EFFECT OF SNAKE AND LADDER GAME ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG SCHOOL CHILDREN AT SELECTED SCHOOL, COIMBATORE.

C. KAMALA DEVI

A Dissertation Submitted to

The Tamil Nadu Dr. M.G.R Medical University,

Chennai -32.

In Partial Fulfillment of the Requirement for the

Award of the Degree of

MASTER OF SCIENCE IN NURSING

2016

This is to certify that the dissertation entitled **"EFFECT OF SNAKE AND LADDER GAME ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG SCHOOL CHILDREN AT SELECTED SCHOOL, COIMBATORE"** is a bonafide work done by **Kamala Devi. C, College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences** in partial fulfillment of the University rules and regulations for award of **M.Sc. Nursing Degree** under my guidance and supervision during the academic year 2016.

Name and Signature of the Guide : Prof.Suganthi. A.....

Name and Signature of the Head of Department : Prof. Suganthi. A.....

Name and Signature of the Principal : Dr. T. Nirmala.....

EFFECT OF SNAKE AND LADDER GAME ON KNOWLEDGE REGARDING PERSONAL HYGIENE AMONG SCHOOL CHILDREN AT SELECTED SCHOOL, COIMBATORE.

LIST OF GUIDES

Subject Guide **Signature of the Guides**

1. **Prof. A. Suganthi, M.Sc (N).,** …….
HOD, Child Health Nursing department,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore - 641 044.

Research Guide

2. **Dr.T. Nirmala, M.Sc (N).,Ph.D** …….
Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore - 641044.

Medical Guide

3. **Dr.A.K. Jaleel Ahamed, B.Sc., M. B. B. S., D.C.H.,**.....…
Chief Pediatrician & Neonatologist,
Sri Ramakrishna Hospital,
Coimbatore - 641 044.

Certified that this is the Bonafide work of

KAMALA DEVI.C

COLLEGE OF NURSING

Sri Ramakrishna Institute of Paramedical Sciences

Coimbatore - 641 044.

Submitted in Partial Fulfillment of the Requirement for the Award of the Degree of

MASTER OF SCIENCE IN NURSING

The Tamilnadu Dr. M. G. R. Medical University, Chennai –32.

Dr.T.NIRMALA, M. Sc (N)., Ph.D.

2016

ACKNOWLEDGEMENT

I praise Lord Jesus Christ, the rock of my salvation for his bountiful blessings, who has loved me with strength and inspiration in every walk of my life.

I express my heartfelt thanks to honorable **Shri. R. VijayaKumhar**, B.E., MS, MBA, Managing Trustee, SNR Sons Charitable Trust for giving me an opportunity to utilize all the facilities in this esteemed Institution.

I extend my sincere thanks to **Dr.T.Nirmala,** M.Sc (N)., Principal, College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, Coimbatore, for her constant support, guidance and encouragement throughout the study.

I extend my hearty thanks to **Prof.S. GirijaKumari**, M.Sc(N)., Vice Principal, Sri. Ramakrishna Institute of Para medical Sciences for her constant support throughout the study.

My sincere congratulations to **Prof. Mrs. Suganthi.A,** M.Sc (N)., HOD, Department of Child Health Nursing, for her proposals , write ups encouragement and keen interest in conception, planning and execution of the study. I feel extremely privileged to have her as my subject guide.

I extend my thanks to **Dr. A. K. Jaleel Ahammed,** M. B. B.S., D.C.H., Chief Pediatrician and Neonatologist, Sri Ramakrishna Hospital for his encouragement and valuable suggestions in the study.

I express my special and sincere thanks to **Mrs.Brindha. V,** M.Sc (N)., Associate Professor, Research co-ordinator, College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences for her thoughtful guidance and support.

I am really obligated to **Mrs.UmaDevi,** M.Sc(N)., Assistant professor and **Mrs.Yasoda P**, M.Sc(N)., lecture College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, Coimbatore, who helped me with her guidance in statistics in the study.

I sincerely express my deep gratitude to my class co- coordinators **Mrs. Jean Tresa,** M.Sc(N), Associate Professor, Department of Medical Surgical, **Mrs.Nithya, M.Sc., (N),** Assistant Professor, Obstetrical and Gynecological Nursing for their constant encouragement and support in completing this research study.

I extend my sincere thanks to **Mrs.Beryl Juliet V.S,** M.Sc (N)., Associate Professor., **Mrs.Vasumathi K,** M.Sc(N)., Associate Professor, **Mrs. Sudha,** M.Sc(N)., Assistant Professor for their moral support and valuable suggestions in conducting this study.

I extent my sincere thanks to **all the Head of the Departments and Research Committee Members** for their valuable suggestions in conducting this study.

I am equally grateful to the **Librarians** and **Office Staffs** of Sri Ramakrishna Institute of Paramedical Sciences for helping in retrieving the journals and timely assistance in preparing the manuscript.

My sincere thanks to the **Principal,** Sri Ramakrishna Matriculation, School for permitting to conduct the study and I thank the teachers and study Participants for their cooperation in conducting the study.

It gives a sense of honor and pride for me to place on the record, with my heartfelt thanks to my dear and lovable parents **Mr.D.Christopher, Mrs. Gowri Christopher**, the guiding spirit behind all my activities. They sowed the seed of hope on me and see their happiness in my eyes. It's they who carved and made me the person who I am today. I dedicate this note of thanks to my dear loving sisters **Ms. C. Kalitha Devi and Ms. C. Kavitha Devi** and my cousin sister **C.G.Padmini, K.Margin Suzma.** The strongest love I had in my life is from my friends. I heartily thank my lovable **Friends and Classmates** for their love and tolerance who provided me timely support, guidance and motivation throughout my research.

Finally I thank all whom I have not mentioned but nevertheless have been instrumental in the successful completion of the dissertation.

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Abstract

The study was conducted to assess the effect of snake and ladder game on personal hygiene among school children at Sri Ramakrishna Matriculation School, Coimbatore. The research design used for the present study was pre-experimental one group pre test post test design. By using proportionate stratified random sampling technique forty five samples were selected and their knowledge regarding personal hygiene was assessed by structured questionnaire. Education about personal hygiene was given through snake and ladder game for 5 days. Post test was done using the same questionnaire. The obtained data was analyzed using paired 't' test. The mean score before and after education regarding personal hygiene was 13.68 & 33.31 and the standard deviation was 5.61 & 6.62 respectively with a mean difference of 19.63. The calculated 't' value 19.62, was greater than the table value at 0.001 level of significance. Hence, it was concluded that snake and ladder game was effective in enhancing the knowledge regarding personal hygiene among school children.

INTRODUCTION

"Cleanliness is next to Godliness". Keeping one's body clean is an important part of keeping oneself healthy and helping one feel good. Caring about the way one looks is important to one's self-esteem. A child is precious not only to the parents, to the family, community and nation but also to the world at large. In fact, child is a citizen of world and thus it becomes the responsibility of the wide population of the whole universe to look after the interests of children all over (Gupta, D,2007).

Good health is closely linked to good maintenance of personal hygiene. It is crucial for children to learn the importance of personal hygiene to avoid the spread of common illnesses. A strong foundation of personal hygiene habits will help the children in a long way in their life journey (National library Board Singapore, 2015).

Good personal hygiene is one of the most effective ways to prevent the development and spread of infection. Well maintained personal hygiene in health care environment includes many aspects like personal, social, psychological and simple way of healthy life. Keeping a good standard of hygiene helps to prevent the development and spread of infections, illnesses and bad odors. Health problems can develop as a result of poor personal hygiene. Body image influences self-esteem, self-confidence and motivation. Those who already have low self-esteem and especially those with depression often neglect personal hygiene which perpetuates the problem of poor body image (Kishore. J, 2007).

Childhood years are significant for intellectual growth and personality development. It is the period of maximum learning and as such, is crucial for education of the child. The health habits of school children are regarding personal hygiene, nutritious diet, clean surrounding, exercise, rest and recreation. It formed at an early age; it will remain still with the person throughout life and will help to develop healthy citizens. Hence school is the best place for giving health education on health subjects (Gupta. D, 2007).

A child spends more time at school than anywhere else, except home. Schools are sacred since they provide an environment for acquiring skills and development of intelligence, which can be utilized by students to achieve their goals in life and develop as a good human being. A great deal of research tells us that, schools can have a major effect on children's health, by educating and promoting healthy behaviors. Moreover, young children today have bigger dreams than ever before and they are willing to go to an extra mile to achieve their dreams. However, we need to keep them healthy so that they can stretch their wings and fly high (Kishore. J, 2007).

Good hygiene practices will help to keep one healthy, give us confidence and be pleasant for those around us. A well maintained personal hygiene assures of projecting a positive body image that reflects our personalities. Children should be taught the importance of hygiene and how to achieve good hygiene very early to keep themselves and others healthy, and reduce the risk of acquiring infection from the environment (Sankar, 2013).

A healthy child makes a healthy generation. The children are one third of our population and all of our future. There is a close relationship between unhealthy children to a worsened future of the world. There are about 200.6 million children between to the age group of 6-12 years globally. Among them, 40% of middle school children are in India. Health education is a widely used term in preventive medicine directed to promote healthy lifestyles. Education is a one-way approach to sort information dissemination. Like other aspects, education on hygiene relies on the techniques of formal education under which most professionals have been trained especially for school children who help them to improve their day to day life in a healthy manner (WHO,2010).

Children's ability to learn may be affected in several ways. Firstly, helminthic infections, which affect millions of school children, can impair children's physical development and reduce their cognitive development, through pain and discomfort, competition for nutrients, anemia, damage to tissues and organs. Long term exposure to chemical contaminants in water (e.g. lead and arsenic) may impair learning ability (James, Ashwill and Droske, 2002).

. Effective school education is a sustainable way to promote health practices. Consequently, health education to school children will make them learn easily to cultivate good habits and to mould them. Experts advise that, health education should be a part in the school curriculum. All health issues irrespective of their sensitivity can be inculcated in educational programs in a methodological and scientific way (Jose. T, 2011).

Diarrheal diseases, malaria and helminthic infections force many schoolchildren to be absent from school. Poor environmental conditions in the classroom can also make both teaching and learning very difficult. The effect of disease in teachers impairing performance and increasing absenteeism also have a direct impact on learning, and the work of teacher is made harder by learning difficulties faced by schoolchildren (James, Ashwill and Droske, 2002).

"Play Therapy is based upon the fact that, play is the child's natural medium of self-expression. It is an opportunity which is given to the child to 'play out' his feelings and problems just as, in certain types of adult therapy, an individual 'talks out' his difficulties" (Jose.T, 2011).

Play therapy helps to reduce anxiety about traumatic events in the child's life, facilitates a child's expression of feelings, promotes self-confidence and a sense of competence, develops a sense of trust in self and others, defines healthy boundaries, creates or enhances healthy bonding in relationships, enhances creativity and playfulness, and promotes appropriate behavior (Marlow, 2001).

Snake and ladder game is regarded as one form of play therapy. Through this, the researcher will be able to educate school children on healthy habits, prevention of infection and other imperative elements of healthy life style behaviors. The motive of researcher for snake and ladder game is that, this is one of the most attractive type of teaching on hygienic practices. In this study, the researcher has integrated ten aspects of personal hygiene (oral hygiene, body bath, hair wash, hand wash, cutting the nails, washing clothes, wearing slippers, ear hygiene, food and water hygiene, and sleep hygiene) among school children.

1.1 Need for the Study

"Children are the wealth of tomorrow; take care of them if you wish to have a strong India, ever ready to meet various challenges" (Jose.T, 2011).

At the beginning of the 20th century, the major cause of child mortality in the age group of 5 to 14 years was due to many infectious diseases which mainly resulted from lack of personal hygiene.

Mukerjee. K (2006) conducted a study in Mumbai on street children and adolescents regarding the prevalence of skin diseases due to lack of personal hygiene. The results showed that, 80% of children between the age group 4-14 years were affected. The incidence among adolescents was 35%. The younger the age group, more chance of getting the infection.

Chang, Sophie, Shih & Hung (2004) conducted a study in Taiwan, to investigate the knowledge of school children on dental health and oral hygiene practices. Children between the age group of 6 to 12 years were chosen for the study. Among these, 95 students had visual impairment and 286 were those with normal vision. It was found that, the students with visual impairment were less knowledgeable about dental health and less frequently completed oral hygiene practices than the ones with normal vision.

Dan perterson (2008) conducted a survey among visually impaired women and general women, about the importance of brushing twice after each meal. Results revealed that, 78% were brushing after each meal in 2003 whereas in the 1990's it was 75.4%. The daily use of dental floss or dental cleansers, rose slightly from 48.2% to 50.5% in 2003 when compared with the 1990's.

Potts and Barbara (2002) stated that, a child's best opportunity to learn is through play. It helps the child to comprehend their world, to become socialized, to unrevealed problems in an environment and furthermore develop critical thinking skills. Children of this age group, enjoy many types of games and hobbies like playing board games, start different collections, watching television, listening to music etc.

A triangulated research design of quantitative survey and qualitative method to review the effectiveness of education on personal hygiene was conducted among school children between 6-14 years. The aim of the study was to find out the prevalence of intestinal parasites and its epidemiological correlates to the effect of hygienic education. After child-to-child hygienic education it was found that, out of the 118 subjects examined, 21 (17.8%) had intestinal parasitic infection. The prevalence of intestinal parasitic infection was significantly high among children having dirty untrimmed nails (47.4%) followed by those having poor hand washing practices (37.2%). One month after hygiene education, the proportion of children having practices hand washing with soap water after defecation significantly improved from 63.6 % to 78%. The proportion of clean and cut nails also improved from 67.8% to 80 % ($p<0.05$) (Nurulalam,2001).

'Snake and Ladder' is a very simple childhood racing board game played among these children and its see-sawing nature makes it popular. The game does not need any specific skill to play. It gives a very relaxed feel throughout (Cessario,1998).

Lizardo, (2001) has conducted an interventional study to assess the effectiveness of snake and ladder games as an alternative for teaching basic health concepts. The aim of the study was to determine the effectiveness of an educational strategy based on the traditional children game for teaching the basic health concepts to school-age children. The study was carried out on 300 children in the age group of 9 to 11 years of age in the city of Durango, Mexico. The children were divided into 2 groups; Group A used a modified version of snake and ladder that included a message on basic health concepts, and Group B was the control group who did not receive education. After the educational intervention, the health concepts test scores, out of a maximum possible of 10, were 9.3±0.8 for Group A and 7.5±1.1 for Group B ($p<0.001$). Thus it was concluded that games can be used as an alternative method for teaching basic health concepts. By considering the factors stated above, the researcher was interested in selecting the snake and ladder game to educate school children regarding personal hygiene.

1.2 Statement of the Problem

Effect of Snake and Ladder Game on Knowledge regarding Personal Hygiene among School Children at Selected School, Coimbatore.

1.3 Objectives of the Study

1.3.1 To assess the knowledge regarding personal hygiene among school children.

1.3.2 To evaluate the effect of snake and ladder game on knowledge regarding personal hygiene among school children.

1.3.3 To find out the association between selected demographic variables and pretest level of knowledge scores on personal hygiene among school children.

1.4 Operational Definition

1.4.1 Effect

Effect refers to the outcome of snake and ladder game on knowledge regarding personal hygiene among school children.

1.4.2 Snake and ladder game

It is a modified game which imparts knowledge to school children regarding the advantages of personal hygiene and the ill effects of poor hygiene.

1.4.3 Knowledge on Personal Hygiene

Knowledge on personal hygiene refers to an increase in information on aspects like brushing, bathing, washing hair, cutting the nails, sleeping habits, keeping clothes clean, wearing slippers, ear hygiene and food and water hygiene, which will be measured by a structured questionnaire.

1.4.4 School children

It refers to children between the age group of 8-10 years studying in 3rd, 4th and 5th standard at selected school, Coimbatore.

1.5 Hypothesis

H_1: There will be a significant difference between the level of knowledge on personal hygiene among school children before and after administration of snake and ladder game.

1.6 Conceptual Framework

Conceptualization is a process of forming ideas which utilizes and forms a conceptual framework for the study. It is the abstract, logical structure which enables the researcher to link the findings to the nursing body of knowledge. A framework is the abstract of logical structure of meaning that guides the development of the study and the body of knowledge.

Conceptual framework used for this study is based on Ernestine Wiedenbach's 'Prescriptive Theory' (Helping art of clinical nursing theory). The prescriptive theory directs action toward an explicitgoal. The factors included in prescriptive theory are central purpose, prescription and realities.

In this study, the central purposes is to enhance the knowledge regarding personal hygiene among school children. The prescription indicates the broad general action that the researcher takes to fulfill the central purpose. The prescription is to administer the snake and ladder game among school children to enhance the knowledge regarding personal hygiene. Five realities are identified. They are agent, recipient, goal, means and frame work. In this study, agent refers to researcher, recipient refers to school children, goal refers to enhancement of knowledge regarding personal hygiene among children, means refers to snake and ladder game and frame work refers to the Sri Ramakrishna Matriculation School. These actions take place through three steps. They are Identification, Ministration and Validation.

Identification

In identification, the researcher initially collects the demographic data of school children. Then the researcher administers structure questionnaire and identifies the level of knowledge regarding personal hygiene among school children.

Ministration

Ministration refers to the intervention. In this study, the researcher implements snake and ladder game among school children. Snake and ladder game on knowledge regarding personal hygiene will be administered by the

researcher to each group for a period of 5 days. The snake and ladder game consists of 10 aspects(brushing, bathing, washing hair, cutting the nails, sleeping habits, keeping clothes clean, wearing slippers, ear hygiene and food and water hygiene) on knowledge regarding personal hygiene.

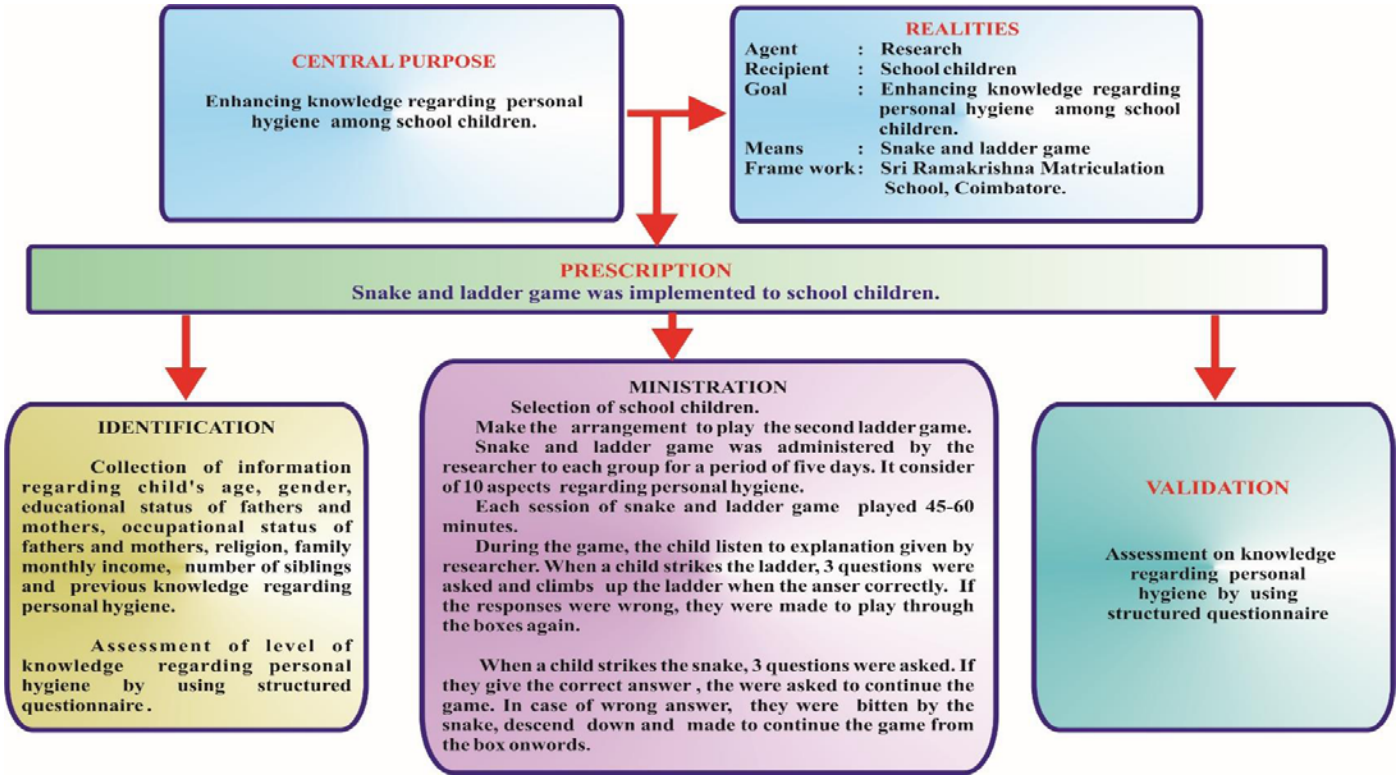
Validation

Validation refers to post test. In this study, the researcher does a post assessment on the level of knowledge regarding personal hygiene among school children after the intervention, using the same structured questionnaire.

