A STUDY TO EVALUATE THE EFFECTIVENESS OF PUPPET SHOW ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG PRIMARY SCHOOL CHILDERN IN SELECTED RURAL PRIMARY SCHOOLS AT BANGALORE.

By

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MASTER OF SCIENCE

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Under the guidance of

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- Psalm145:9

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Place

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LIST OF ABBREVIATIONS USED

ACN	Acharya college of nursing
AV	Audio- Visual aids
Df	Degree of freedom
χ^2	Chi-Square
SD	Standard Deviation
STP	Structured teaching program
SA	Strongly agree
A	Agree
DA	Disagree
NS	Non-significant

ABSTRACT

BACKGROUND AND PURPOSE OF THE STUDY:

Personal hygiene is important in every stage of life, but good cleanliness habits start in childhood. Kids who learn what it is and how to follow proper hygiene practices will usually carry that into adulthood. Common childhood infections like childhood diarrhea, respiratory illnesses and bacterial skin infections can be averted by simple hand washing with soap before eating and after using the toilet. According to WHO study, every rupee spent on improving hygiene generates an average economic benefit of RS. 9/. According to UNICEF More than 1000 children die every day in India from diarrhea. According to the WHO-UNICEF joint monitoring programme, about 2.6 billion (40%) of the world's population did not have access to a sanitation and poor hygiene. According to UNICEF about 35% of Indian schools do not have toilets, the school toilets that exist; many are not functional or usable. A study was under taken to assess knowledge, attitude, practice (KAP) toward oral health, among school children of Bangalore city. Survey found that only 38.5% of the children brush their teeth two or more times a day, pain and discomfort from teeth 35.1%. Results of this study suggest that oral health KAP of study participants are poor and need to improve. So investigator felt that there is urgent consensual need for action to avoid ill effects of poor hygiene being as part of health care delivery system, hence with the above mentioned literature investigator have chosen a study to evaluate the effectiveness of puppet show on personal hygiene among primary school children. **OBJECTIVES** 1. To assess the pre-test knowledge level of primary school children regarding personal hygiene. 2. To evaluate the effectiveness of puppet show on personal hygiene by comparing the pre-test and post-test knowledge scores. 3. To find out the association between pre-test knowledge level of primary school children regarding personal hygiene with selected socio-demographic variables. **DESIGN:** One group pre test –post test design was selected for the study. **SUBJECTS:** The participants were 60 primary school children in selected rural school, Bangalore. **SAMPLING METHOD:** A systematic random sampling was used to select the sample of the study. **DATA COLLECTION TOOL**: A structured interview schedule was used to collect data from the subjects. **DATA ANALYSIS:** The obtained data were analyzed using descriptive and inferential statistics and interpreted in terms of objectives and hypotheses of the study. The level of significance was set at 0.05 levels. **RESULT:** In the pre test, the subjects had inadequate knowledge with a mean

percentage of 38.9% and a standard deviation of 20.8% where as in the post test, there was a significant mean knowledge gain of 81.3% and a standard deviation of 8.9%. A significant association was found between age (χ^2 = 4.32), marital status (χ^2=3.95) and place of residence (χ^2=5.48) and the mean pre test knowledge scores at 0.05 level of significance. **CONCLUSION:** In the pre test, about 63.3% of the samples had inadequate knowledge where as in the post test of the samples (66.7%) had gained adequate knowledge. These findings indicate that the puppet show was effective in enhancing the knowledge of the primary school children regarding personal hygiene.

Key words: puppet show, knowledge, personal hygiene, children, primary school.

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1. INTRODUCTION

"A healthy body is the guest-chamber of the soul; a sick, its prison."

Personal hygiene is important in every stage of life, but good cleanliness habits start in childhood. Kids who learn what it is and how to follow proper hygiene practices will usually carry that into adulthood. Hygiene education starts with the family, and eventually youngsters can learn what to do and follow cleanliness rules on their own when a baby makes the transition into childhood, it may be more of a challenge to keep her fresh. As a child grows, so do his opportunities for the face, hands and feet to become messy and dirty. Learning proper cleanliness skills in childhood can help prevent the spread of germs and illness. As a child grows, good hygiene becomes increasingly important because hormonal changes during puberty lead to stronger body odor and oilier hair and skin.[1]

Discussing personal hygiene is something most people prefer to avoid. After all, it can be tricky to let someone know that his hygiene is lacking without giving offense. In school, teachers often find themselves having to instruct students on the importance of good hygiene. Teaching the basics of proper personal hygiene is important for keeping kids healthy and clean. Children with poor hygiene often suffer from health problems. They may be ostracized and ridiculed by their peers, as well. To avoid damaging the student's self-esteem, a teacher must broach the subject of personal hygiene carefully.[2]

Common childhood infections like childhood diarrhea, respiratory illnesses and bacterial skin infections can be averted by simple hand washing with soap before eating and after using the toilet. In India, a survey carried out by UNICEF among school children revealed that about half the ailments found were related to unsanitary conditions and lack of personal hygiene. It is important for grade-schoolers to practice good hygiene particularly hand washing because they spend so much of their time in close contact with each other in the classroom, sharing everything from desks and chairs to germs. A study done by researchers from Yamaguchi University School of Medicine in Japan and the U.S. Centers for Disease Control and Prevention proved

this in a low-income area of Pakistan, where families could not afford soap. Through donations, they supplied the families with soap and taught them correct hygiene practices. This reduced childhood infections in that region to 50 percent.[3]

Children tend to tease a child who picks her nose or comes to school with matted hair, dirty clothing or a foul smell. According to Australian psychologist Marion Kostanski, teasing is strongly related to a child's self-esteem, and our society has a low tolerance for individuals who look and act differently. The psychologist's study suggests a child who does not practice good personal hygiene is placed at risk for injurious teasing by peers. Take the time to teach your child at a young age the basics of good hygiene to avoid unnecessary teasing and taunting by peers.[3]

So it is the responsibility of either the teacher or nurse to educate child in personal hygiene. Because hygiene practices can stave off childhood illness and infections. So training in personal hygiene could also save child from embarrassing moments and teasing by peers. Nurse should set a standard for other family members to follow. Overall better health will be family's reward if you stress the importance of personal hygiene. According to WHO study, every rupee spent on improving hygiene generates an average economic benefit of RS. 9/. [4]

The personal hygiene habits developed by child can be taught in a fun way. Making up of games to see if child can remember what steps are needed to accomplish a specific hygiene goal. Using creativity and imagination will help child maintain an interest in personal hygiene. Charts, graphs, humor, stickers, puppets or songs are some ideas to use to motivate the child. Care must be there for not to make personal hygiene too much work for child. Keep it light and fun as child transitions into owning these habits for a lifetime. Consistency in good hygiene can help the child establish healthy habits for a lifetime. [5]

NEED FOR THE STUDY

Personal hygiene refers to the cleaning and grooming of the body. In addition to improving appearance, personal hygiene is an important form of protection against disease and infections of all kinds. Understanding the importance of personal hygiene allows child to make informed decisions about how to care for their health and appearance. The main purpose of personal hygiene is to prevent illness and improve appearance, but hygiene also plays an important role in social acceptance and can either improve or hinder a person's reputation in social situations. Bad breath, body odor and an unkempt appearance, for example, are often considered undesirable and can give a bad first impression to peers, acquaintances and potential mates.[6]

Practicing good hygiene means looking, feeling and smelling good. A child may appear unclean for a variety of reasons, ranging from illness to parental neglect. A child with poor hygiene can feel bad about himself and become the target of bullies. Teaching good hygiene can prevent illness and helps a child learn how to take care of himself.[7]

India has one of the largest groups of school going children, especially in rural areas. There are about 6.3 lakhs rural schools both primary and upper primary with 80 million school going children. But it is also a fact that only 8 percent of schools have the sanitation facilities in school premise. Out of 6.3 lakhs primary and upper primary rural schools, only 44 percent have water supply facilities, 19 percent have urinals and 8 percent have lavatory facilities. Only 19 percent have separate urinals and 4 percent lavatory facility for girls. Under these conditions, schools and community environment become unsafe places where diseases are transmitted. [8]

According to UNICEF at the end of 2007 More than 1000 children die every day in India from diarrhea. According to the WHO-UNICEF joint monitoring programme, at the end of 2002, about 2.6 billion (40%) of the world's population did not have access to a sanitation and poor hygiene. According to UNICEF at the end of 2008, about 35% of Indian schools do not have toilets, the school toilets that exist; many are not functional or usable. [9]

A cross-sectional study was conducted among primary school children of four of the government run schools of Delhi, to find out the prevalence of pediculosis capitis. A total of 940 study subjects studied, about 16.59% were found to be infested with head louse, about 65.38% of those infested were aware of the infestation. Majority had knowledge of transmission of head louse by comb/brush. Since head louse infestation is a common problem of school going children both parents and teachers along with students should be taught on recognition of infestation. [10]

The study was done to estimate the prevalence of ocular morbidity amongst primary school children in four schools of Delhi, two from urban slum and two from village. All the children studying in these schools were interviewed and clinically examined. Socio-demographic information was collected from their parents; of the 775 subjects 22.7% had ocular morbidity, refractive errors 5.4%, conjunctivitis 4.6%, trachoma 4.3%, xerophthalmia 4.1%, stye 1.3% and others. Ocular morbidity was found to be associated with low socio-economic status, poor personal hygiene, and religion and birth order of the subjects. [11]

A study was conducted in rural areas of Delhi to determine the prevalence of periodontal disease and dental caries amongst children of both sexes aged 5 to 14 years. About 458 children studying in primary schools in four different villages were examined. In total dental caries were observed in 63.83% of study population, about 30.21% had decayed teeth, in all 80.4% of the students belongs low socio-economic group has showed dental caries. The result of this study shows large population on remains ignorant about effects of poor oral health. [12]

A study was done to estimate the prevalence of skin disease among school children aged 6-14 years in Chandigarh, India. About 12,586 children were examined. The most common skin conditions were skin infections (11.4%), pityriasis alba (8.4%), eczemas (5.2%), infestations (5%), pigmentation (2.6%), keratinization (1.3%), nevi (1.1%). This study shows that malnutrition, over crowing, poor standards of hygiene, and low socio-economic status are important factors for prevalence. [13]

A descriptive, observational, cross-sectional study was conducted in a primary school situated in the largest slum of Kolkata, to find out the status of

nutrition and personal hygiene among primary school children and their association with their varied morbidity profiles. The participants included 103 boys and 81 girls, the mean personal hygiene score of the girls was 4.15+0.98 and boys was 3.2+1.4. Over 70% of the children were suffering from one or more morbidities. The most common morbidity in both sexes being pallor, followed by worm infestation. Result shows that care should be taken to improve the pitiable state of personal hygiene through co-ordinated and concerted health education measures by teachers as well as parents. [14]

A descriptive study was conducted to compare the health education activities of different government and private schools of Delhi. Data was collected by observation of health education activities, interview of the health care providers and focus group discussion with the parents and teachers of the schools. The study reveals that in government organizations health education is one of the ongoing activities and this activity poorly managed. There is a need of imparting health education on important health matters such as personal hygiene and prevention of communicable disease and it should be carried out with the help of different AV aids. [15]

A cross-sectional study was undertaken to assess the health needs for health promoting in ten ashram schools in rural wardha. Hemoglobin examination, anthropometric measurements, physical activity score for each child was calculated. Out of 1287 children 59.1% had untrimmed nails, dirty clothes and unclean teeth, about 31.6% had head lice infestation, and 8.6% had scabies, and 10.6% had fungal infection and multiple boils, about 76.8% had iron deficiency anemia. This dictates the urgent need for school based intervention. [16]

A study was under taken to assess knowledge, attitude, practice (KAP) toward oral health, among 11to12 year old school children in a government-aided missionary school of Bangalore city. The study group comprised of 212 children (male:108; and female:104) data on oral health Knowledge, attitude, practice were collected by self - administered questionnaire, this survey found that only 38.5% of the children brush their teeth two or more times a day, pain and discomfort from teeth 35.1%. It was found that 5.4% and 3.9% of study participants smoke and chew tobacco respectively. Result of this study suggest that oral health KAP of study participants are poor and need to improved.[17]

A study regarding poor hygiene and inadequate sanitary conditions play major roles in the increased burden of communicable diseases. Study evaluated the knowledge, attitude, practice of hygiene among rural school children in Ethiopia, about 669 students were in grades 1- 6, and who were interviewed by trained staff. Data consisted of hygiene and hand washing practices, knowledge about sanitation, personal hygiene characteristics. Approximately 52% of students were having adequate knowledge of hygiene, only 36.2% reported using soap, and 76.7% of students reported that hand washing after defecation, only 14.8% reported actually following this practice. Study findings underscore the need for more hand washing and hygiene education in schools.[18]

The first concept in personal hygiene is the positive and negative emotions that affect physical health, such as feeling pride in being neat and clean or feeling frustration in using hygiene tools. The second concept is personal hygiene practices such as hand washing, oral hygiene etc. The third concept is the fact that germs that can lead to common diseases such as the flu or a cold. Nurses can use various techniques to help kids remember this lessons.[19]

So investigator felt that there is **imperative** consensual need for action to avoid ill effects of poor hygiene being as part of health care delivery system, hence with the above mentioned statistics and literature investigator have chosen a study to evaluate the effectiveness of puppet show on personal hygiene among primary school children.

STATEMENT OF THE PROBLEM:

"A STUDY TO EVALUATE THE EFFECTIVENESS OF PUPPET SHOW ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG PRIMARY SCHOOL CHILDREN IN SELECTED RURAL PRIMARY SCHOOLS AT BANGALORE."

2. OBJECTIVES

OBJECTIVES 0F THE STUDY

- To assess the pre-test knowledge level of primary school children regarding personal hygiene.
- To evaluate the effectiveness of puppet show on personal hygiene by comparing the pre-test and post-test knowledge scores.
- To find out the association between pre-test knowledge level of primary school children regarding personal hygiene with selected socio-demographic variables.

OPERATIONAL DEFINITIONS

1. **Evaluate:** It refers to the findings of the value of puppet show on the Knowledge of primary school children regarding personal Hygiene.

2. **Effectiveness:** It refers to the desired change brought about by the puppet Show and is measured in terms of significant knowledge gain in the post test.

3. **Puppet show:** It refers to the learning material developed by the investigator for the purpose of achieving pre specified objectives. In this study it refers to an independent learning material, which has an organized content that enhances the knowledge of primary school children regarding personal hygiene.

4. **Knowledge:** Refers to response of primary school children to the structured interview questionnaire which will be measured by structured interview schedule.

5. **Personal Hygiene:** Refers to aspects regarding personal hygiene such as oral care, Skin care, eye care, hair are, ear are, nose care, nails care, and feet care.

6. **Primary school children:** Refers to primary school children studying in 3^{rd} - 5^{th} standard in selected rural primary schools.

HYPOTHESIS

H1 : The post- test mean knowledge score will be higher than the pretest mean knowledge score regarding personal hygiene among primary school children.

H2 : There will be significant association between pre-test knowledge levels of primary school children regarding personal hygiene with selected socio-demographic variables.

ASSUMPTIONS

- Primary school children are more prone to get physical health problems due to poor personal hygiene.
- Improving knowledge of primary school children on personal hygiene may help them to prevent complication of poor personal hygiene.
- Puppet show may help the primary school children to understand the concept of personal hygiene easily.

DELIMITATION:

1. The study is delimited to the primary school children who are studying in selected rural government primary schools at Bangalore.
2. The duration of the study period is limited to 4 – 6 weeks.

CONCEPTUAL FRAMEWORK:

Conceptual frame work acts as a building block for research study. The overall purpose of framework is to make scientific findings meaningful and generalized. It provides certain framework of reference for clinical practice, research and education. Framework can guide a researchers understanding of not only what of natural phenomena, but also the why of their occurrence. They also give direction for relevant questions to practical problems.

The present study aims at evaluating the effectiveness of Puppet show on personal hygiene among primary school children at selected rural primary schools of Bangalore. The conceptual framework of the present study was developed by the investigator based on General system's theory with input, through put, output and feedback. This theory was introduced by Ludwig von Bertalanffy.

A system theory is a group of elements that interact with one another in order to achieve the goal. The component interacts with in a boundary and filters the type and rate of exchange with an environment. An individual is a system, because he/she receives input from the environment. All living systems are open, in that, there is a continual exchange of matter, energy and information.

Each system may be viewed as having or more supra systems and subsystems. In open system there are varying degree of interaction with the environment from which the system receives input and gives back output in the form of matter of energy

and information. In this primary school children are considered as the open system. All system must receive varying type and amount of information from the environment. The system uses this input to maintain its homeostasis.

