0.05. Therefore, H₁ Self instructional module on the importance of outdoor physical activity in children 6-12 years of age shown more effectiveness in the knowledge among mothers was proved and accepted.

SECTION – IV

To find out the association between the post test knowledge scores of mothers with their selected demographic variables.

Table – 6: Association between demographic variables and post test knowledge scores of mothers with their selected socio- demographic variables.

N=50

Demo graphic Variables	Categories	Knowledge Level				Total	df value	Calculated chi square value	P Value	Significance
		Moderate		Adequate						
		n	%	n	%					
Age in years	25-30yrs	4	33.3	8	66.6	12	2	0.676	5.99	P>0.05 (NS)
	30-35yrs	11	44	14	56	25				
	>35yrs	6	46	7	53.8	13				

Religion	Hindu	4	50	2	25	6	2	10.729	5.99	P<0.05 *
	Muslim	0	0	0	0	0				
	Christian	18	40.9	26	59	44				
Educational status	Illiterate	8	47	9	52.9	17	2	0.341	5.99	P>0.05 (NS)
	Under graduate	10	45.4	12	54.5	22				
	Post graduate	4	36.3	7	63.6	11				
Occupational status	Un employed	22	46.8	25	53	47	1	2.401	3.84	P>0.05 (NS)
	Employed	0	0	3	100	3				
Family income	<Rs.5000/month	1	12.5	7	87.5	8	2	5.87	5.99	P>0.05 (NS)
	Rs5000 to Rs.10000/month	12	40	18	60	30				
	>Rs.10000/month	8	66.6	4	33.3	12				
Type of family	Nuclear family	15	41.6	21	58.3	36	1	0.275	3.84	P>0.05 (NS)
	Joint family	7	50	7	50	14				
Number of children	Only 1	7	58.3	5	41.6	12	1	1.147	3.84	P>0.05 (NS)
	More than 1	15	39.4	23	60.5	38				
Source of information	Health personnel	18	50	18	50	36	2	1.907	5.99	P>0.05 (NS)
	Family / friends	1	25	3	75	4				
	Mass media	3	30	7	70	10				

Note: NS – not significant, * - significant

The above table reveal that there is no significant association between post test knowledge scores of mothers with their age, educational status, occupational status, family income, type of family, number of children and source of information as their obtained chi-square value is less than table value at 0.05 level of significance.

There is a significant association between post test knowledge scores of mothers with their religion regarding the importance of outdoor physical activity as their obtained chi-square value is greater than table value at 0.05 level of significance. Therefore, H₂ is a significant association between post test knowledge scores of mothers with their selected demographic variables was proved and accepted.

SUMMARY

Major findings of the study:

- Among the 50 mothers, majority 25(50%) were in the age group of 30-35years, 13(26%) were in the age group of above 35 years and 12(24%) were fallen in the age group of 25-30 years.
- When moving to the religion, majority 44(88%) of the mothers belongs to Christian, 6(12%) of the mothers belongs to Hindu and none of them belongs to Muslim.
- Looking towards to their educational status, majority 22(44%) of the mothers completed under graduation, 17(34%) of the mothers are illiterate and 11(22%) of the mothers completed post graduation.
- Out of the 50 mothers participated, majority 47(94%) of the mothers are unemployed and 3(6%) of the mothers are employed.
- With regard to family income per month, majority 30(60%) earns between Rs. 5000 to Rs. 10000, 12(24%) earns more than Rs. 10000 and only 8(16%) earns less than Rs. 5000.
- Among 50 mothers participated, majority 36(72%) of the mothers belong to nuclear family and 14(28%) of the mothers belong to joint family.
- Among 50 mothers participated, majority 38(76%) of the mothers are having more than 1 child and 12(24%) of the mothers are having only 1 child.
- Among 50 mothers participated in the study, majority 36(72%) of the mothers received the information from the health personnel, 10(20%) of the mothers received information from the mass media and 4(8%) of the mothers received information from their friends and family about the importance of outdoor physical activity.
- It is revealed that in meaning of physical activity 10%, 76% and 14% of knowledge score level shown as inadequate, moderate and adequate knowledge level respectively during the pre test. Meanwhile, in post test 0%, 14% and 86% of knowledge score level shown as inadequate, moderate and adequate knowledge level respectively.
- When moving to factors affecting outdoor physical activity, there were 40%, 48% and 12% of mothers were shown as inadequate, moderate and adequate level of knowledge respectively during the pre test where as during the post test, 2%, 20% and 78% of mothers were shown as inadequate, moderate and adequate level of knowledge respectively.

- With regards to consequences for reducing outdoor physical activity, 82%, 18% and 0% of mothers were inadequate, moderate and adequate level of knowledge respectively during pre test. Yet, 12%, 40% and 48% of mothers were identified as having inadequate, moderate and adequate level of knowledge respectively in post test.
- Moving to the methods for improving the outdoor physical activity, 88%, 12% and 0% of mothers identified as inadequate, moderate and adequate level of knowledge in pre test respectively. During, post test 12%, 52% and 36% are founded as inadequate, moderate and adequate level of knowledge respectively.
- On view to the importance of outdoor physical activity, 84%, 14% and 2% of mothers identified as inadequate, moderate and adequate knowledge score respectively. In post test, 14%, 42% and 44% of mothers identified as inadequate, moderate and adequate knowledge score respectively.
- Looking to the benefits of outdoor physical activity, 98%, 2% and 0% of mothers identified as inadequate, moderate and adequate knowledge in pre test respectively meanwhile, in post test 36%, 36% and 28% of mothers identified as inadequate, moderate and adequate knowledge score respectively.
- The paired “t” valued at df (49) obtained is 15.42 at the level of significance 0.05. The tabulated “t” value at the level of significance 0.05 (1.671) is less than calculated “t” value (15.42) i.e. $p < 0.05$. Therefore, the null hypothesis is rejected and H₂ Self instructional module on the importance of outdoor physical activity in children 6-12 years of age shown more effectiveness in the knowledge among mothers is accepted.
- Chi- square test was done to analyze the association between the post test knowledge scores and the selected demographic variables. The study findings show that, there is no association between the post test knowledge scores and selected demographic variables like age in years, educational status, occupational status, family income, type of family, number of children and sources of information and there is an association between the post test knowledge scores and selected demographic variables like religion.

On the whole, carrying out the present study was really an enriching experience to the investigator. It also helped a great deal to explore and improve the

knowledge of the researcher and the mothers regarding importance of outdoor physical activity in children. The constant encouragement and guidance by the guide, co operation and the interest of the samples in the study contributed to the successful completion of the study.

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