Dissertation Title

"Analysis of knowledge and altitude on personal hygiene among adolescents"

A dissertation submitted in partial fulfillment of the requirements

For the award of

Post-Graduate Diploma in Health and Hospital Management

By

Dr. Isha Jain

International Institute of Health Management Research

New Delhi -110075

May 2013

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Certificate of Internship Completion

Date: 22-04-13

TO WHOM IT MAY CONCERN

This is to certify that Dr. Isha Jain has successfully completed her 3 months internship in our organization from January 22, 2013 to April 21, 2013. During this intern she has worked on **– a pilot study "An analysis of knowledge and practice on personal hygiene among adolescents"** under the guidance of me and my team at Striipes

We wish him/her good luck for his/her future assignments

(Signature)

Debopam Mukherjee

Project Director

Striipes

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Certificate of Approval

The following dissertation titled "**An analysis of knowledge and practice on personal hygiene among adolescents"** is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post- Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

Name Signature

Avanish Kr. Singh.

Dr. Anadi Ramchandra

Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Isha Jain**, a graduate student of the **Post-Graduate Diploma in Health and Hospital Management**, has worked under our guidance and supervision. She is submitting this dissertation titled "**An analysis of knowledge and practice on personal hygiene among adolescents**" in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management**.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Faculty Mentor	**Organization Mentor**
Prof. Anandhi Ramachandran	**Mr. Debopam Mukherjee**
Senior Professor and Course coordinator	**Project Director**
IIHMR, New Delhi	**Striipes**
Date: 2.5.2013	
Healthcare-IT	

FEEDBACK FORM

Name of the Student: Dr. Isha Jain

Dissertation Organisation: Striipes

Area of Dissertation: Research and designing proposal

Attendance: 100%

Objectives achieved: An analysis of knowledge and practice on personal hygiene among adolescents

Deliverables: Need Evaluation study, Proposal

Strengths: Hard working, flexible and has good knowledge about the subject.

Suggestions for Improvement: Need to be more assertive

D Mukherjee

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date: 25/April/13
Place: New Delhi

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Date:

INTRODUCTION

According to John Locke (1689) Knowledge is the perception of the agreement or disagreement of two ideas. Knowledge is information that changes something or somebody—either by becoming grounds for actions or by making an individual (or an institution) capable of different or more effective action." Knowledge is of different types: Explicit knowledge**,** tacit knowledge, socialization, internalization, externalization and combination. In this study two type of knowledge is used: first is explicit to tacit — embodying explicit knowledge into tacit knowledge. Closely related to "learning by doing." Normally, knowledge is verbalized into documents or oral stories. Second is explicit to explicit —A process of systemizing concepts into a knowledge system. Individuals exchange and combine knowledge through media, such as documents, meetings, and conversations. Information is reconfigured by such means as sorting, combining, and categorizing. Formal education and many training programs work this way. Knowledge and practice both are inter related to each other. Only information is not enough till it is not implemented into action. Learning by doing inhabits the action, ordinary course of conduct known as practice; hence, prominently the involuntary tendency or aptitude to perform certain actions which is acquired by their frequent repetition (practice) as habit. It depends on each individual person's perception what they understand and how they behave, because perception differs from person to person. Therefore everyone have their own different personal opinions about same thing. This study is about "*An analysis of knowledge and practice on personal hygiene among adolescents".*

The word hygiene derives from the name of the ancient Greek goddess of healthful living, Hygeia. Initially worshipped in her own right, by the fifth century BC in Athens Hygeia was instead depicted as a demi-god, the daughter of the god of

healing, Asclepius. While worship of Asclepius aimed at curing disease through divine intercession; worship of Hygeia emphasized obtaining health by living wisely in accordance with her laws. In contemporary Western society the concept of hygiene has become associated with standards of personal grooming which often have little effect on individual health. Beginning in the early nineteenth century, the repeated onslaught of diseases such as cholera began to alter people's understanding of personal hygiene. Since orthodox medicine seemed powerless in response to these pandemics, a variety of alternative medicines gained popularity. Many of these alternatives emphasized disease prevention through healthful living, which included diet and clothing reform, daily cold water bathing, exercise, regulation of bowel movements, and abstinence from coffee, tea, alcohol and sex. In their attack on heroic medicine, reformers emphasized personal and domestic responses to health crises.

Hygiene refers to the set of practices perceived by a community to be associated with the preservation of health and healthy living. While in modern medical sciences there is a set of standards of hygiene recommended for different situations, what is considered hygienic or cannot vary between different cultures, genders etc. Some regular hygienic practices may be considered good habits by a society while the neglect of hygiene can be considered disgusting, disrespectful or even threatening. Hygiene is an old concept related to medicine, as well as to personal and professional care practices related to most aspects of living. In medicine and in home (domestic) and everyday life settings, hygiene practices are employed as preventative measures to reduce the incidence and spreading of disease. The terms cleanliness and hygiene are often used interchangeably, which can cause confusion. In general, hygiene mostly means practices that prevent spread of disease-causing organisms. Since cleaning processes (e.g., hand washing) remove infectious microbes as well as dirt and soil, they are often the means to achieve hygiene. Other uses of the term appear in phrases including: body hygiene, personal hygiene, sleep hygiene, mental hygiene, dental hygiene, and occupational hygiene, used in connection with public health. Hygiene is also the name of a branch of

science that deals with the promotion and preservation of health, also called hygienic. Hygiene practices vary widely, and what is considered acceptable in one culture might not be acceptable in another.