Input:

The first component of the system is input, which is the information energy or matter that enters the system. For a system to work well, input should contribute to achieve the purpose of the system. It refers to primary school children's socio demographic data (age, gender, class, income, religion, parent education, and type of family) and the existing knowledge regarding personal hygiene. These factors were taken into consideration on input for evaluation of effectiveness in bringing out change in the knowledge level of primary school children.

Through put:

It is the action needed to accomplish the desired task. In the study it refers to the evaluate the effectiveness of puppet show on knowledge regarding personal hygiene, Pre-test knowledge is assessed by using a structured interview schedule followed by puppet show will be showed regarding personal hygiene on the same day of pre-test. Post-test knowledge is assessed by using structured interview schedule after 7 days of puppet show.

Output:

It refers to energy, matter or information disposed by the system as a result of its process. In the present study, output refers to the gain in knowledge achieved by primary school children after the puppet show on personal hygiene. The output indicates whether the puppet show is effective in increasing the knowledge of primary school children regarding personal hygiene. This is found out by comparing the pre and post-test knowledge score of the subjects.

In the present study feedback can be measured by the output, which could be either, adequate, moderately adequate, inadequate knowledge. After the process and the input, the system returns output to the environment in an altered state, the end result of the product of the system affecting the environment. Here the output refers to the knowledge level of primary school children regarding personal hygiene (adequate or inadequate). If the knowledge level is found to be adequate, the puppet show on personal hygiene is considered as effective and if the knowledge level is found to be inadequate, rectification can be done by strengthening the existing knowledge through continuous monitoring, which is not under the preview of the study.

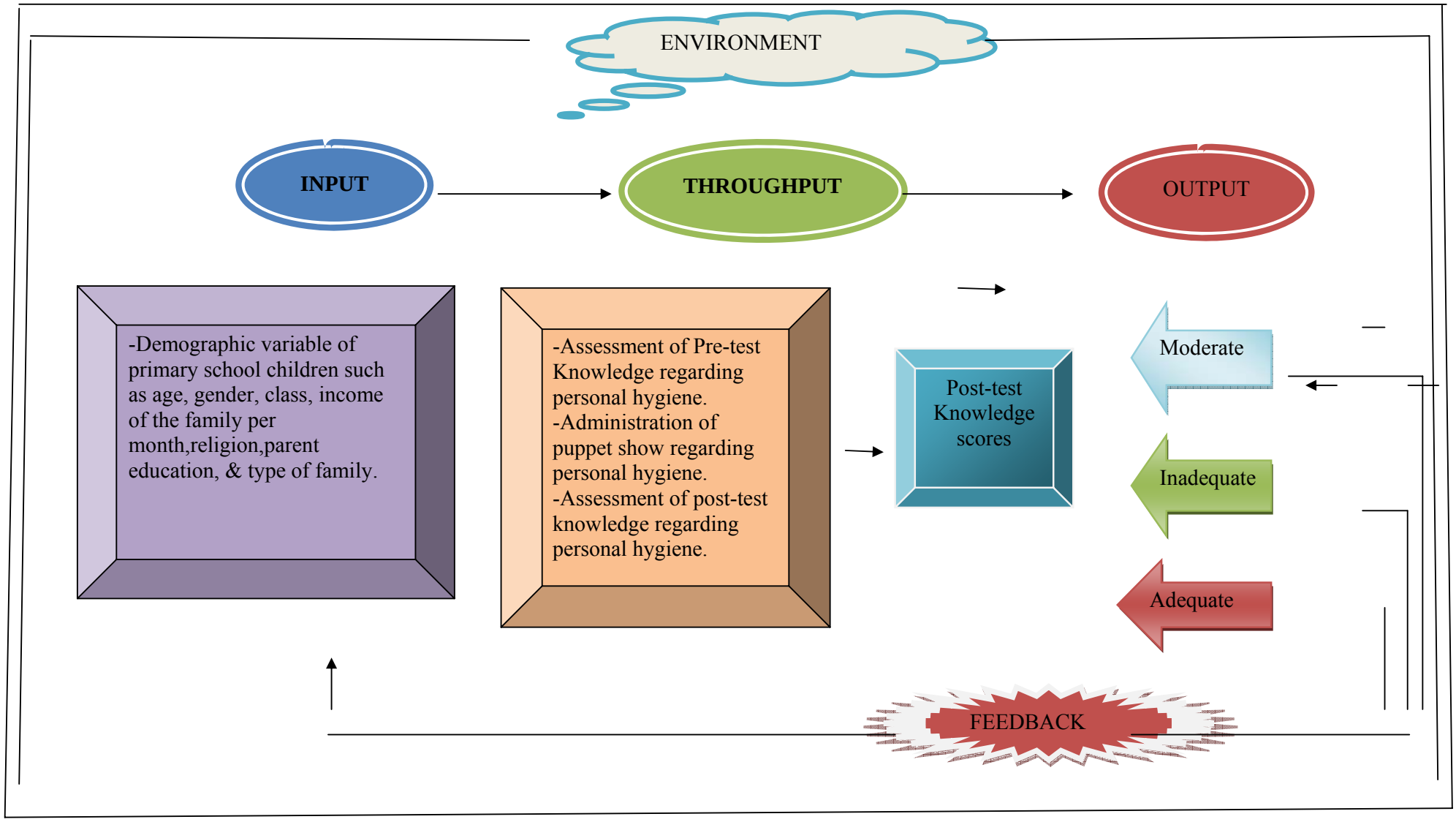

Figure 1: Conceptual framework based on modified Ludwig Von Bertalanffy system

3. REVIEW OF LITERATURE

One of the most important early steps in a research projects is the conducting of the literature review. A literature review is an account of what has been published on a topic by accredited scholars and researchers.

In the present area of research, review of literature is mainly divided into three headings,

1. Studies regarding impact of poor personal hygiene among primary school children.
2. Studies regarding importance of personal hygiene among primary school children.
3. Studies regarding impact of health education in regard to personal hygiene among primary school children

1. Studies regarding impact of poor personal hygiene among primary school children.

A descriptive study was done to estimate the prevalence of ocular morbidity among Government and private co-educational school children in urban area of Shimla. About 1561 school children were examined. A doctor did visual acuity and detailed ophthalmic examination. Prevalence of ocular morbidity was 31.6%, refractive errors 22%, squint 2.5%, color blindness 2.3%, vitamin - A deficiency 1.8%, conjunctivitis 0.8%. Higher prevalence of conjunctivitis in children studying in government schools could be because of many of the students in government schools are having sordid personal hygiene, low living standards, overcrowding which are all more likely to induce conjunctivitis. [20]

A cross sectional, study was under taken among 627 primary school children (rural 145, urban 482) to compare the common ear morbidity pattern between an urban slum of Kolkata and a rural area of Hooghly. Middle ear pathology was found in 20% and 12.6% among rural and urban students respectively. Cerumen in the external auditory canal was found to be present in 35.86% of rural and 30.70% of urban population respectively. Smoke nuisance, bathing in open ponds and overcrowding were some of the predisposing factors causing ear diseases.[21]

A study was designed to assess the prevalence of dental carries in school children in Chidambaram between 5-15 age groups. Out of 2362 children, in 1258 were boys and 1104 were girls. A total of 7 schools were selected and were examined according to WHO oral health assessment 1987. In total, dental caries were observed in1484 [63.83%] of study population. In all 80.4% of the students belongs to low socio-economic group and were having the habit of using chewing stick which is the important factor for dental caries. It was concluded need for more oral hygiene education in schools.[22]

A study was to determine the prevalence of intestinal parasitic infections among school children enrolled in various schools in Srinagar city, Kashmir, India, and to assess epidemiological factors associated with the extent of endemic disease, stool samples were collected from 514 students, and about 46.7% had one or more parasites. Prevalence of ascaris lumbricoides 28.4%, giardia lamblia 7.2%, trichuris trichiura 4.9%, taenis saginata 3.7%, conditions most frequently associated with infection included the water source, defecation site, personal hygiene and maternal education.[23]

A descriptive cross-sectional study was under taken to determine the prevalence of dermatophyte infection among primary school children aged 5-16 years in Visakhapatnam. Out of 602 children the prevalence of clinically suspected dermatophytoses lesion was 29.9%, tinea capitis 15.4% followed by tinea coporis 13.33% and then tinea pedis 3.33%, this study demonstrates that the prevalence of dermatophytoses in the school studied was significant, control efforts should target this vulnerable group to reduce its prevalence.[24]

A study was carried out on school-going children of the Gurvez valley (Kashmir) India, to determine the prevalence of helminthic infection and to assess the epidemiological factors associated with endemic disease. Stool samples were collected from 352 children and samplest kato-katz thick smear technique and microscopically examined for intestinal parasites. Out of 352 children 75.28% had one or more types of parasites. Prevalence of ascarislumbricoides (71.18%), trichuris taeniasaginata (26.42%), enterobius vermicularis (13.92%), taenia saginata (5.39%) conditions most frequently associated with infection included the personal hygiene, defecation site. The study results

shows that primary health care activites should be undertaken to improve personal hygiene of the children.[25]

A Descriptive, cross-sectional study was under taken in the five governmental schools in Eastern Nepal. Among 818 students, 61% of the students were found to be malnourished. The collected blood and stool samples from the students revealed parasitic infestation of 65.8% and anemia of 58%. The most common diseases in those schools were: skin diseases (20%), dental caries (19.8%), and lymphodenopathy (10.5%). Among skin diseases, pediculosis was more common among girls while ringworms and scabies were common among boys. The study result revealed the urgent need for initiation of school health program on prevention of diseases, and improvement of personal hygiene.[26]

2. Studies regarding importance of personal hygiene among primary school children.

A UNICEF case study programme for schools began in Mysore district in 1992, with 20 schools, and today covers 1474 schools in Mysore, Tumkur, Chitradurga, Mandya, Raichur, and Bangalore urban and rural districts. The strategic focus of the project was school water supply, sanitation like schools with clean toilet, availability of consumables like soap, jug, etc. and hygiene education have been planned to create healthy schools bringing about behavioral change for lasting impact on children. The government of India is fully committed to extend proper water, sanitation and hygiene learning coverage to all rural schools to ensure child survival, their protection and development.[27]

A study was done to determine frequency of tooth cleaning varies with social group, family size, and other personal hygiene habits among school children, aged 8-16 years of Udaipur district, sample size was 852 children. Data were collected by means of structured questionnaires which consisted of questions related to oral hygiene habits, general hygiene habits, family size, and family income. The results show that 30.5% of the total sample cleaned their teeth twice in a day and frequency of tooth cleaning was significantly lower among children of parents with low level of education and less annual

income as compared with those of high education and more annual income. In addition, tooth cleaning habits were more regular in children using tooth paste, so need to improve oral hygiene via oral health education.[28]

A study was done to assess the hand washing behaviors and intentions among school children, Colombia. Data on hand washing behavior and intentions were collected from 2042 students in 25 schools, via anonymous questionnaires. The study result shows that, a high level of perceived control was the strongest predictor of positive hand-washing intentions, about 95% school with practice hand-washing behavior were less likely to report previous month gastro intestional symptoms or previous year school absenteeism.[29]

A pilot study was under taken to determine the effect of mandatory, scheduled hand washing on actual absenteeism due to infectious illness in elementary school pupils in Denmark. A study, randomized between 2 schools, was performed on 652 pupils. The pupils at the intervention school (IS; n=209) were required to wash their hands before the first lesson, before lunch, and before going home. Those at the control school (CS; n=362) continued their usual hand washing practices. All absences due to illness were recorded, a reduced rate of absenteeism for the IS compared with the CS. This study suggests that hand washing could be an effective tool to reduce absences due to infectious illness in elementary school pupils.[30]

3. Studies regarding impact of health education in regard to personal hygiene Among Primary school children

A study was undertaken in adivasi ashram school of village mandwa (Wardha district) to assess the impact of "school health education program" on improvement in personal hygiene of school children, about 145 children attended pre-test to find out the status of personal hygiene, health education among school children was under taken with the use of flip books, which imparting on hand washing, nail cutting, and cleaning teeth. After the implementation of school health education program, the proportion of children with clean and cut nails, clean hairs, and clean clothes increased significantly.[31]

The study was conducted in the villages of district Panipat of Haryana state on a sample of 60 rural School going children aged 8-10 years. The study revealed that majority of the respondents had low scores on level of knowledge and practices regarding personal hygiene. A Health education programme was developed, the respondents were divided into experimental and control groups and the programme was administered in the experimental group. After the intervention of Health education programme the results showed as the scores of the children after post-testing improved in the experimental group and they were found to be significant on various aspects of personal hygiene.[32]

A study was under taken to determine the effectiveness of dental education program in improving oral health knowledge and oral hygiene practices among school children in aged 12 to 13 years, Mangalore. About 210 children attended pre-test to find out the status of oral health knowledge, only 30% of the children had moderate knowledge of oral health and only 23.2% following oral hygiene practices. Health education was undertaken with the use of charts and posters regarding oral hygiene, impact of poor oral hygiene practice after post test significant improvement in oral health knowledge. Similar programs could improve the health of children worldwide.[33]

A study was done to assess the impact of health education inparted to school children on their knowledge, attitude, and practice in regard to personal hygiene, in west Bengal. Education was given on personal hygiene, the knowledge, attitude; practice status of the children was assessed before imparting training, during the training, finally after 9 months from the start of training. The results indicated that the health knowledge, attitude towards personal hygiene, and practice of personal hygiene improved.[34]

A study was carried out to assess the effectiveness of introducing active teaching methods into primary schools in Tanzania with a view to enhancing health education. The enhanced health education project had as a focus on personal hygiene, when a randomly selected group was compared with a comparison group there was evidence of changes in knowledge and health- seeking behavior.

4. METHODOLOGY

Methodology represents the framework of a study. It indicates the general pattern for organizing the procedure to gather valid and reliable data for an investigation. This chapter presents the description of methodology and the different steps that were taken to collect the data and organize the data for investigation. It includes description of research approach, research design, setting, sample technique, sampling, development and description of the tool, pilot study, data collection and plan for data analysis. The methodology of an investigation is of vital importance to understand the view of the nature of problem selected for the study and the objectives to be accomplished.

Research approach

A research approach tells the researcher to know what data to collect and how to analyze it. Research approach is the most significant part of any research. An evaluative approach was used for this study to test the effectiveness of puppet show on personal hygiene among primary school children.

Research Design

Researcher**'**s overall plan for obtaining answer to the research questions for testing the research hypothesis is referred to be as the research design**.** The essential question that the research design is concerned with is how the study subjects will be brought into the research and how they will be employed within the research design. The research design used in this study was Pre-experimental approach. (One group pretest - posttest design.)

GROUP	**PRE-TEST ($O_{1)}$**	**INTERVENTION (X)**	**POST -TEST ($O_{2)}$**
Selected Primary School children.	Assessment of level of knowledge of primary school children regarding personal hygiene, using structured interview schedule on day one.	Puppet show on personal hygiene will be showed on same day.	Assessment of level of knowledge of primary school children regarding personal hygiene on seventh day after puppet show.