1.7 Projected Outcome of the Study

Implementation of snake and ladder game will enhance the knowledge regarding personal hygiene among school children.

MODIFIED WIDENBACH'S HELPING ART OF CLINICAL NURSING THEORY (1968)



Source: Sinhgad e Journal of Nursing (2012)

REVIEW LITERATURE

This chapter present about the significant supportive literature related to the study. A literature is an essential component for the researcher towards a greater perceptive of the research problem and its major aspects. It provides the investigator with an opportunity to estimate different approaches to obtain the most existing facts, and the selection or development of the theoretical or methodological approaches to the problem.

The Literature reviews are arranged in the following sections:

2.1 Literature related to Personal Hygiene

2.2 Literature related to snake and ladder game

2.2 Literature related to Personal Hygiene through snake and ladder game

2.1 Literature Related To personal hygiene

Martinez, et. al, (2015) has conducted a cross sectional study on development and validation of a questionnaire on knowledge and personal habits in children between age group 7-12 years. The aim of the study was to develop and validate a questionnaire on the integral assessment of the habits and knowledge in personal hygiene. A total of 86 children were selected for the study. The results showed that, 20 tools that included items related to child's body hygiene were obtained. The researchers selected 34 items and drafted 48 additional ones. After content validity by the experts, the questionnaire was reduced to 63 items, and consists of 7 magnitude of child personal hygiene (skin, hair, hands, oral, feet, ears, and intimate hygiene). Only two items had non-response rates that exceeded 10%. The test-retest showed that, 84.1% of the items had between very good and moderate reliability.

Damle, et. al ., (2014) has performed a comparative study on Effectiveness of supervised tooth brushing and oral health education in improving oral hygiene status and practices of urban and rural school children. The main aim of the study was to appraise and compare the oral health status and the impact of supervised tooth brushing and oral health education. A total number of samples 200 school children were chosen in the age group of between 12-15 years. Stratified random sampling technique was used in this study. The group was divided by lottery method into two groups (group A urban school and group B rural school). The tooth brushing teaching program consist of 2 session on oral health education, individual tooth brushing, instructions, and supervised tooth brushing. Conbach's alpha, chi- square test, paired 't' test and unpaired 't' test were utilized for data analysis. The result shows that there was significance difference in study group as compared to control group.

Ikeja, (1998) has conducted a study on attitude towards Knowledge and Practice of Personal Hygiene among Secondary School Students between the age group of 5-7. The researcher takes 150 samples and applied qusi experimental study, with the duration 1 month. It was considered to be important, because the WHO data on the burden of disease, the results shows that, the approximately 3.1 % of deaths and 3.7 % of disability -adjusted-life-years worldwide are attributable to unsafe water, sanitation and hygiene. Mainly in Africa and developing countries in South East Asia, 48 % of all disease burdens are attributable to these factors. Consequently, this study is justifiable by the fact that, personal hygiene is indeed a pressing problem and requires a lot of input as studies, research and finances towards reducing the effects of improper hygiene and raising the standard of living especially in sub-Saharan Africa.

Smith, (1989) states that, the foremost work of every person in a fresh day should be taking proper oral care. It is a must for brushing the teeth always in the morning and before going to bed. One ought to make regular appointments with dentist and get the teeth and gum check- up frequently.

Dan Peterson, 2008 states that, proper brushing is indispensable for cleaning teeth and gums efficiently. Proper brushing was emphasized by techniques akin to brush the outer tooth surface in vibrating circular motion, maintain 45 degree angle with bristles contacting the tooth surface and gum line, inner tooth should be brushed up and down and rolling motion, tilt the brush vertically and make up and down strokes, for biting surface use gentle back and forth scrubbing motion. This technique and importance of proper brushing has been given from Family Gentle Dental Care.

Potter & Perry, (2005) states that, since people meet each other daily, and their social interactions can be very embarrassing if they do not take care of their personal hygiene. The foremost thing one should make a habit, is to take a bath daily. Our skin releases the waste as toxins through pores which may get clot with germs if we do not bathe regularly. Therefore, talking about the importance of bathing is necessary and fundamental step in personal hygiene to maintain health.

Luxury Sky Villas, (2010) states that, bathing should be an activity which must be done every day to cleanse the body, but some people are lazy to take bath. If not taking bath regularly, the dirt on the skin will be thicker and inhibit perspiration and also lead to cause itches, scabies and rashes. A survey has conducted among 51 adolescent girls to know how many times a person can take bath in a week, the results reveals that, 41.8 % voted for seven days for everyone has to take bath and 15.69 % suggested for taking more than one bath or shower a day.

Ratna Majumdar & Ganguli, (2000) the assessment study has conducted among adolescent girls in Rune district. The researcher takes 274 samples for his study. To assess the each samples by using structure questionnaire, and the duration of the study period one month. The result shows that, the hygienic practices mainly on hair washing reveals that one hundred thirty two girls(54.3%) washed their hair daily, 34.9 % twice a week and 10.7 % once a week. 135 girls (55.5%) used shampoo, 40 (16.5 %) soap, 86 (35.4 %) shikakai and the rest besan (powdered gram flour). Only 13 girls (5.5 %) reported the presence of lice in their scalp.

Centers for Disease Control and Prevention, (2007) states that, hands are one of the most active things that contain bacteria and may get used to spread diseases and health issues. Hence, it is vital to wash hands with an anti-bacterial soap especially after using the bathroom, before and after eating food, after touching your pets and other animals, handling garbage and after sneezing or coughing. Hand washing involves pouring water and a rubbing action then its effectiveness increases considerably. The use of soap and/or larger quantities of water show further improvements. Hand washing for hand hygiene is the act of cleaning the hands with or without the use of water or another liquid, or with the use of soap, for the purpose of removing oil, dirt, and microorganisms. It is well documented that, one of the most important measures for preventing the spread of pathogens is an effective hand washing technique.

Pinfold, (1998) states that, a hygiene based intervention study was conducted in rural Northeast Thailand regarding promotion of hand-washing and dish-washing behavior to progress their health. Interventions like songs about the

hygiene messages were recorded in the traditional folk music and tapes of this, as well as the community-produced plays, were broadcast over village loudspeaker towers and the results revealed that there was a significant improvement in hand washing and dish washing behavior.

Zahir-ud-din, (1990) said that, nails "should not be allowed to grow more than forty days at a stretch'. The glorious Prophet (SAW) and his pious companions (RA) would clip their nails every week. Nail clipping every Friday is desirable if it may be inconvenient, then once in a fortnight is advisable. Start cutting the nails from pointer of the right hand and finish with the little finger. Then start cutting the left hand beginning from the little finger and finish the thumb and finally cut the nails of the right thumb. When clipping the nails of toes it should begin with small toe of the right foot and end with the big toe of the left foot and with the small toes of the same foot.

Skeleton, (2007) States that, the change clothes and socks every day, as they are a primary source of contagious diseases and viruses. Clean clothes are very important as sweat will be absorbed into clothing and turns it dirty. Cotton dresses are best, as its natural fibers are less likely to smell or irritate. Changing the inner wear daily and other clothes that may be sweaty, particularly after sport or any activity is highly advisable.

Shivaramakrishna, Deepa & Saritha Reddy, (2011**)** states that, foot care is important. To keep them clean, look after toe nails and soak the feet sporadically is a great stress relieving therapy. Wearing Slippers whenever and wherever going outside is advisable to prevent infections and worn infestation. A study has conducted among the adolescent girls in rural area of Kolar district to assess their nutritional status and hygienic practices reveals that anemia is mainly affecting those who are not using slippers during defecation and whenever going outside.

Susan Kohl Malone, (2011) states that, cognition, memory, safety, mental health and states weight are all affected by inadequate sleep. This research highlights mainly biological and social factors contributing to insufficient sleep in adolescents and exploring several recommendations for sleep hygiene practices and to stimulate sleep.

Potter & Perry, (2005) states that, proper rest and sleep are as an important factor for good health as good nutrition and adequate exercise. Without proper amounts of rest and sleep, the ability to concentrate, make judgments and participate in daily activities is impossible and irritability increases.

2.2 Literature related to snake and ladder game

Deanna, (2010) has conducted a study on, Snakes and Ladders board game concept was chosen because, it facilitates small group interactivity among learners. Twenty-two multiple-choice and true-or-false questions were developed from materials adapted from a nationally accredited educational workshop, "Changing Dynamics of Stroke Prevention and Management." These questions were read and discussed by each team of participants. Each game involved 3 teams (pairs) of physicians, and 1 trained moderator who facilitated the game, kept time, and had the answers to the game's questions. At the conclusion of the CME session, and after completing the immediate post test of knowledge, all but one of the participants completed the session-evaluation questionnaire. Game based participants more frequently chose "strongly agree" (5 on the 5-point scale) for many of the statements. A higher proportion of game-based versus case-based participants strongly agreed that the event was enjoyable (94% vs. 53%; $P = .02$), that their attention was high throughout the event (88% vs. 41%; $P = .012$), and that they would register for a similar event in the future (82% vs.41%; $P = .034$).

The comments about the CME event were more strongly positive from the game-based participants. An experimental study was conducted in Maharashtra, among school children on 'promoting health in schools through a board game'.100 school children aged 8-14yrs where selected randomly for the experimental and control group. Pre and post test design was used. Board game included the advantages and disadvantages of health practices. The study revealed that there is a significant difference in the knowledge scores after administering the intervention. They concluded that the educational interventions by using games are very effective in school children.

Prasanthi, (2007) has conducted a study to determine the effectiveness of snake and ladder game on knowledge of common ailments among 60 primary school children of Assumption English School Bangalore, selected the purposive sampling. The aim was to assess the effectiveness of snake and ladder game on the knowledge of common ailments among primary schools. The duration of study was one month. A pre-test and post-test was done and among them 75.3% had a good knowledge regarding dental caries and 42.5% had knowledge on worm infestation. The post-test score was more than the pre-test score by 5%. Regarding the effectiveness of snake and ladder on 'knowledge of common ailments,' it was found to be effective in terms of increasing the knowledge scores. The findings showed that the post-test knowledge scores were higher than the pre-test knowledge scores and the differences between the pre-test and post-test scores was statistically significant at 5% level ('t' $_{(59)}$ = 19.16, $p<0.05$). This indicates that the game was an effective method of imparting information to the children.

Azizan Nisha Khan, (2002) has conducted an experimental study to assess the effectiveness of snake and ladder game on knowledge of common ailments among school children in Bangalore. 60 school children were selected randomly

for the experimental and control group. The study revealed that there was a significant difference in the knowledge scores after administering the intervention. They concluded that games can be used as alternative teaching methods in school children, it is effective in schoolchildren.

2.3 Literatures related to Personal Hygiene through snake and ladder game.

Maheswari, Asoken and Kumar, (2014) has conducted a study on effect of conventional vs. game based oral health education on children's oral health related knowledge and oral hygiene status. A total of 120 children aged 5-10 years were selected and divided into 2 groups. Each group had 30 children. The pre experiment design through flash cards and play method, education was given on personal hygiene daily for one month. Post test was done on last day of March. Result shows that there was a momentous increase in good oral hygiene score and significant decreases in fair and poor debris scores on post test. The study concluded that the knowledge score of both the group of children augmented considerably when the game based teaching intervention was used.

Angelopoulos M.V, Kavvadia. K, Taoufik. *K*, oulisc, (2013) has conducted a comparative clinical study to test the effectiveness of school based oral health education using experimental learning or traditional lecturing among 10 years old children. The aim of the study was to evaluate the effectiveness of experimental learning (EL), oral health education to traditional lecturing (TL) open hanging oral health knowledge, attitude and behavior as well as oral hygiene, gingival health care, and 84 ten year old children were recruited for the EL group,

100 for the TL group from 3 locations in Greece. The data was collected via questionnaires. The clinical examination was assessed and post assessment done after 6 and 18 months. The study shows that EL group had statistical significant, better hygiene then the TL at 6 months ($p<0.05$) with in the same group.

Mahaske, et.al. (2013) has conducted a study to determine common health problems and areas of personal hygiene status among primary school children. A cross sectional study with 450 students was assessed for health problems. Chi square test and Pearson's co efficiency was used, the result shows that about 65.1% have dental cavities 38.2% have ear wax and 10% have myopia

Saekar, (2013) has conducted a cross sectional observation study on personal hygiene among primary school children living in a slum of Kolkata. Samples of 104 primary school children were pre tested using structured questionnaire. Data were analyzed statistically by simple proportions and significance and the result showed that the female students had more knowledge than the male students regarding the maintenance of personal hygiene.

The Hindu national news paper, (2012) published the articles in 'changes in personal hygiene habit trough child's play'. Mr. Nesanon NGO director states that making personal hygiene a part of curriculum will help in preventing the spread of many diseases. The study was conducted on education on personal hygiene through snake and ladder game, memory card game and other dice related games. Nearly 20 village school children joint this joyfully participated in learning earning, 25 active members aged between 5 -14 participated in near Sukkampatty village from Namakal district. Only 2 children had the toilet in their homes. After the learning, 23 parents applied for a lone of Rs 10,000 /-to construct a small toilet

in their home. The NGO launched the initiative in 5 villages and extended to 20 villages in 2011. After this the NGO survey shows that, 450 children have changes in their personal hygiene. They share the information with their parents, friends and family members. 90 % of them influenced the members of their family. 87% of children discussed personal hygiene with their school friends from other villages.

Grocholewice, (1999) has carried out a cross sectional study to assess the effect of selected prophylactic educational programs on oral hygiene, periodontium and caries among school children. 223 pupils were randomly allocated with three test groups. One month of education was regarding oral hygiene and dental caries were given by school dentist. The results showed a distinct improvement of health awareness among examined children.

Biswas, (1990) the pre experimental study was conducted on the impact of health education imparted to school children on their knowledge, attitude, and practice with regards to personal hygiene. The aim of the study was to assess the impact of health education on the knowledge, attitude, and practices of school children. The study was carried out 150 children's in the age group of 10-14 years from two secondary schools situated in Burdwan district of West Bengal. The education on personal hygiene course was completed in 6 months. The knowledge, attitude and practice status of the students was assessed before imparting training, twice during the training period at an interval of 3 months and finally after 39 months from the start of training. The result indicated that the health knowledge, attitude, practice of the students, towards personal hygiene had improved significantly.

Rhiannon Older haw, (2001) an experimental study was conducted on "games as an alternative for teaching basic health concepts". The objective of the study was to determine, the following for the teaching of basic concepts to school children the effectiveness of an educational strategy based on traditional children's game intervention study carried out in Mexico. The study was carried out 250 children's between the age group of 8 to 10 years. The study takes one month of duration. The children were randomly divided into two groups i.e. experimental and control group. Experimental group children used modified snake and ladder game that includes message on basic health concepts and control group children did not play the game. There were no significant differences between the two groups in the pre-test knowledge scores. After the educational intervention, the post-test knowledge scores showed significant difference between two groups i.e. out of 10, experimental group got 9.3 and control group got 7.5. They concluded the using of game that includes health and hygiene messages can be substitute for teaching basic health concepts.

METHODOLOGY

The methodology employed in the present study comprises of the research approach, design, setting, population, criteria for sample selection, sampling technique, development and description of tools, procedure for data collection and data analysis.

3.1 Research Approach

The present study aimed to determine the effect of snake and ladder game on knowledge regarding personal hygiene among school children, where the researcher manipulated the independent variable and measured the changes on the dependent variable. Hence in view of the nature of the problem and to accomplish the objectives, quantitative research approach was adopted for this study.

3.2 Research Design

Pre experimental one group pretest posttest design was adopted in the study, as this design follows the basic principles of experimental design, but fails to include control group and randomization.

3.3 Setting

The study was conducted at Sri Ramakrishna Matriculation School, Coimbatore. This is located at 1.5 km from the college of nursing, Sri Ramakrishna institute of paramedical sciences. It is a private institution with a total strength of 1950 students studying from pre KG classes to XII standard. The medium of instruction is English and it is a co-education school. Out of 1950 students, 386 students were between 8 to 10 years of age, studying in 3rd, 4th and 5th standard.

3.4 Population

The target population for the present study were children belonging to age group of 8-10 years. The accessible population were children within the age group of 8-10 years, studying at Sri Ramakrishna Matriculation School, Coimbatore.

3.5 Sample Size Determination

According to the pilot study report, about 17% of the school children had poor knowledge on personal hygiene, which was considered as the p value for sample size determination using Mahajan formula.

$$n = \frac{t2 \times p(1-p)}{(ME)2}$$

Where,

n = Sample size

t = Level of significance (90%) = 1.65

p = proportion of school children who had poor knowledge on personal hygiene 17% or 0.17

ME = margin of error-0.1

Sample size

$$n = \frac{(1.65)^2 \times 0.17(1-0.17)}{(0.1)^2}$$

$$= 38$$

n = 45

3.6 Sampling Technique

Proportionate stratified random sampling technique was used to select the samples. In the school, there were 386 students from the age group of 8-10 years. The children were divided into 3 strata, as children studying 3rd, 4th and 5th standard, consisting of 129,128 and 129 students respectively. Out of them, 15 students from each strata were selected proportionately using lottery method.

$$\text{Proportionate stratified random sampling} = \frac{\text{Strata}}{\text{Accessible population}} \times \text{sample size}$$

Where,

Strata -

3rd standard =129 school children

4th standard =128 school children

5th standard =129 school children

Accessible population = 386

Sample size = 45

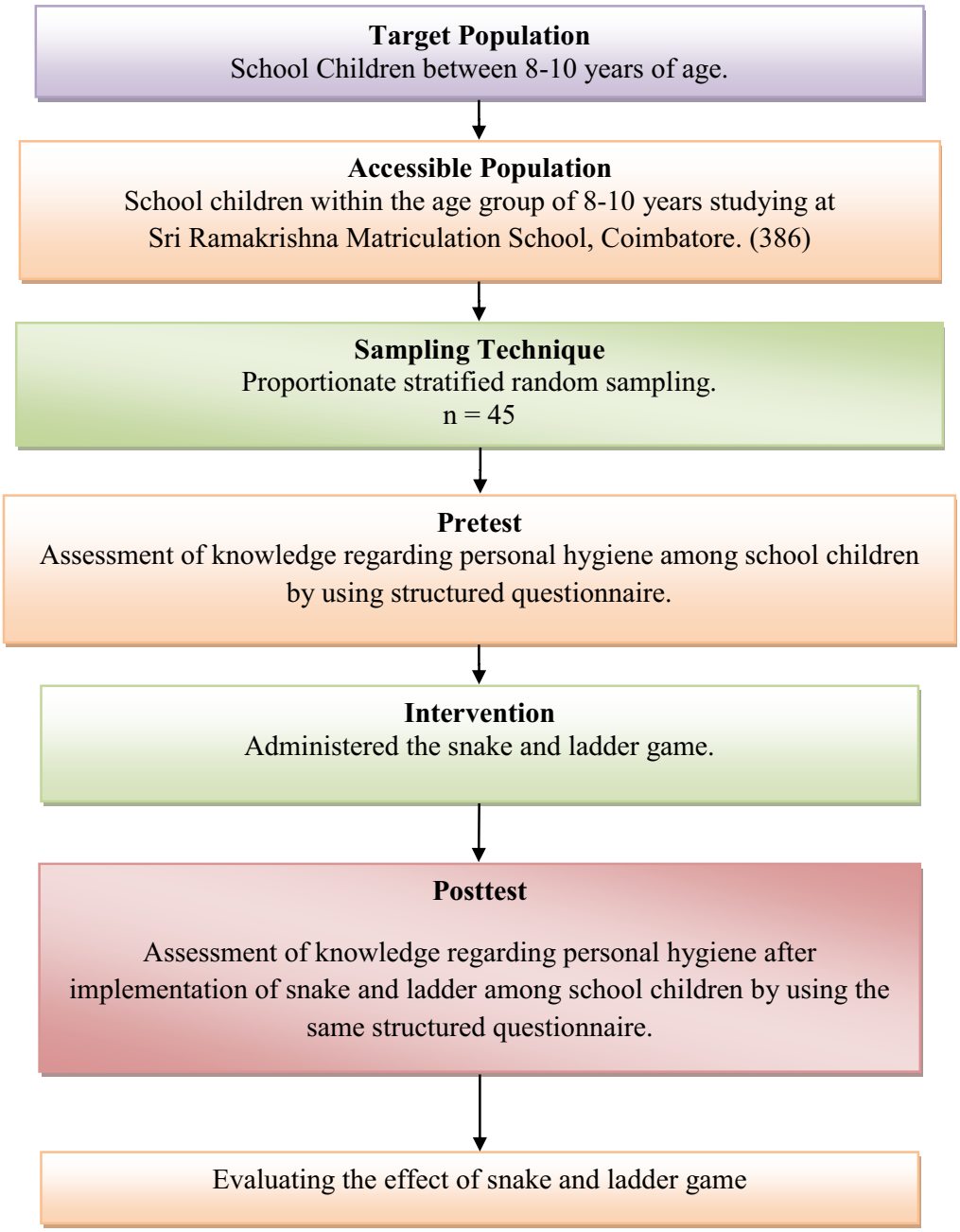
3rd standard $= \frac{129}{386} \times 45 = 15$

4th standard $= \frac{128}{386} \times 45 = 14.92 = 15$

5th standard $= \frac{129}{386} \times 45 = 15$

Figure 3.1

Diagrammatic Representation of Research Process

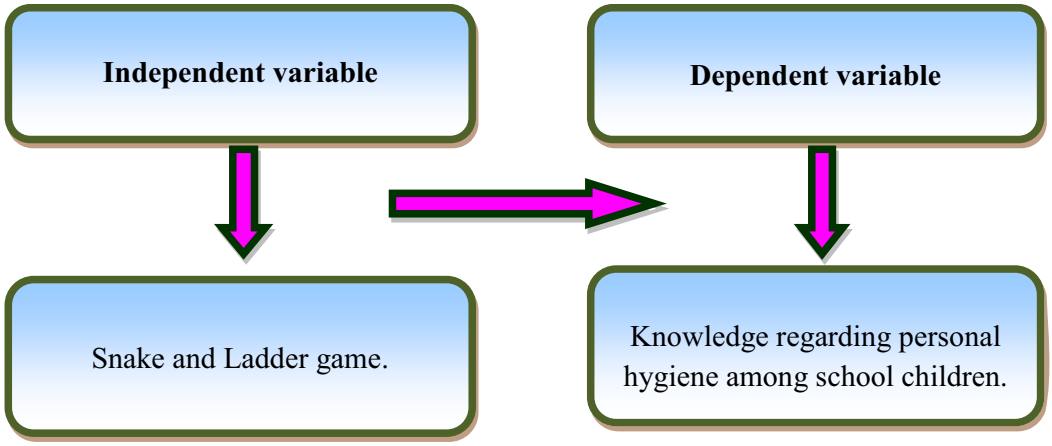


3.7 Variables of the Study

The independent variable of the study was snake and ladder game. Dependent variable was the knowledge regarding personal hygiene among school children.