A very well known lady Florence Nightingale, in her efforts to reform English hospital care, provided the most cogent arguments linking personal and public hygiene with good health and morals. Like many of her contemporaries, Nightingale believed that unhealthy living made individuals susceptible to contagion. She rejected germs as a specific causal agent; however, asserting that dirt, gases, and other environmental contagion produced illness. Nightingale's system for training nurses reflects this belief and Nightingale nurses cleaned the patient and created order in the hospital. Nightingale is, therefore, a transitional figure linking the idea that the individual has a moral responsibility to live healthfully with a desire to control external threats to individual health.

Personal hygiene is generally defined as cleanliness of the body and proper maintenance of personal appearance. This generally includes all body areas and clothing. Kids do not naturally understand the importance of personal hygiene and how to maintain it. They learn about it from their family and usually need assistance until they get older and are able to do it at their own. Personal hygiene is important in every stage of life, but good cleanliness habits start in childhood. Kids who learn what it is and how to follow proper hygiene practices will usually carry that into adulthood. Hygiene education starts with the family, and eventually adolescent’s can learn what to do and follow cleanliness rules on their own. They will be teased for having a dirty body, dirty clothing or greasy hair. This can harm their self esteem and make them even more negligent of themselves. There are several basic types of hygiene for kids. First is cleanliness of the body, which alleviates dirt and odor. A child should be taught to bath or shower every day and to wash her hands frequently. Dr. Lynn Smitherman, a pediatrics professor at Wayne State University, cites hand washing as one of the most important cleanliness habits children can learn. At the very least, a kid should learn to wash her hands before meals and after using the restroom. This cleanliness area also includes the hair, which must be

shampooed regularly. Second is oral hygiene, which means brushing the teeth regularly. It should be done at least twice a day, once in the morning and once at night. Ideally the child should learn to brush after every meal too, teaching your child to brush correctly is just as important as frequency. Personal hygiene expectations for children must be age appropriate. Adolescents can start to learn hygiene basics as toddlers. For example, they can learn to wash their hands and brush their teeth with parental modeling, although they will still require assistance with bathing, showering and dressing. Dr. Daniel Neuspiel of the Beth Israel Medical Center pediatrics department explains that parents can make bath time fun with toys and games in the early years. Kids can gradually do these activities independently as they reach school age, and this will lead to bathing, showering and dressing on their own.

Hygiene promotion is an approach that reduces the incidence and prevalence of water and excreta related diseases through the adoption of safe hygiene practices. It begins with and is built upon what local people know, do and want. It is a holistic approach that includes raising awareness on good hygiene behavior, including proper management of menstruation by adolescent girls, safe water and sanitation. Hygiene education or hygiene promotion encourages people to replace their unsafe hygiene practices with simple, safe alternatives. Most people are happy to use clean water for drinking, cooking and bathing purposes once it is readily available. But other hygiene practices are also crucial in preventing water and sanitation related diseases such as diarrhea, cholera, dysentery and typhoid. These practices include the safe disposal of children's feaces, safe drinking water storage, hand washing at critical times, and proper disposal of solid and liquid waste. In many parts of the developing world these activities are not traditionally associated with disease prevention and therefore require active promotion within water and sanitation projects. Hygiene promotion is a planned approach, which aims to reduce the incidence of poor hygiene practices and conditions that pose the greatest risk to the health of children, women and men. Levels of Hygiene Promotion:

- Personal hygiene (including menstrual hygiene & daily activities),
- Family hygiene (including food hygiene and waste management),

- Community hygiene (including school and public places).

Adolescence is a time to build on these basics: It is a time when your children adopt changes in their body means that his /her personal hygiene need to change too. Personal hygiene plays a crucial role especially in the development of the adolescents. Puberty is the time during which your child moves through a series of significant and natural, healthy changes. These physical, psychological and emotional changes signal your child is moving from childhood to adolescence. Puberty starts when changes in your child's brain cause sex hormones to start being released in the ovaries (girls) and testes (boys).

Adolescence comes from the Latin word adolescere**,** which means to "grow up" or to "grow to maturity", a transitional stage of physical and psychological development. Adolescents are a large and growing segment of the population. Adolescence is defined by the World Health Organization as the period of life between 10 to 19 years of age and "youth" as the 15-24 year age group. These two overlapping age groups are combined in the group "young people" covering the age range 10-24 years. While puberty refers to the physical and sexual maturation of boys and girls, the term adolescence refers to the behavioral characteristics of this period, which is influenced both by culture as well as physical changes. Adolescence is a period of growth beginning with puberty and ending at the beginning of adulthood; it is a transitional state between childhood and adulthood. The period has been likened to a bridge between childhood and adulthood over which individuals must pass before they can take their places as grown adults. There are an estimated 1.2 billion young people in between aged 10-19 years are found in the world, it's the largest generation of adolescents in history in which more than four –fifth live in developing countries. In India, the adolescents constitutes about one fifth of the population. Therefore it can be considered one huge segment of the total population. More importantly, adolescence is a transition period and crucial stages in their life. Since it's a crucial stage as the physical and physiological changes take place in their body, it's important for them to practice the healthy habits in order to prevent themselves from various diseases. It is said that prevention is better than cure. Thus they require proper timely attention at this stage of life.