RESEARCH DESIGN

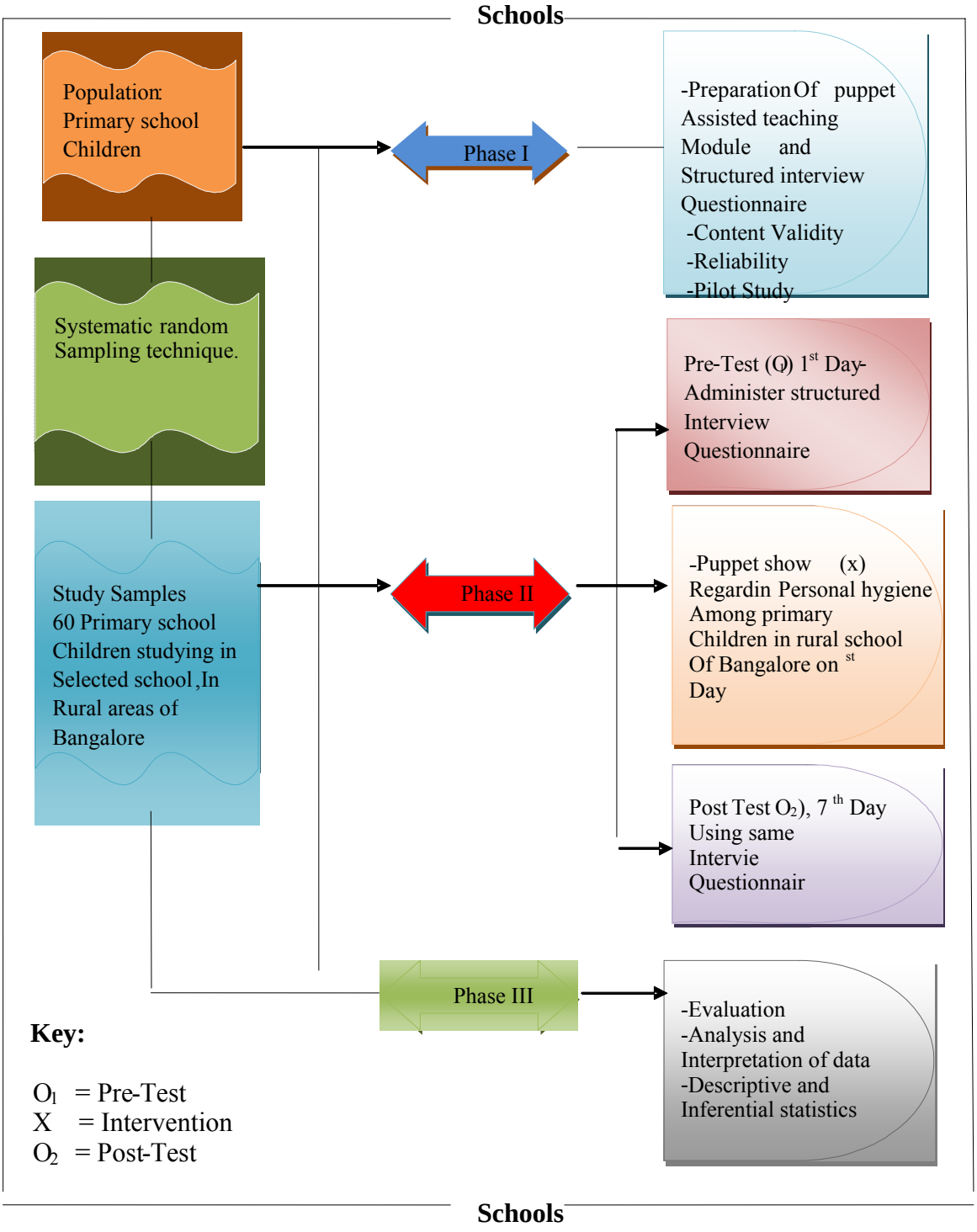

Figure: 2 Schematic outline of research plan

Variables

Variables are the characteristics that vary among the subjects being studied. It is the focus of the study and it reflects the empirical aspect of concepts being studied, the investigator measures the variable.

Dependent Variable

Dependent Variable is the response, behavior or outcome i.e. predicted or explained in research. Changes in the dependent variable are presumed to be caused by the independent variable. In this study, the level of knowledge of primary school children on personal hygiene is the dependent variable.

Independent Variables

Independent variable is a variable which influences the dependent variable. In this study, the puppet show on personal hygiene is the independent variable.

Socio-Demographic Variables

Baseline characteristics such as age, gender, class, income of the family/month, parent education, religion and type of family.

Setting of the study

60 children studying in primary classes from 3rd standard to 5th standard were selected for the study.

Population

The study population consists of:

Target Population: primary school children.

Accessible Population: primary school children studying in selected rural primary schools, at Bangalore.

Sampling

Sampling refers to the process of selecting a portion of population to represent the entire population.

Sample

Sample consists of the subjects selected to participate in a research study. In the present study, samples are the primary school children who fulfill the inclusion criteria.

Sampling technique

In this study, the systematic random Sampling technique was used to select the samples based on inclusion and exclusion criteria.

Sample size

Sample comprises of 60 primary school childrens in selected rural primary school, at Bangalore.

Sampling criteria

1. **Inclusion criteria**

   Primary school children who are:

   - Studying in rural government school.
   - Both girls and boys.
   - 3^{rd}, 4^{th}, 5^{th}, standard students.
   - Willing to participate in the study.
   - Present at the time of data collection.
   - Able to speak and communicate in Kannada.

2. **Exclusion criteria**

   Primary school children who are:

   - Not willing to participate.
   - Not selected by random sampling.

Data collection instrument:

A structured interview questionnaire was used for data collection.

A structured interview questionnaire is a method of gathering self reported information from respondents.

Development and description of the tool:

Data collection tools are the procedures or instruments used by the researcher to observe or measure key variables in the research problem.

Method of developing instrument:

The prepared tool was based on:

- Literature review
- Discussion with the experts
- Preparation of blue print.

Preparation of blue print:

A blue print of the tool was prepared by the researcher, which includes sections, number of questions and weight age in percentage for each section.

Components of the Instrument:

The instrument consists of two sections:

Section A: This consists of seven items related to socio-demographic variables like (Age, Sex, class, income of the family/month, religion, parent education, and type of family) of primary school children of selected rural schools in Bangalore.

Section B: Consists of 35 items regarding the knowledge of primary school children regarding personal hygiene which is divided into four parts:

Part-1: Deals with general information on personal hygiene includes 7 multiple choice questions.

Part-2: This section deals oral hygiene. This section includes 10 multiple choice questions.

Part-3: This section deals with hair care, eyes & nose care, ear care, foot care etc, this section includes 13 multiple choice questions.

Part-4: This section deals with impact of poor personal hygiene. This section includes 5 multiple choice questions.

Scoring technique:

The structured interview questionnaire consisted of 35 close ended multiple choice questions with a single correct answer**.** The 35 questions are further divided into four parts. Part 1 consists of 7 multiple choice questions which carries a maximum of 7 marks, part 2 consists of 10 questions which carries a maximum of 10 marks, part 3 consist 13 questions which carries a maximum of 13 marks and Part 4 consists of 5 multiple choice questions which carries a maximum of 5 marks. Every correct answer was accorded a score of one **(**1**)** and every incorrect/unanswered item was accorded zero (0)**.** The maximum score on knowledge questionnaire was thirty five **(**35**).** A scoring key item was prepared showing item numbers and correct responses.

The different levels of knowledge and practice are categorized as follows**:**

Inadequate Knowledge - <50**.**

Moderate Knowledge - 51-75%.

Adequate Knowledge - >75%.

Development of puppet show on personal hygiene:

The development of the puppet show on personal hygiene was based on the review of related research. The following steps were adopted to develop the same.

- Preparation of first draft
- Development of criteria checklist
- Description of the puppet show
- Content validity of puppet show
- Preparation of final draft

Preparation of first draft:

Preparation of first draft of puppet show was developed based on objectives, literature review and opinion of the experts. The main factors kept in mind while preparing the content was the understanding level of children and relevance of illustration with puppet show.

Development of criteria checklist:

The criteria checklist was developed to evaluate the Effectiveness of puppet show on personal hygiene based on the criteria stated. The criteria checklist consisted of headings such as baseline objectives, content, presentation, language and practicability. Three response column was developed such as strongly agree, agree, disagree and a column of remarks/suggestions of the evaluator.

Content Validity of puppet show:

Validity refers to the degree to which an instrument measures what it is supposed to measure**.** Content validity refers to the degree to which items in an instrument

adequately represent the universe of content**.** To ensure content validity of the tool comprising of the socio-demographic data**,** structured interview questionnaire and puppet show on personal hygiene were submitted to 2 Medical experts, 1 statistician and 6 community health nursing experts. Minor suggestions were given regarding spellings and some difficult medical terms were converted into simple words. The final personal hygiene content and tool was prepared as per the suggestions and advice given by the experts.

Preparation of the final draft:

The final draft of this study was edited by English language expert. The modifications and suggestions were incorporated with the final preparation of the tool.

Pretesting of the tool:

Pretesting is the process of measuring the effectiveness of an instrument. The purpose is to reveal problems relating to understanding and answering, and to point out weakness in the organization, and collecting the response.

After obtaining permission from the study setting, the tools were pretested by taking interview with 2 children. The pretesting of the tool was done to check the clarity of the items, ambiguity of the language and feasibility of the tool.

Reliability of the tool:

The reliability of the tool is defined as the extent to which the instrument yields the result on repeated measures. It is concerned with consistency, accuracy, stability, equivalence and homogeneity.

The reliability of the tool was a major criterion for assessing its quality and accuracy. Reliability of the tool was established by split half method**.** Six children were

selected and structured interview questionnaire was given followed by puppet show on personal hygiene on the same day and after 1week the respondents were given the same questionnaire. The Reliability of score was obtained by Karl's Pearson's coefficient of correlation method. The 'γ' value obtained for questionnaire was $\gamma = 0.9374$. Hence the tool was found to be reliable to proceed for the data collection**.**

Pilot Study:

Pilot study is a small preliminary investigation of the same general characters as a major study. The main aim is to assess the feasibility, practicability and assessment of measurement.

Formal approval was obtained from Nazareth School Chandapura Anakel Taluk Bangalore. The investigator selected 6 samples by systematic random sampling technique. After a brief self introduction, the investigator explained the purpose of the study and obtained consent from them. On the first day, data was collected by structured interview schedule on knowledge regarding personal hygiene and puppet show was shown to them on the same day. On the seventh day, a posttest was conducted on knowledge regarding personal hygiene, administering the same structured questionnaire. Totally 55 minutes was taken for the post test.

The statistical analysis of the pilot study for the overall knowledge on personal hygiene was the mean pretest knowledge scores was 24.3% and the same for the mean

posttest knowledge score was 81.9% . From the above analysis, the puppet show was found to be effective and the same was used for the main study.

Procedure for data collection:

Formal written permission was obtained from the school authorities for conducting the main study**.** The method of data collection adopted for the study was structured interview questionnaire**.** The subjects of the study were gathered in the school. After brief introduction of self, the investigator explained the purpose of the study and obtained consent from them**.**

Phase 1:

In this phase**,** pre-test was conducted by interview method through structured interview questionnaire. Each child took 45 minutes to answer the demographic data and to retort the questionnaire**.**

Phase 2:

In this phase the same day, puppet show was shown to the primary school children regarding personal hygiene. Puppets were used to make teaching programme very effective. Adequate explanation was given where ever needed.

Phase 3:

In this phase**,** post-test was conducted on 7^{th} day after puppet show**.** It was conducted by taking interview with same structured interview questionnaire**.** During the conduction of the study there was no problem encountered and subjects were co-operative to conduct the study**.**

Processing of the data:

Data collected was processed every day. Missed out data were identified and immediately with in one day it was rectified**.**

Plan for data analysis:

The data collected was analyzed on the basis of objectives of the study using descriptive and inferential analysis**.**

Descriptive statistics:

Frequency distribution and percentage distribution was used to interpret the socio demographic variable and Mean, mean percentage and standard deviation were used to determine the knowledge level of primary school children on personal hygiene.

Inferential statistics:

- Chi-square ($\chi 2$) test was used to determine the association between pre-test knowledge level of primary school children regarding personal hygiene and selected socio-demographic variables.
- Paired "t" test was used to determine the effectiveness of puppet show on personal hygiene comparing the mean knowledge pre test and post test scores of primary school children.

Ethical Consideration:

For this study the investigator took into consideration of the ethical issues**.** No ethical issue confronted while conducting this study**.** The purpose of the study was explained to the samples and informed consent was obtained prior to the data collection, to get their cooperation.

5. RESULTS

Statistical analysis is the process of organizing and synthesizing the data in such a way that the research questions can be answered and hypotheses tested. The purpose of the analysis is to reduce the data into an intelligible and interpretable form, so that the relation of research problem can be studied and tested.

This chapter deals with the statistical analysis, which is a method of rendering quantitative information in a meaningful and intelligible manner. Statistical procedure of the data gathered to assess the knowledge regarding personal hygiene among primary school children studying in rural schools, enabled the researcher to organize, interpret and communicate information meaningfully.

In order to find a meaningful answer to the research questions, the collected data must be processed, analyzed in some orderly coherent fashion, so that patterns and relationships can be discussed. Tables and figures are used to explain the results.

The analysis and interpretation of data are based on the data collected through structured interview questionnaire from 60 subjects in selected school in rural areas, Bangalore. Organization and presentation of the obtained data were entered into the master sheet for tabulation and statistical processing and the results were computed using descriptive and inferential statistics.

Objectives of the study

The objectives of the study are to:-

- To assess the pre-test knowledge level of primary school children regarding personal hygiene.
- To evaluate the effectiveness of puppet show on personal hygiene by comparing the pre-test and post-test knowledge scores.
- To find out the association between pre-test knowledge level of primary school children regarding personal hygiene with selected socio-demographic variables.

Research hypothesis

H1 The post- test mean knowledge score will be higher than the pretest mean knowledge score regarding personal hygiene among primary school children.

H2 There will be significant association between pre-test knowledge level of primary school children regarding personal hygiene with selected socio-demographic variables.

Organization of the analyzed data

The analysis of data is organized and presented in the form of tables and diagrams represent under the following headings.

Section 1: Demographic Characteristics of Respondents

Section 2: Pretest knowledge scores of the primary school children regarding personal hygiene.

Section 3: Posttest knowledge scores of the primary school children regarding personal hygiene.

Section-4: Comparison of pretest and posttest knowledge scores to evaluate the effectiveness of puppet show on personal hygiene.

Section-5**:** Association of mean pre-test knowledge scores with selected socio-demographic variables

SECTION-1

Description of socio- demographic profile of the sample

This section deals with the distribution of the samples according to the socio demographic characteristics. The obtained data on the socio demographic profile are described under the following sub headings which include Age, Sex, class, and income of the family/month, religion, parent education, and type of family. The data were analyzed by using descriptive statistics and are summarized in terms of frequency and percentage.

TABLE – 1

Frequency and percentage distribution of socio-demographic variables

N=60

Characteristics	Category	Respondents	
		Number	Percent
Age group (years)	07-08	18	30.0
	08-09	18	30.0
	09-10	13	21.5
	>10	11	18.3
Gender	Boys	6	10.0
	Girls	54	90.0
Religion	Hindu	42	70.0
	Muslim	18	30.0
Class	3rd std	44	73.3
	4th and 5th std	16	26.7
Parent education	Below 5th std	41	68.3
	6th -9th std	13	21.7
	PUC	6	10.0
Type of family	Joint	31	51.7
	Nuclear	29	48.3
Monthly income of the family	≤ Rs.5000	34	56.7
	Rs.5001-10000	26	43.3
	Rs.10,001-15000	00	00

	>15000	00	00

Table-1 depicts the classification of primary school children by age, sex, class, income of the family/month, religion, parent education, and type of family. The findings indicate that 30% of children fall within 07-08 years, 30% children are within 08-09 years another 21.5% of children fall within 09-10 years. Children, above 10 years old are about 18.3%. With regard to gender, majority of children were girls 90% and 10% were boys. Regarding religion, 70% were Hindu and others were Muslim. Class (73.3%) was 3rd standard and 26.7% were 4th & 5th standard. It was observed that more than half of the child parents (68.3%) had less than 5td of educational qualification, 21.7% with 6th – 9th Std of educational qualification and 10% with PUC qualification. While considering the type of family 51.7% of children were from joint family. Regarding family income per month, 56.7% were paid below Rs.5000 and rest of the 43.3% was paid Rs. 5000-10,000.