Figure 3.2

Schematic Representation of Variables



3.8 Tools for data collection

The following tools were used for data collection

3.8.1 Questionnaire on demographic profile.

3.8.2 Questionnaire to assess the knowledge regarding personal hygiene of school children.

3.8.1 Questionnaire on Demographic Profile

Demographic profile consists of two parts; Part A and Part B. Part A consist of sample number, age, gender, standard of study, educational status of parents, religion, occupational status of parents, monthly income of the family and number of siblings. Part B consists of 2 questions about previous knowledge regarding personal hygiene.

3.8.2 Questionnaire to assess the knowledge regarding personal hygiene of school children.

A knowledge assessment questionnaire was constructed by the researcher with the help of available literatures and expert's guidance to assess the level of knowledge regarding personal hygiene. The questionnaire consists of 45 multiple choice questions described under ten aspects of personal hygiene which included brushing, bathing, hair wash, nail cutting, hand washing, foot wears, cloth hygiene, food and water hygiene, ear hygiene and sleep hygiene. Each question consists of 4 options, in which one option is appropriate to the question and remaining three options are inappropriate. The study participants have to read each statement and put a tick mark on the appropriate answer. The total score was calculated by adding the scores of individual answers. The maximum score is 45 and the minimum score is 0. The score was interpreted as follows

Score interpretation:-

0-14 - Poor Knowledge

15-24 - Fair Knowledge

25-34 - Average Knowledge

35-45 - Good Knowledge

3.9 Validity of the tool

The prepared tool, along with the problem statement, objectives, operational definition and hypothesis was validated by five experts that included four nursing faculty and one medical expert. The experts were requested to give their opinion and suggestions regarding relevance, appropriateness, accuracy and degree of agreement in each item of the tool. Suggestions and recommendations given by the experts were accepted and necessary corrections were done.

3.10 Snake and ladder game

The conventional snake and ladder game was modified by incorporating the concepts of personal hygiene which included oral hygiene, bathing, hair wash, nail cutting, washing hands, washing clothes, wearing foot wear, sleep hygiene, food and water hygiene and ear hygiene. This game consists of 100 square boxes, with ten ladders which indicates knowledge regarding the advantages of personal hygiene and nine snakes which indicates knowledge regarding the ill effects of poor hygiene.

In each round of the game, five children were made to play. The first square is the starting point. The children were asked to toss the dice and based on the dice throw, the coins were moved. The explanation of each box regarding personal hygiene was given by the researcher. When a child strikes the ladder, three questions were asked and climbs up the ladder when answered correctly. In addition, the explanation for the missed out boxes were given by the researcher. If the responses were wrong, they were not allowed to climb the ladder and made to play through the boxes again.

When a child strikes the snake, three questions were asked. If they give the correct answer, they were asked to continue the game from the same box. In case of wrong answers, they were bitten by the snake, descend down and made to continue the game from the tail of the snake onwards. When a child reaches the 100^{th} square box first, she/he was appreciated with a gift.

3.10.1 Procedure:

Step 1: A room was prepared and the snake and ladder game poster was spread.

Step 2: Five children were made to sit comfortably along with the researcher.

Step 3: The game was explained and the coins and dice were handed over to the children.

Step 4: The children were made to play the snake and ladder game

Step 5: After completion, the articles were replaced

3.10 Pilot Study

Pilot study was conducted to check the feasibility, practicability, validity and reliability of the study. The study was conducted at Siddha Naidu Matriculation School, Coimbatore among children who were studying 3rd, 4th and 5th standard for a period of ten days. The research design used for the study was one group pretest posttest design. The sampling technique adopted to recruit the sample was purposive sampling technique and 132 children in the age group of 8-10 years were selected. A structured knowledge assessment questionnaire was administered to assess the knowledge level of children regarding personal hygiene and 22 children with poor knowledge were selected as samples. Education about personal hygiene through Snake and Ladder game was administered for duration of sixty minutes in a day for five consecutive days. On the 6th day knowledge was reassessed with the same questionnaire. The data was tabulated and analyzed sing descriptive and inferential statistical methods. The calculated 't' value was 15.4 which was greater than the table value at 0.001 level of significance. The results revealed that snake and ladder game was effective in enhancing the knowledge regarding personal hygiene among school children.

3.12 Ethical committee consideration

The proposed study and tool were presented to the ethical committee. The study was approved by the committee members upon presentation , the ethical committee has given a written consent to proceed the study .

3.13 Changes made after pilot study

According to the suggestions given by research committee, Initially the researcher had 8 aspects of personal hygiene including oral hygiene, bathing, hair wash, nail cutting, washing hands, washing clothes, wearing footwear and sleep hygiene and added two more aspects, Food and water Hygiene and Ear hygiene after ethical committee suggestions and purposive sampling technique was changed to proportionate stratified random sampling technique for the main study.

3.14 Procedure for Data Collection

The main study was conducted for a period of one month at Sri Ramakrishna Matriculation School, Coimbatore. The researcher got permission from the school authority to conduct the study. Forty five samples, 15 in each strata were selected using proportionate stratified sampling technique. A structured questionnaire was used to assess the knowledge of school children regarding personal hygiene. The children were grouped into five each and made to play the snake and ladder game along with the researcher for a period of one hour for five consecutive days. Post test was done to assess the knowledge of the school children regarding personal hygiene on the last day using the same questionnaire. The collected data were analysed.

3.15 Technique of Data Analysis and Interpretation

Descriptive and inferential statistical methods were used for data analysis. Descriptive statistical method was applied for the analysis of demographic variables. Inferential statistical methods were used to identify the effect of snake and ladder game on knowledge regarding personal hygiene among school children.

3.15.1 Paired ‘t’ test

Effect of snake and ladder game on knowledge regarding personal hygiene among school children, was analysed using paired ‘t’ test.

$$t = \frac{\bar{d}}{SD}\sqrt{n}$$

$\bar{d}$ = Mean of difference

SD = Standard deviation

n = Number of samples

3.15.2. Chi-Square (with Yates correction) test

Chi-Square (with Yates correction) test was used to find out the association between pretest knowledge level and selected demographic variables.

$$\chi^2 = \sum \frac{\left((O-E)-0.5\right)^2}{E}$$

O = Observed value

E = Expected value in corresponding category

0.5 = Yates correction value

DATA ANALYSIS AND INTERPRETATION

This chapter enlightens the analysis and interpretation of the data collected from forty five children from selected school at Coimbatore. The aim of the study was to determine the effect of Snake and Ladder Game on Knowledge regarding Personal Hygiene. Children between the age group of 8-10 years studying in 3rd, 4th and 5th standard were taken as a samples from Sri Ramakrishna Matriculation Higher Secondary School in Coimbatore. The level of knowledge regarding personal hygiene was assessed through questionnaire before and after implementation of intervention.

The data gathered were analyzed and interpreted based on the objectives and hypothesis of the study. Descriptive and inferential statistical methods were used to analyze the data. The frequency and percentage distribution was used to present the sample characteristics and the level of knowledge regarding personal hygiene was analyzed through Mean, Mean Difference and Standard Deviation. Paired 't' test was used to analyze the effect of Snake and Ladder Game on knowledge regarding Personal Hygiene among School Children. Chi Square test was used to find the association between the pretest knowledge score regarding personal hygiene with selected demographic variables among school children.

ORGANIZATION OF THE FINDINGS

The data obtained from the school children are organized, analyzed and presented under the following sections.

Section I

Demographic Variables of the School Children.

Section II

Assessment on Previous Knowledge regarding Personal Hygiene among School Children.

Section III

Assessment on the Level of Knowledge regarding Personal Hygiene among school children before and after Snake and Ladder Game.

Section IV

Comparison of pretest and post test scores on Knowledge regarding Personal Hygiene among school children before and after Snake and Ladder Game.

Section V

Effect of Snake and Ladder Game on Knowledge regarding Personal Hygiene among School Children.

Section VI

Association between the Pretest Level of Knowledge regarding Personal Hygiene and selected Demographic Variables among School Children.

Section I

4.1 Demographic Variables of the School Children

The demographic variables consist of age, sex, religion, educational status of the father, educational status of the mother, occupational status of the father, occupational status of the mother, family monthly income and number of siblings. Collected data was analyzed using descriptive statistics and are summarized in terms of frequency and percentage. Analyzed data were presented in the form of tables and diagrams.

Table 4.1

Age of the School Children

(n=45)

S. No	Age in years	Number of Participants	
		Frequency	Percentage (%)
1	8 years	15	33
2	9 years	12	27
3	10 years	18	40

The above table 4.1 displayed the age distribution of the school children and the result shows that, out of 45 samples 18(40%) children belong to 10 years of age, 15(33%) children belong to 8 years of age and 12 (27%) children belong to 9 years of age. (Figure 4.1)

Table 4.2
Sex of the School Children

(n=45)

S.No	Sex	Number of Participants	
		Frequency	Percentage (%)
1.	Male	24	54
2.	Female	21	46

The above table 4.2 depicts the sex distribution of school children and the result shows that among 45 samples, 24 (54%) school children were males and 21 (46%) children were females. (Figure 4.2)

Table 4.3

Educational Status of the Fathers among School Children

(n=45)

S.No	Educational Status of the Fathers	Number of Participants	
		Frequency	Percentage (%)
1	Illiterate	1	2
2	Primary education	7	16
3	Higher Secondary	19	42
4	Graduate	14	31
5	Post graduate	4	9

The above table 4.3 explores the educational status of fathers among school children and the result shows that , out of 45 samples, majority of the children's 19 (42%) fathers had higher secondary education, 14 (31%) children's fathers were graduates, 7 (16%) children's fathers had primary education, 4 (9%) children's fathers were post graduates and one (2%) child's father was illiterate. (Figure 4.3)

Figure 4.1

Age of the School Children

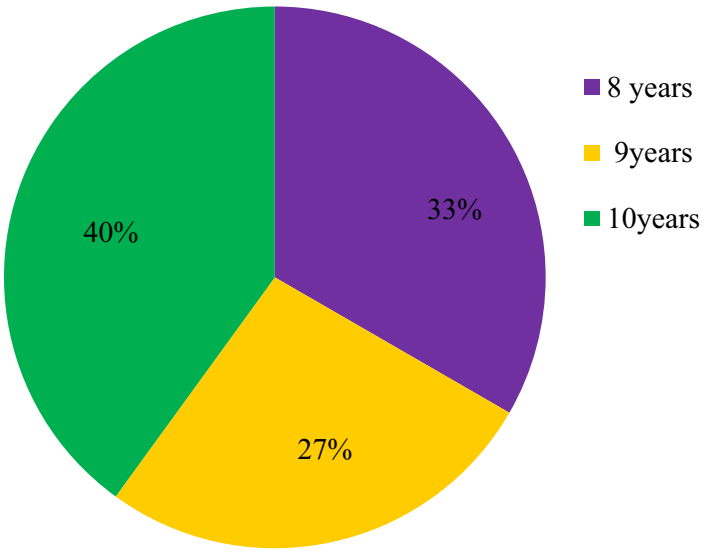


Figure 4.2

Sex of the School Children

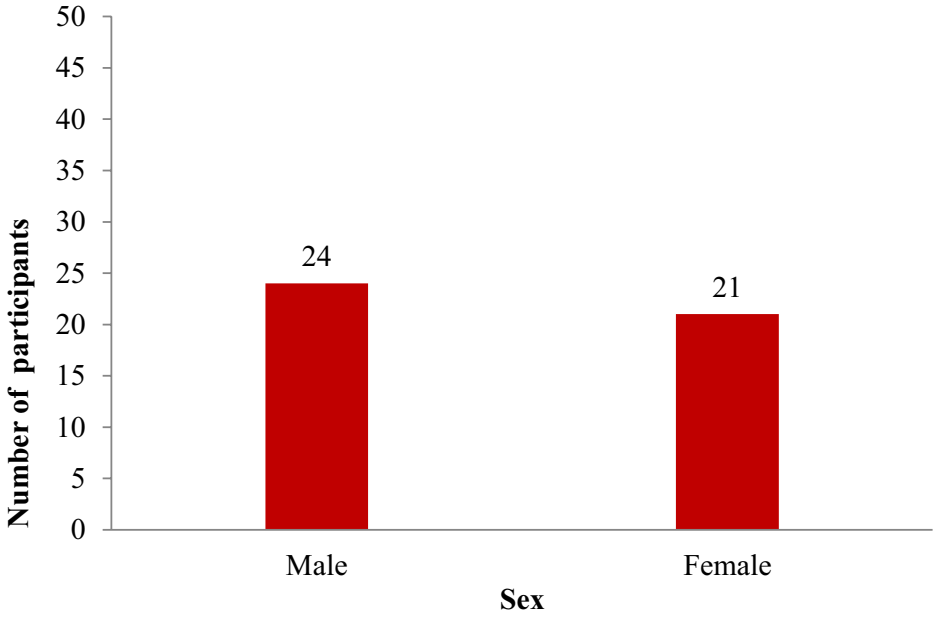


Table 4.4

Educational Status of the Mothers among School Children

(n=45)

S.No	Educational Status of the Mothers	Number of Participants	
		Frequency	Percentage (%)
1.	Illiterate	0	0
2.	Primary education	6	13
3.	Higher Secondary	23	51
4.	Graduate	12	27
5.	Post graduate	4	9

The above table 4.4 shows the educational status of the mothers among school children and the result reveals that, out of 45 children, the majority of children's 23 (51%) mothers had higher secondary education, 12 (27%) children's mothers were graduates, 6 (13%) children's mothers had primary education, 4 (9%) children's mothers were post graduates and none of them were illiterate. (Figure 4.4)

Table 4.5

Religious Status of School Children

(n=45)

S.No	Religion	Number of Participants	
		Frequency	Percentage (%)
1.	Hindu	40	89
2.	Muslim	2	4
3.	Christian	3	7

The above table explains the data on religion among school children and the result reveals that, the majority of children 40 (89%) belonged to Hindu religion, 3(7%) belonged to Christian religion and 2 (4%) belonged to Muslim religion. (Figure 4.5)

Figure 4.3

Educational Status of the Fathers

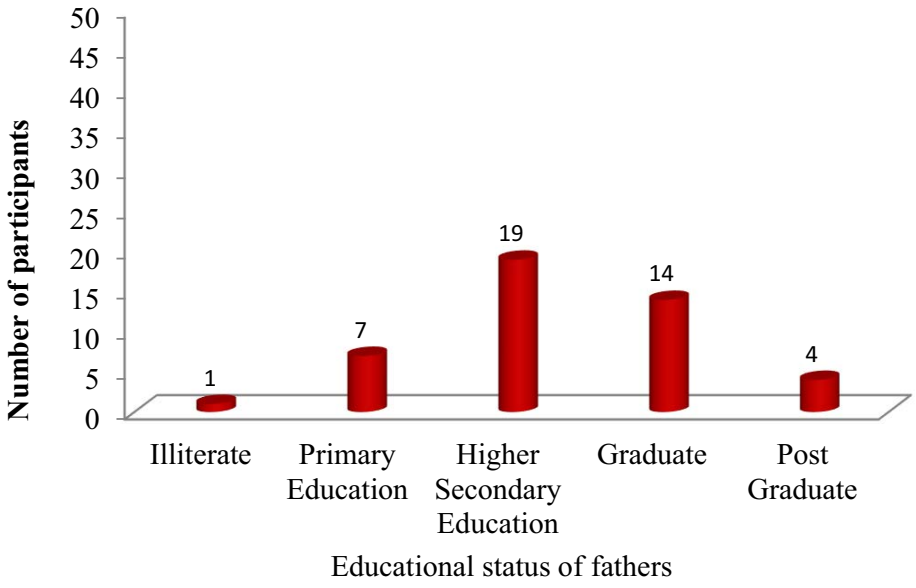


Figure 4.4

Educational Status of the Mothers

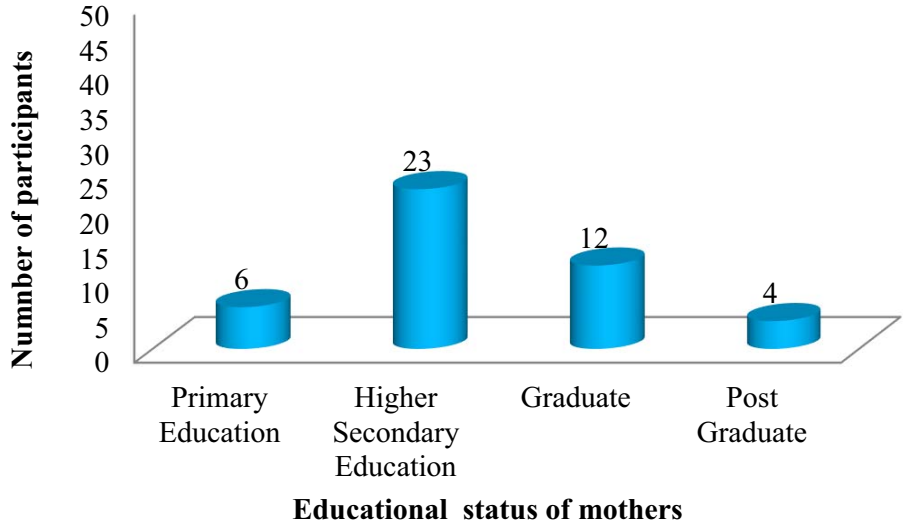


Figure 4.5

Religious Status of the School Children

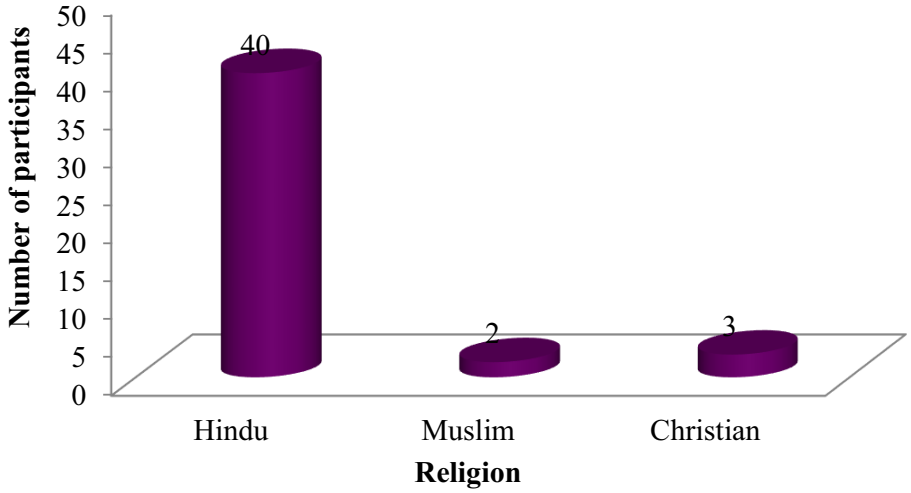


Table 4.6

Occupational Status of the Fathers

(n=45)

S. No	Occupational Status of the Father	Number of Participants	
		Frequency	Percentage (%)
1	Driver	7	16
2	Business Man	15	33
3	Engineer	5	11
4	Manager	1	2
5	Workshop	9	20
6	Officer	3	7
7	Electrician	5	11

The above table 4.6 describes the occupational status of the fathers and the result shows that, the majority of fathers 15 (33%) are businessmen, 9 (20%) fathers are working in a workshop, 7(16%) fathers are working as drivers, 3 (7%) fathers are officers as officers and 1 (2%) child's father are working as a manager and 5 (11%) fathers were engineers and electricians respectively.