In Indian Context adolescence means contemporary India while adolescence is a comparatively new term, the word youth is better known and has been used at the levels of policy formulation and programming (Singh 1997) even the ancient text of Dharamashastra recognized the crucial nature of adolescence and prescribed specific codes of conduct for the phase. These codes are deeply rooted in the Indian psyche and continue to influence cultural practices towards adolescents in a powerful manner (Verma and Saraswathi 2002). To contextualize the cultural milieu, in which adolescents grow in India, the relevant traditional cultural values and themes that shape and affect the environment of adolescents during growing years need to be described. The family universally is acknowledged as an institution of socialization*;* however, it plays a major role in the life of an Indian. Despite the fast pace of social change, it continues to have a direct bearing on adolescents' development, since most young people stay in family until adulthood or even later in the case of joint family set-up. Most Indian families observe sacred ritualistic ceremonies at various stages of life cycle (Kakar 1979, Saraswathi & Pai 1997). These are markers of progressive attainment of competencies both in social and behavioral aspects of life. The onset of puberty is acknowledged by the family and new code of conduct is prescribed both for boys and girls. Three stages of contemporary Adolescent Psychology

1. Pre-Puberty/ Early adolescence (10-12 years)
2. Puberty / Mid adolescence (13-15years)
3. Post-puberty/ Late adolescence (16-19 years)

Pre-Puberty/early adolescence (10-12 years): This is a period of about two years before the onset of puberty. The exact age, however, depends on factors such as heredity, nutrition and the sex of the child. These processes normally start between 8-10 years of age. However, in the developing countries where more than one-third of the total children are malnourished or undernourished, the onset of these processes may get delayed beyond the normal limit. Moreover, within the Third World societies, there is a marked variation in terms of socio-economic characteristics between the rural and urban areas. Recent research suggests that exposure to nudity and obscenity mainly through the mass media in the urban areas

stimulates the thought process and the pituitary glands, thereby causing an early onset of adrenarche and gonadarche.

Puberty /mid adolescence (13-15years): It is the period in which biological changes reach their climax. In more developed societies, this phase begins by the tenth year of life in the majority of females. In the tropical countries, the beginning of this phase (10-12 years) has dropped surprisingly by 2-3 years over a period over the last five decades. Available research shows that a hormonal (endocrinological) factor rather than nutritional correlates is responsible for this change. Several physiological changes take place during this period, the most prominent in girls being the onset of menstruation (menarche) and nocturnal emissions or wet dreams (spermarche) in boys. In girls, the bodily change continues to include the enlargement of breast, widening of hips and the appearance of pubic and underarm hair. In the case of boys, the shoulders broaden, the length of bones in arms and legs increase, and there is an increase in the amount of body and facial hair.

Post-puberty/late adolescence (16-19 years): In this phase, the changes that were initiated during puberty continue to grow while there is a significant decrease in the rate of growth per year. The rate of growth ultimately stops after reaching the optimum. The body acquires the size and shape of an adult. The menstrual cycle of girls become well established during this period. This period also marks the transition from the dependence of childhood to the relative autonomy of the adulthood.

Varied Images of Indian Adolescents: Adolescents –include both boys and girls but in Indian context these two have very different experiences during growing years including adolescence, the cultural differences are vast with regard to their conducts which are based on traditional adult roles stereotypes. The variations arise from factors such as urban, rural and tribal residence, ethnicity and socio economic levels of the family. Lifestyle of urban adolescents from upper class is quite different from that of middleclass and lower-class adolescents. Personal hygiene involves more than just being clean. It includes many practices that help people to stay healthy. Many of the health problems that adolescents face are linked to their activities and

habits. Adolescents are active during play, exploring the world, carrying out science experiments etc at home and in school. These activities bring them in contact with dirt, germs and chemicals. They need to be aware of the harm that these can cause and how simple measures like washing hands repeatedly can help to prevent , (sometimes fatal), diseases like typhoid, cholera, worm infestation etc from spreading. The risk of diarrheal infection that causes one child, death every 30 seconds globally can be reduced by 47% by the simple process of washing hands with soap. Developing good habits related to sleep cycle, nutrition and cleanliness which are also likely to positively impact their academic performance. Adolescents also need to know how to take care of their evolving and changing bodies. Bathing daily, use of a proper soap, maintaining dental and oral hygiene, care of the eyes and ears, and grooming are some of the activities that adolescents need to carry out**.** Both girls and boys need to be aware and practice hygienic measures to promote personal hygiene too. Many adolescents have myths and misconceptions regarding personal hygiene. These may contribute to their ill health in many ways. Evidence suggests that adolescents, if they maintain proper hygiene, are less predisposed to skin infections, and other communicable diseases. Thus the habits picked up in childhood and adolescence has a long term impact on their health as adults too. Thus adolescents, many of them from vulnerable backgrounds, need appropriate information and skills now to remain disease free and maintain personal hygiene. This will not only preserve their present health but also will protect them in future and is likely to reduce deaths. When adolescents follow the rules of good personal hygiene and living habits, they not only help themselves, but also others by not spreading germs to others students.

Thus the cycle of transmission of diseases causing organisms can be broken by utilizing such simple measures. Students set a good example when they get a good night's sleep, have a proper breakfast, take good care of their teeth, exercise, bathe and eat healthy foods regularly. As the word “habit” is defined as “regularly repeated behavior pattern”. By learning the habits of good personal hygiene, students will be able to benefit in ways suggested above. In fact, good habits learnt in adolescence are the foundation for a healthy adult life. The classroom is the right

place where good hygienic practices are reinforced for promoting the health of adolescents. This study attempts to reinforce the simple yet important habits of personal hygiene that reduce skin infections and infestations, diarrheal diseases, and other infections.

Although all teenagers have the same basic hygiene issues, girls will need help to manage their periods. For example, you might need to talk with your daughter about how often to change her pad or tampon, and how to dispose of it hygienically is also important.