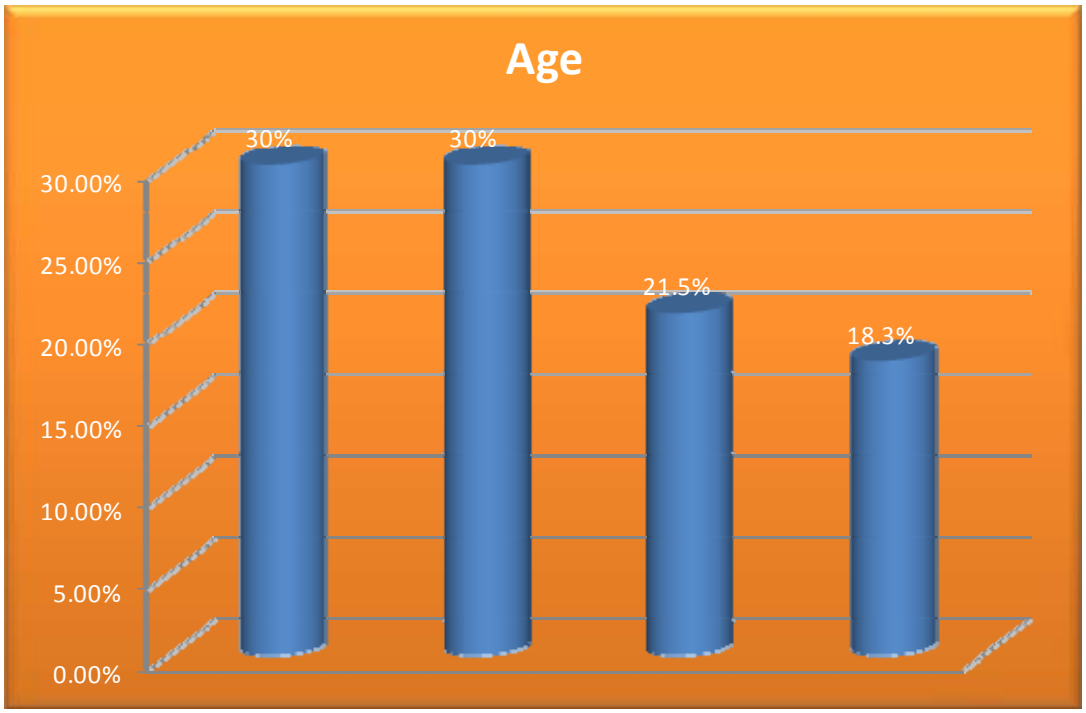

Figure.3: Classification of Respondents by Age

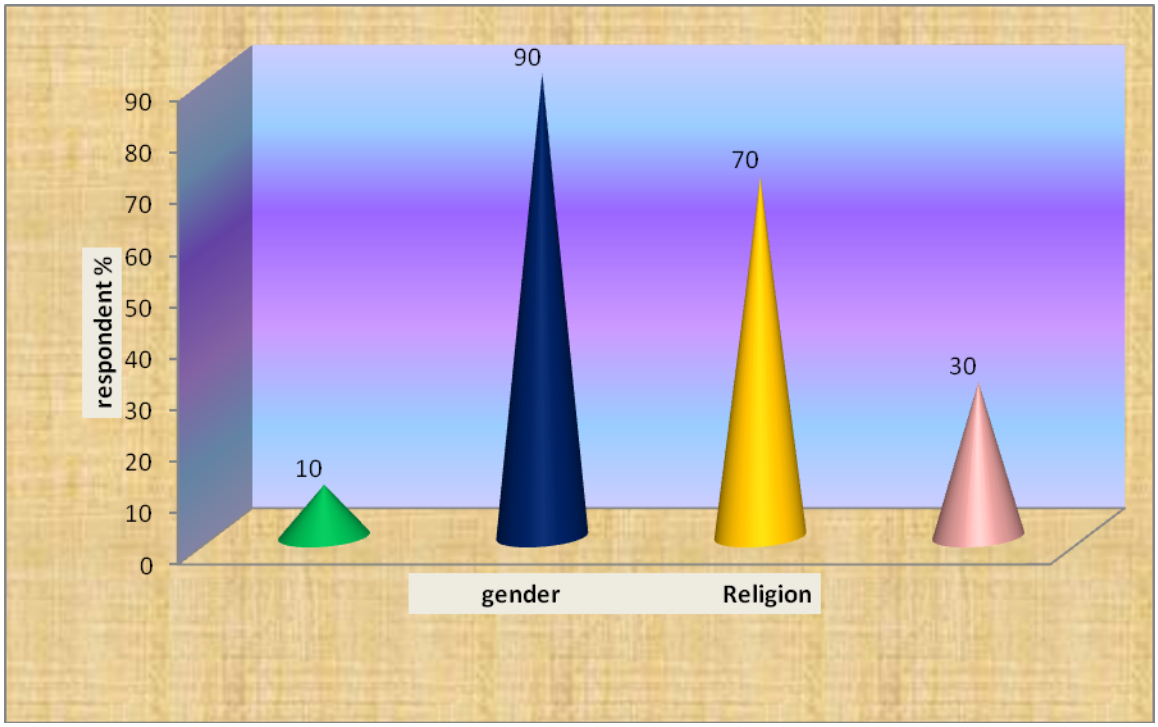

Figure 4: classification of respondents by gender and Religion

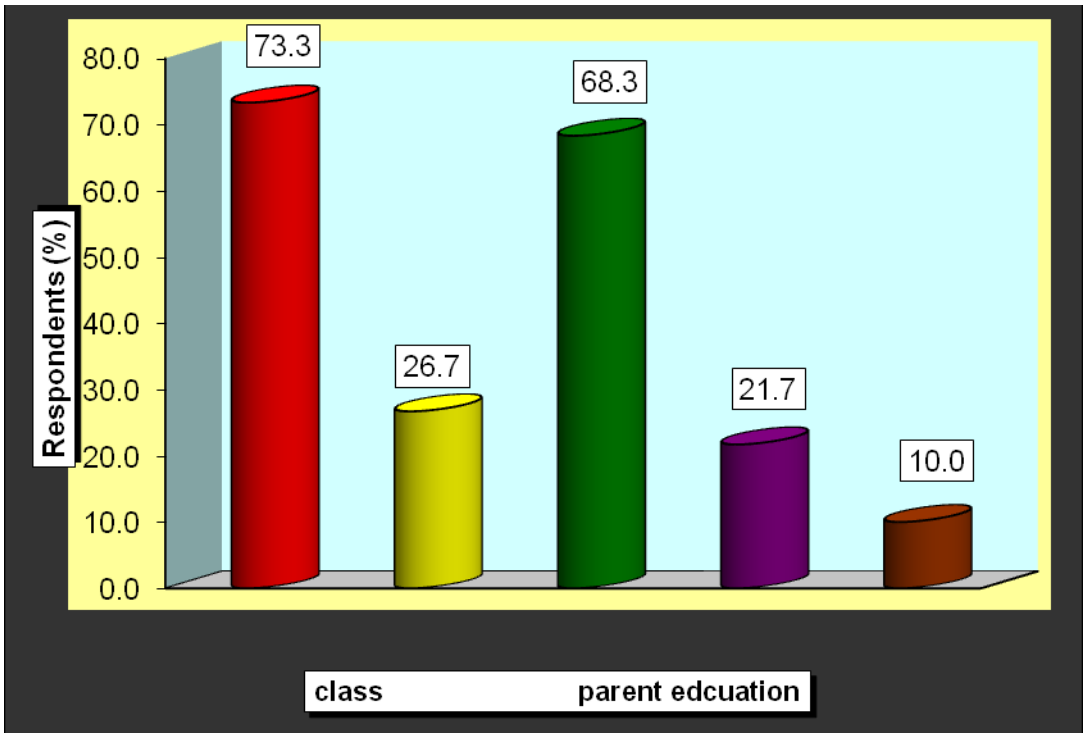

Figure.5: Classification of Respondents by class and parent education

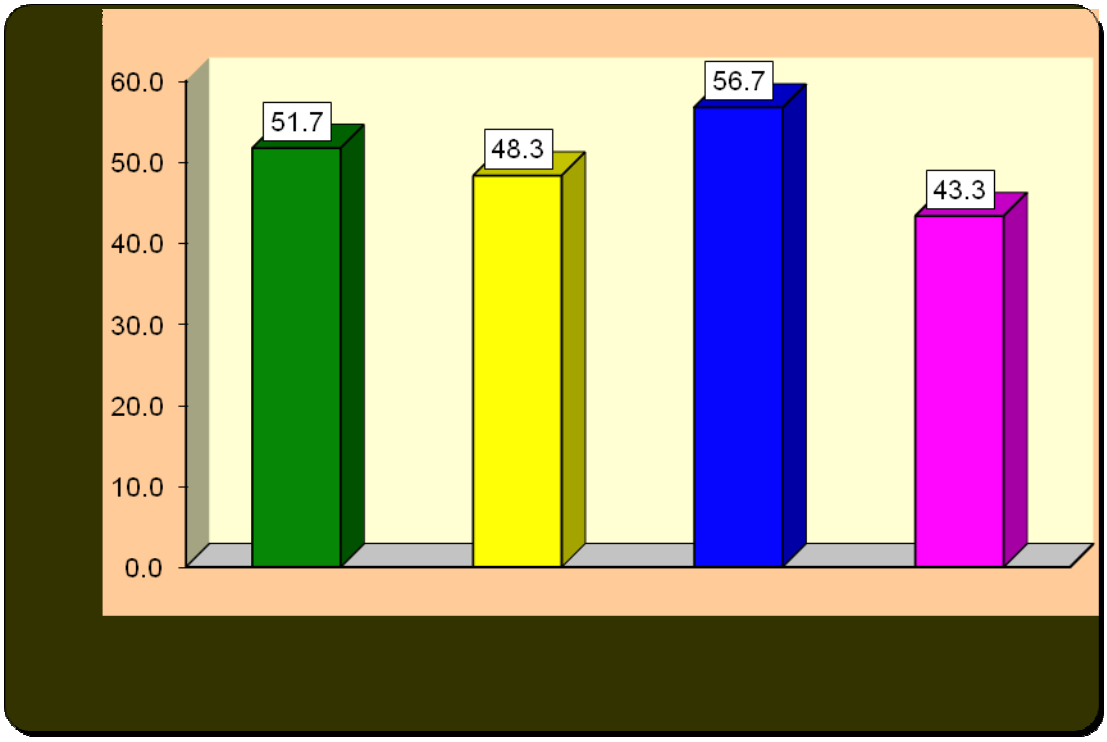

Figure.6: Classification of Respondents by type of family and income of the family/month

SECTION - 2

Overall and Aspect wise Knowledge Scores of Respondents on personal hygiene.

This section deals with findings related to the pretest knowledge scores of primary school children regarding personal hygiene.

TABLE – 2

Classification of Respondents on Pre test Knowledge level on personal hygiene.

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	≤ 50 % Score	38	63.3
Moderate	51-75 % Score	22	36.7
Adequate	> 75 % Score	0	0.0
Total		60	100.0

The above table represents the frequency and percentage distribution of children on pretest knowledge level regarding personal hygiene. With regard to the children, majority 63.3% of them had inadequate knowledge (≤50%) scores, 36.7% of them had moderate knowledge (51-75%) scores and none of them had adequate knowledge (>75%) score in pretest regarding personal hygiene among primary school children.

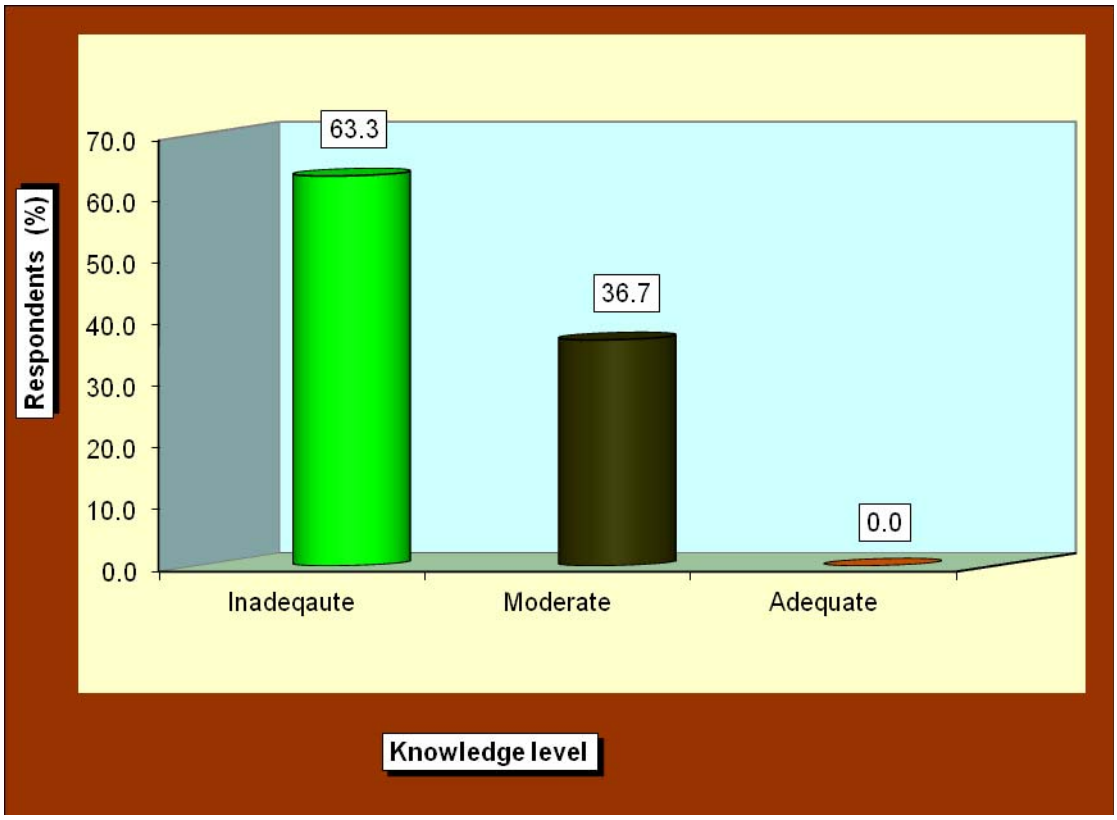

Figure 7: Percentage distribution of children on pretest knowledge level regarding personal hygiene.

TABLE -3

Aspect wise Pre test Mean Knowledge scores of Respondents on personal hygiene.

N=60

Sl.No	Knowledge Aspects	Statements	Max. Score	Respondents Knowledge			
				Mean	D	Mean (%)	SD (%)
I	General Information.	7	7	3.07	1.7	43.8	23.7
II	Oral hygiene.	10	10	4.02	2.4	40.2	23.6
III	Hair care, eyes & nose care, foot care etc.	13	13	4.82	2.8	37.1	21.6
IV	Impact of poor personal hygiene.	5	5	1.70	1.4	34.0	27.6
	Combined	35	35	13.60	13.60	38.9	20.8

The data presented in the above table shows the aspect wise mean pretest knowledge scores of primary school children regarding personal hygiene. It shows that the participants had highest mean percentage score (43.8%) in the area of general information on personal hygiene, regarding oral hygiene the mean percentage score was 40.2%, about hair care, eyes care & nose care, foot care etc., the mean percentage score was 37.1% and regarding impact of poor personal hygiene the score was 34.0%. The combined mean percentage score was 38.9%.

SECTION 3

Frequency and Percentage distribution of children on post-test knowledge level

This section deals with findings related to post-test knowledge scores of primary school children regarding personal hygiene.

TABLE – 4

Classification of respondents on post test knowledge level on puppet show regarding personal hygiene.

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	≤ 50 % Score	0	0.0
Moderate	51-75 % Score	20	33.3
Adequate	> 75 % Score	40	66.7
Total		60	100.0

The above table shows the frequency and percentage distribution of children on post test knowledge level regarding personal hygiene. Among the 60 subjects under study, majority 66.7% of them had adequate knowledge level (>75% score), 33.3% had moderate knowledge level (51-75% score) and none of them had inadequate knowledge level (≤ 50 % score).

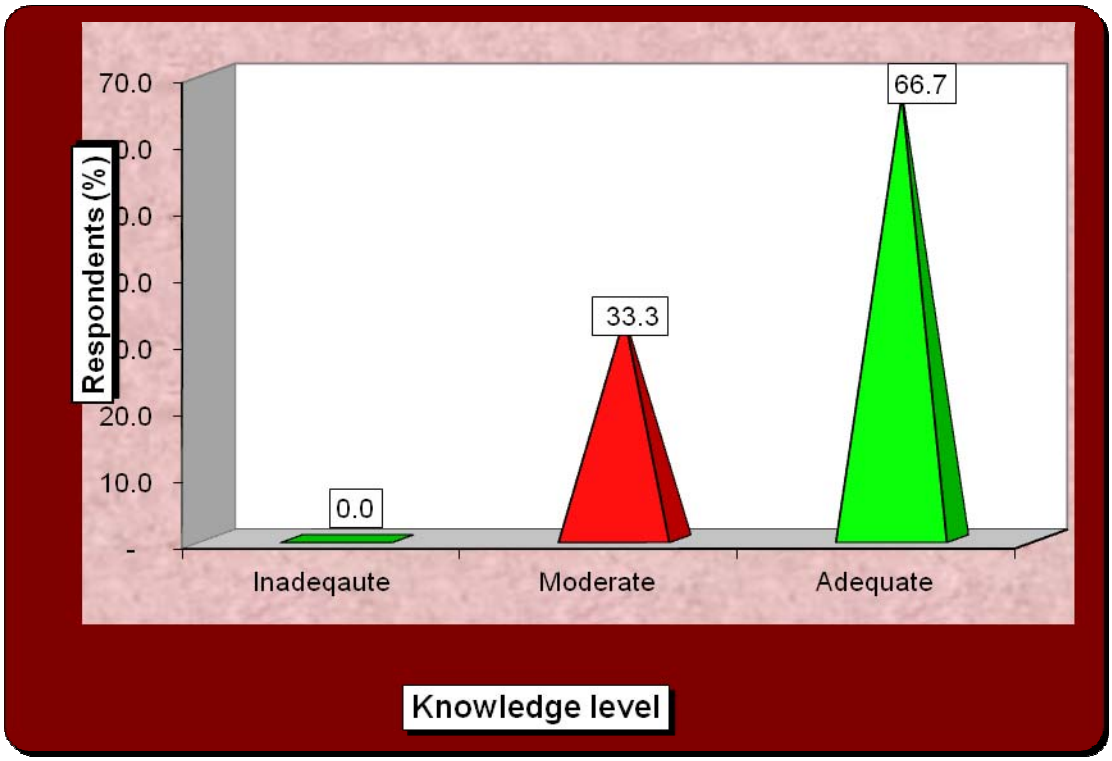

Figure.8: Classification of Respondents on Post test Knowledge level of puppet show on personal hygiene.