Figure 4.6

Occupational Status of the Fathers

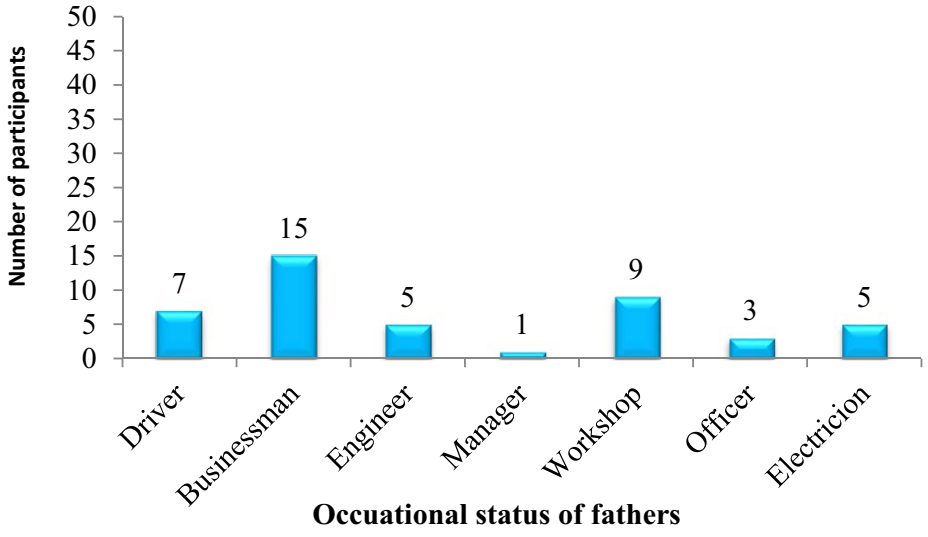


Table 4.7

Occupational Status of the Mothers

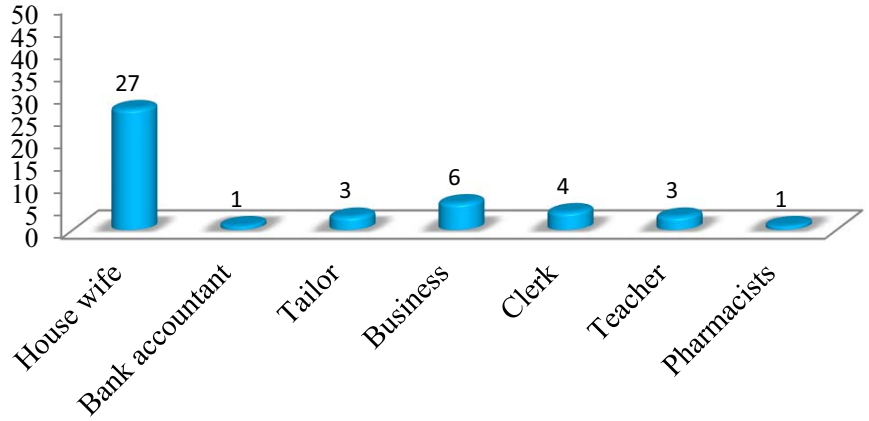
(n=45)

S.No	Occupational Status of the Mothers	Number of Participants	
		Frequency	Percentage (%)
1.	House wife	27	60
2.	Bank accountant	1	2
3.	Tailor	3	7
4.	Business	6	13
5.	Clerk	4	9
6.	Teacher	3	7
7.	Pharmacist	1	2

The above table 4.7 exhibits the occupational status of the mothers and the result shows that, the majority 27 (60%) of mothers are homemakers, 6 (13%) children's mothers are doing business, 4(9%) children's mothers are working as clerks, 3(7%) children's mothers are teachers and tailors respectively and one of the child's mother (2%) was a bank accountant and pharmacist respectively.

Figure 4.7

Occupational Status of the Mothers



Occupational status of mothers

Table 4.8

Monthly Income of the Family among School Children

(n=45)

S.No	Monthly Income in Rs	Number of participants	
		Frequency	Percentage (%)
1.	Below 5000	2	4
2.	5000-10000	8	18
3.	10000-15000	16	36
4.	Above 15000	19	42

The above table 4.8 reveals the monthly income of families and the result shows that, the majority of, 19 (42%) children's family monthly income was above Rs. 15, 000/-, sixteen (36%) children's family income ranged between Rs. 10000-15000/-, eight (18%) children's family income ranged between Rs. 5000-10000/- and 2 (4%) children's family monthly income was below Rs. 5000/-.

Figure 4.8

Monthly Income of the Family among School Children

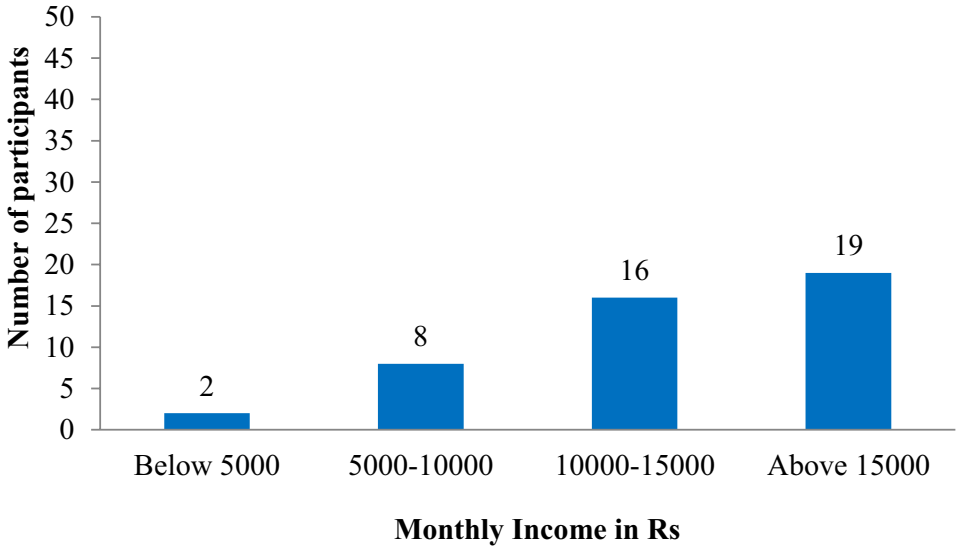


Table 4.9

Number of Siblings among School Children

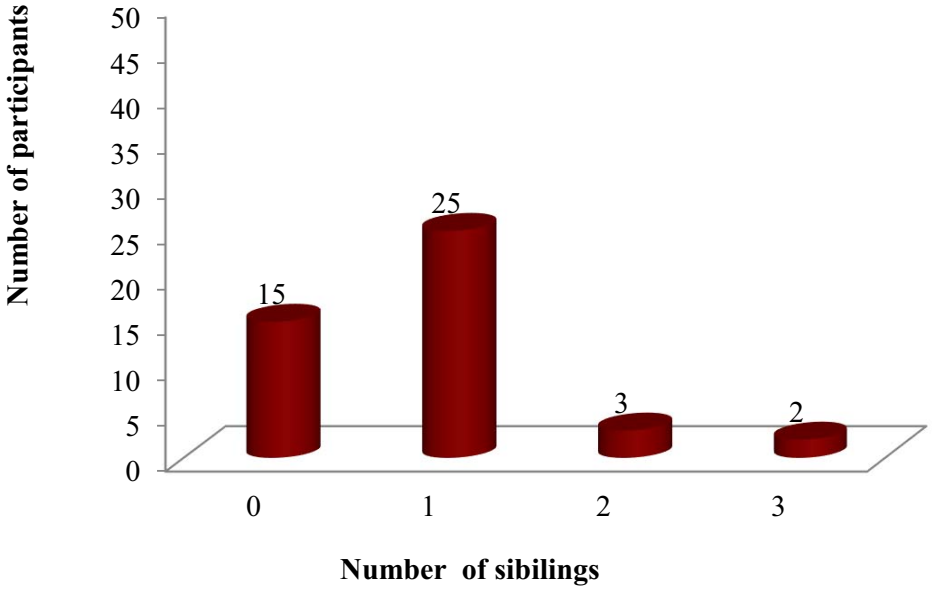
(n=45)

S.No	Number of Siblings	Number of Participants	
		Frequency	Percentage (%)
1.	Single child	15	33
2.	1 Sibling	25	56
3.	2 Siblings	3	7
4.	3 Siblings	2	4

The above table 4.9 projects the number of siblings the school children had, and the result depicts that, more than half of the samples 25 (56%) have one sibling, 15 (33%) samples are single child, 3 (7%) children have 2 siblings and 2 (4%) children have 3 siblings.

Figure 4.9

School Children based on sibling



Section II

Assessment on the Previous Knowledge regarding Personal Hygiene Among School Children

This section deals with the previous knowledge regarding personal hygiene among school children.

Table 4.10

Previous Knowledge regarding Personal Hygiene among School Children

(n=45)

S.No	Previous knowledge regarding personal hygiene	No. of participants	
		Frequency	Percentage (%)
1.	Present	40	88.88
2.	Absent	5	11.11

The above table 4.10 describes the previous knowledge of the school children regarding personal hygiene. Result shows that, among 45 samples, the majority of 40 (88.88%) children knew about personal hygiene earlier, 5 (11.11%) of children didn't know regarding personal hygiene before administration of education.

Figure 4.10

Previous Knowledge regarding Personal Hygiene among School Children

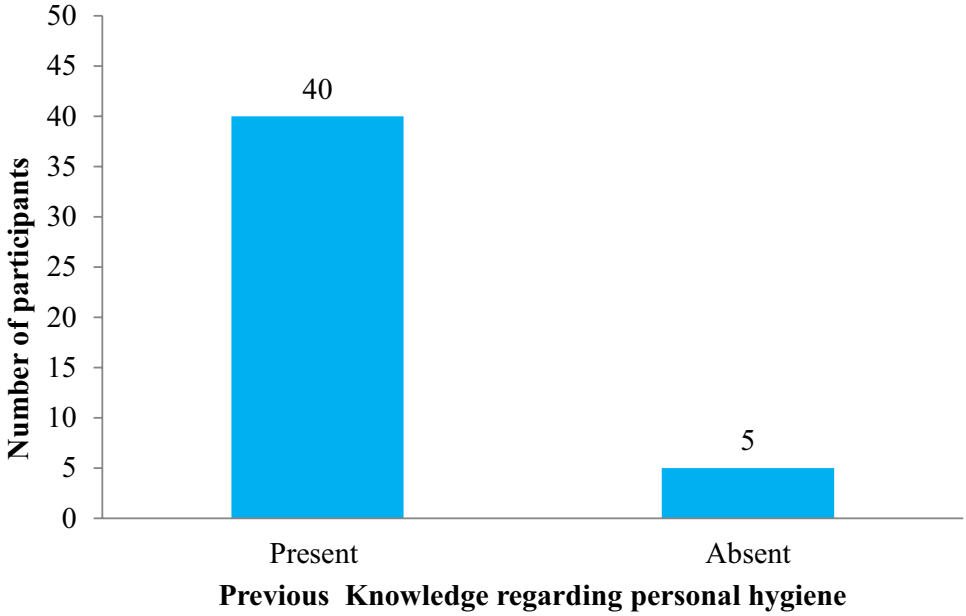


Table 4.11

Sources of Information Regarding Personal Hygiene among School Children

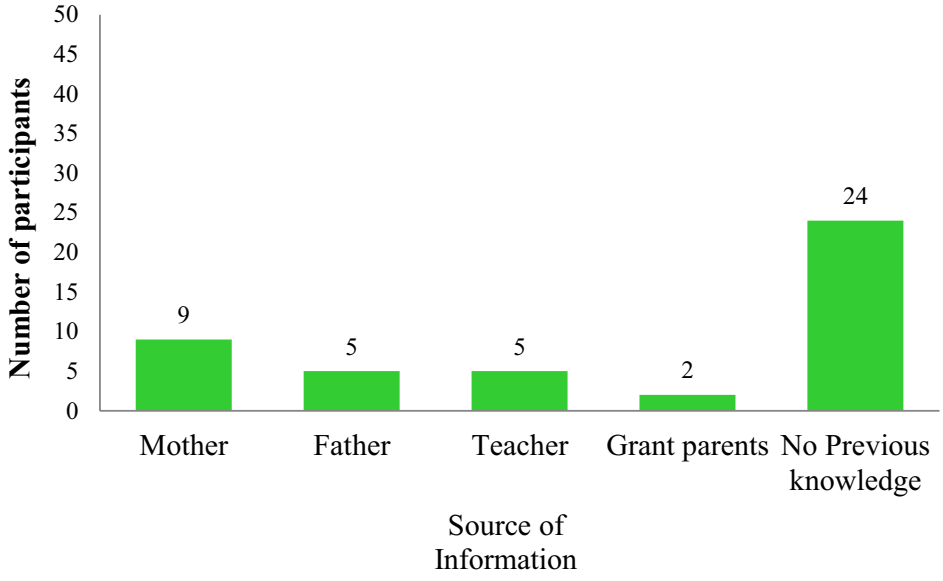
n=45

S.No	Source of Information	No. of Participants	
		Frequency	Percentage (%)
1.	Mother	9	20
2.	Father	5	11
3.	Teacher	5	11
4.	Grand parents	2	5
5.	No previous knowledge	24	53

The above table 4.11 explains the source of information regarding personal hygiene among school children and the result shows that, the majority 24 (53%) of children doesn't know about personal hygiene previously, 9 children (20%) received information from their mothers, 5 children (11%) received information regarding personal hygiene from their fathers and teachers respectively and 2 children (5%) received information regarding personal hygiene from their grandparents.

Figure 4.11

Sources of Information regarding Personal Hygiene



Section - III

Assessment on the Level of Knowledge regarding Personal Hygiene before and after Snake and Ladder Game among School Children.

This section explains the assessment on level of knowledge regarding personal hygiene before and after implementation of snake and ladder game among school children. The level of knowledge among school children was assessed by using pretested structured questionnaire. The knowledge score was categorized as good score (35-45), average score (25-34), fair (15-24) and poor (0-14) score. Collected data were organized and presented using descriptive and inferential statistics.

Table 4.12

Level of Knowledge regarding Personal Hygiene before Snake and Ladder Game among School Children.

(n=45)

S. No.	Level of knowledge regarding personal hygiene	Number of participants	
		Frequency	Percentage (%)
1.	Poor	27	60
2.	Fair	15	33
3.	Average	3	7
4.	Good	0	0

The above table 4.12 explains the level of knowledge regarding personal hygiene among school children before the administration Snake and Ladder game**.** Result shows that, more than half of the of children, 27 (60 %) had poor knowledge regarding personal hygiene, 15 (33%) children had fair knowledge regarding personal hygiene, 3 (7 %) children had average knowledge regarding personal hygiene and none of the children had good knowledge regarding personal hygiene. (Figure 4.12)

Figure 4.12

Knowledge Level regarding Personal Hygiene before Snake and Ladder Game among School Children.

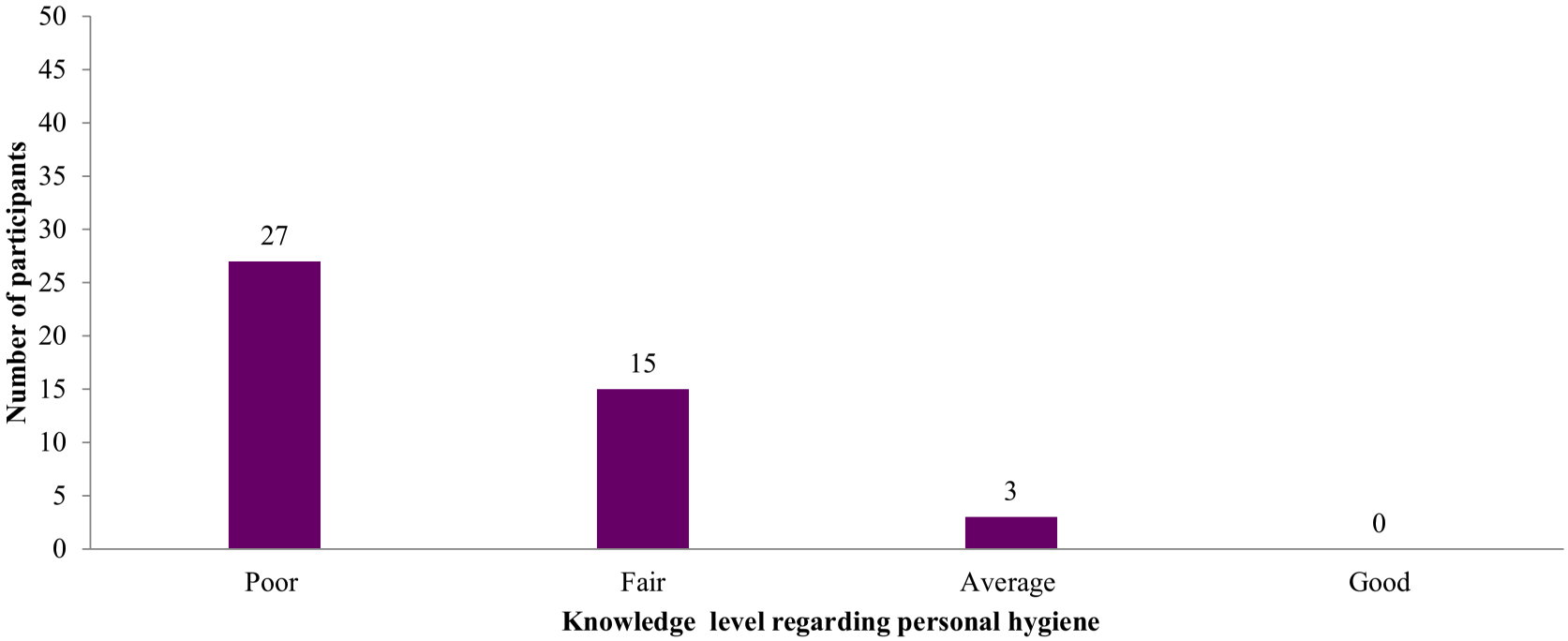


Table 4.13

Level of Knowledge regarding Personal Hygiene after Snake and Ladder Game among School Children.