Boys: Will need advice about shaving (how to do it and when to start), looking after their genitals, and about bodily fluids. For example, you might talk to your son about wet dreams and how to clean up hygienically afterwards. Special needs; Young people with special needs are likely to need extra support with their personal hygiene. When you're thinking about how to discuss hygiene with your child with special needs, his learning ability and style might be a factor. For example, does he prefer to learn by listening, seeing or doing? You could consider breaking hygiene tasks (such as showering, shaving, using deodorant and cleaning teeth) into small steps. This way it might be easier for your child to learn. If your child is in the habit of doing things at the same time each day, hygiene can be a normal and predictable part of a routine. A written schedule might also help your child remember what to do and when to do. If you're finding it difficult to talk with your child about puberty and periods, you could make an appointment with your family doctor**.** Teenagers do need extra time in the bathroom! While teenagers are learning to shave or handling their periods, these hygiene activities might take a bit longer time. You can help by being patient and giving your child a bit more privacy. The intestinal parasites are among the most common infections of school age children in developing countries. As a result of this morbidity, they are at risk of detrimental effects like poor cognitive performance and physical growth.

If we evaluate our neighboring country Bangladesh, the high incidence of diarrheal and other diseases related to faecal contamination**,** causes an estimated 110,000 children (under 5) deaths each year (11% of total children's deaths). Over 65 million episodes of diarrheal diseases occur annually among children under five

years of age. An average child in Bangladesh suffers 3-4 episodes of diarrheal diseases every year. Much of this is thought to be preventable with improvements in sanitation, water quality and hygiene practices (Bangladesh Bureau of Statistics, 2007).A large number of people in Bangladesh lack access to potable drinking water. Among them, urban slum dwellers face the greatest challenges. Their water quality is affected by unsafe water supply, unhygienic sanitation facilities, poor solid waste management, unhygienic practices particularly with regard to hand washing etc. due to poor socio-economic backing, and crowded living conditions (Sobsey M.D, 2003).The people from these high-risk areas often suffer from diarrhea and other water borne diseases. Due to lack of education, knowledge and basic awareness, people often have a poor understanding of the relationship between health, water, sanitation and hygiene. In some instances, people may still practice unhygienic habits even though this understanding does exist. A World Bank report cited Bangladesh's urban population as having grown almost nine-fold from 2.6million in 1961 to approximately 22 million in 1991 with an annual urbanization rate of 7.5 %(World Bank, 2000). Over 37% of the city population lives in slums that occupy only 4% of city land. Slums are the most densely populated areas with over 200 times the normal density of Bangladesh at 531,000 persons per square mile. Overcrowding creates huge increases in communicable diseases like Diarrhea (Centre for Urban Studies, 2006). They found that hand washing resulted in a median 35% reduction in diarrhea incidence. Feachem mentioned that his study findings suggest that improved water quality, increased water availability and quantity associated with better hygiene practices, and improved sanitation facilities may reduce the ingestion of pathogens that cause diarrhea (Feachem, RG**,** 2003).Improved personal hygiene, especially hand washing at critical times, is one of the key determinants of success in reducing the prevalence of diarrhea diseases. Recent research also indicates a link between respiratory infections and hand washing practices.

Although studies have been conducted on prevalence of intestinal parasites among school children in India, there are still several localities for which epidemiological information is not available. De-worming school children by anti-helminthic drug treatment is a short term curative approach. However, effective

hygiene education along with de-worming needs to be ensured to prevent re-infection. In year 2004, the government of India has started a Total Sanitation Campaign (TSC) to ensure School Sanitation and Hygiene Education (SSHE) which emphasizes skill based child to child hygiene education for behavior change among school going children. In rural settings of developing countries, it is crucial to ensure drug treatment and focused need based hygiene education by skilled health care providers. Hence, the present participatory action research was undertaken to find out the prevalence of intestinal parasites and its epidemiological correlates among rural Indian school going (6-14 years) children and to study the effect of need based child to child hygiene education on personal hygiene of school children.

Honorable chief minister Nitish Kumar gave voice to his vision of Nirmal Bihar. When he flagged off mass awareness sanitation campaign in Bihar on January 10th in Patna. This was the first time that an effort of this magnitude was made in the field of sanitation to deliver services at the doorstep of villagers. Six lakhs families registered their demand for toilets during the campaign. During 2005-2006, 320008 families; including 43769 APL families got toilets constructed. The total toilet coverage in Bihar in 2001 was 14 percent which increased to 23 percent in 2006. In Bihar, approximately 80 percent population (12 million families)

Percent Anganwadi Toilet Unit Force lift hand pump and Overhead water storage tank installed in school. Sixty percent of the 53,275 schools have toilet facilities now in Bihar. The awareness campaign was carried out in all blocks of 38 districts of Bihar for five days .The campaign informed people about the benefits of sanitation and the range of toilet options available. During the campaign, field personnel visited villages and told people about the importance of sanitation and how it can be achieved. Mobile vans with crowns and posters carrying important messages on sanitation and playing informative songs did the rounds of villages. Health workers reached out to villages with the twin objectives of raising awareness as well as recording demand of toilets. The campaign became such a hit that villagers mobbed the sanitation vehicles wherever they went. In some villages, there was cent percent demand for toilets. Due to the traditional Purdhah custom and their own

shame poor women were hesitant in venturing out in search of a place to relieve them during daytime. During dusk most women especially young girls, pregnant women become vulnerable to sexual harassment. Due to TSC women and other are able to use safe sanitation facilitated in the vicinity of their own homes. A lot of time which could have been utilized for a productive work was wasted going out to the fields and coming back previously.

OBJECTIVES:

1. To ascertain the level of knowledge of respondents about personal hygiene.
2. To identify the practices of personal hygiene among adolescents.
3. To identify the gap between knowledge & practices of personal hygiene.
4. To suggest a suitable educational strategies for minimizing the gap existing between knowledge and practice of personal hygiene.