TABLE -5

Aspect wise Post test Mean Knowledge scores of Respondents on puppet show regarding personal hygiene.

N=60

No.	Knowledge Aspects	Statements	Max. Score	Respondents Knowledge			
				Mean	SD	Mean (%)	SD (%)
I	General Information.	7	7	5.82	1.1	83.1	15.7
II	Oral hygiene.	10	10	8.10	1.2	81.0	12.2
III	Hair care, eyes and nose care, foot care etc.,	13	13	10.32	1.6	79.4	12.1
IV	Impact of poor personal hygiene.	5	5	4.23	0.8	84.7	15.3
	Combined	35	35	28.47	3.1	81.3	8.9

The data presented in the above table shows the aspect wise mean post test knowledge scores of primary school children regarding personal hygiene. It is seen that the participants gained the highest mean percentage score (84.7%) in the area of impact of poor personal hygiene, on aspect regarding general information on personal hygiene the mean percentage score was 83.1%, regarding oral hygiene the mean percentage score was

81.1% and on hair care, eyes and nose care, etc., aspects the mean percentage score was 79.4%. The combined mean percentage score was 81.3%.

SECTION-4

This section deals with the comparison of pretest and posttest knowledge scores of puppet show on personal hygiene.

TABLE-6

Comparison of overall Mean Pre test and Post test Knowledge on puppet show regarding personal hygiene.

N=60

Aspects	Max. Score	Respondents Knowledge				Paired 't' Test
		Mean	SD	Mean (%)	SD (%)	
Pre test	5	13.60	7.3	38.9	20.8	15.75*
Post test	35	28.47	3.1	81.3	8.9	
Enhance ment	35	14.87	7.3	42.5	20.9	

* Significant at 5% level, t (0.05, 59df) = 1.96

The above table projects the overall pretest, posttest and enhancement of mean knowledge scores regarding personal hygiene. The mean pretest knowledge was 38.9%

with SD 20.8%. The mean posttest knowledge found to be 81.3% with SD 8.9%. However, the enhancement was proved as mean (42.5%) and SD of (7.3%). Further, the paired t-test value (15.75*) shows statistical significance at level of $p< 0.05$ with df (59), establishing the effectiveness of puppet show.

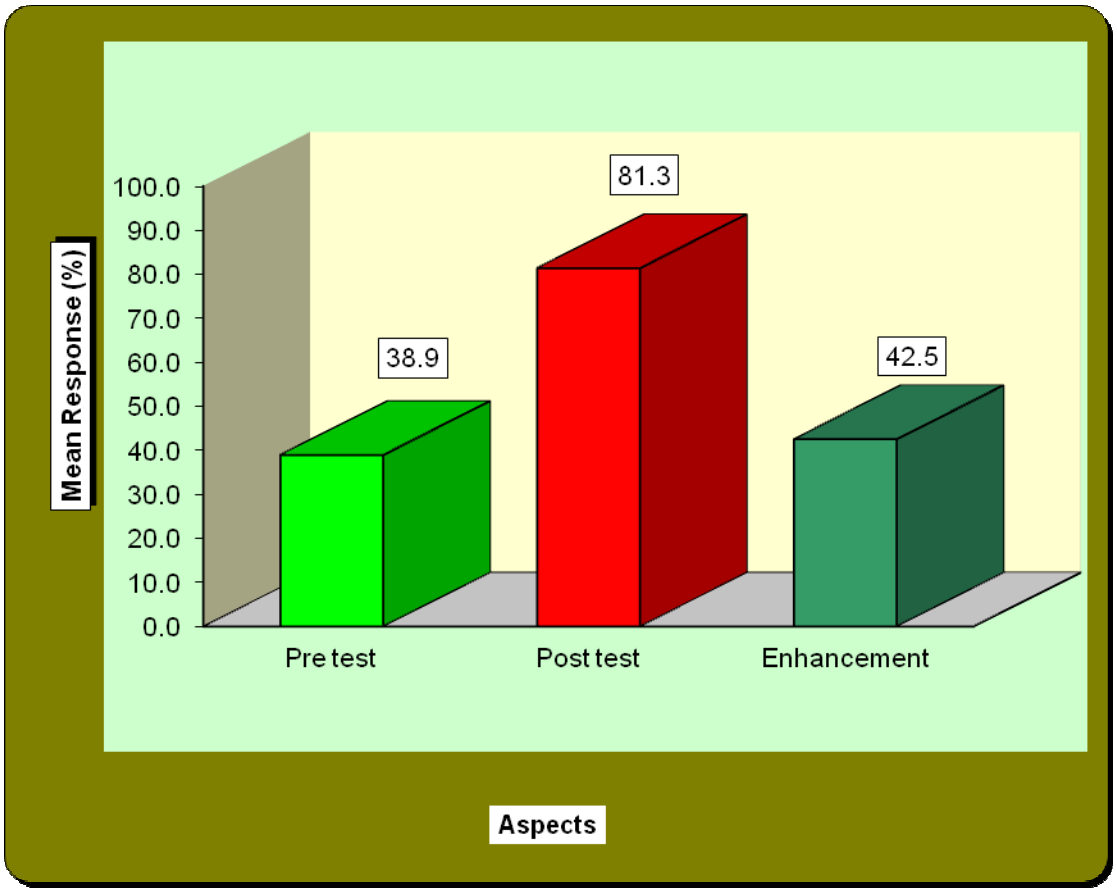

Figure.9: Over all Pre test and Post test Mean Knowledge on puppet show regarding personal hygiene.

TABLE – 7

Frequency and percentage distribution of pretest and posttest knowledge level of children regarding personal hygiene.

N=60

Knowledge Level	Category	Classification of Respondents				χ^2 Value
		Pre test		Post test		
		Number	Percent	Number	Percent	
Inadequate	≤ 50 % Score	38	63.3	0	0.0	78.09*
Moderate	51-75 % Score	22	36.7	20	33.3	
Adequate	> 75 % Score	0	0.0	40	66.7	
Total		60	100.0	60	100.0	

* Significant at 5% level, χ^2 (0.05, 2df) = 5.991

The above table shows that in the pretest, out of 60 subjects majority of them 63.3% of them had inadequate knowledge, 36.7% of them had moderate knowledge and no subjects had adequate knowledge. In the post-test, majority of them 66.7% had adequate knowledge level, 33.3% had moderate knowledge level and none of them had inadequate knowledge level. The obtained χ^2 value 78.09* is greater than the χ^2 (0.05) 5.991 which is found to be significant at degree of freedom 2.

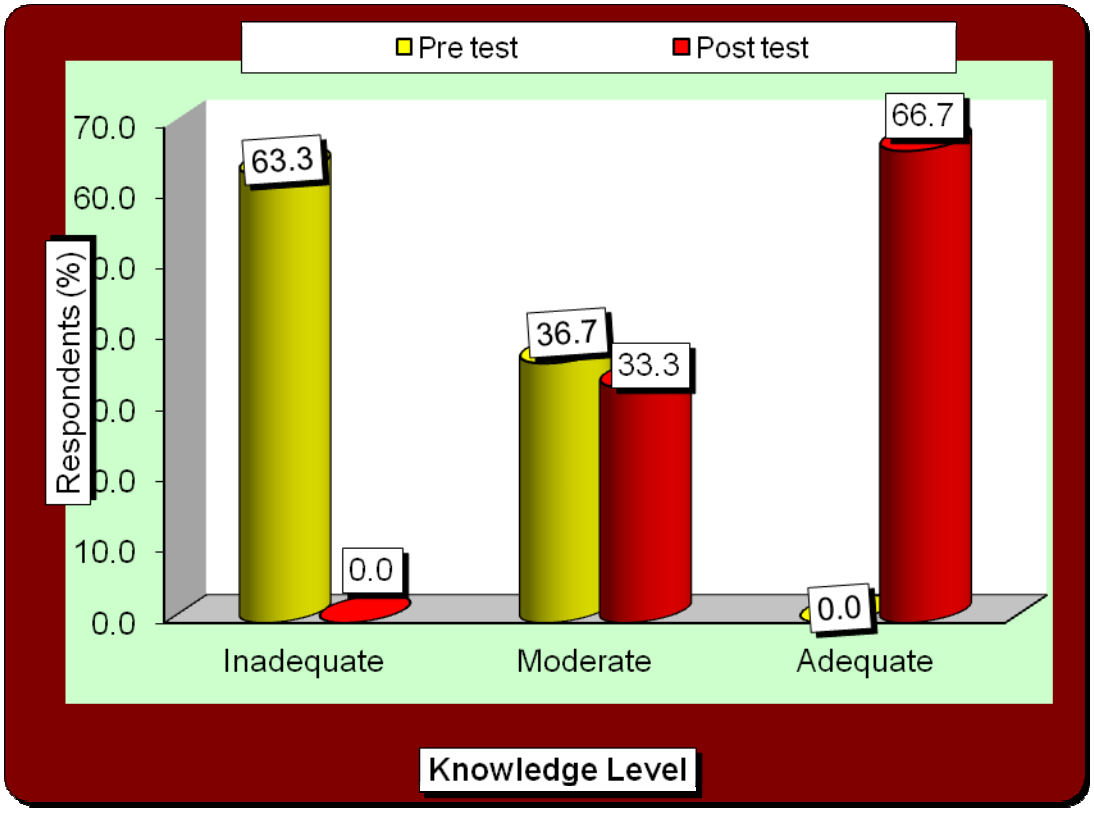

Figure.10: Classification of Respondents on Knowledge level on puppet show regarding personal hygiene.

TABLE – 8

Aspect wise mean Pre test and Post test Knowledge of puppet show on personal hygiene.

N = 60

No.	Knowledge Aspects	Respondents Knowledge (%)						Paired 't' Test
		Pre test		Post test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
I	General Information.	43.8	23.7	83.1	15.7	39.3	27.2	11.19*
II	Oral hygiene.	40.2	23.6	81.0	12.2	40.8	25.4	12.44*
III	Hair care, eyes and nose care, foot care etc.,	37.1	21.6	79.4	12.1	42.3	21.2	15.46*
IV	Impact of poor personal hygiene.	34.0	27.6	84.7	15.3	50.7	26.2	14.99*
	Combined	38.9	20.8	81.3	8.9	42.5	20.9	15.75*

* Significant at 5% level, t (0.05, 59df) = 1.96

The above table shows the aspect wise pretest and posttest mean and standard deviation regarding knowledge of children regarding personal hygiene.

A paired‘t’ test was done to compare the mean pretest and posttest scores on each aspect. For general information regarding personal hygiene, the obtained ‘t’ value is 11.9* and it is found to be significant at 0.05 level (‘t’= 0.05 with df (59), regarding oral hygiene, the obtained ‘t’ value is12.44* and it is found to be significant at 0.05 level (‘t’= 0.05 with df (59),on hair care, eyes and nose care, foot care etc., aspects, the obtained ‘t’ value is15.46*and in the area of impact of poor personal hygiene, the obtained ‘t’ value is 14.99* is also significant at 0.05 level (‘t’= 0.05 with df (59).. The obtained‘t’ value for the combined aspects of knowledge is 15.75* is also significant at 0.05 level (‘t’= 0.05 with df (59).

From the above statistical information it is evident that the puppet show was effective in enhancing the knowledge of children regarding personal hygiene.

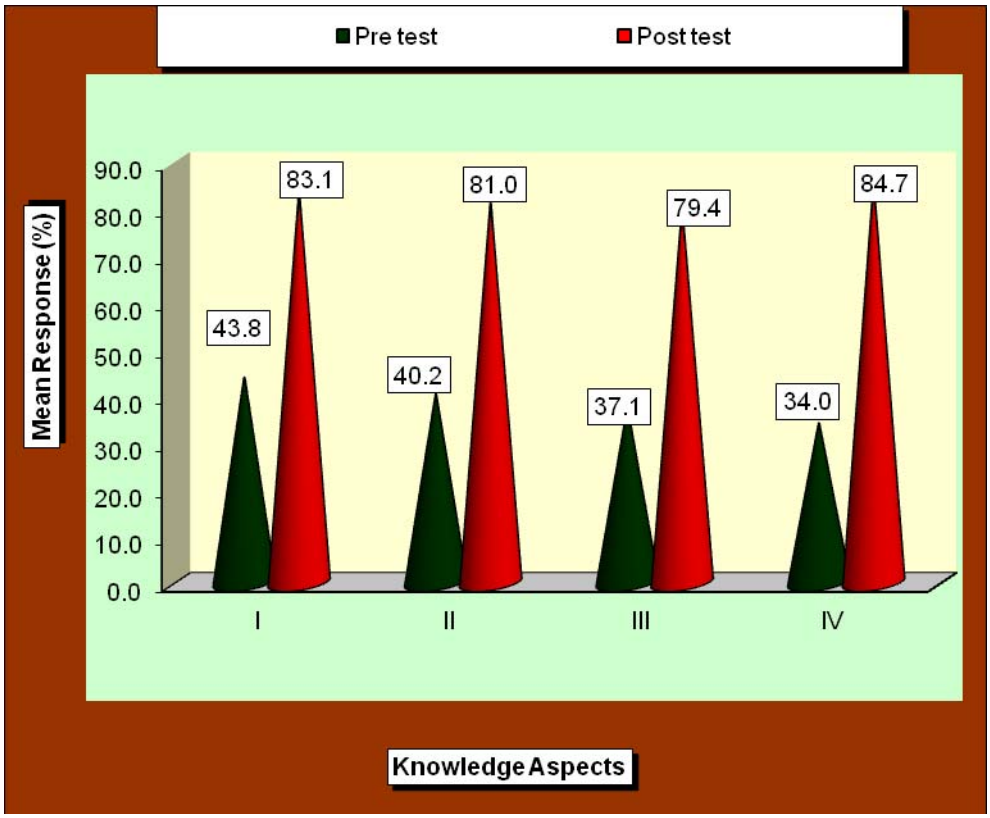

Figure.11: Aspect wise mean Pre test and Post test Knowledge of puppet show on personal hygiene.

SECTION-5

This section deals with the association of mean pre-test knowledge scores with selected socio-demographic variable. TABLE – 9

Association between socio-demographic variables and pre-test knowledge level

N=60

Demographic Variables	Category	Sample	Respondents Knowledge				χ^2 Value	P Value
			Inadequate		Moderate			
			N	%	N	%		
Age group (years)	07-08	18	12	66.7	6	33.3	7.68*	P<0.05
	08-09	18	9	50	5	20.8		
	09-10	13	12	92.3	6	54.5		
	>10	11	5	42.5	22	36.6		
Gender	Boys	6	5	83.3	1	16.7	1.15 NS	P>0.05
	Girls	54	33	61.1	21	38.9		
Religion	Hindu	42	30	71.4	12	28.6	3.95*	P<0.05
	Muslim	18	8	44.4	10	55.6		
class	3rd standard	44	29	65.9	15	34.1	0.47 NS	P>0.05
	4th standard	16	9	56.3	7	43.7		
Parent education	Below 5th std	41	27	65.9	14	34.1	0.59 NS	P>0.05
	6th -9th std	13	8	61.5	5	38.5		
	PUC	6	3	50.0	3	50.0		
Type of family	Joint	31	24	77.4	7	22.6	5.48*	P<0.05
	Nuclear	29	14	48.3	15	51.7		
Monthly income	Below Rs.5000	34	24	70.6	10	29.4	1.78 NS	P>0.05
	Rs.5001-10000	26	14	3.8	12	46.2		
Combined		60	38	63.3	22	36.7		

* Significant at 5% Level, NS: Non-significant

The table presents the association of pre-test level of knowledge with selected demographic variables.

The Chi-square test was carried out to determine the association between the pre-test knowledge and demographic variables such as age, gender, religion, class, parent education, type of family, monthly income. Out of which age ($\chi^2 = 7.68^*$), religion ($\chi^2 = 3.95^*$) and type of family ($\chi^2 = 5.48^*$) were found to be significantly associated with pre-test knowledge at 5% level and the rest of the demographic variables were not significant. Hence research hypotheses H_2 is proved and accepted.

It is evident that pre-test knowledge score is better influenced by age, religion and type of family of primary school children.