(n=45)

S. No.	Level of knowledge regarding personal hygiene	Number of participants	
		Frequency	Percentage (%)
1.	Poor	0	0
2.	Fair	4	8.89
3.	Average	15	33.33
4.	Good	26	57.78

This table 4.13 illustrates the level of knowledge regarding personal hygiene among school children after the administration of Snake and Ladder game. The majority of the Children 26(57.78%) had good knowledge regarding personal hygiene, 15 (33.33%) children had average knowledge and 4 (8.89%) children had fair level of knowledge regarding personal hygiene. None of the children had poor knowledge regarding personal hygiene. Therefore, it proves the effect of snake and ladder game regarding personal hygiene among school children is one of the effective teaching methods. (Figure 4.13)

Figure 4:13

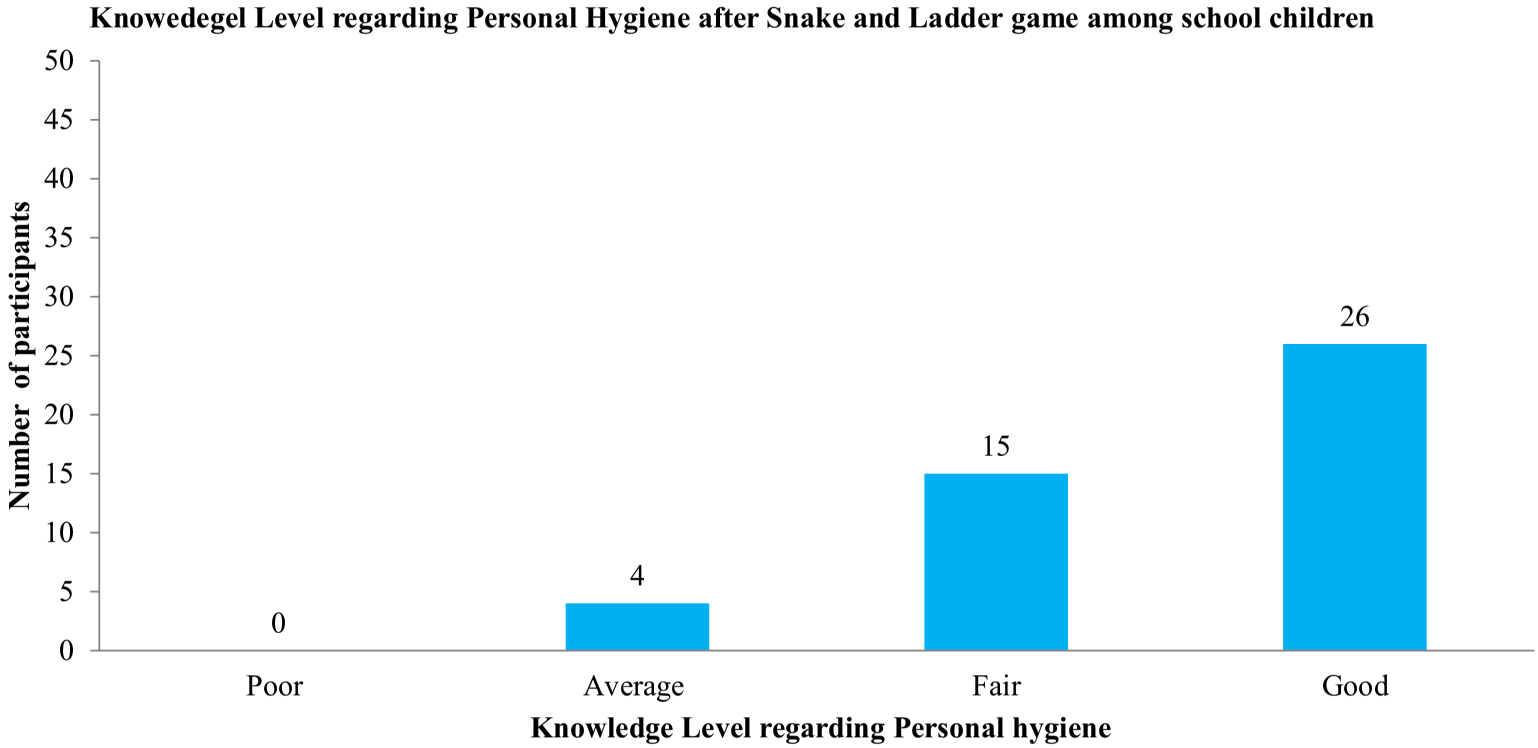

Knowedegel Level regarding Personal Hygiene after Snake and Ladder game among school children
Number of participants
50
45
40
35
30
25
20
15
10
5
0
0
4
15
26
Poor
Average
Fair
Good
Knowledge Level regarding Personal hygiene

Table 4.14

Comparison on the Level of Knowledge regarding Personal Hygiene Before and after Snack and Ladder Game among School Children

S.No.	Level of Knowledge regarding personal hygiene	Number of participants			
		Pre test		Post test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Poor	27	60	0	0
2.	Fair	15	33	4	8.89
3.	Average	3	7	15	33.33
4.	Good	0	0	26	57.78

The above table 4.14 describes the comparison of the level of knowledge regarding personal hygiene before and after administration snake and ladder game. Result shows that, during the pretest the majority of 27 (60%) children scored poor knowledge, 15 children (33%) scored fair knowledge and 3 (7%) children scored average knowledge regarding personal hygiene.

During the post test the majority of children 26 (57.78%) had shown improved to good knowledge, 15 (33.33%) children had average knowledge and 4 (8.89%) children scored fair knowledge regarding personal hygiene.

The mean knowledge level was improved from 13.68 to 33.31 after the administration of Snake and Ladder game regarding personal hygiene among school children. (Figure 4.14)

Section IV

Assessment on the Knowledge Score regarding Personal Hygiene before and after Snake and Ladder game among School Children.

This section explains the assessment on the knowledge scores regarding personal hygiene before and after the administration of snake and ladder game among school children. The level of knowledge among school children was assessed, using pretested structured questionnaire. The knowledge score was categorized as good (35-45), average score (25-34), fair (15-24) and poor (0-14) score. Collected data were organized and presented using descriptive and inferential statistics.

Table 4.15

Knowledge Score regarding personal hygiene before Snake and Ladder game among School Children.

(n= 45)

S. No.	Knowledge Score regarding personal hygiene	Number of participants	
		Frequency	Percentage (%)
1	0-14	27	60
2.	15-24	15	33
3.	25-34	3	7
4.	35-45	0	0

Table 4.15 point up the pretest knowledge score regarding personal hygiene among school children. Result shows that, the majority, of children 27 (60%) scored between 1-14; fifteen (33%) children scored between 15-24 and 3 (7%) children scored between 25-34.

Table 4.16

Knowledge Score regarding personal hygiene after Snake and Ladder game among School Children.

(n= 45)

S. No.	Knowledge Score on Personal Hygiene	Post test	
		Frequency	Percentage (%)
1	0-14	0	0
2	15-24	4	8.89
3	25-34	15	33.33
4	35-45	26	57.78

Table 4.16 presents the post test knowledge score regarding personal hygiene among school children. In post test 26 (57.78%) of them scored between 35-45 (good knowledge score regarding personal hygiene), 15 (33.33%) of them scored between 25-34 (average knowledge score regarding personal hygiene), 4(8.89%) of children scored between 15-24 (fair knowledge score regarding personal hygiene) and none of them scored between 0-15 (poor knowledge score regarding personal hygiene).

Table 4.17

Comparison of Knowledge Score regarding personal hygiene before and after Snake and Ladder game among School Children.

(n= 45)

S.No.	Knowledge Score on Personal Score	No. of Participants			
		Pre test		Post test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	0-14	27	60	0	0
2	15-24	15	33	4	8.89
3	25-34	3	7	15	33.33
4	35-45	0	0	26	57.78

The above table 4.17 gives a picture on the comparison of pretest and post test knowledge score regarding personal hygiene among school children. The result shows that, during the pretest the majority of, children 27 (60%) scored between 0-14, fifteen (33%) children scored between 15-24, 3 (7%) children scored between 25-34. No one had scored between 35-45.

During the post test the majority of 26 (57.78%) children scored between 35-45, fifteen (33.33%) children scored between 25-34 and 4(8.89%) children scored between 15-24 and none of them had scored between 0-14.

Figure 4. 14

Comparison of knowledge Level

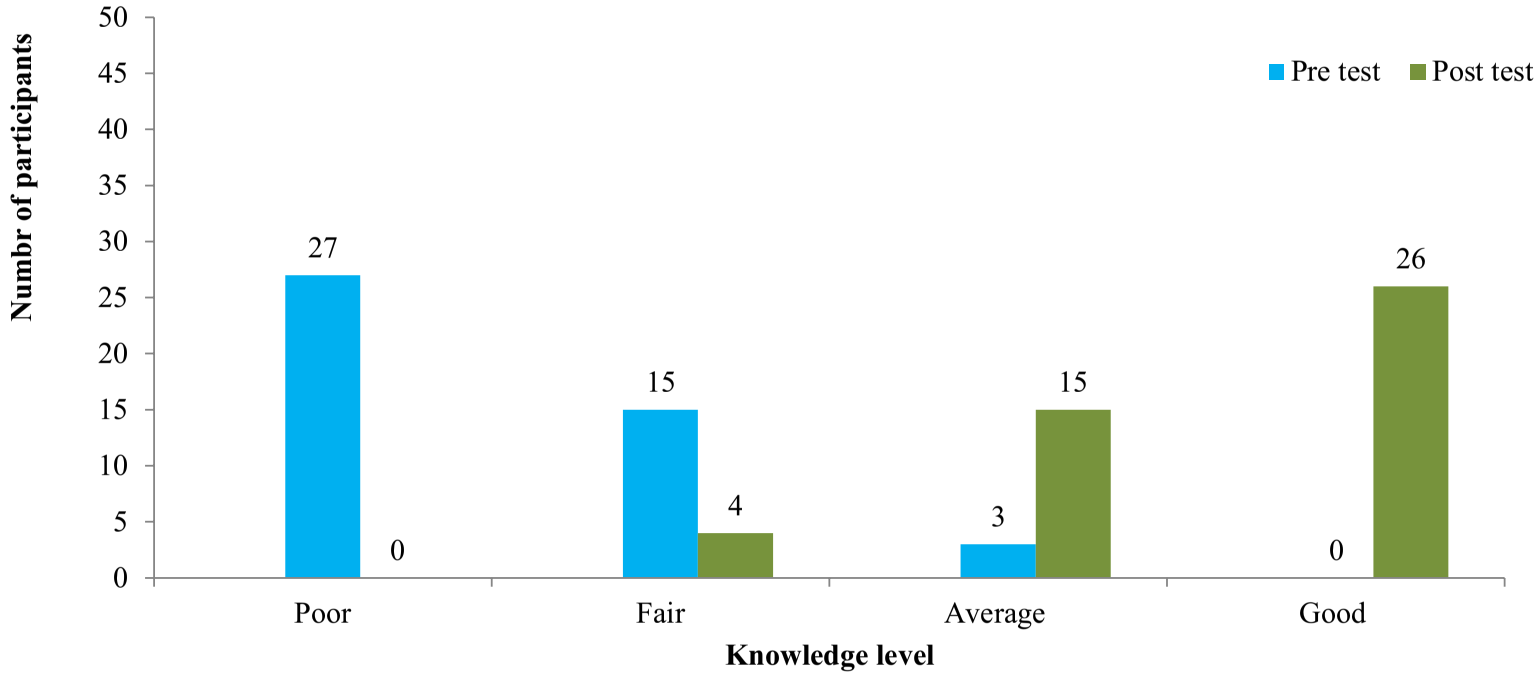
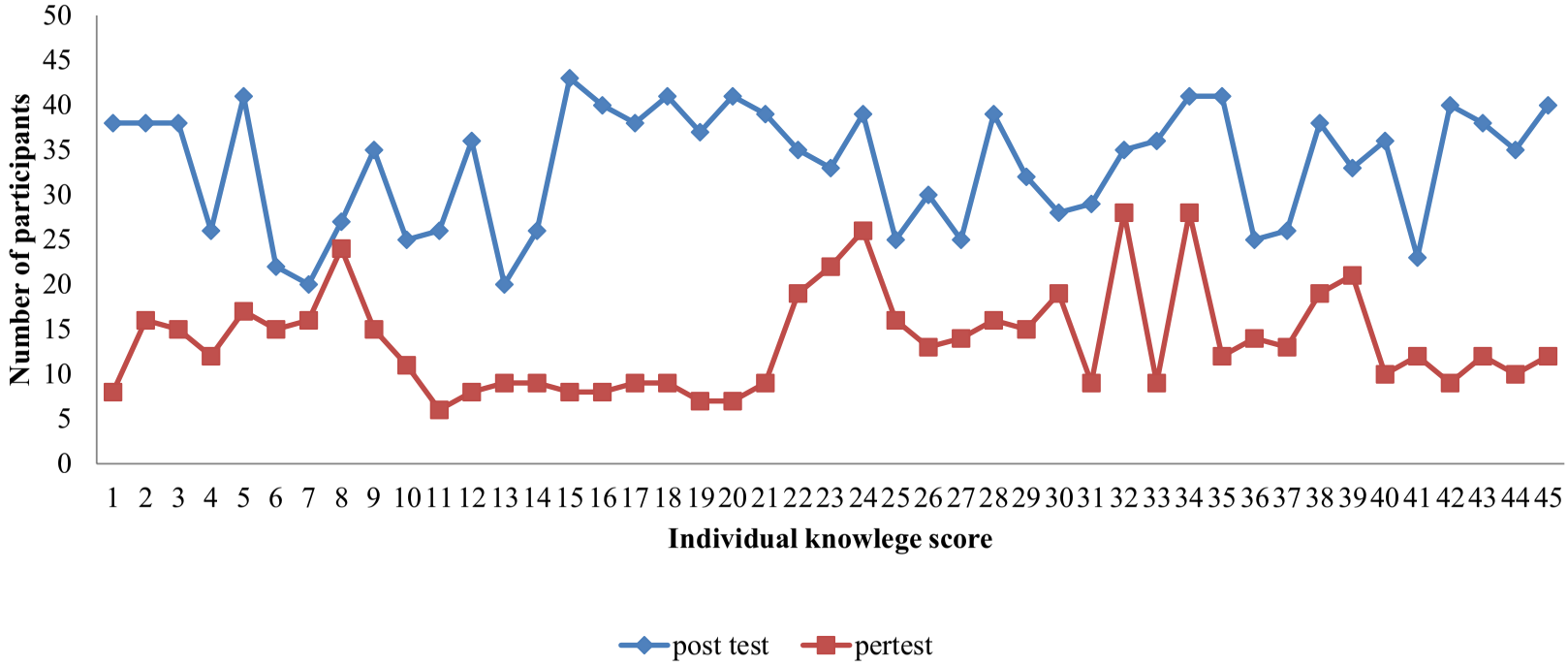


Figure 4. 15

Comparison of individual knowledge score regarding personal hygiene pretest and post test score



Section V

Effect of Snake and Ladder Game on Knowledge regarding Personal Hygiene among School Children

This section describes the analysis and interpretation on the effect of snake and ladder game on knowledge regarding personal hygiene among school children. Paired't' test was used for the analysis of pre and post test knowledge level regarding personal hygiene among school children.

Table 4.1

Effect of Snake and Ladder Game regarding Personal Hygiene among School Children

(n=45)

S. No	Test	Mean	Standard deviation	Mean difference	't' value
1	Before intervention	13.68	5.61	19.63	19.62*
2	After intervention	33.31	6.62		

*Significant at 0.05 level

Paired' test was used to analyze the effect of snake and ladder on knowledge regarding personal hygiene among school children. The pretest and posttest mean knowledge score was 13.68 and 33.31 respectively with the mean difference of 19.63. Pretest and posttest standard deviation was 5.61 and 6.62 respectively. Calculated 't' value was 19.62. At the degree of freedom (n-1=44) the calculated 't' value was greater than the table value at 0.05 level of significance. Hence, the hypothesis 'There will be a significant difference in the level of knowledge regarding personal hygiene among school children before and after implementation of the snake and ladder game' was accepted.

Section VI

Association between the pretest Level of Knowledge regarding Personal Hygiene and Selected Demographic Variables among School Children

Chi Square test (with Yates correction) was used to find the association between the pretest level of knowledge and selected demographic variables like, age, sex, educational status of fathers and mothers, religion, occupational status of fathers and mothers, family monthly income, number of siblings among school children.

Table 4.19

Association between the pretest level of Personal Hygiene and Selected Demographic Variables among School Children

S. No	Demographic Variables	Category	Level of knowledge					χ^2 value (Yates correction)	Degree of freedom (r-1) (c-1)	χ^2 table value
			Frequency	Poor	Fair	Average	Good			
1	Age	8 Years	15	9	6	0	0	9.48	4	9.49
		9 Years	12	8	4	0	0			
		10 Years	18	12	4	2	0			
2	Sex	Male	24	12	7	2	0	2.94	2	5.99
		Female	21	15	8	1	0			
3	Educational Status of Father	Illiterate	1	0	1	0	0	44.05*	8	15.51
		Primary Education	7	5	2	0	0			
		Higher Secondary	19	11	5	3	0			
		Graduate	14	10	4	0	0			
		Post Graduate	4	1	3	0	0			

S. No	Demographic Variables	Category	Level of knowledge					$\chi 2$ value (Yates correction)	Degree of freedom (r-1) (c-1)	$\chi 2$ table value
			Frequency	Poor	Fair	Average	Good			
4	Educational Status of Mother	Illiterate	0	0	0	0	0	4.19	8	15.51
		Primary Education	6	4	2	0	0			
		Higher Secondary Education	23	14	8	1	0			
		Graduate	12	7	4	1	0			
		Post Graduate	4	2	2	0	0			
5	Religion	Hindu	40	24	13	3	0	8.54	4	11.07
		Muslim	2	2	0	0	0			
		Christian	3	1	2	0	0			
6	Father's Occupation	Driver	7	6	1	0	0	36.12*	12	21.03
		Businessman	15	8	5	2	0			
		Engineer	5	1	4	0	0			
		Manager	1	1	0	0	0			
		Workshop	9	5	3	1	0			
		Officer	3	1	2	0	0			
		Electrician	5	5	0	0	0			

S. No	Demographic Variables	Category	Level of knowledge					χ2 value (Yates correction)	Degree of freedom (r-1) (c-1)	χ2 table value
			Frequency	Poor	Fair	Average	Good			
7	Mother's Occupation	Housewife	27	15	11	1	0	23.79:*	12	21.03
		Bank Accountant	1	1	0	0	0			
		Tailor	3	2	1	0	0			
		Business	6	3	2	1	0			
		Clerk	4	4	0	0	0			
		Teacher	3	3	0	0	0			
		Pharmacists	1	1	0	0	0			
8	Monthly Income	Below Rs.5000	2	0	2	0	0	15.07*	6	12.59
		Rs.5000 – 10000	8	6	2	0	0			
		Rs.10000 – 15000	16	10	6	0	0			
		Above Rs.15000	19	11	5	3	0			

S. No	Demographic Variables	Category	Level of knowledge					$\chi 2$ value (Yates correction)	Degree of freedom (r-1) (c-1)	$\chi 2$ table value
			Frequency	Poor	Fair	Average	Good			
9	Siblings at Home	0	15	10	4	1	0	11.25	6	12.59
		1	25	14	10	1	0			
		2	3	2	1	0	0			
		3	2	1	0	1	0			
10	Previous knowledge about personal hygiene	Present	40	25	12	3	0	7.16*	2	5.99
		Absent	5	2	3	0	0			

*Level of significant at 0.05 level

It was found that χ^2 values for age ($\chi 2 = 9.48$), sex ($\chi 2^2 = 2.94$), religion ($\chi^2 = 8.54$), education status of mother ($\chi^2 = 4.19$), and the number of sibling at home ($\chi^2 = 11.25$)had no association with the pretest level of knowledge regarding personal hygiene among school children.

Also, it was found that, χ^2 value for educational status of father ($\chi^2 = 44.05$), parent's occupational status of father ($\chi 2 = 36.92$)and monthly income ($\chi 2 = 15.07$) mother occupation ($\chi^2 = 23.79$)and previous knowledge regarding personal hygiene ($\chi^2 = 7.16$), had association with the pretest level of knowledge regarding personal hygiene among school children.

RESULTS AND DISCUSSION

This chapter deals with the interpretation of the results and discussion of the findings. The study was conducted at Sri Ramakrishna Matriculation Higher Secondary School, Coimbatore for a period of 30 days. The main aim of the study was to assess the effectiveness of snake and ladder game on knowledge regarding personal hygiene among school children. One group pre test post test pre experimental design was adopted for this study. There were 45 samples in this study. Pre assessment was done by using structured questionnaire for school children between the age group of 8-10 years. Snake and ladder game was administered. The post test was done by using the same questionnaire on 6^{th} day. The post test scores were compared. The pretest and post test scores were compared. The findings are discussed under the following headings.

5.1. Demographic Variables of school children

In the present study 45 sample were selected. Age distribution revealed 18 (40%) children were belong to 10 years of age, 15(33%) children belong to 8 years of age and 12 (27%) children belong to 9 years of age.

Data on sex of school children showed that, among 45 samples, 24 (54%) school children were males and 21 (46%) children were females.

Data related to educational status of fathers reveals that, among 45 school children 19 (42%) of the children's fathers had higher secondary education, 14 (31%) children's fathers were graduates, 7 (16%) children's fathers had primary education, 4 (9%) children's fathers were post graduates and one (2%) child's father was illiterate.

Data related to educational status of mothers reveals that, out of 45 children, more than half 23 (51%) of the children's mothers had higher secondary education, 12 (27%) children's mothers were graduates, 6 (13%) children's mothers had primary education, 4 (9%) children's mothers were post graduates and none of them were illiterate.

The majority of children 40 (89%) children belonged to Hindu religion, 3 (7%) belonged to Christian religion and 2 (4%) belonged to Muslim religion.

Regarding fathers occupational status, 15 (33%) children' fathers are businessmen, 9 (20%) children's fathers are working in a workshop, 7 (16%)children's fathers are working as drivers, 3 (7%) children's fathers are working as officers and 1(2%) child's father was working as a manager and 5 (11%) children's fathers were engineers and electricians respectively.

Regarding mother's occupational status 27 (60%) of children's mothers are house wives, 6 (13%) children's mothers were doing business, 4 (9%) children's mothers are working as clerk, 3 (7%) mothers are teachers and tailors respectively and one of the child's mother (2%) was a bank accountant and pharmacist respectively

Data on the subject of the parents monthly income, 19 (42%) children's family monthly income was above Rs.15, 000/-, sixteen (36%) children's family income ranged between Rs. 10000-15000/-, eight (18%) children's family income ranged between Rs. 5000-10000 and 2 (4%) children's family monthly income was below Rs.5000/-.