PROJECT RATIONALE:

Adolescents are our future generation. Their present lifestyle will continue throughout their life. The Pattern of personal hygiene learnt during this period may retain with them forever; it changes a bit but not completely. Personal hygiene matters a lot in healthy living. Therefore it should be taught from childhood. Adolescent is a period in which many psychological & emotional changes occur. In this period child is very curious to know about all things, this curiosity sometimes take them towards wrong direction which affect their health in future. Therefore, “target oriented hygiene guidance” should be given to them at the right time when required.

Today the busy competitive scenario has brought carelessness among adolescents in their day to day activities which directly or indirectly affect their health. Therefore they must understand that hygiene is an important factor of life. This study enables both rural and urban adolescents to know and learn the importance of healthy life**.**

Therefore, this research enables to know how rural & urban children differ from each other, though being of the same age groups. The adults and parents also must understand the value of hygiene as upbringing of any child matters in grooming their personalities. The Personal hygiene will also help adolescent to teach others to live a healthy life. As if the present generation is educated then the future generation will also be naturally habituated in adopting and practicing the methods of personal hygiene.

The personal hygiene in fact is the matter of day to day personal life; the adolescents can be trained through families, schools and community health, where they are brought up and by different organizations. Therefore this study brought out some concrete suggestions for the rural and unbans adolescents for their day to day personal hygiene activities. More over a comparative study of rural and urban adolescents will also help to understand the factors and lacunas of personal hygiene.

The prevalence of UTI in girls presenting with diarrhea was 14.2 per cent in contrast to only 1.9 per cent in boys .The frequency of UTI in children with recurrent diarrhea (3 or more prior episodes of diarrhea in the preceding 6 months) was 26.3 per cent as compared to 2.4 per cent in those with frequent episodes. The prevalence of UTI amongst those with severe malnutrition (weight less than 60 per cent of NCHS standard for age and sex) was 17.2 per cent as compared to 4.2 per cent amongst those with lesser degree or no malnutrition.

Intestinal parasitism is a priority health problem. Since worm infestation is seldom the direct cause of death, they tend to be regarded as relatively unimportant. Worm infestation is probably more significant than specific vitamin and mineral deficiencies in developing countries. In India, the problem is likely to be more common because of bad hygiene, poor awareness, illiteracy, misbeliefs, poverty and variety of allied factors. Studies carried out in various parts of India have reported a prevalence of intestinal parasitism up to 30-50 per cent and anemia from 40-73 per cent among school going girls (2-4). Grading of anemia was done according to WHO guidelines. Prevalence of anemia and mean hemoglobin values. The percent prevalence of worm infestation was 71.73 per cent.

REVIEW OF LITERATURE

The review of literature aims to formulation methodology for research. Review of literature was undertaken keeping in view the variables of study it was rather difficult to find an adequate research study on the topic therefore studies related to various aspects of the problems where reviewed and presented comprehensively as under.

Phiri. ***(1998 & 2000)*** survey resulted that a total number of 273 children were recruited in Ndirande while 280 were recruited in Namitambo after obtaining the guardian's verbal consent. Sex ratio of male to female was 1:1 in Ndirande and 1:09 in Namitambo.The mean age in Ndirande was 7.2 year's SD 3.2 (median=7.00) and in Namitambo 7.7 year's SD 3.4 (median=7.00).There were similar proportion of children attending school in the urban community (60.2%) as was in the rural community (59.9%).

Thakar ***et al.(2000)***found in their study that out of the 100 children with diarrhea, 51 were boys and 49 girls. Eight (8%) in the study group had pathogenic organisms grown in suprapubic urine culture. Seven out of the 8 cases were girls and six of them were between 6-12 months of age. All of them grew Gram negative organisms in urine culture (E. coli - 5, Klebsiella - 2). The only male child with UTI was a neonate who isolated Candida repeatedly in his urine culture. The prevalence of UTI in girls presenting with diarrhea was 14.2 per cent in contrast to only 1.9% in boys. Bacteriuria was seen in 25 per cent children presenting with invasive diarrhea versus 3.7% amongst those with non invasive diarrhoea. Five out of the 8 children with UTI had >10 pus cells/HPF in their stool samples and 2 out of these also had RBCs in their stools. Seven out of the 8 cases were febrile (axillary temperature more than 100°F). UTI was appreciably higher (22.2%) in the cases that were severely dehydrated as compared to those without dehydration (3.7%). The prevalence of UTI amongst those with severe malnutrition (weight less than 60 per cent of NCHS standard for age and sex) was 17.2 per cent as compared to 4.2 per cent amongst those with lesser degree or no malnutrition. All seven girls with UTI had more than 10 pus cells

per cumm of uncentrifuged urine. Thus female sex, recurrent diarrhea, fever, severe dehydration, severe malnutrition and invasive stools emerged as significant risk factors.

Oliveira *et al.(2001)* reported in their study that 53 per cent of the patients and C. albicans in 36 per cent. Urine cultures yielded more than 20.0000 yeast colonies/ml in 76 per cent of cases. Neurological, cardiac and other chronic diseases, cancer, and trauma were frequent underlying illnesses. Diabetes mellitus was present in 25 per cent of patients. The major predisposing factors associated with candiduria were previous antibiotic therapy (93%) indwelling urinary catheter (83%), surgery in the last 60 days (48%), renal failure (32%), concomitant bacterial infections (28%), use of corticosteroids (20%), and use of other immunosuppressive drugs (10%). Therapy for candiduria, fluconazole or amphotericin B with one exception, was given only to 43/100 patients. The overall mortality in the 60 days after the candiduria episode was 40 per cent.