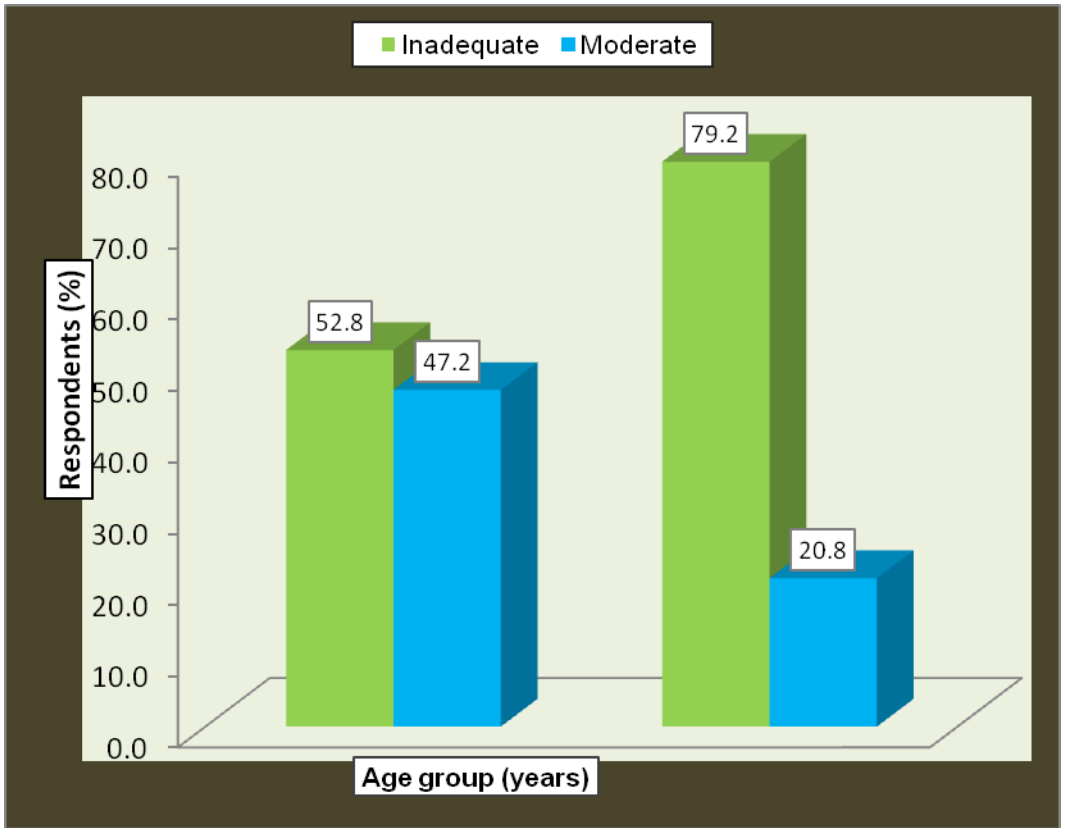

Figure.12: Association between Age and Pre test Knowledge level of puppet show on personal hygiene.

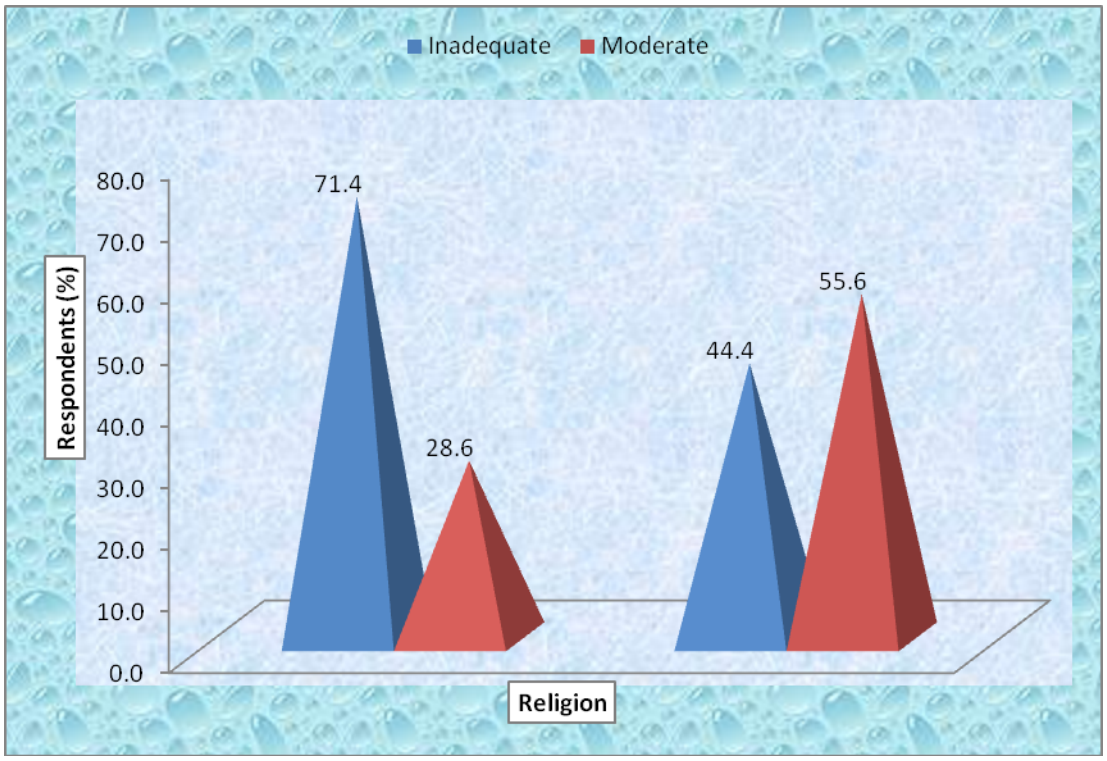

Figure.13: Association between religion and Pre test Knowledge level of puppet show on personal hygiene

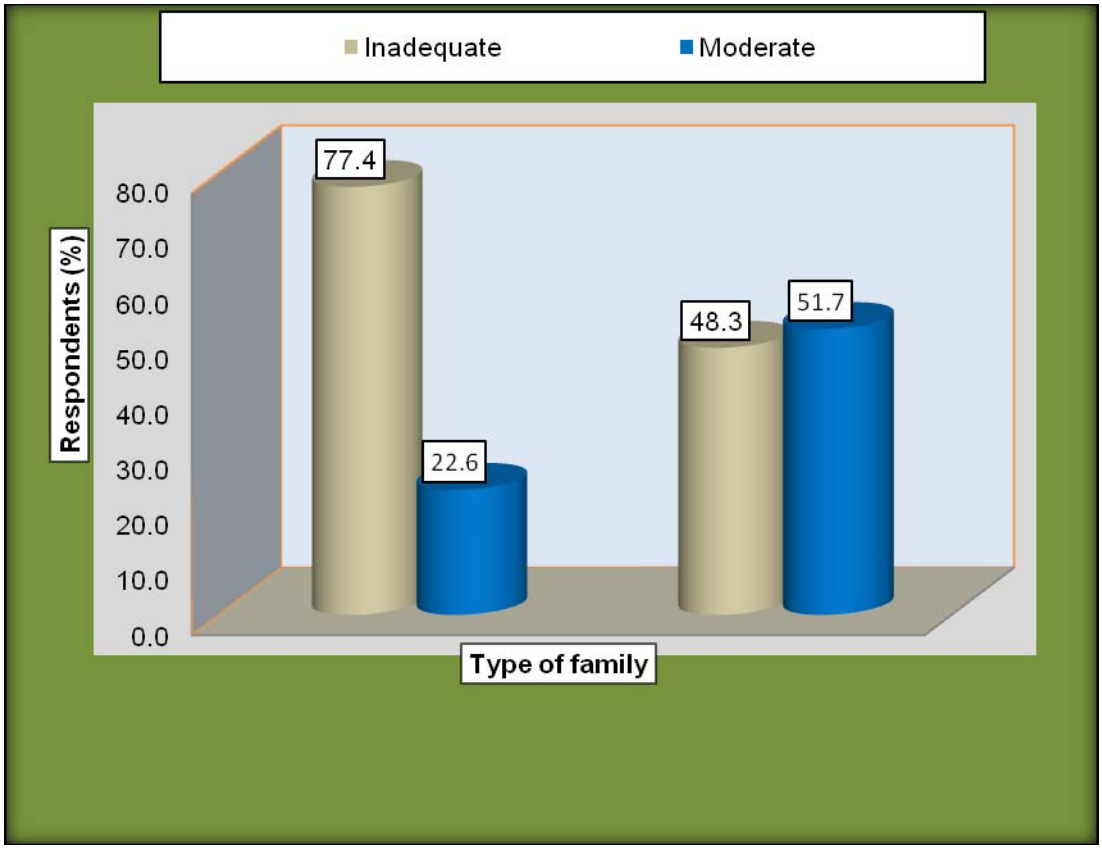

Figure.14: Association between type of family and Pre test Knowledge level of puppet show on personal hygiene.

6. DISCUSSION

This chapter presents the major findings and discusses them in relation to similar studies conducted by other researchers. The aim of this study was to evaluate the effectiveness of puppet show on personal hygiene among primary school children at selected rural primary schools of Bangalore.

Pre-experimental design with one group pretest-posttest was used to evaluate the effectiveness of puppet show on personal hygiene among 60 primary school children. A structured interview questionnaire was used to collect the data from subjects. Pretest was conducted on first day among children after explaining the purpose of the study. Puppet show on personal hygiene was shown among the samples on first day after conducting pretest examination. Posttest was done on the seventh day after pretest to evaluate the effectiveness of puppet show on personal hygiene.

Objectives of the study

The objectives of the study are to:-

- To assess the pre-test knowledge level of primary school children regarding personal hygiene.
- To evaluate the effectiveness of puppet show on personal hygiene by comparing the pre-test and post-test knowledge scores.
- To find out the association between pre-test knowledge levels of primary school children regarding personal hygiene with selected socio-demographic variables.

Research Hypothesis:

H1 The post- test mean knowledge score will be higher than the pretest mean knowledge score regarding personal hygiene among primary school children.

H2 There will be significant association between pre-test knowledge levels of primary school children regarding personal hygiene with selected socio-demographic variables.

Demographic Characteristics:

Regarding age of children 30% falls between 07-08 years, between 08-09 years it was 30%, and 21.5% were in age group of 09-10, and least 18.3% belong to the age group of 10 years and above. Majority 70% of the participants were girls and remaining 30% were boys. Majority 51.7% of children from joint family and rest 48.3% from nuclear family.

Major Findings of the study

The findings of the study were discussed according to the objectives and hypotheses.

1. To assess the knowledge of children regarding personal hygiene.

With regard to the children majority 63.3% of them had inadequate knowledge (≤50%) scores, 36.7% of them had moderate knowledge (51-75%) scores and none of them had adequate knowledge (>75%) score in pretest regarding personal hygiene among primary school children.

In the present study it was also found that the overall pre test knowledge scores of the children regarding personal hygiene were found to be inadequate with 39.9% and a standard deviation of 20.8%. The highest mean pre test knowledge score 43.8% in the area of general information on personal hygiene, regarding oral hygiene the mean percentage score was 40.2%, about hair care, eyes and nose care, foot care etc., the mean percentage score was 37.1% and regarding impact of poor personal hygiene the score was 34.0%.

2. To evaluate the effectiveness of puppet show on knowledge regarding personal hygiene among primary school children.

In the present study it is observed that the mean post test knowledge score is 84.7% in the area of impact of poor personal hygiene which is found to be higher than the mean pre test knowledge of 34.0%, on aspect regarding general information on personal hygiene the mean percentage score was 83.1% which is found to be higher than the mean pre test knowledge score of 43.8%, regarding oral hygiene the mean percentage score was 81.1% which is found to be higher than the mean pre test knowledge score of 40.2% and on hair care, eyes and nose care, foot care, etc., aspects the mean percentage score was 79.4% which is found to be higher than the mean pre test knowledge score of 37.1%. Regarding all the knowledge aspects under investigation the enhancement is found to be significant (33.83*) at 0.05 level of significance.

3. To find out the association between mean pre test knowledge scores and selected socio demographic variables.

In the present study association was sought between pre test knowledge level of children and selected socio demographic variables where a significant association was found like age (χ^2 = 4.32*, table value= 3.841 with 1 df at 0.05 level of significance), religion (χ^2 = 3.95*, table value= 3.841 with 1 df at 0.05 level of significance), type of family (χ^2 = 5.48*, table value= 3.841 with 1 df at 0.05 level of significance). Hence research hypotheses H_2 is proved and accepted.

The other demographic variables like gender, class, teaching parent education and monthly income of the family did not show any significant association with the pre test knowledge level of children.

7. CONCLUSION

The chapter enlightens the importance of this research study. The purpose of this study was to evaluate the "effectiveness of puppet show on knowledge regarding personal hygiene among primary school children in selected rural primary schools at Bangalore".

This research revealed that there is a significant difference in level of knowledge of children regarding personal hygiene after ushering puppet show. The study statistically proved that there is an association between level of knowledge and selected socio demographic variables of the children.

The findings of the study

The following conclusions were drawn on the basis of the data analysis

- The findings indicate that majority 30% of children fall within 07-08 years and 30% children are within 08-09 years followed by 21.5% of children fall within 09-10 years and remaining 18.3% are 10years and above.
- With regard to gender, majority of children were girls 90% and 10% were boys and regarding religion, 70% were Hindu and others were Muslim.
- Class (73.3%) was 3rd standard and 26.7% were 4th & 5th standard.
- It was observed that more than half of the child parents (68.3%) had below 5th standard educational qualification, 21.7% with 6th -9th standard educational qualification, and 10% with PUC.
- Regarding type of family 51.7% were from joint family, and rest in nuclear family.
- Regarding income per month, 56.7% were paid below Rs.5000 and rest of the 43.3% was paid Rs. 5001-10,000.

- The mean pre test knowledge score of children regarding personal hygiene was found to be inadequate (63.3%).
- The aspect wise mean pre test knowledge score was found to be higher (43.8%) in the area of general information on personal hygiene, regarding oral hygiene the mean per test score was 40.2%, about hair care, eyes care and nose care, foot care, etc., the mean per test score was 37.1% and least regarding impact of poor personal hygiene the score was 34.0%.
- The overall mean post test knowledge score of children was found to be 81.3% as compared to mean pre test 38.9% with an enhancement of 42.5%. A paired 't' test result indicated significant difference between the pre test and post test knowledge score regarding personal hygiene among primary school children ($t=15.75^*, p<0.05$), from which it can be inferred that puppet show was effective in enhancing the knowledge of children.
- A statistically significant association was observed between age, religion and type of family. The χ^2 value was 4.32*(age), religion (3.95*) and type of family (5.48*) at 0.05 level of significance.
- Gender, class, parent education and monthly income did not show any significant association with the knowledge of primary school children.

Nursing Implication

The result of the study shows that majority of the primary school children had inadequate knowledge regarding personal hygiene during pre test. So the study has several implications for practice, education, administration and research.

Nursing Education:

- Nursing education helps the nurse to excel in theoretical as well as practical level. In this present study the nurse educator gives priority to uphold the value of education regarding personal hygiene.

- Nurse educators need to lay emphasis on personal hygiene and its importance and primary school children to recognize the impact of poor personal hygiene.

- Nurse educators should give more prominence to practice of good personal hygiene.

- Nurse educators help to conduct educational programs among primary school children because hygiene practices can stave off childhood illness and infections. So training in personal hygiene could also save child from embarrassing moments and teasing by peers.

Nursing Practice:

- Nursing practice is an ongoing process of assistance which aims the whole round development of mankind. The main focus of nursing practice is to reduce the morbidity and mortality rate and to improve the quality of life.

- A regular health education program should be carried out by nurse educator regarding personal hygiene.

- Educate the primary school children regarding personal hygiene and its importance.

- Educational programs with effective teaching strategies motivate children to learn about personal hygiene. Puppet show is considered an effective education strategy to improve the awareness and knowledge regarding personal hygiene.

Nursing Administration:

- Nursing administration is a service sector to control the management operation along with arrangement of service policies in order to plan for organization. Nursing administrators take initiatives for continuous educational program. Moreover, administration can evaluate the merits and demerits of an educational programme.

- In co-operation with the school authorities, nurse administrator should take initiative to organize continuous education program for primary school children regarding personal hygiene.
- Appropriate teaching/learning materials needs to be prepared and made available for children.
- An administrator can co-ordinate all educational sectors under one roof.
- Nursing leaders are challenged to consider the health needs of children and educate children about importance of personal hygiene and impact of poor personal hygiene.

Nursing Research:

Nursing research is a systematic investigation and study of materials, sources etc., in order to establish facts and reach conclusions. A researcher can bring innovative approaches and modern theories in the field of research. It has been reported that incidence of child hood illness and infection is increasing hence awareness should be created in society. There is a need for extensive and intensive research in the area of personal hygiene so that strategies for educating children can be promoted.