Among 45 samples 25 (56%) have one sibling, 15 (33%) samples were single child, 3 (7%) children had 2 siblings and 2 (4%) children had 3 siblings.

A cross sectional study was conducted to assess the knowledge and practice regarding personal hygiene among school children from an urban area. A total sample 512 was selected between the age group of 8 to 10 years. The study shows that results of, demographic variables was 57% of them from 10 years old, 57% of them from males, 36% of the fathers had a primary education, 21% of the mother from higher secondary and 70% of them from Hindu religion. Ansari S.Y. (2014)

Data on previous knowledge of the school children regarding personal hygiene. Result shows that among 45 samples, the majority of 40 (88.88%) children knew about personal hygiene earlier and 5 (11.11%) of children didn't know regarding personal hygiene before the intervention.

5.2 Objectives 1:

To assess the knowledge regarding personal hygiene among school children

Among 45 children, the children are classified as a group based on the age group between 8 yrs to 10 yrs. Proportionate stratified random sampling was used to select the sample. In pretest, 60% of school children had poor knowledge regarding personal hygiene, 33.33% of children had fair knowledge regarding personal hygiene, 7% of children had an average knowledge regarding personal hygiene and no one had a good knowledge regarding personal hygiene.

Damle .et.al ., (2014) had conducted a comparative study on Effectiveness of supervised tooth brushing and oral health education in improving oral hygiene status and practices of urban and rural school children .A total of 200 school children in the age group of between 12-15 years were selected by stratified random sampling technique . The samples were selected from two schools and further divided into two groups (group an urban school and group B rural school).

5.3 Objective 2:

To evaluate the knowledge regarding personal hygiene among school children after implementation of snake and ladder game.

Evaluation on level of knowledge regarding personal hygiene after implementing the snake and ladder game among school children, among 45 children 57.78% of school children had a good knowledge regarding personal hygiene, 33.33% of school children had an average knowledge regarding personal hygiene, and 8.89% of school children had a fair knowledge regarding personal hygiene no one from poor knowledge.

Paired' test was used to assess the level of knowledge regarding personal hygiene among school children. It was identified that the mean score before and after education regarding personal hygiene was found to be 13.68 and 33.31 respectively. Standard deviation was found to be 5.612 and 6.62 respectively with the mean difference of 19.63. Calculated't value 14.84 was compared with the table value and it showed that the calculated 't' value was greater than the table value at 0.001 level of significance (1.684). Thus the research hypothesis, there will be a highly significant different in knowledge regarding personal hygiene

before and after education through snake and ladder game was accepted. Hence snake and ladder game was effective in the enhancement of knowledge regarding personal hygiene among school children.

Prasanthi (2007) conducted a study to determine the effectiveness of snake and ladder game on knowledge of common ailments among 60 primary school children of Assumption English School Bangalore, selected the purposive sampling. The aim was to assess the effectiveness of snake and ladder game on the knowledge of common ailments among primary schools. The duration of study was one month. A pre-test and post-test was done and among them 75.3% had a good knowledge regarding dental caries and 42.5% had knowledge on worm infestation. The post-test score was more than the pre-test score by 5%. Regarding the effectiveness of snake and ladder on 'knowledge of common ailments,' it was found to be effective in terms of increasing the knowledge scores. The findings showed that the post-test knowledge scores were higher than the pre-test knowledge scores and the differences between the pre-test and post-test scores was statistically significant at 5% level ('t' $_{(59)}$ = 19.16, $p<0.05$). This indicates that the game was an effective method of imparting information to the children.

5.4 Objective 3

Association between Personal Hygiene and Selected Demographic Variables among School Children

Chi square test (with Yates correction) was used to find the association between knowledge among school children and selected demographic variables like, age, sex, education status of father and mother, religion, occupational status of father and mother, parents monthly income, number of siblings at home and previous knowledge regarding personal hygiene.

It was found that χ^2 values for age ($\chi 2 = 9.48$), sex ($\chi 2^2 = 2.94$), religion ($\chi^2 = 8.54$), education status of mother ($\chi^2 = 4.19$), and the number of sibling at home ($\chi^2 = 11.25$) had no association with the pretest level of knowledge regarding personal hygiene among school children.

Also it was found that, χ^2 value for educational status of father ($\chi^2 = 44.05$), parent's occupational status of father ($\chi 2 = 36.92$) and monthly income ($\chi 2 = 15.07$) mother occupation ($\chi^2 = 23.79$) and previous knowledge regarding personal hygiene ($\chi^2 = 7.16$), had association with the pretest level of knowledge regarding personal hygiene among school children.

SUMMARY AND CONCLUSION

This chapter summarizes the major findings, limitation, and implication in the field of nursing education, nursing administration, nursing practice and nursing research.

This study was conducted to recognize the effects of snake and ladder game on knowledge regarding personal hygiene among school children at selected school, Coimbatore. One group pre test post test pre experimental design was used for the study. Using proportionate stratified random sampling technique, 45 samples were selected for this study. Level of knowledge was assessed using structured questionnaire. Snake and ladder game was administered by the researcher to each group for a period of five days with the duration of 45 to 60 minutes. Post test was conducted on the 6th day, using the same structured questionnaire. Paired 't' test was used to find out the effect of snake and ladder game among school children.

6.1 Major findings of the study

6.1.1 Out of 45 samples, 18 (40%) children belong to 10 years and more than half, 24 (53.33%) school children were males.

6.1.2 Out of 45, 19 (42.22%) fathers and 23 (51.11) mothers completed higher secondary education.

6.1.3 The majority 40 (88.88%) school children belong to Hindu religion.

6.1.4 Out of 45, 15 (33.33%) fathers were doing Business and more than half 27(60%) mothers were Home makers

6.1.5 Monthly income of the family shows that, 19 (42.22%) samples had a family monthly income higher than Rs.15, 000/-,

6.1.6 More than half, 25(55.55%) children were single child in their family.

6.1.7 In Pretest, more than half, 27(60%) school children had poor knowledge, 15 (33%) children had fair knowledge on personal hygiene, 3 (7%) children had average knowledge on personal hygiene on personal hygiene. None of the child had good knowledge.

6.1.8 Posttest shows that, more than half 26 (57.78%) school children had a good knowledge on personal hygiene, 15(33.33%) children had average knowledge and 4 (8.89%) children had fair level of knowledge on personal hygiene. None of them were in poor knowledge.

6.1.9 The mean score of pretest and posttest scores was 13.68 and 33.31 respectively with a standard deviation of 5.61 and 6.62 respectively. The mean difference of pretest and posttest score was 19.63.

6.1.10 The calculated 't' value 19.62 is greater than the table value at 0.001 level of significance. Hence, the hypothesis "There will be a significant difference between the level of knowledge on personal hygiene among school children before and after administration of snake and ladder game" was accepted.

6.1.11 There was a significant association between level of knowledge on personal hygiene and demographic variables like χ^2 value for educational status of father ($x^2 = 44.05$), parent's occupational status of father ($x^2 = 36.92$) and monthly income ($x^2 = 15.07$) previous knowledge regarding personal hygiene. Variables like age ($x^2 = 9.48$), sex ($x^2 = 2.94$), religion ($x^2 = 8.54$), education status of mother ($x^2 = 4.19$),

and the number of sibling at home ($x^2 = 11.25$) had no association with the pretest level of knowledge on personal hygiene among school children no association with the knowledge on personal hygiene among school children.

6.2 Limitations

1. The study was restricted to small number of subjects and shorter period which limits generalization.
2. Snake and ladder game was not administered continuously due to the school functions and holidays.

6.3 Suggestion for further study

1. The study can be repeated with large number of samples which will grant more reliable results.
2. A similar study can be carried out with the control group
3. A comparative study can be conducted among hospitalized children to diminish stress related to short term hospitalization.
4. The study can be conducted in community settings to uphold the school health programme.

6.4 Recommendations

1. Nurses working in any set up can utilize this snake and ladder game as a play way method to teach children about various healthy habits.
2. Teachers and special trainers in special schools can practice, snake and ladder game as one of the routine teaching technique to teach the additional health related information to school children.

6.5 Nursing Implications

The pediatric nurse have a most important role in providing compassionate care to children. They have a immense accountability in promoting, preventing and managing care to children as well as the family.

6.5.1 Nursing Education

Administration of snake and ladder game is an effective method of teaching children to improve their knowledge on personal hygiene. Care-takers and teachers can in addition utilize this method in teaching their children at home and school. It can be conducted in community settings to endorse the school health programme in order to improve the knowledge among school children. As per the current study's report, this method of teaching is giving the impression to be a useful method to instruct children on hygienic aspects. Therefore, Snake and ladder game can be appended as one of the play therapy under pediatric nursing curriculum.

6.5.2 Nursing Administration

In future**,** the Nurse administrator can draw written policy to employ snake and ladder game as a one of the intervention to teach the hospitalized children. Based on the policies, the staff nurses possibly can use this play way technique to teach about healthy habits to hospitalized children.

6.5.3 Nursing Practice

The nursing researches are giving more significance for interventional studies on different aspects. The present study has tested the effect of snake and ladder game on knowledge regarding personal hygiene among school children. Teachers and school health nurses those who are all working in the special education unit, can utilize this process for teaching the students in all health related aspects along with other method of teaching.

6.5.4 Nursing Research

There is a great need of research to be conducted to progress the knowledge of children on assorted aspects. The play therapy is considered as a valuable method to teach children on health interconnected facet. Snake and ladder game is one of the effective schemes to edify the school children. Effect of snake and ladder game could be constructive for children with physically challenged, adjustment problem and behavioral problem. The advance research can be conducted in future to review the merits of snake and ladder game over other methods of health education to improve knowledge of personal hygiene. Also, through snake and ladder game other forms of health habits could be taught to children.

6.6 Conclusion

Modern lifestyle is becoming more complicated and people are given magnitude based on their outward manifestation rather than their inner feelings. Personal hygiene is a word to be taught and practiced on everyone's daily life, because, it is incredibly imperative to maintain ones dignity in this materialistic world. Especially for children who take more effort to shine best in this world. Education through play therapy is an effective manner and gets more attention from the children. Hence, the researcher adopted the unsurpassed method of education through snake and ladder game. The result revealed that education through snake and ladder game is effective in promoting their level of knowledge on personal hygiene of school children.

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ANNEXURE I

Analysis on Effect of Snake and Ladder game on Knowledge regarding personal hygiene among school Children.

Paired 't' test was applied to find out the Snake and Ladder game on Knowledge regarding personal hygiene among school Children**.**

$$t = \frac{\bar{d}}{SE}$$

where,

SE (Standard Error) $= \frac{SD}{\sqrt{n}}$

SD (Standard Deviation) $= \sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{n}}{n-1}}$

$\bar{d}$ = Mean difference between the pretest and post test level of knowledge regarding personal hygiene

ΣD = Sum of Mean difference between the pretest and post test level of knowledge regarding personal hygiene

ΣD^2 = Sum of square of Mean difference between the pretest and post test level of knowledge regarding personal hygiene.

n = Number of samples

Pretest and Post Test Level Knowledge Regarding Personal Hygiene among School Children.

Sample number	Pre test (x_1)	Post test (x_2)	$x_1 - x_2 = d$	d^2
1	8	38	-30	900
2	16	38	-22	484
3	15	38	-23	529
4	12	26	-14	196
5	17	41	-24	576
6	15	22	-7	49
7	16	20	-4	16
8	24	27	-3	9
9	15	35	-20	400
10	11	25	-14	196
11	6	26	-20	400
12	8	36	-28	784
13	9	20	-11	121
14	9	26	-17	289
15	8	43	-35	1225
16	8	40	-32	1024
17	9	38	-29	841
18	9	41	-32	1024
19	7	37	-30	900
20	7	41	-34	1156
21	9	39	-30	900
22	19	35	-16	256
23	22	33	-11	121

Sample number	Pre test (x_1)	Post test (x_2)	$x_1 - x_2 = d$	d^2
24	26	39	-13	169
25	16	25	-9	81
26	13	30	-17	289
27	14	25	-11	121
28	16	39	-23	529
29	15	32	-17	289
30	19	28	-9	81
31	9	29	-20	400
32	28	35	-7	49
33	9	36	-27	729
34	28	41	-13	169
35	12	41	-29	841
36	14	25	-11	121
37	13	26	-13	169
38	19	38	-19	361
39	21	33	-12	144
40	10	36	-26	676
41	12	23	-11	121
42	9	40	-31	961
43	12	38	-26	676
44	10	35	-25	625
45	12	40	-28	784
Total	**616**	**1499**	ΣD = **-883**	ΣD^2 **=20781**

$\overline{X_1}$ (Mean knowledge level in pretest) = $\frac{\sum X_1}{n} = \frac{616}{45}$ = 13.68

$\overline{X_2}$ (Mean knowledge level in posttest) = $\frac{\sum X_2}{n} = \frac{1499}{45}$ = 33.31

Pretest SD = $\sqrt{\frac{(x1-x2)2}{n}}$ = $\sqrt{\frac{1417.65}{45}}$ = $\frac{1499}{45}$ = 33.31

Postest SD = $\sqrt{\frac{(x1-x2)2}{n}}$ = $\sqrt{\frac{1977.64}{45}}$ = $\sqrt{43.94}$= **6.62**

‘t’ test

S.No	x_1	x_2	$x_1 - \overline{x_2}$	$x_1 - \overline{x_2}$	$(x_1 - \overline{x_2})^2$	$(x_1 - \overline{x_2})^2$
1	8	38	-5.68	4.69	32.26	22.00
2	16	38	2.32	4.69	5.38	21.996
3	15	38	1.32	4.69	1.74	21.996
4	12	26	-1.68	-7.31	2.82	53.436
5	17	41	3.32	7.69	11.02	59.136
6	15	22	1.32	-11.31	1.74	127.916
7	16	20	2.32	-13.31	5.38	177.156
8	24	27	10.32	-6.31	106.50	39.816
9	15	35	1.32	1.69	1.74	2.856
10	11	25	-2.68	-8.31	7.18	69.056
11	6	26	-7.68	-7.31	58.98	53.436
12	8	36	-5.68	2.69	32.26	7.236
13	9	20	-4.68	-13.31	21.90	177.156
14	9	26	-4.68	-7.31	21.90	53.436
15	8	43	-5.68	9.69	32.26	93.896
16	8	40	-5.68	6.69	32.26	44.756
17	9	38	-4.68	4.69	21.90	21.996
18	9	41	-4.68	7.69	21.90	59.136
19	7	37	-6.68	3.69	44.62	13.616
20	7	41	-6.68	7.69	44.62	59.136
21	9	39	-4.68	5.69	21.90	32.376
22	19	35	5.32	1.69	28.30	2.856
23	22	33	8.32	-0.31	69.22	0.096

S.No	x_1	x_2	$x_1 - \overline{x_2}$	$x_1 - \overline{x_2}$	$(x_1 - \overline{x_2})^2$	$(x_1 - \overline{x_2})^2$
24	26	39	12.32	5.69	151.78	32.376
25	16	25	2.32	-8.31	5.38	69.056
26	13	30	-0.68	-3.31	0.46	10.956
27	14	25	0.32	-8.31	0.10	69.056
28	16	39	2.32	5.69	5.38	32.376
29	15	32	1.32	-1.31	1.74	1.716
30	19	28	5.32	-5.31	28.30	28.196
31	9	29	-4.68	-4.31	21.90	18.576
32	28	35	14.32	1.69	205.06	2.856
33	9	36	-4.68	2.69	21.90	7.236
34	28	41	14.32	7.69	205.06	59.136
35	12	41	-1.68	7.69	2.82	59.136
36	14	25	0.32	-8.31	0.10	69.056
37	13	26	-0.68	-7.31	0.46	53.436
38	19	38	5.32	4.69	28.30	21.996
39	21	33	7.32	-0.31	53.58	0.096
40	10	36	-3.68	2.69	13.54	7.236
41	12	23	-1.68	-10.31	2.82	106.296
42	9	40	-4.68	6.69	21.90	44.756
43	12	38	-1.68	4.69	2.82	21.996
44	10	35	-3.68	1.69	13.54	2.856
45	12	40	-1.68	6.69	2.82	44.756
	616	**1499**			1417.65	1977.64

Pretest SD = **5.61**

Postest SD = **6.6**

Paired 'T' Test D = $\frac{883}{45}$ = 19.62

df = n-1

df= 45-1

df = 44

t= 19.62**

LESSON PLAN ON PERSONAL HYGIENE

Education Regarding personal hygiene through snake and ladder game among school children

Topic	**:**	**Personal hygiene**
Samples	**:**	**School children**
Venue	**:**	**Sri Ramakrishna Matriculation Higher Secondary School,Coimbator**
Duration	**:**	**1 hour**
Method of teaching	**:**	**Lecture cum discussion**

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
1 mins	The learner can able to identify the topic	**Introduction** Hygiene is the science of perceiving and promoting the health of both the individual and the community. The word 'hygiene' derives from the name of the ancient greek goddess of healthful living, deadliness and sanitation Hygiea.		Snake and ladder poster	Evalauation was performed using questionnaire
5 mins	The learner can able to understand the snake and ladders game	**Snake and ladder game** The conventional snake and ladder game was modified by incorporating the concepts of personal hygiene which included oral hygiene, bathing, hair wash, nail cutting, washing hands, washing clothes, wearing foot wear, sleep hygiene, food and water hygiene and ear hygiene. This	Explaining and listening	Snake and ladder poster	

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
		game consists of 100 square boxes, with ten ladders which indicates knowledge regarding the advantages of personal hygiene and nine snakes which indicates knowledge regarding the ill effects of poor hygiene. In each round of the game, five children were made to play. The first square is the starting point. The children were asked to toss the dice and based on the dice throw, the coins were moved. The explanation of each box regarding personal hygiene was given by the researcher. When a child strikes the ladder, three questions were asked and climbs up the ladder when answered correctly. In addition, the explanation for the	Explaining and listening	Snake and ladder poster	

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
		missed out boxes were given by the researcher. If the responses were wrong, they were not allowed to climb the ladder and made to play through the boxes again. When a child strikes the snake, three questions were asked. If they give the correct answer, they were asked to continue the game from the same box. In case of wrong answers, they were bitten by the snake, descend down and made to continue the game from the tail of the snake onwards. When a child reaches the 100^{th} square box first, she/he was appreciated with a gift.	Explaining and listening	Snake and ladder poster	

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
45 minutes	The learnersCan able to undrstnad the procedure	**Procedure:** **Step 1:** A room was prepared and the snake and ladder game poster was spread. **Step 2:**Five children were made to sit comfortably along with the researcher. **Step 3:** The game was explained and the coins and dice were handed over to the children. **Step 4**: The children were made to play the snake and ladder game **Step 5**: After completion, the articles were replaced	Explaining and listening	Snake and ladder poster	

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
1 min	The learners can able to define personal hygiene	**Definition** Personal hygiene refers to taking care of oneself to look and feel best. Personal hygiene includes regular bathing or showering, regular washing, regular hand washing, brushing and flossing of teeth, basic manicure and pedicure, feminine hygiene and healthy and sleeping.	The researcher defines the personal hygiene. Learners are listening	Snake and ladder poster	Define personal hygiene
1 min	The learner can able to list out the types of personal hygiene	**Types of Personal hygiene** Keeping your body cleaned is a fundamental but not sole element of good personal hygiene. Good hygiene practices literally continue around the clock. 1. Brushing teeth twice a day 2. Bathing 3. Regular hair wash 4. Nail cutting	Explaining and Listening	Snake and ladder poster	List out the types of personal hygiene

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
		5. Washing hands at appropriate times 6. Washing clothes 7. Wearing foot wears 8. Getting an adequate amount of sleep 9. Food hygiene 10. Ear hygiene			
2 min	The learner can able to explain the techniques and importance of brushing and rinsing mouth	**Oral hygiene** Good oral hygiene includes brushing the teeth twice a day and flossing at least once, according to the American dental association. Keeping the teeth clean helps clear away food particles and plaque that may lead to the tooth decay and gum diseases. The ADA recommends regular dental checkups and cleanings to help keep teeth and gums healthy. Hold tooth brush bristles at 45 degrees angle to gum line.Be sure tips of bristles rest against and penetrate under gum line. Brush inner and outer surfaces of upper	Explaining and listening	Snake and ladder poster	Explain the techniques and importance of brushing and rinsing mouth