Bansal D *et al.(2004)* reported in their study that the overall prevalence rate was 19.3 per cent. Ascaris lumbricoides and Giardia lamblia were the commonest, affecting 51 (9.3%) and 33 (6.00%), respectively. In 17 (22.7%) families the same parasite was observed to infect multiple family members, which included A. lumbricoides (in 9 families), G. lamblia (in 7 families) and H. nana (in 1 family). The results of present study indicate that there is a high prevalence of parasitic infection in the community where personal hygiene and sanitary conditions are poor and may be one of the contributing factors for transmission within the families. Intervention strategies including health education program should be designed and implemented to control parasitic infections.

Dongre *et al.(2007)* found in their study that the prevalence of intestinal parasites and its epidemiological correlates among rural Indian school going (6-14 years) children and to study the effect of focused, need based child to child hygiene education on personal hygiene of school children. Out of 172 children, data of 118 children with complete information was used for final analysis. Out of the 118 (50

male and 68 female) subjects examined 21 (17.8% -25.9%) had intestinal parasite infection. The prevalence of intestinal parasitic infection was significantly high among children having dirty untrimmed nails (47.4% – 64.1%) followed by those having poor hand washing practices (37.2% – 53.2%). One month after hygiene education, the proportion of children having practice of hand washing with soap after defecation significantly improved from 63.6 per cent to 78 per cent. The proportion of clean and cut nails also improved from 67.8 per cent to 80 per cent. An integrated approach of drug treatment and focused participatory hygiene education is required to control parasite load among rural Indian school going children.

Wani ***et al. (2007)*** reported in their survey stated that out of 514 students surveyed, 46.7 per cent had 1, or more, parasites. Prevalence of Ascaris lumbricoides was highest (28.4%), followed by Giardia lamblia (7.2%), Trichuris trichiura (4.9%), and Taenia saginata (3.7%). Conditions most frequently associated with infection included the water source, defecation site, personal hygiene, and the extent of maternal education. The study shows a relatively high prevalence of intestinal parasites and suggests an imperative for the implementation of control measures.

Bhativa V ***et al.(2007)*** observed in their study that the overall prevalence of PEM was observed as 62.62%, which was higher among boys (65.87%) as compared to girls (58.90%). The peak prevalence was found in the age group of 6–12 months. A significant association between acute ailments (diarrhoea, ARI, and fever with rash) and PEM was observed. Prevalence of worm infestation on the basis of history was recorded as 35.67 per cent. Over half (58.4%) of the children were anemic.

Kone ***et al.(2008)***stated that 11203 cases were reported with a case fatality rate (CFR) of 3.98 per cent. We interviewed 140 cases and 140 controls. Having a diarrhoea contact at home (12.002% - 26.44%), having attained less than secondary education (4.40%- 8.48%) ; washing hand before eating (4.24%- 11.70%) were independent risk factors while drinking tap water (0.005%- 0.11%), washing hands after using toilet (0.19%- 0.39%); eating hot food always (0.29% - 0.49%) were independently protective factors.

Chernenkov & Gumeniuk. ***(2009)*** resulted that the impact of using cellular phones and personal computers on the health status of 277 Saratov school children (mean age 13.2 +/- 2.3 years). About 80 per cent of the adolescents have been ascertained to use cellular phones and computers mainly for game purposes. The active users of cellular phones and computers show a high aggressiveness, anxiety, hostility, and social stress, low stress resistance, and susceptibility to arterial hypotension. The negative influence of cellular phones and computers on the schoolchildren's health increases with the increased duration and frequency of their use.

Usfar ***et al.(2010)*** stated that Mothers differentiated diarrhea episodes as either disease or non disease. Most mothers associated the importance of food hygiene with disease prevention, contaminating agents, and health. Mothers commonly wiped cutting boards with a kitchen towel after slicing vegetables, whereas they washed the board with soap and water after cutting raw meat. Mothers perceived that the importance of personal hygiene was for maintaining health and cleanliness. The majority of mothers washed their hands without soap after performing housework and cooking.

Singh ***et al.(2010)*** Prospective study resulted that 274 stool samples from rural school children and 240 samples were taken from urban school children respectively. 214 (46.7%) students had stool tests positive for parasitosis. Ascariasis was the most prevalent parasitosis (28%) followed by Giardiasis (7%), Trichuriasis (5%) and Taeniasis (4%). There was higher prevalence of parasitosis among rural orphanage children compared to urban orphanage students (76% - 48%). Highest prevalence of 70% was seen in the age group 8-11years. Students using river/stream water had higher rates of parasitosis compared to those who were using tap water. 202 students were found to have poor personal hygiene and parasitosis was higher in them compared to students with good personal hygiene.

Smith***.(2010)*** stated that the baseline arithmetic (geometric) mean 48-h child (n=270), mother (n=529) and kitchen (n=65) levels were, respectively, 3.4 (2.8), 3.4 (2.8) and 10.2 (8.4) p.p.m. The between-group analysis of the 3355 post-baseline

measurements found CO levels to be significantly lower among the intervention group during the trial period: kitchen levels: -90 per cent; mothers: -61 per cent; and children: -52 per cent in geometric means. No significant deterioration in stove effect was observed over the 18 months of surveillance. The reliability of these findings is strengthened by the large sample size made feasible by these unobtrusive and inexpensive tubes, measurement error reduction through instrument calibration, and a randomized, reported that longitudinal study design. These results from the first randomized trial of improved household energy technology in a developing country and demonstrate that a simple chimney stove can substantially reduce chronic exposures to harmful indoor air pollutants among women and infants.

Das *et al. (2010)* Study resulted that Out of 100 respondents, 91 were female and 9 were male. Approximately 62 per cent were housewives, 21 per cent were students, and the rest of the respondents came from different occupations.