Nurse researches should take efforts to conduct interactive sessions among children promoting their knowledge Moreover, it is important to assess the practice that are contribute to increased incidence of illness and infections. Evaluating the effectiveness of various interventions in the reduction of incidence of illness so that effective yet practical solutions can be developed. A research study can make remarkable changes in their knowledge, attitude, potentials and thereby improving the quality of nursing profession.

Limitations of the Study

- The sample size is limited to 60 primary school children in selected rural schools, Bangalore. Hence generalization is possible only to the selected settings.
- Duration of data collection is limited to 4 to 6 weeks.
- Systematic random sampling technique was used in the present study.
- The qualitative portion of the study consisted of a brief interview and did not involve a recorded, transcribed and was based solely on the notes of the researcher.

Suggestions

- Educational programs regarding personal hygiene could be conducted periodically for primary school children to identify hygienic behavior in children and take appropriate measures to prevent poor hygienic practice.
- Educational programs on strategies to identify children with illness because of poor personal hygiene could be conducted periodically including preschool, primary, middle and high school children in schools.

Recommendations:

Based on the findings of the study, following recommendations have been made:

- A similar study can be replicated on a large sample to generalize the findings.
- A similar study can be conducted by including practical aspect.
- A similar study can be carried out to evaluate the efficiency of various teaching strategies like structured teaching program, role play; video assisted teaching programme and socio drama regarding personal hygiene.
- Based on study findings, intervention should be given to all children through mass media, role-play, drama, and classroom teaching, etc to enhance the knowledge.
- A similar study can be undertaken with parents and other group.
- A similar study can be undertaken with control group design.

8. SUMMARY

This chapter presents the summary of the study. Childhood illness is a pervasive developmental disorder that affects children's social, physical and behavioral development. There are qualitative impairments in social interaction, communication with restricted repetitive and stereotyped patterns of behavior, interests and activities. Knowledge and awareness about personal hygiene have been on the increase, especially in the developed countries whereas these remain at developing countries. Lack of knowledge and awareness about childhood personal hygiene is thus a major barrier to improving the health and wellbeing of children affected by infections & illness.

Objectives of the study

The objectives of the study are to:-

- To assess the pre-test knowledge level of primary school children regarding personal hygiene.
- To evaluate the effectiveness of puppet show on personal hygiene by comparing the pre-test and post-test knowledge scores.
- To find out the association between pre-test knowledge levels of primary school children regarding personal hygiene with selected socio-demographic variables.

Hypothesis

H1 The post- test mean knowledge score will be higher than the pretest mean knowledge score regarding personal hygiene among primary school children.

H2 There will be significant association between pre-test knowledge levels of primary school children regarding personal hygiene with selected socio-demographic variables.

Assumptions:

In this study it is assumed that:-

- Primary school children are more prone to get physical health problems due to poor personal hygiene.
- Improving knowledge of primary school children on personal hygiene may help them to prevent complication of poor personal hygiene.
- Puppet show may help the primary school children to understand the concept of personal hygiene easily.

The present study is aimed at assessing the effectiveness of puppet show on personal hygiene among primary school children. The investigator has adopted the Ludwig von Bertalanffy's general system theory which was found suitable to evaluate the effectiveness of puppet show among children to create awareness about personal hygiene.

One group pre test post test design was used to evaluate the effectiveness of puppet show on personal hygiene among primary school children who were selected by systematic random sampling method. A structured interview schedule was used to collect data from the study subjects. The tool for the study was validated by 10 experts.

Reliability was obtained by split half method with γ=0.9374.

Pilot study was conducted among teachers of Nazrath School Chandapura Anakel Taluk Bangalore. Structured interview schedule was administered to assess the pre- test level of knowledge regarding personal hygiene among primary school children on 1st day.

On the same day puppet show was shown to the group. Same questionnaire was administered on the seventh day to the same group and post test level of knowledge was assessed. The obtained data was analyzed and interpreted in terms of objectives and hypotheses using descriptive and inferential statistics.

Findings of the Study

With regard to age majority 30% of children fall within 07-08 years and 30% children are within 08-09 years followed by 21.5% of children fall within 09-10 years, among which 90% were girls and 10% were boys.

Among the study subjects 70% were Hindu and others were Muslim regarding class (73.3%) was 3^{rd} standard and 26.7% were 4^{th} and 5^{th} standard.

It was observed that more than half of the child parents (68.3%) had below 5^{th} standard educational qualification, 21.7% with 6^{th} -9^{th} standard educational qualification and 10% with PUC and 51.7% were from joint family and rest from nuclear family.

Regarding income per month, 56.7% were paid below Rs.5000 and rests of the 43.3% were paid Rs. 5000-10,000.With regard to the children majority 63.3% of them had inadequate knowledge (≤50%) scores, 36.7% of them had moderate knowledge (51-75%) scores and none of them had adequate knowledge (>75%) score in pretest regarding personal hygiene among primary school children.

The mean pretest knowledge was 38.9% with SD 20.8%. The mean posttest knowledge found to be 81.3% with SD 8.9%. However, the enhancement was proved as mean (42.5%) and SD of (7.3%). Further, the paired t-test value (15.75*) shows statistical significance at level of $p< 0.05$ with df (59), establishing the effectiveness of puppet show.

A paired ‘t’test was done to compare the mean pretest and posttest scores on each aspect. For general information regarding personal hygiene, the obtained ‘t’ value is 11.9* and it is found to be significant at 0.05 level (‘t’= 0.05 with df (59), regarding oral hygiene, t=12.44* and it is found to be significant at 0.05 level (‘t’= 0.05 with df (59),on hair care, eyes and nose care, foot care, etc., aspects, the obtained ‘t’ value is15.46*and in the area of impact of poor personal hygiene, the obtained ‘t’ value is 14.99* is also significant at 0.05 level (‘t’= 0.05 with df (59).. The obtained‘t’ value for the combined aspects of knowledge is 15.75* is also significant at 0.05 level (‘t’= 0.05 with df (59).

The paired ‘t’ test was used to test the significance of difference between pre test knowledge score and post test knowledge score and found to be significant at $p<0.05$. The computed statistical test value on general information on personal hygiene was t=11.9*, $p<0.05$, regarding oral hygiene, t=12.44*, $p<0.05$, on hair care, eyes and nose care, foot care, etc., aspects, t=15.46*, $p<0.05$, and in the area of impact of poor personal hygiene, t=14.99* it was found to be significant at 5% level.

Further, the result showed that there is significant association between pre test knowledge level with selected socio demographic variables like age (χ^2 = 4.32*, $p>0.05$), religion (χ^2=3.95*, $p>0.05$) and type of family (χ^2=5.48*, $p>0.05$) among primary school children regarding personal hygiene. Since there was significant association between the pre test knowledge level and selected socio demographic variables, the research hypotheses (H_2) was accepted.

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ANNEXURE-1

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www.aihs.ac.in

LETTER SEEKING PERMISSION TO CONDUCT PILOT STUDY

To

Respected Madam /Sir,

Sub: Requesting permission to conduct pilot study.

Ms. R. Nisha, II year, M.Sc. Nursing student of our institution has selected the below mentioned topic for the dissertation work to be submitted to Rajiv Gandhi University, Bangalore, Karnataka, as partial fulfillment of University requirement for the award of Masters of Science in Nursing degree

TOPIC: "A STUDY TO EVALUATE THE EFFECTIVE-NESS OF PUPPET SHOW ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG PRIMARY SCHOOL CHILDREN IN SELECTED RURAL PRIMARY SCHOOLS AT BANGALORE."

Regarding the dissertation work, she is in a need of your esteemed help and cooperation as she is interested in conducting pilot study in your community area. The time period fixed for the study is from .16.04.2012...to...23.04.2012... I request you to kindly permit her to conduct the proposed study and provide her the necessary facilities.

The student will provide further details of the study personally. Please do the needful and oblige.

Thanking you,

With regards,

PRINCIPAL

PRINCIPAL
Acharya College of Nursing
51 Cholanagar, R T Nagar Post
Bangalore - 560 0..

ANNEXURE-2

Ph : 92426 41178

NAZARETH SCHOOL

Old Chandapura, Hosur Main Road, Anekal Taluk, Bangalore -560 081.

Ref. :

LETTER GRANTING PERMISSION TO CONDUCT PILOT STUDY

TO,

THE PRINCIPAL

ACHARYA COLEGE OF NURSING

R.T.NAGAR, BANGALORE

RESPECTED SIR/MADAM,

Subject: regarding permission to conduct pilot study

Ref: Acharya College of Nursing

With reference to the above mentioned institution, I herewith informing your that IInd year M. Sc. Nursing (community nursing) student Ms. Nisha R conducted the pilot study.

Thanking you,

Yours faithfully

for the Principal

NAZARETH SCHOOL
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ANNEXURE-3

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LETTER SEEKING PERMISSION TO CONDUCT RESEARCH STUDY

To

Respected madam/sir

Sub: Seeking permission to conduct research study

She is **Ms. R. Nisha, IInd year M.Sc Nursing** student of Acharya college of nursing has selected the below mentioned topic for the research study which is to be submitted to RGUHS, Bangalore, Karnataka as a partial fulfillment of the university requirement for the award of M.Sc. Nursing Degree.

TOPIC: "A STUDY TO EVALUATE THE EFFECTIVE-NESS OF PUPPET SHOW ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG PRIMARY SCHOOL CHILDREN IN SELECTED RURAL PRIMARY SCHOOLS AT BANGALORE."

Regarding the dissertation work, she is in need of your esteemed help and co-operation as she is interested in conducting research in your community area. The time period fixed for the study is from .01/05/2012 to .01/06/2012..

I request you to kindly permit her to conduct the proposed study and provide her necessary facilities.

The student will further furnish the details of the study personally. Please do the needful and oblige.

Thanking you,

With regards

PRINCIPAL

PRINCIPAL
Acharya College of Nursing
51 Cholanagar, R T Nagar Post
Bangalore – 560 03

ANNEXURE – 4

Ph : 7836382
7834797
7834495

SWAMY VIVEKANANDA EDUCATION SOCIETY (R)
SWAMY VIVEKANANDA RURAL HIGHER PRIMARY SCHOOL
(Recognised by Govt. of Karnataka)
Chandapura, Anekal Taluk, Bangalore - 560 081.

No. : 40/2011-12

To The Prrnevpal.
Acharya College of Nursing.
Bangalore –

Office Of :
The Head Master,
Swamy Vivekananda Rural Higher Primary School

LETTER GRANTING PERMISSION TO CONDUCT RESEARCH STUDY

RESPECTED SIR/MADAM,

Subject: Regarding permission to conduct research study

Ref: Acharya College of Nursing

With reference to the above mentioned institution, I herewith informing your that IInd year M. Sc. Nursing (community nursing) student Ms. Nisha R conducted the research study.

Thanking you.

Yours faithfully
Manjunatha Reddy
Head Master
Swamy Vivekananda Rural Nursery and Higher Primary School
Chandapura, Anekal (Tq.)
Bangalore Dist.

ANNEXURE-5

acharya
NURTURING THE FUTURE

Acharya College of Nursing

(Affiliated to RGUHS, Recognized by Govt. of Karnataka, KNC & INC)
Cholanagar, R.T. Nagar Post, Bangalore - 560 032, India.
Ph : +91-80-2353 0369, 65666317, Fax : +91-80-2343 2525
www.aihs.ac.in

From,

R Nisha,
II[nd] yr MSc. Nursing
Acharya College of Nursing,
Bangalore.

Respected Sir/Madam,

Sub: Requisition for content validation of Tool and Personal Hygiene

I, R Nisha 2[nd] year M.Sc. Nursing Student (Community Health Nursing) of the above mentioned institution, kindly request you to give consent to validate my tool on:

Topic: "A study to evaluate the effectiveness of puppet show on knowledge regarding personal hygiene among primary school children in selected rural primary schools at Bangalore."

I would be obliged, if you kindly go through the instrument and give your expert opinion on the same. The acceptance form is enclosed herewith for your persuel.

Thanking You

Your's faithfully

R Nisha

ANNEXURE- 6

Acceptance form for tool validation

Name:

Designation:

Name of the college/hospital:

Statement of acceptance / non acceptance

I give my acceptance / non acceptance to validate the tool.

Topic: "A STUDY TO EVALUATE THE EFFECTIVENESS OF PUPPET SHOW ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG PRIMARY SCHOOL CHILDREN IN SELECTED RURAL PRIMARY SCHOOLS AT BANGALORE."

Signature:

Place:

Date:

ANNEXURE-7

Content Validation Certificate.

I hereby certify that I have validated the tool of Ms. Nisha.R, 2nd year M.Sc. Nursing student of Acharya College of Nursing who is undertaking the following study:

"A STUDY TO EVALUATE THE EFFECTIVENESS OF PUPPET SHOW ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG PRIMARY SCHOOL CHILDREN IN SELECTED RURAL PRIMARY SCHOOLS AT BANGALORE."

Signature of the expert

Place:

Date: **Designation and Address**

CRITERIA CHECKLIST FOR VALIDATION OF THE TOOL

INSTRUCTION

Kindly go through the items in the structured Interview schedule regarding personal hygiene among primary school children. Please give your suggestion regarding accuracy, relevancy and appropriateness of the items in the content.

There are three response columns in the scale namely, strongly agree (SA), Agree (A), and Disagree (DA). Please tick mark (√) against the specific column. If you disagree to any item please give your comments in the remark column.

Demographic Profile

Item No	SA	A	DA	Remarks and Suggestions
1				
2				
3				
4				
5				
6				
7				
8				

CRITERIA CHECK LIST FOR STRUCTURED INTERVIEW SCHEDULE

Item No	SA	A	DA	Remarks and Suggestions
1				
2				
3				
4				
5				
6				
7				
8				
9				
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34				
35				

Signature of the valuator with seal

EVALUATION CRITERIA CHECK LIST FOR VALIDATION OF LESSON PLAN REGARDING PERSONAL HYGIENE:

	CONTENT	Relevant	Needs modification	Not relevant	Remarks
	SECTION I : Demographic data • Includes all the relevant variables necessary for the study. • Variables are well defined **SECTION II:** **Knowledge questionnaires for children regarding personal hygiene.** **CONTENT** **SELECTION OF CONTENT:** 1. The content fulfils the need for the puppet show in terms of the level of understanding children 2. According to the children cognitive level 3. Aims to improve the knowledge of the children 1. Continuity of the content. 2. The content includes the essential elements on personal hygiene: • Introduction • Hair care • Pediculosis treatment • Oral hygiene • Eyes and nose care • Perineal care • Foot care				
	ORGANISATION OF CONTENT: 1. The content regarding personal hygiene				

	is comprehensive and relevant 2. The content is classified into relevant sub categories 3. The content is arranged in logical sequence				
	LANGUAGE 1. The language is clear, simple to comprehend 2. Clear & perceive the meaning of the content. 3. The words used are simple and easy to understand.				
	PRACTIBILTY AND FEASIBILTY 1. Content motivates the participants. 2. Content improves the knowledge of children. 3. Content presented in interesting manner. 4. Content is structured and adheres to provide adequate information				

General comments: ----------

ANNEXURE-8

CONSENT FORM OF SUBJECTS

I am hereby give my consent to participate in the study conducted by Ms. Nisha.R, student of Acharya Nursing college on "A study to evaluate the effectiveness of puppet show on knowledge regarding personal hygiene among primary school children in selected rural primary schools, at Bangalore."

Thanking you

Signature of the respondent

ANNEXURE-9

CERTIFICATE OF ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation done by Ms.Nisha.R, 2nd year M.Sc. nursing student of Acharya College of nursing, on **"A study to evaluate the effectiveness of puppet show on knowledge regarding personal hygiene among primary school children in selected rural primary schools, at Bangalore."** is edited for English language appropriateness by Ms.Jolly Adakari English lecturer.

Date **Signature and Seal**

Name and Designation

ANNEXURE-10

LIST OF EVALUATORS:

1 **Dr. Mrs. Shakuntala B.S.,**

Principal & professor,

AECS Maaruti College Of Nursing

Bangalore

2. **Mr. H.B. Prakash,**

HOD of Community Health Nursing

Govt. College of nursing,

Bangalore-02

3. **Mrs A. Santham Lillipet,**

Asst. Professor,

M.S. Ramaiah Institute of nursing,

Bangalore.

4. **Mrs. Sonia Sunny**,

Associate Prof.

SEA College of Nursing.

Basavanapura, Bangalore

5. **Dr. S.K. Vagdevi, MBBS,**

Community Medical Officer,

Cholanayakanahalli Health Center

Bangalore.

6**. Mr. H.S. Surendra,**

Statistician, Prof.