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
		and lower teeth by brushing from gum to crown of each tooth, upward and downwards in the front teeth circular maner , clean the biting surfaces of teeth by holding top of bristles parallel with teeth and brushing gently back and forth. Have the brush at 45 degree angle lightly brush over surface and side of tongue from inside out. Allow rinsing thoroughly and swishing water across all tooth surfaces and spits rinsing mouth,swishing or rinsing mouth after meals (or) after eating sweets or chocolates which prevents the germs or organisms to be deposit in teeth and causing tooth decay.			
1 min	The learner can able to describe the various steps in bathing	**Body Bath** In several Hindu texts, such as the Manuscript and Vishnu Purana, says bathing is one of the Nityakarmasinsikkism, taking a bath daily orshowerusing a mild soap and warm water helps wash away dirt and bacteria that may lead to body odor- numerous medical	Explaining and listening	Snake and ladder poster	Describe the various steps in bathing

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
		conditions and diseases can be avoided or managed by simply keeping our body clean, according to centers for disease control and prevention.			
		Steps in Bathing Starting from the face, cleaning up if eyes, ears, nose, neck, back of the neck. The upper and lower extremities are cleansed from finger tips to axilla (or) from toes towards thighs. The breast should be cleaned and specials care should be taken to clean the perineal area.		Snake and ladder poster	
2 mins	The learners can able to dicuss the techniques and importance of hair washing	**HairWash** Shampooing our hair and massaging our scalp will wash away dirt, oil buildup and dead skin cells, explains by CYWHS.It may need to shampoo more or less atleast once in a week, or often depending on our hair type. Make the hair to be separated into two halves, mix the shampoo in a small amount of water to reduce the concentrated chemical action of the shampoo on hair follicles. Massage from the scalp, root of the hair to tip of hair. Wash thoroughly or four times and dry it nicely		Snake and ladder poster	Discuss techniques and importance of hair wash

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
		Pediculosis and dandruff can also get cleared on frequent shampooing and makes the hair clean and tidy.			
2mins	The learners can able to enumerate the importance of washing hands and feet	**Hand wash** Washing our hands throughout the day with soap and water (or) atleast water can help removethe spread of bacteria and viruses, according to the CYWHS.Always, cleanse our hands before and after food, before preparing a food and eating meals and after using bathroom, toileting, coughing, sneezing and blowing our nose.Washing thehands includes rubbing the palms, finger tips, interlocking the hand back to cleanse the web of fingers and wash it. Washing the feet atleast once in a day it thoroughly especially in the bacteria- prone area between the toes. If possible, make the feet to dip in warm water for 15-20 mins with water mix with soap or shampoo, which is useful for maintaining the moisture and cleanse the sole of foot and prevents crackles.	Explaining and listening	Snake and ladder poster	Enumerate the importance of washing hands and feet
2 mins	The learner can able to list down the steps	**Cutting the nails** Cutting the nail with nail cutter is vital. Biting of nails which creates a bad opinion on us andalso it may leads to bad habit. Biting of nails causes the dirt to travel	Explaining and listening	Snake and ladder	List down the steps in cutting the

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
	in cutting the nails	the micro-organisms to enter into stomach and causes several disturbances. Nail cutting, includes soak the finger nails or toe nails in water for 10-20 minutes		poster	nails
1 min	The learners can able to explain the methods of washing clothes	**Washing Clothes** Once wear clothes should be washed because the person's sweated and dead cells which cause bad odour and also aids for the spread of micro organisms. So we have to wash the clothes with soap and water and rinse thoroughly dry it under sunlight.	Explaining and Listening	Snake and ladder poster	Explain the method of washing clothes
1 min	The learners can able to describe the importance of wearing chappals	**Wearing chappals** Foot care includes wearing chappals, whenever going outside and also during to toilet or bathroom. It prevents infections transmitted from others saliva, many skin diseases.	Explaining and listening	Snake and ladder poster	Describe the importance of wearing chappals

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
1 min	The learners can able to discuss sleep hygiene	**Sleep Hygiene** A person should sleep atleast 6-8 hours in the night especially the adolescent should maintain their bed timings correctly in order to improve their memory power		Snake and ladder poster	
1 min	The learners can able to discuss sleep hygiene	**Food hygiene** Washing hands before preparing food it helps to keep germs out of our bodies. Washing hands before eating food helps stop germs getting into our bodies.a person should dring 8 cup of water per day minimmum,the water should clean it helps to prevent many diseases likes cholera,typhoid,if the water contain the chemical it leds to allergy skin rashes.		Snake and ladder poster	List thesome of diseases not maintaing the food hygiene
1 min	The learners can able to discuss sleep	**Ear hygiene** Ear is one of the sensary organ and it help to maintain the equlibrium of the body tembrature wile taking bath every		Snake and ladder poster	List the some of the problem in

Time	Specific Objectives	Contents	Teacher/ learner activity	A.V. Aids	Evaluation Method
	hygiene	day clean the extanal ear and folding of the ear, don't use any pin and cotton puds to clean the ear wax. Ever year getregulur check up to the ENT doctore to clean the ear wax and maintain the good hearing capacity.			not maintaing the ear hygiene
		Conclusion Personal hygiene is not only maintance of cleanliness of apart (or) organ but prevention of infection (or) diseases.			


100
ஆரோக்கியமாக இருக்க தன் சுத்தம் பேணிகாக்க வேண்டும்
99
சராசரியாக 8 மணி நேரம் ஒழுங்காக தூங்கவிடில்
98
ஒரு மனிதன் ஒரு நாளைக்கு 8 மணி நேரம் தூங்க வேண்டும்
97
ஊட்டச்சத்து நிலையை மேம்படுத்தலாம
96
நீங்கள் சராசரியாக தூங்குவதினால் புத்துணர்ச்சி திடமான முடிவுகளை எடுக்க முடியும்
95
நீங்கள் துவைக்காத துணியை உபயோகித்ததால்
94
காதுகளை பீள் மற்றும் பட்ஸ் கொண்டு சுத்தப்படுத்துதலை தவிர்க்க வேண்டும்
93
நீங்கள் வெளியே செல்லும் போதும், விளையாடும் போதும் காலணிகளை உபயோகிக்கா வீடில்
92
துணிகளை ஒழுங்காக துவைப்பதினால் தோல் தொற்று நோய்யை தடுக்க முடியும்
91
புத்துணர்ச்சியாக இருக்கவும், சுறுசுக சுத்தியை அதிகப்படுத்தவும் செய்கிறது
81
நுண்ணுயிர்கள் பாதங்கள் வழியாக ஊடுருவி செல்வதை தடுக்கும்
82
காது மெழுகு அதிகமாக சேருதல், கிருமி தொற்று வராமல் மற்றும் சீழ் வடிதலை தடுக்கிறது
83
புத்துணர்ச்சி அற்ற நிலை, தலைவலி, உடல் சோர்வுடன் இருத்தல்
84
85
மலம் மற்றும் சிறுநீர் கழித்தப் பிறகு கைகளை சோப்பு மற்றும் வெள்ளீர் உபயோகித்து கழுவ வேண்டும்
86
87
சூரிய ஒளியின் கீழ் துணிகளை உலர்த்த வேண்டும்
88
89
சராசரியான தூக்கம்
90
ஒரு தடவை அணிந்த துணிகளை ஒழுங்காக துவைப்பதினால் இறந்த செல்களை மற்றும் நுண்ணுயிர்களை அகற்ற முடியும்
80
எங்கு சென்றாலும் காலணிகளை அணியவும்
79
78
காதுகளை சுத்தம் வெட்டாவிடில்
77
சரிவிகித உணவுகளை உண்பதால்
76
சோப்பு மற்றும் தண்ணீர் உபயோகித்து துணிகளை துவைக்க வேண்டும்
75
நுண்ணுயிர்களினால் ஏற்படும் தொற்று நோய்களை தடுக்க முடியாது
74
காலணிகளை உபயோகிக்கதினால் திடீர் விபத்தினால் ஏற்படும் காயங்கள், புஞ்சைகளினால் ஏற்படும் தொற்று மற்றும் உலர்ந்த கால்
73
திடீர் விபத்தினால் ஏற்படும் காயங்கள், புஞ்சைகளினால் தொற்று ஏற்படும்
72
வயிற்றுபோக்கு, டைப்பாட்ட காமாசகல், வாந்தியுடன் கூடிய வயிற்றுப்போக்கு, தண்ணீரில் கலந்துள்ள கிருமிகளினால் வரும் ஒவ்வாமை வராமல் தடுக்கலாம்
71
குளிக்கும் போது புறக்காதுகளை நன்றாக சுத்தம் செய்ய வேண்டும்
61
காதுகளை சுத்தமாக வைப்பதால்
62
நகம் வெட்டுவதன் மூலம் பாக்டீரியா, பூஞ்சை தொற்றுலிருந்து விடுபடலாம்
63
வெளியே, கழிப்பறைக்கு மற்றும் விளையாட செல்லும் போதும் காலணிகளை அணிய வேண்டும்
64
காது வலி ஏற்படுதல், காதில் அளவுக்கு அதிகமாக மெழுகு சேருதல்
65
உணவு பொருட்களை சுகாதாரத்துடன் பயன்படுத்துவதால் உணவு பொருட்கள் நஞ்சாக மாறுவதை தடுக்கலாம்
66
உலர்ந்த காலல்கள் மற்றும் திடீர் விபத்துகளினால் ஏற்படும் காயங்களை தவிர்க காலணிகளை அணிய வேண்டும்
67
68
ஒரு நாளைக்கு 2000 மீலீ தண்ணீர் குடிக்க வேண்டும்
69
சுத்தமான தண்ணீர் குடிக்க வேண்டும்
70
துன்நாற்றம், தோல் தொற்று வராமல் இருத்தல், இறந்த செல்கள் மற்றும் நுண்ணுயிர்களை அகற்றும்
60
அளவுக்கு அதிகமாக நகம் வளர்ந்துவுடன் நகத்தை வெட்டவும்
59
தொற்றுபரவுதலை தடுக்கலாம்
58
நீங்கள் ஒழுங்காக தலைக்கும் குளிக்கா விடில்
57
கைகளை 10 முதல் 15 வீநாடிகள் நன்றாக கழுவவும்
56
கைகளை ஒழுங்காக கழுவாவிடில்
55
வயிற்றுபோக்கு, சுவாச மண்டலத்தில் ஏற்படும் தொற்றுநோய் மற்றும் நோய் பரவாமல் தடுக்கிறது
54
53
வெளியே, கழிப்பறைக்கு மற்றும் விளையாட செல்லும் போதும் காலணிகளை அணிய வேண்டும்
52
நீங்கள் நகங்களை வெட்டவீடில்
51
நீங்கள் துணிகளை சுத்தமாக அணிவதினால்
41
நகங்களை நகவெட்டியினால் வெட்ட வேண்டும்
42
நகங்களை நகவெட்டினால் ஒருமுனையிலிருந்து மறுமுனை வரை வெட்ட வேண்டும்
43
44
நகங்களை சிறிது நேரம் தண்ணீரில் ஊறவைத்து நகவெட்டினால் ஒருமுனையிலிருந்து மறுமுனை வரை வெட்ட வேண்டும்
45
நகம் வெட்டுவதன் மூலம் உட்புறமான நகம் வளருதலை தடுக்கலாம்
46
நகம் வெட்டாததினால் தோலில் கிறல்கள் தனக்குத்தானே ஏற்படுத்தி கொள்கிறோம்
47
48
மண்ணில் விளையாடிய பிறகு கைகளை கழுவ வேண்டும்
49
குளிக்காமல் இருப்பதால் ஏற்படும் விளைவு
50
நகத்தின் கீழ் அழுக்கு படுதல் மூலம் வயிற்றுப் போக்கு உண்டாகும்
40
உங்களுக்கு பொடுகு மற்றும் பேன்கள் தோல்லை உண்டு
39
38
தலை முடியை இரண்டாக பிரித்து நன்றாக ஷாம்பு போட்டு குளிக்க வேண்டும்
37
வாரம் ஒரு முறை தலைக்குக் குளிக்க வேண்டும்
36
தலையில் பொடுகு மற்றும் பேன் தோல்லை வராமல் தடுக்கும்
35
எண்ணெய் தேய்பதால் தலையில் இரத்த ஓட்டத்தை மேம்படுத்தும்
34
33
உடல் துர்நாற்றம் மற்றும் பூஞ்சை தொற்று உண்டாகும்
32
மலம், சிறுநீர் கழித்த பிறகு கைகளை கழுவ வேண்டும்
31
உட்ல் துர்நாற்றம் மற்றும் பூஞ்சை தொற்று வராமல் தடுக்கலாம்
21
ஷாம்புவுடன் சிறிது தண்ணீர் கலந்து தலைக்கு நேரடித்து குளிக்க வேண்டும்
22
வாரம் இருமுறை தலைக்குக் குளிக்க வேண்டும்
23
தலைக்குக் குளிப்பதற்கு முன்பு எண்ணெய்யை தலையில் நேரடிக்க வேண்டும்
24
தலைமுடியை இரண்டாக பிரித்து ஷாம்பு போட்டு தலைக்குக் குளிக்க வேண்டும்
25
கைகளை ஒழுங்காக கழுவாவிடில்
26
குளிக்கும் முன் தலையின் மேற்பகுதியின் தோலை எண்ணெய் விட்டு நன்றாக நேரடிக்க வேண்டும்
27
கால் மற்றும் கை தோல் படிப்புகளை நன்றாக நேரடிக்க வேண்டும்
28
தேவைப்படும் போது கைகளை நன்றாக கழுவவும்
29
குளிக்கும் போது பினாற்ற வேண்டிய வறைமுறை
30
20
3 முதல் 4 மாதத்திற்கு ஒருமுறை பல் துலக்கும் பிரஷ்சை மாற்ற வேண்டும்
19
தோல் அரிப்பை தடுக்க முடியும்
18
குளிக்கும் போது காலல்களை நன்றாக நேரடித்து குளிக்க வேண்டும்
17
பற்சிதைவு மற்றும் பல்துவாரத்தை தடுக்க வேண்டும்
16
உடல் துர்நாற்றத்தை தடுக்க முடியும்
15
உங்களுக்கு வயிற்று வலியுடன் கூடிய வயிற்று போக்கு உண்டாகும்
14
உங்கள் வாய்யை சுத்தமாக வைத்து கொள்ளவில்லை
13
குளிக்கும் போது அககுளை நேரடிக்க வேண்டும்
12
சோப்பு உபயோகித்து தினமும் குளிக்க வேண்டும்
11
தினமும் குளிக்க வேண்டும்
1
தன் சுத்தம் என்பது சுத்தமாகவும் மற்றவர்களால் அங்கிகரிக்கப் படுவதற்கும் புகுணமாவகவும் இருப்பது
2
2 வேளை பல் துலக்க வேண்டும்
2 முறை வேளை பல் துலக்க வேண்டும்
3
முன் பற்களை வட்ட வடிவமாக துலக்க வேண்டும்
4
ஓரத்தில் உள்ள பற்களை அலைவடிவமாக துலக்க வேண்டும்
5
கீழ் அடுக்கிலுள்ள உள்புறமாக பற்களை கீழிருந்து மேலாக துலக்க வேண்டும்
6
மேல் அடுக்கிலுள்ள உள்புறமாக பற்களை மேலும் கீழுமாக துலக்க வேண்டும்
7
காலையில் எழுந்தவுடன், நீர் ஆகாரம் அருந்துதல் பிறகு சாப்பிட்டு முடித்த பிறகு வாய்கொப்பளிக்க வேண்டும்
8
பல் துலக்காததின் பக்கவிளைவுகள் பற்சிதைவு மற்றும் பல்துவாரம், துர்நாற்றம், பல் ஈறுநோய்
9
பற்சிதைவு மற்றும் பல்துவாரம் துர்நாற்றம
10
பற்சிதைவு மற்றும் பல்துவாரம், துர்நாற்றம் மற்றும் பல் ஈறுநோய் உண்டாகும்

பரமபதத்தின் மூலம் பள்ளிக் குழந்தைகளுக்கு தன் சுத்தம் பற்றிய கல்வியின் விளைவினை கண்டறிதல்

பகுதி – அ மாதிரி எண்

சுயகுறிப்பு

1. வயது :

2. பாலினம் : ஆண் பெண்

3. பெற்றோர்களின் கல்வி தகுதி :

   தந்தையின் கல்வி தகுதி :
   அ. படிக்காதவர்
   ஆ. தொடக்கக்கல்வி
   இ. மேல்நிலைக்கல்வி
   ஈ. இளங்கலை
   உ. முதுகலை

   தாயின் கல்வி தகுதி :
   அ. படிக்காதவர்
   ஆ. தொடக்கக்கல்வி
   இ. மேல்நிலைக்கல்வி
   ஈ. இளங்கலை
   உ. முதுகலை

4. மதம் :
   அ. இந்து
   ஆ. முஸ்லிம்
   இ. கிறிஸ்தவர்
   ஈ. பிற மதத்தை சார்ந்தவர்

5. பெற்றோர்களின் தொழில் :

   தந்தையின் தொழில் :

   தாயின் தொழில் :

6. மாத வருமானம் :
   அ. ரூ. 5000த்திற்கு கீழ்
   ஆ. ரூ. 5001 -10000 வரை
   இ. ரூ. 10001-15000 வரை
   ஈ. ரூ. 15001க்கு மேல்

7. உடன் பிறந்தவர்களின் எண்ணிக்கை :

பகுதி – ஆ

பொது கேள்விகள்

1. தன் சுத்தம் என்பது என்ன என்று உங்களுக்கு தெரியுமா?

ஆம்	இல்லை

2. இதற்கு முன்பு தன் சுத்தம் பற்றிய தகவல் பெற்று இருக்கிறீர்களா?

ஆம்	இல்லை

ஆம் என்றால் குறிப்பிடுக _____

பகுதி – இ

1. தன் சுத்தம் என்பதன் பொருள் என்ன?

   அ. தன் சுத்தம் என்பது சுத்தாமாகவும் மற்றவர்களால் அங்க்கரிக்கப்படுவதற்கும் புத்துணர்வாகவும் இருப்பது

   ஆ. தன் சுத்தம் என்பது தினமும் குளித்தல், பல் துலக்குதல் ஆகும்

   இ. தன் சுத்தம் என்பது ஒரு முறை அணிந்த துணிகளை துவைப்பது

   ஈ. தன் சுத்தம் என்பது தினமும் குளித்தல், பல் துலக்குதல் மற்றும் துணிகளை துவைத்தல்

2. தன் சுத்தத்தின் கூறுகள் என்ன?

   அ. பல் துலக்குதல் / குளித்தல் / தலை குளித்தல்

   ஆ. கை கழுவுதல் / நகம் வெட்டுதல் / கால அணிகளை அணிதல்

   இ. தேவையான உறக்கம் / துணி துவைத்தல்

   ஈ. மேல் உள்ள அனைத்தும்

3. பல் துலக்குவதின் நன்மைகள் என்ன?

   அ. இரத்த ஓட்டத்தை அதிகரிக்கும்

   ஆ. பல் சிதைவு மற்றும் பல் துழைகளை தடுத்தல்

   இ. வலுவான பல் ஈறுகள் மற்றும் சுத்தமான பல் மேற்பரப்புகளுக்காக

   ஈ. மேல் உள்ள அனைத்தும்

4. ஒரு நாளைக்கு எத்தனை முறை பல் துலக்க வேண்டும்?

   அ. 1 வேளை

   ஆ. 2 வேளை

   இ. 3 வேளை

   ஈ. தேவைப்படும் போதெல்லாம்

5. எந்த நேரம் பல் துலக்கு வதற்கு சிறந்தது?

   அ. படுக்கையில் இருந்து எழுந்து பின்பு

   ஆ. இரவு மட்டும்

   இ. காலையில் எழுந்தவுடன் மற்றும் இரவு படுக்கைக்கு முன்பு

   ஈ. ஒவ்வொரு முறையும் சாப்பிட்டதற்கு பின்பு மற்றும் நீர் ஆகாரம் குடித்ததற்கு பின்பு

6. முன் பற்களை எவ்வாறு துலக்க வேண்டும்?

   அ. வட்டவடிவமாக

   ஆ. மேலும் கீழுமாக

   இ. உள்ளிருந்து வெளியே

   ஈ. அலைவடிவமாக

7. ஓரத்தில் உள்ள பற்களை எவ்வாறு துலக்க வேண்டும்?

   அ. வட்டவடிவமாக

   ஆ. மேலும் கீழுமாக

   இ. உள்ளிருந்து வெளியே

   ஈ. ஆலைவடிவமாக

8. கீழ் அடுக்கிலுள்ள உள்புறமாக பற்களை எவ்வாறு துலக்க வேண்டும்?

அ. வட்டவடிவமாக

ஆ. கீழிருந்து மேலாக

இ. உள்ளிருந்து வெளியே

ஈ. அலைவடிவமாக

9. மேல் அடுக்கிலுள்ள உள்புறமாக பற்களை எவ்வாறு துலக்க வேண்டும்?

அ. வட்டவடிவமாக

ஆ. மேலும் கீழுமாக

இ. உள்ளிருந்து வெளியே

ஈ. அலைவடிவமாக

10. எவ்வளவு நேரம் பல் துலக்க வேண்டும்?