Morowatisharifabad *et al. (2011)* reported in their study that out of 361 students, nearly 12.5 per cent were in the maintenance stage, while 49.6 per cent were in the pre-contemplation stage, with the rest distributed among the other stages of interdentally cleaning behavior change. There was a statistically significant difference in the stages of interdentally cleaning behavior change by gender. Self-efficacy and decisional balance differed significantly across the stages of interdentally cleaning behavior change.

Mahmud *et al.(2011)* reported in their study that about 7 per cent women aged 12 years and older suffered from head lice infestation. Multivariable logistic regression analysis identified factors independently associated with presence of head lice. Age less than 16 years and crowding at home were associated with higher infestation-rates. The impact of household socio-economic status on infestation rates among women was different in urban and rural settings; urban women with low socio-economic status were more vulnerable than similar women in rural settings. Bathing infrequently in summer was associated with higher prevalence rates only in Sindh,

possibly due to the fact that among the three provinces Sindh has a hotter and more humid summer.

Oyibo*.(2012)* resulted in the study that knowledge and practice scores related to basic personal hygiene recorded among the school children studied were 74.6 per cent and 54.9 per cent respectively. This high level of knowledge related to basic personal hygiene exhibited by the children was not totally reflective of their practices of basic personal hygiene; as 29.4, 37.00 and 46.3 per cent of them washed their hands after using the toilet, wash their uniform daily and wash their hands after playing respectively. The result of physical inspection of the children revealed that 17.9, 45.2 and 57.4 per cent of them had dirty hair, dirty uniform and dirty nails respectively.

Garg & Goyal. ***(2011)*** came to a conclusion that adolescents constitute one-fifths of India's population and yet their sexual health needs remain largely unaddressed in the national welfare programs. Poor menstrual hygiene in developing countries has been an insufficiently acknowledged problem. In June 2010, the Government of India proposed a new scheme towards menstrual hygiene by a provision of subsidized sanitary napkins to rural adolescent girls. But there are various other issues like awareness, availability and quality of napkins, regular supply, privacy, and water supply, disposal of napkins, reproductive health education and family support which needs simultaneous attention for promotion of menstrual hygiene. The current article looks at the issue of menstrual hygiene not only from the health point of view, but also considers social and human rights values attached to it.

Visser ***.(2011)*** found in the study that between intestinal parasitosis and residential building types, age bracket and the quality of the water used for personal hygiene and consumption in the home. Open air sewage was a risk factor associated with intestinal parasitosis (OR=6.72; p=0.0034) and also with intestinal protozoa (OR=21.87; p=0.0004). In terms of the presence of protozoa, two risk factors were verified: the dumping of sewage directly into the river system (OR=12.98; p=0.0011) and the use of rudimentary cesspits (OR=9.54; p=0.001)

Nkrumah & Nuagh. ***(2011)*** Stated in the study that the median age of the 1080 children included in the study was 5 years (IQR: 2-12 years) with 51.9 per cent being females. The overall incidence of all parasites was 114 per 1000 with Giardia lamblia being the most common (89.5%). Children aged less than a year had the lowest parasite incidence of 13 per 1000 with all being Giardia lamblia, while those aged 15-17 years had the highest of 169 per 1000. The incidence for Giardia lamblia only was lowest at 13 per 1000 for those under a year old, highest at 152 per 1000 for the 15-17 year group and 97 per 1000 for all ages combined. There was a significant rise in incidence of Giardia lamblia with age. Five (4.3%) of the 118 positive stool samples had mixed parasites infection. Enterobius vermicularis, Taenia spp and Trichuris trichiura were not seen in any of the stool samples.

Astrøm & Mbawalla. ***(2011)***study resulted that Principal component analysis of seven single health and oral health-related behaviors (tooth brushing, hand wash after latrine, hand wash before eating, using soap, intake of sugared mineral water, intake of fast foods and intake of sweets) suggested two factors labeled hygiene behavior and snacking. Confirmatory factor analyses, CFA, provided acceptable fit for the hypothesized two-factor model; CFI = 0.97. Multiple group CFA across gender showed no statistically significant difference in fit between unconstrained and constrained models (p = 0.203). Logistic regression revealed ORs for hygiene behaviors of 1.5, 0.5, 1.5, 1.5 and 0.6 if being a girl, current smoker, reporting good relationship with school, access to hygiene facilities and bad life satisfaction, respectively. ORs for snacking were 1.3, 1.4, 0.4 and 0.5 if female, in the least poor household quartile, low family socio-economic status and high perceived control, respectively.

Stock *et al.*(*2011)* reported in a case stated that a 12-year-old female referred to the pediatric surgery clinic for labial pain and swelling. She was found to have a hair tourniquet of the labia minora caused by pubic hair. The patient was taken to the operating room for examination under anesthesia and removal of the hair. Her post-operative course was unremarkable and she was discharged home the following day. On follow-up visit to the clinic her labial edema had completely resolved and she was

pain free. In adolescents where personal hygiene of the perineum is difficult, clinicians need to be aware of the possibility of a hair tourniquet forming from pubic hair.

RESEARCH METHODOLOGY

This chapter outlines the research methodology for the present study. The research methodology adopted to explore the information reflects the procedural steps followed in the light of objectives of the study. The various aspects of research methodology are discussed under the following headings.

Study design: It is a descriptive study.

Study area*:* Two co-ed schools of Nazafgarh was purposely selected, Mata Bhatee devi school (rural) & Ewing Christian Public Senior Secondary School (urban).

Study period: January 2013 – April 2013

Study population:

The students of the adolescent age groups were selected as respondent (10-19 years).Equal proportion of male and female students were included. From each school five classes were taken i.e.6,7,8,9 & 11.From each class 24 students of both genders are taken as respondent from rural and urban area.