GKVK, Yelahanka, Bangalore

ANNEXURE-11

BLUE PRINT OF THE TOOL

SL. No	Items	Items number	Total number of items	Percentage
1	General information on personal hygiene	1,2,3,4,5,6,7	7	20%
2	Oral hygiene	8, 9, 10, 11,12,13,14,15, 16,17	10	29%
3	Hair care, eyes and nose care, ear care, perineal care, foot care.	18,19,20,21, 22,23,24, 25,26,27, 28,29.30	13	37%
4	Impact of poor personal hygiene.	31,32,33,34, 35	5	14%
	Total	35	35	100%

ANNEXURE-12

TOOL USED FOR ASSESSMENT OF KNOWLEDGE AND EVALUATION OF PUPPET SHOW

This questionnaire is designed for collecting relevant information from respondents regarding personal hygiene.

Questionnaire is divided into two parts:

Section A: This consists of seven items related to socio-demographic variables (age, gender, class, religion, parent education, type of family, income of the family/month) of primary school children.

Section B: Consists of 35 items, the knowledge of primary school children regarding personal hygiene which is divided into four parts:

Part-1: Deals with general information on personal hygiene includes 7 multiple choice questions.

Part-2: This section deals with oral hygiene. This section includes 10 multiple choice questions.

Part-3: This section deals with hair care, eyes and nose care etc. This section includes 13 multiple choice questions.

Part-4: This section deals with impact of poor personal hygiene. This section includes 5 multiple choice questions.

SECTION-I:

Instruction to the investigator:

Investigator explains the purpose of the study to the participants and obtains informed consent, and records the responses to the interviewed questions. Each question has one single correct answer.

SOCIO-DEMOGRAPHIC PROFILE:

Participant No:

Date:

1. Age(years)
   a. 07-08 [ ]
   b. 08-09 [ ]
   c. 09-10 [ ]
   d. >10 [ ]

2. Gender
   a. Boy [ ]
   b. Girl [ ]

3. Religion
   a. Hindu [ ]
   b. Christian [ ]
   c. Muslim [ ]

4. Class
   a. 3^{rd} standard [ ]
   b. 4^{th} standard [ ]
   c. 5^{th} standard [ ]

5. Parent education
   a. Below 5^{th} std [ ]
   b. 6^{th} -9^{th} std [ ]
   c. PUC [ ]
   d. Degree [ ]

6. Type of family
   a. Joint [ ]

b. Nuclear [ ]

7. Monthly income (in rupees)

a. ≤ 5000 [ ]

b. 5001-10,000 [ ]

c. 10,001-15000 [ ]

d. >15,000 [ ]

SECTION –II:

STRUCTURED INTERVIEW QUESTIONNAIRE ON PERSONAL HYGIENE:

Instruction to the participants:

You are requested to answer with single responses to the questions. Your answers will be kept confidential.

PART-A: GENERAL INFORMATION ON PERSONAL HYGIENE:

1. Personal hygiene is……
    a. Keeping body clean [ ]
    b. Keeping house clean [ ]
    c. Keeping school clean [ ]
    d. Keeping dress clean [ ]

2. Cleaning of body should be done
    a. Once in a week [ ]
    b. Twice in a week [ ]
    c. everyday [ ]
    d. thrice in a week [ ]

3. personal hygiene helps to keep individual free from
    a. bad odour [ ]
    b. good odour [ ]
    c. moisture [ ]
    d. dry ness [ ]

4. personal hygiene includes
    a. only oral hygiene [ ]
    b. only foot care [ ]
    c. head to foot care [ ]
    d. only nail care [ ]

5. personal hygiene is essential for
    a. only boys [ ]

b. only girls [ ]

c. only elders [ ]

d. All the human beings [ ]

6. Bath soap is good to clean

a. Only hair [ ]

b. Only teeth [ ]

c. Only body [ ]

d. Tongue & nail [ ]

7. Good personal hygiene makes the person

a. Clean and neat [ ]

b. Dull and dirty [ ]

c. Tried and lazy [ ]

d. Depressed and dull [ ]

PART-B: ORAL HYGIENE

8. Oral hygiene is……

a. Keeping nails clean [ ]

b. Keeping teeth clean [ ]

c. Keeping foot clean [ ]

d. Keeping head clean [ ]

9. Things which you use for brushing

a. Tooth paste [ ]

b. Charcoal [ ]

c. Salt [ ]

d. Neem stick [ ]

10. Cleaning of teeth should be done

a. Once a day [ ]
b. Two or more time a day [ ]
c. Thrice a day [ ]
d. Once in a week [ ]

11. The reason we brush our teeth is

a. To remove bacteria from teeth [ ]
b. To remove food particles [ ]
c. Both a & b [ ]
d. Neither a nor b [ ]

12. Brushing should be done till……

a. 30 seconds [ ]
b. 1 minute [ ]
c. 2 minute [ ]
d. 5 minutes [ ]

13. Tooth brush need to be changed frequently upto

a. Every year [ ]
b. Every 3 month [ ]
c. Every 6 month [ ]
d. Never [ ]

14. Factor which can cause bad breath

a. Dry mouth [ ]
b. Good sleep [ ]
c. Self injury [ ]
d. Anxiety [ ]

15. Method of brushing you prefer is

a. Circular manner [ ]
b. Up & down manner [ ]
c. Both a & b [ ]
d. rotating [ ]

16. A dentist is a doctor for……

a. Teeth [ ]
b. Bones [ ]
c. Heart [ ]
d. Kidney [ ]

17. To prevent oral disease……

a. Eat a balanced healthy diet [ ]
b. Adopt healthy habits [ ]
c. Both a & b [ ]
d. Sleep more [ ]

PART-C: HAIR CARE AND OTHERS

18. The reason we apply oil to our hair is…….

a. To remove tangles from hair [ ]
b. To remove blister [ ]
c. To remove bad odour [ ]
d. To remove lice and nits [ ]

19. Which one is best to use for hair wash

a. Mud [ ]
b. Bath soap [ ]
c. Shampoo [ ]
d. Washing powder [ ]

20. For pediculosis treatment the parasiticide should be applied and

a. Left to one hour [ ]
b. Left to overnight [ ]
c. Left to two hours [ ]
d. Left to three hours [ ]

21. Discharge or crust formation in the eyes should be cleaned with

a. Bare hands [ ]
b. Gloved hands [ ]
c. Plastic bag [ ]
d. Wet cotton swab [ ]

22. An ear wax can be softened by

a. Water [ ]
b. Warm liquid paraffin or vegetable oil [ ]
c. Kerosene [ ]
d. Salt water [ ]

23. Nail care means

a. Clean & trim the nails [ ]
b. Apply nail polish [ ]
c. Remove nail polish [ ]
d. Grow the nails [ ]

24. Hand washing should be done

a. Before food and after defecation [ ]
b. Only before food [ ]
c. Only after defecation [ ]
d. Before sleep [ ]

25. Which is the best for growth of hair

a. Ground nut oil [ ]
b. Coconut oil [ ]
c. Kerosene [ ]
d. Gingle oil [ ]

26. If tangle removal is difficult
a. Don't remove [ ]
b. Pull and remove [ ]
c. Tangles may be cut off [ ]
d. Secure with ribbon [ ]

27. Warm diluted vinegar with equal amount of water helps to
a. Remove dandruff [ ]
b. Remove blister [ ]
c. Hair growth [ ]
d. Loosen nits [ ]

28. In pediculosis treatment, disinfect all the articles with
a. Dettol 1:40 [ ]
b. Carbolic 1:20 [ ]
c. Savlon 1:80 [ ]
d. Bleaching powder [ ]

29. External ear canal should be cleaned with
a. Hair pin [ ]
b. Tooth picks [ ]
c. Cotton buds [ ]
d. Safety pin [ ]

30. If the feet perspire apply
a. Oil [ ]
b. Lotion [ ]
c. Perfume [ ]

d. A bland foot powder [ ]

PART-D: IMPACT OF POOR PERSONAL HYGIENE.

31. Pediculosis is

a. Inflammation of scalp [ ]
b. Inflammation of tongue [ ]
c. Inflammation of mouth [ ]
d. Inflammation of gums [ ]

32. Dental plague is caused by

a. Excess sleeping [ ]
b. Excess eating [ ]
c. Bad oral hygiene [ ]
d. Consumption of alcohol [ ]

33. Bare foot can lead to

a. Gastric problem [ ]
b. Worm infestation [ ]
c. Dental problem [ ]
d. Eye problem [ ]

34. Complication of poor eye care

a. Dental caries [ ]
b. Vomiting [ ]
c. Cough [ ]
d. Style [ ]

35. Eating with dirty hands will leads to

a. Bad breath [ ]
b. Diarrhoea [ ]
c. Cavity [ ]
d. Tooth ache

ANNEXURE-13

SCORING KEY

For each correct answer "One" mark and each incorrect answer "Zero" mark

Item No.	Correct option	Score
1	A	1
2	C	1
3	A	1
4	C	1
5	D	1
6	C	1
7	A	1
8	B	1
9	A	1
10	B	1
11	C	1
12	D	1
13	B	1
14	A	1
15	C	1
16	A	1
17	C	1
18	A	1

Item No.	Correct option	Score
19	c	1
20	b	1
21	d	1
22	b	1
23	a	1
24	a	1
25	b	1
26	c	1
27	d	1
28	b	1
29	c	1
30	d	1
31	a	1
32	c	1
33	b	1
34	d	1
35	b	1
		35
total		35

LESSON PLAN
ON PERSONAL HYGIENE

Lesson plan on puppet show regarding personal hygiene
Topic : personal hygiene
Group : primary school children
Place : rural schools of Bangalore
Duration : 1hour
Method of teaching : puppet show cum discussion

GENERAL OBJECTIVES:

On completion of this puppet show on personal hygiene, primary school children will acquire adequate knowledge on personal hygiene and develop desirable attitude to improve their hygiene, at early stages.

SPECIFIC OBJECTIVES: at the end of this teaching programme the children will be able to

- define personal hygiene.
- list down the purpose of personal hygiene.
- enumerate the hair care.
- discuss the pediculosis treatment.
- tell about the oral hygiene.
- explain the eyes and nose care.
- describe the ear care.
- explain the perineal care.
- discuss the foot care.

TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHING LEARNING ACTIVNITIES	AV AIDS	EVALUATION
Z	**Introduce the topic.** **Define personal hygiene** **List down the purpose of personal hygiene.** **Enumerate the hair care.**	**INTRODUCTION:** Without food and water the human can't live, like wise without personal hygiene, the human can't live healthy. **Definition:** The science of health and the study of ways of processing it, particularly by promoting cleanliness of the human during the life period. **Purposes:** To reduce the high risk of infection. To prevent or detect and treat at the earliest complications. To prevent illness. **Hair care:** **Shampooing the hair:** 1. Remove pins and ribbons from the hair, and brush and comb it remove any tangles. 2. Wet the hair thoroughly with the	Investigator introduces the topic and the children getting ready to receive the knowledge. The investigator defines personal hygiene and the children listen. The investigator tells the purpose of personal hygiene and the children listen The investigator asks questions and the children	Puppets  	Define personal hygiene? What to use to wash the

		water. 3. Apply shampoo to the scalp. Make a good lather with the shampoo while massaging the scalp with the pads of your finger-tips, so that the finger nails will not scratch the scalp. 4. Rinse the hair briefly, and apply shampoo again. 5. Make a good lather and massage the scalp as before. 6. Rinse the hair thoroughly this time to remove all the shampoo. 7. Squeeze as much water as possible out of the hair with your hands. 8. Rub the hair with a heavy towel; arrange the hair using a clean brush and comb.	answers.		hair?
	Enumerate the hair care.	**Brushing and combing:** 1. Apply a lubricant (oil) as the client indicates or as needed. 2. Using a large and open-toothed comb, start at the neck line and lift and fluff the hair outward, moving	The investigator discusses the brushing and combing and the children listen.		How to remove the tangles?

	Discuss the	upward toward the fore head. 3. Continue fluffing the hair outward and upward until all of the hair is combed on one half of the head. Repeat the procedure for the other half. 4. After the hair has been lubricated, weave and lift your opened fingers through the hair to ease the tangles free. Or support the hair securely at the base of the scalp, insert a long-toothed comb into the ends of the hair and carefully comb out the ends of the tangles. 5. If tangle removal is difficult, tangles may be cut off discard the loose hair into the paper bag and lice, if any into the lotion. 6. After combing braid the hair, when lying on her back braids should not be too tight. Secure the ends with a ribbon or a tape. **Pediculosis and its treatment:** 1. Wash hands, part the hair into small sections and apply the	The investigator tells about pediculosis the child understands.		What is pediculosis?

	pediculosis treatment. **Tell about the oral hygiene.**	parasiticide on the hair and scalp, rubbing gently. 2. In long hair, the medicine is to be applied along the whole length of the hair. 3. Roll up the long hair to the top of the head and cover the head with the cap secure it with pins. 4. The treatment is done in the evening and left over night; the hair is washed in the following morning. 5. Apply warm vinegar diluted with equal amount of water to loosen the nits if any, comb the hair with a fine toothed comb. 6. Repeat the procedure after 1 week because the nits are not affected by the parasiticides. 7. Disinfect all the articles that have come in contact with the hair by immersing them in carbolic 1:20 for 1one hour before washing.			

	Explain the eyes and nose	**Oral hygiene:** **Brushing and flossing the teeth:** 1. Wash hands. 2. Ask the client to rinse his mouth. 3. Pick up the tooth brush, wet it with water, and spread a small quantity of tooth paste on it. 4. Instruct the client to brush all sides of the teeth, outer side, inner side, right and left side and the chewing surface extending from the gum to the enamel. 5. When he finishes brushing, pour water on the brush, and clean the brush thoroughly and put back the brush. 6. Ask the client to rinse his mouth thoroughly. 7. Ask the client to massage the gums. Place the thumb and the index finger over the ridge of the gum using a press and release motion. Help the client to wash his face and hands. Wipe with the towel.	The investigator explains the methods of brushing and the child understands.		Explain the methods of brushing?

	care.	8. Biting surfaces of teeth by holding top of bristles parallel with teeth and brushing gently back and forth. Brush sides of teeth by moving bristles back and forth. **Care of eyes:** **Cleaning of the eyes:** 1. When there is discharge or crust formation in the eyes. 2. Wash hands, pour water into the bowl and wet the cotton swabs. 3. Stand in front of the client, clean the eyes with the cotton swabs; continue cleaning till all discharges are removed from the eyes. For crusted secretions, place a wet warm gauze piece or cotton swab over the closed eye. Leave it in place until the crust becomes soft when the eyes are clean, wipe the face with towel.	The investigator tells about the cleaning of eyes and the child understands. The investigator tells about the cleaning of nose and the child understands.	 	Howto clean the eyes? What to use to soften the wax?

	Explain the perineal care	**Care of nose and ears:** External crusted secretions can be removed with a wet wash cloth or a cotton applicator moistened with oil, normal saline or water. For babies and small children, a wisp of cotton moistened with warm water or oil, introduced into the anterior nares, and rotated gently, cleanses the nostrils. Warm liquid paraffin or a vegetable oil instilled into the ear can soften the wax and it can be easily removed. **Skin care:** Take bath daily with warm water, but be careful against slipping in the bath room due to imbalance. Give special attention to the groin and perineal area. Wear loose cloths without long lies.		 	

	Discuss the foot care.	**Care of the perineum:** Wash hands, pour water over the perineum, clean the perineum from the midline out ward in the following order: The vulva, the labia minora on both sides.Inside of the labia majora on both sides. The outside of the labia major a on both sides. Clean the perineal region and the anus thoroughly. **Foot care:** ➢ Wash the feet daily using Luke warm water; do not soak, thoroughly pat the feet dry, and dry well between the toes. ➢ If the feet perspire, apply a bland foot powder. If dryness is noted along the feet or	The investigator describes the foot care and group listens The investigator explains the management of autism and group understands.	 	How to do foot exercise?

		between the toes, apply lotion, baby oil and rub gently into the skin. ➢ File the toe nails straight across and square; do not use scissors or clippers. ➢ Avoid wearing elastic stockings, knee-high hose or constricting garters. Do not cross the legs. Both impair circulation to the lower extremities. ➢ Inspect the feet daily; including toes and soles of the feet, heels, and the area between the toes, use a mirror to inspect all surfaces. ➢ Wear clean socks or stockings daily, socks should be dry and free of holes. ➢ Do not walk bare foot. ➢ Wear shoes that fit properly. Soles of shoes should be flexible and should not slip. ➢ Exercise regularly to improve circulation to the lower extremities. Walk slowly, elevate, rotate, flex and extend the feet at the ankle. Dangle the feet over the side of the bed one minute, then extend both legs and hold		 	

		them parallel to the bed while lying supine for one minute, and finally rest one minute. ➢ Minor cuts should be washed immediately and dried thoroughly. Only mild antiseptics (e.g.) (Neosporin ointment) should be applied to the skin.			