அ. 1-3 வினாடி

ஆ. 2 நிமிடங்கள்

இ. 4-5 நிமிடங்கள்

ஈ. ஆலைவடிவமாக

11. எப்பொழுதெல்லாம் வாய்கொப்பளிக்க வேண்டும்?

அ. சாப்பிட்டு முடித்த பிறகு

ஆ. நீர் ஆகாரம் அருந்திய பிறகு

இ. காலையில் எழுந்தவுடன்

ஈ. மேல் உள்ள அனைத்தும்

12. எத்தனை நாளைக்கு ஒருமுறை பல் துலக்கும் பிரஷ்சை மாற்ற வேண்டும்?

அ. மாதம் ஒருமுறை

ஆ. 3 முதல் 4 மாதத்திற்கு ஒருமுறை

இ. 6 மாதத்திற்கு ஒருமுறை

ஈ. வருடத்திற்கு ஒருமுறை

13. பல் துலகக்காததின் பக்கவிளைவுகள் என்னென்ன?

அ. பற்சிதைவு மற்றும் பல்துவாரம்

ஆ. துர்நாற்றம்

இ. பல் ஈறுநோய்

ஈ. மேலுள்ள அனைத்தும்

14. குளிப்பதினால் ஏற்படும் நன்னைகள் என்ன?

அ. இரத்த ஓட்டத்தை அதிகரித்தல்

ஆ. நோய் எதிர்ப்பு சக்தியை ஊக்குவித்தல்

இ. செயல்திறனை அதிகரித்தல் மற்றும் அழுக்குகளை நீக்குவதற்காக

ஈ. மேற்குறிப்பிட்ட அனைத்தும்

15. எத்தனை முறை ஒரு நாளைக்கு குளிக்க வேண்டும்?

அ. ஒரு நாளைக்கு 1 முறை

ஆ. ஒரு நாளைக்கு 2 முறை

இ. ஒரு நாளைக்கு 3 முறை

ஈ. ஒரு நாளைக்கு 4 முறை

16. குளிக்காமல் இருப்பதால் ஏற்படும் விளைவுகள் என்ன?

அ. தோல் அரிப்பு

ஆ. தோல் தடித்தல்

இ. துர்நாற்றம்

ஈ. மேற்குறிப்பிட்ட அனைத்தும்

17. தலைகுளிப்பதினால் ஏற்படும் நன்மைகள் என்ன?

அ. பொடுகுகளை அழிப்பதற்காக

ஆ. இரத்த ஓட்டத்தை அதிகரிக்க

இ. சுத்தமாக தலையை பராமரிக்க

ஈ. மேல்கண்ட அனைத்தும்

18. ஒரு வாரத்தில் எத்தனை முறை தலைக்குக் குளிக்க வேண்டும்?

அ. தினமும்

ஆ. வாரம் ஒருமுறை

இ. வாரம் இருமுறை

ஈ. வாரம் மூன்று முறை

19. தலைக்குக் குளிக்காததின் பின் விளைவுகள் என்ன?

அ. தலையில் அரிப்பு ஏற்படுதல்

ஆ. பொடுகு மற்றும் பேன்கள் தொல்லை

இ. முடி உதிர்வு

ஈ. மேற்கண்ட அனைத்தும்

20. நகம் வெட்டுவதன் நன்மைகள் என்ன?

அ. உட்புறமான நகம் வளருதலை தடுத்தல்

ஆ. பாக்டீரியா, பூஞ்சையிலிருந்து விடுபடுதல்

இ. அழுக்கு சேர்வதைத் தடுத்தல்

ஈ. மேற்கண்ட அனைத்தும்

21. நகங்களை எதன் மூலமாக வெட்டவேண்டும்?

அ. நகம் வெட்டி மூலம்

ஆ. பிளேடு மூலம்

இ. கத்தி மூலம்

ஈ. மற்றவை

22. நகம் வெட்டும் உத்தி (முறைகள்) என்னென்ன?

அ. நகங்களை இருபுறதும் வெட்டவேண்டும்

ஆ. நகங்களை சிறிது நேரம் தண்ணீரில் ஊறவைத்து நகவெட்டினால் வெட்டுதல், ஒருமுனையிலிருந்து மறுமுனை வரை வெட்டவேண்டும்

இ. நகவெட்டியை நேராக வைத்து வெட்டுதல்

ஈ. நகத்தை மேற்பரப்பிலிருந்து நகத்திற்கு இணையாக வெட்டுதல்

23. நகம் வெட்டாததால் ஏற்படும் பக்கவிளைவுகள் என்ன?

    அ. உட்புறமாக நகம் வளர்தல்

    ஆ. நகத்தின் கீழ் அழுக்குபடிதல் மூலம் தொற்றுபரவுதல்

    இ. தோலில் ஏற்படும் கீறல்கள் தனக்குத்தானே ஏற்படுத்தி கொள்வது

    ஈ. மேற்கண்ட அனைத்தும்

24. ஒரு நாளைக்கு எத்தனை முறை கைகளை கழுவவேண்டும்?

    அ. இரண்டு வேளை

    ஆ. மூன்று வேளை

    இ. அடிக்கடி

    ஈ. தேவைப்படும் போதெல்லாம்

25. எவ்வளவு நிமிடம் கை கழுவ வேண்டும்?

    அ. 5-10 நிமிடம்

    ஆ. 10-15 நிமிடம்

    இ. 15-20 நிமிடம்

    ஈ. 20-30 நிமிடம்

26. மலம் மற்றும் சிறுநீர் கழித்த பிறகு எப்படி கை கழுவ வேண்டும்?

    அ. தண்ணீர் மட்டும் உபயோகித்து

    ஆ. வெந்நீர் மற்றும் சோப்பு உபயோகித்து

    இ. கிருமி நாசினியை உபயோகித்து

    ஈ. சோப்பு மட்டும் உபயோகித்து

27. எப்பொழுது கைகளை கழுவ வேண்டும்?

    அ. மண்ணில் விளையாடிய பிறகு

    ஆ. மலம் / சிறுநீர் கழித்த பிறகு

    இ. சாப்பிடு வதற்கு முன்பு

    ஈ. மேலுள்ள அனைத்தும்

28. கைகளை ஒழுங்காக கழுவாததினால் ஏற்படும் விளைவுகள்?

அ. உணவு மண்டலத்தில் ஏற்படும் தொற்று

ஆ. தோல் தொற்ற நோய்

இ. சுவாச பாதையில் ஏற்படும் தொற்று

ஈ. மேலுள்ள அனைத்தும்

29. துணிகளை துவைப்பதின் நண்மைகள் என்ன?

அ) துணிகளை சுத்தப்படுத்துதல்

ஆ) இறந்த செல்கள் மற்றும் பாக்டீரியவை அகற்றுவதால்

இ) தோல் தடிப்பை அகற்றுதல்

ஈ) மேலுள்ள அனைத்தும்

30. எதனால் துணி துவைக்க வேண்டும்?

அ. தண்ணீர் மட்டும்

ஆ. சோப்பு மற்றும் தண்ணீர் உபயோகித்து

இ. சோப்பு கரைசல் உபயோகித்தது

ஈ. ஊலர்த்தி கழுவும் முறையில்

31. துவைத்த துணிகளை எவ்வாறு உலர்த்த வேண்டும்?

அ. சூரிய ஒளியின் கீழ்

ஆ. நிழலின் கீழ்

இ. வீட்டின் உட்புறத்தில்

ஈ. உலர்த்தும் கருவியின் மூலமாக

32. எப்பொழுதெல்லாம் காலணிகளை அணிய வேண்டும்?

அ. வெளியே மற்றும் கழிப்பறைக்கு செல்லும் போது

ஆ. வீட்டினுள்

இ. விளையாடும் போதும்

ஈ. எங்கே சென்றாலும்

33. காலணிகளை தவிர்பதினால் ஏற்படும் விளைவுகள்?

    அ. திடிர் விபத்துகளினால் ஏற்படும் காயங்கள்

    ஆ. பூஞ்சைகளினால் ஏற்படும் விளைவு

    இ. உலர்ந்த கால்கள் மற்றும் பூச்சிகளினால் ஏற்படும் தொற்று

    ஈ. மேலுள்ள அனைத்தும்

34. ஒரு மனிதன் சராசரியாக ஒரு நாளைக்கு எவ்வளவு மணி நேரம் உறங்க வேண்டும்?

    அ. 5 மணி

    ஆ. 8 மணி

    இ. 10 மணி

    ஈ. 12 மணி

35. சராசரியான உறக்கத்தின் நன்மைகள்?

    அ. புத்தணர்ச்சி

    ஆ. அதிக கவனம்

    இ. திடமான முடிவுகள்

    ஈ. மேலுள்ள அனைத்தும்

36. சராசரியான தூக்கமின்மையினால் ஏற்படும் விளைவுகள்

    அ. குழப்பம்

    ஆ. தலைவலி

    இ. உடல் சோர்வு

    ஈ. மேலுள்ள அனைத்தும்

37. காதுகளை சுத்தமாக வைத்துக் கொள்வதின் நன்மைகள் என்ன?

    அ. காதுகளில் காதுக்குடுமி அதிகமாக சேருவதை தடுக்கும்

    ஆ. காதுகளில் தொற்று கிருமி வராமல் தடுக்கின்றது

    இ. காதுகளில் நீர் அல்லது சீழ் வடிவதை தடுக்கின்றது

    ஈ. மேலுள்ள அனைத்தும்

38. காதுகளை எதை கொண்டு சுத்தம் செய்ய வேண்டும்?

அ. மென்மையான துணி கொண்டு

ஆ. ஒவ்வொரு நாளும் குளிக்கும் பொழுது புற காதுகளை சுத்தம் செய்ய வேண்டும்

இ. பின்களை கொண்டு சுத்தம் செய்தல்

ஈ. பட்ஸ் (பருத்தி குச்சி) கொண்டு சுத்தம் செய்தல்

39. காதுகளின் சுத்தத்தை பராமரிப்பது எப்படி?

அ. காது, மூக்கு, தொண்டை நிபுணரிடம் முறையாக பார்த்தல்

ஆ. ஒவ்வொரு நாளும் குளிக்கும் பொழுது புற காதுகளை சுத்தம் செய்ய வேண்டும்

இ. துணி மற்றும் பட்ஸ் (பருத்தி குச்சி) கொண்டு சுத்தம் செய்தல்

ஈ. மேலுள்ள அனைத்தும்

40. காதுகளின் சுகாதாரத்தை பராமரிக்காவிடில் ஏற்படும் தீமைகள் என்ன?

அ. காதுக்குடுமி

ஆ. காய்ச்சல் காதுகளில் வலி ஏற்படுதல்

இ. காதுகளில் நீர் அல்லது சீழ் வடிதல்

ஈ. மேலுள்ள அனைத்தும்

41. சுத்தமான தண்ணீர் குடிகாததினால் ஏற்படும் விளைவுகள் என்ன?

அ. வயிற்று போக்கு

ஆ. வாந்தியுடன் கூடிய வயிற்று போக்கு மற்றும் டைபாய்டு

இ. தண்ணீரில் கலந்த வேதி பொருட்களினால் ஒவ்வாமை ஏற்படுதல்

ஈ. மேலுள்ள அனைத்தும்

42. ஒரு நபர் ஒரு நாளைக்கு எவ்வளவு தண்ணீர் குடிக்க வேண்டும்?

அ. 200 மிலி

ஆ. 800 மிலி

இ. 1000 மிலி

ஈ. 2000 மிலி

43. உணவு பொருட்களை சுகாதாரத்துடன் பயன்படுத்துவதின் நன்மைகள் என்ன?

அ. உணவினால் வரும் தொற்று வராமல் தடுத்தல்

ஆ. வயிற்று போக்கு வராமல் தடுத்தல்

இ. உணவு பொருட்கள் நஞ்சாக மாறுதலை தடுத்தல்

ஈ. மேலுள்ள அனைத்தும்

44. சரிவிகித உணவு உண்பதினால் உள்ள நன்மைகள் என்ன?

அ. ஊட்டசத்து நிலையை மேம்படுத்துதல்

ஆ. அளவுக்கு அதிகமான கலோரிகளை தடுத்தல்

இ. சத்தான உணவுகளை உண்பதற்கு

ஈ. மேலுள்ள அனைத்தும்

45. உணவுகளின் சுகாதாரத்தை கடைபிடிக்காததால் ஏற்படும் விளைவுகள் என்ன?

அ) உணவு நஞ்சாக மாறுதல்

ஆ) வயிற்றுப் போக்கு

இ) வயிற்று வலி

ஈ. மேலுள்ள அனைத்தும்

மதிப்பெண்

ஒவ்வொரு பதிலுக்கும் ஒரு மதிப்பெண் தரப்படும்

அதிக மதிப்பெண்	- 35-45
சராசரி மதிப்பெண்	- 25-35ற்கும் கீழ்
குறைந்த மதிப்பெண்	- 15-25ற்கும் கீழ்
மிகவும் குறைந்த மதிப்பெண்	- 15ற்கும் கீழ்

EFFECT OF EDUCATION ON PERSONAL HYGIENE THROUGH SNAKE AND LADDER GAME TO SCHOOL CHILDREN AT SELECTED SCHOOLS, COIMBATORE

TOOL

PART- A Sample no: [ ]

DEMOGRAPHIC DATA

1. Age (in years) : [ ]
2. Sex : [M] [F]
3. Educational status of parents

a) Father : i) Illiterate

ii) Primary education

iii) Higher Secondary

iv) Graduate

v) Post graduate

b) Mother i) Illiterate

ii) Primary education

iii) Higher secondary

iv) Graduate

v) Post graduate

4. Religion : [Hindu] [Muslim] [Christia] [Others]
5. Occupation status

A) Father : [ ]

B) Mother : [ ]

6. Monthly income :

Below Rs. 5000 : ☐

Rs. 5000-10000 : ☐

Rs. 10000-15000 : ☐

Above Rs. 15000 : ☐

7. No of sibling at home : ☐

PART B

General question

1) Do you know what is personal hygiene ? ☐ yes ☐ No

2). Have you received /any information about personal hygiene before?

If yes, please specify ☐

PART C

QUESTIONNAIRE

1) What do you mean by personal hygiene?

a) Personal hygiene refers to taking care of oneself to look and feel best.

b) Personal hygiene refers to taking bath and brushing.

c) Personal hygiene refers to washing the dress once you wear.

d) Personal hygiene refers to regular washing, brushing, and taking bath.

2) What are all the elements of personal hygiene?

a) Brushing/Bathing /Hair wash

b) Hand washing/Nail cutting/ wearing the footwear

c) Sleep hygiene / Cloth hygiene

d) All of the above

3) What are the benefits of brushing?

a) To promote blood supply

b) To Prevent tooth decay and cavity

c) To maintain healthy gum to clean the chewing surface and tongue

d) All of the above

4) How many times in a day a person should do brush the teeth?

a) Once in a day

b) Twice a day

c) Thrice a day

d) Whenever necessary

5) Which is the ideal time for brushing teeth?

a) After getting up from the bed

b) At night

c) After getting up in the morning and before going to bed at night

d) Each time after eating and drinking

6) How to brush the front teethes?

a) Circular manner

b) Upwards and downwards

c) Inside and outside manner

d) Zig zag manner

7) How to brush the side teethes?

a) Circular manner

b) Up and down manner

c) Inside and outside manner

d) Zigzag manner

8) How to brush the lower inner teethes?

a) Circular manner

b) Upward and downward

c) Inside and outside manner

d) Zigzag manner

9) How to brush the upper inner teethes?

a) Circular manner

b) Downwards to upwards

c) Inside and outside manner

d) Zigzag manner

10) What is the duration of brushing?

a) 1-3 seconds

b) 2 minutes

c) 4-5 minutes

d) 5-10 minutes

11) What is the ideal time to rinse the mouth?

a) After eating Meals

b) After drinking liquids

c) After waking up

d) All of the above

12) How often you change the brush?

a) Every month

b) 3 to 4 month

c) 4-6 months

d) Whenever necessary

13) What are the ill effects of not maintaining proper brushing?

a) Dental caries and cavities

b) Bad breath

c) Gum disease

d) All of the above

14) What are all the benefits of body bath?

a) Improve the blood circulation

b) Boost the immune system

c) Improve the activity and remove dirt

d) All of the above

15) How many times in a day a person is suggested to take bath?

a) Once in a day

b) Two times in a day

c) Three time in a day

d) Whenever necessary

16) What are all the ill effects of irregular bath?

a) Skin itching

b) Skin rashes

c) Bad smell

d) All of the above

17) What are all the benefits of hair wash?

a) To Prevent dandruff,

b) To improve blood circulation

c) To maintain cleanliness of the hair

d) All of the above

18) How often do you wash hair?

a) Daily

b) Weekly

c) Weekly twice

d) Weekly thrice

19) What are all the ill effects of not taking regular hair wash?

a) Scalp itching

b) Dandruff and pediculosis

c) Hair fall

d) All of the above

20) What are all the benefits of nail cutting?

a) To Prevent inward nail growth

b) To prevent bacterial fungal infection

c) To prevent accumulation of dirt

d) All of the above

21) The nails should be cut with?

a) Nail cutter

b) Blade

c) Knife

d) Others

22) What are all the techniques to cut short the nails?

a) Cut the nail from both sides

b) Soak the nails in water for few minutes and using nail cutter, cut from one side to other side of the nails.

c) By keeping the nail cutter straight to the surface and cut

d) Cut the nail from upper surface and parallel to finger

23) What are all the ill effects of not cutting the nails regularly?

a) In ward nail growth

b) Infection through dirt under the nails

c) Skin scratches because of self-injury

d) All of the above

24) How many times in a day a person is recommend to do wash hands?

a) 2 times

b) 3 times

c) Often required

d) Whenever necessary

25) What is the duration for hand washing?

a) 5-10 sec

b) 10 -15 sec

c) 15-20 sec

d) 20-30 sec

26) How to wash the hands after voiding?

a) With water only

b) With soap and warm water

c) Wash hands with antiseptic lotion

d) With soap only

27) What are all the ill effects of not taking regular hand wash?

a) GI Track infection

b) Skin infection

c) Respiratory tract infection

d) All of the above

28) What are all the advantages of washing clothes?

a) To clean clothes

b) To remove bacteria and death cells.

c) To prevent skin rashes

d) All of the above

29) How to wash the cloths?

a) With water

b) With soap and water

c) With detergent

d) Dry wash

30) How to dry the washed cloth?

a) Under Sunlight

b) Under Shadow

c) Inside the home

d) Using Dryer

31) When to use foot wears?

a) While going out and toilet

b) Inside the home

c) While playing

d) Every where

32) What are all the ill effects of not wearing the foot wears?

a) Accidental injury in the feet

b) Fungal infection

c) Dry foot / warm infestation

d) All of the above

33) How many hours a person should sleep minimum in a day?

a) 5 hours

b) 8 hours

c) 10 hours

d) 12 hours

34) What are all the advantages of the normal sleeping?

a) Feel fresh

b) Better concentration

c) Ability to take better decision/alert and active

d) All of the above

35) What are all the ill effects of not maintaining normal sleeping?

a) Confusion

b) Head ache

c) Fatigue

d) All of the above

36) When do you wash your hands?

a) After playing in the soil

b) After voiding

c) Before eating

d) All of the above

37) What is the importance to maintain ear hygiene?

a) To prevent ear wax accumulation

b) To prevent infection

c) To prevent discharge

d) All of the above

38) How can you clean your ear?

a) With soft cloth

b) Every day while taking bath cleans the external ear

c) With pin

d) With cotton swab

39) How can maintain ear hygiene?

a) Regular check up to the ENT doctor

b) Every day while taking bath cleans the external ear

c) Don't use the clothes and cotton buds

d) All of the above

40) What are all the ill effects of not maintaining ear hygiene?

a) Ear wax

b) Fever, sever ear pain

c) Discharge from the ear

d) All of the above

41) What will happen if you not drink clean water?

a) Diarrhea

b) Cholera, typhoid

c) Allergy if the water having the chemical product, skin rashes

d) All of the above

42) How much water a person should take per day?

a) 200 ml

b) 800 ml

c) 1000 ml

d) 2000 ml

43) Advantage of maintaining food hygiene?

a) To prevent infection

b) To prevent diarrhea

c) To prevent food poisoning

d) All of the above

44) What are all the benefits of taking balanced diet?

a) To improve nutritional level

b) Limits of additional calories

c) Allow to eat healthy

d) All of the above

45) What are all the ill effects of not maintaining food hygiene?

a) Food poisoning

b) Diarrhea

c) Abdomen pain

d) All of the above

Scoring

Each response carries one mark

Maximum score –45

Minimum score –0

Interpretation

Good	35-45
Average	25 to less than 35
Fair	15 to less than 25
Poor	less than 15