Sampling Technique: Respondents were selected randomly.

Inclusion: 6th, 7th, 8th, 9^{th} and11^{th} standard.

Exclusion: 10th & 12^{th} standard are excluded because they are busy in their board examination

Sampling Technique: Respondents were selected randomly.

Data collection:

Data was collected by visiting each school using pre-tested structured interview schedule.

Data collection techniques:

- Questionnaires.
- Face to face interviews
- Observation method

Data collection tools:

Structured interview schedule was used.

Ethical considerations:

1. Written consent was taken from principal of school.
2. Verbal consent was also taken from the respondents before interview. The aim of the study was explained to all participants prior to requesting their consent to participate.

Limitation:

- ✓ Only 24 students from each class were taken.
- ✓ Respondents were selected randomly to complete 24 numbers.
- ✓ If number of girls were fewer boys were taken as respondent's to complete the number of 24.

RESULTS

This chapter includes the results collected during this study which emphasis the respondent's personal profile according to first objective which is mentioned in percentage and frequency of urban and rural area.

4.1 PERSONAL PROFILE OF THE RESPONDENTS

Table: 4.1.1 Age wise distribution of the respondents

Urban	Rural

Age	Frequency	Percentage	Frequency	Percentage
10-12	23	9.6	26	10.8
13-15	72	30.00	63	26.3
16-19	25	10.4	31	12.9
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.1.1 shows that maximum 30.00 per cent of the respondents belonged to age group between 13-15 years in urban area whereas it was observed that 26.3 per cent in Rural area.

Table: 4.1.2 Sex wise distribution of the respondents

Urban			**Rural**	
Sex	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Male	60	25.00	62	25.8
Female	60	25.00	58	24.2
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.1.2 shows that maximum 25.8 per cent of the respondents were male. Both sexes are of same ratio in urban as well as rural area. Both genders are equally given preference for education in rural as well as urban area.

Table: 4.1.3 Family type wise distribution of the respondents

Urban			**Rural**	
Family type	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Joint	33	13.8	69	28.8
Nuclear	87	36.2	51	21.2
Total	**120**	**50.00**	**120**	**50.00**

Table 4:1.3 shows that maximum 36.2 per cent belongs to Nuclear family in urban area whereas it was observed that maximum 28.8 per cent belonged to Joint families in rural area.

Table: 4.1.4 Family members wise distribution of the respondents

Urban			**Rural**	
No. of members	**Frequency**	**Percentage**	**Frequency**	**Percentage**
2	2	0.8	0	0.00
3	7	2.9	9	3.8
4	50	20.8	28	11.7
More than 5	61	25.5	83	34.6
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.1.4 shows that majority 25.5 per cent of the respondents had more than 5 members in their families in Urban area whereas it was observed that 34.6 per cent in Rural area.

4.2 Multiple response table of personal hygiene according to the respondent's

N=240

		Urban		**Rural**	
S.no	**Daily Activities**	**Yes**	**No**	**Yes**	**No**
1.	Brushing twice daily	72(30.00)	168(70.00)	35(14.6)	205(85.4)
2.	Bathing daily	119(49.6)	121(50.4)	89(37.1)	151(62.9)
3.	Hair cut	13(5.4)	227(94.6)	4(1.7)	236(98.3)
4.	Trimming of hand nails	17(7.1)	223(92.9)	13(5.4)	227(94.6)
5.	Trimming of feet nails	3(1.2)	237(98.8)	8(3.3)	232(96.7)
6.	Sweeping of house	102(42.5)	138(57.5)	43(17.9)	197(82.1)
7.	Washing of clothes	79(32.9)	161(67.1)	52(21.7)	188(78.3)
8.	Eating fresh food	18(7.5)	222(92.5)	36(15.00)	204(85.00)
9.	Covering of leftover food	6(2.5)	234(97.5)	10(4.2)	230(95.8)
10.	Maintaining genital hygiene	3(1.2)	237(98.8)	7(2.9)	233(97.1)

11.	Cleaning eye and ear	15(6.2)	225(98.8)	14(5.8)	226(94.2)
12.	Washing of hand before eating	100(41.7)	140(58.3)	75(31.2)	165(68.7)
13.	Washing of hand after defecation	116(48.3)	124(51.7)	79(32.9)	161(67.1)

(Figure shows the percentage in the parenthesis)

Table 4.2 Figures in parenthesis shows the per cent of personal hygiene according to the respondents include daily bathing 49.6 per cent in urban and 37.1 per cent as well as in rural, about 90 per cent of the respondents included trimming of hand nails in urban as well as rural, 48.3 per cent of the respondents practices washing hand after defecation in urban and 32.9 per cent in rural as well. This table shows practices was not up to the mark.

4.3 DAILY ACTIVITIES OF THE RESPONDENTS

Table: 4.3.1 Wake up time in morning

Urban			**Rural**	
Time	**Frequency**	**Percentage**	**Frequency**	**Percentage**
5 AM	1	0.4	31	12.9
6 AM	12	5.00	52	21.7
7 AM	27	11.3	28	11.7
After 7	80	33.3	9	3.8
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.3.1 shows that maximum 33.3 per cent of the respondents wake up after 7 Am in morning in urban area whereas it was observed that maximum 21.7 per cent of the respondents wake up at 6 Am in morning in rural area.

Table: 4.3.2 Material used for cleaning teeth

Urban			Rural	
Items	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Toothbrush	119	49.6	107	44.6
Finger	0	0.00	2	0.8
Datoon	1	0.4	11	4.6
Total	**120**	**50.00**	**120**	**50.00**

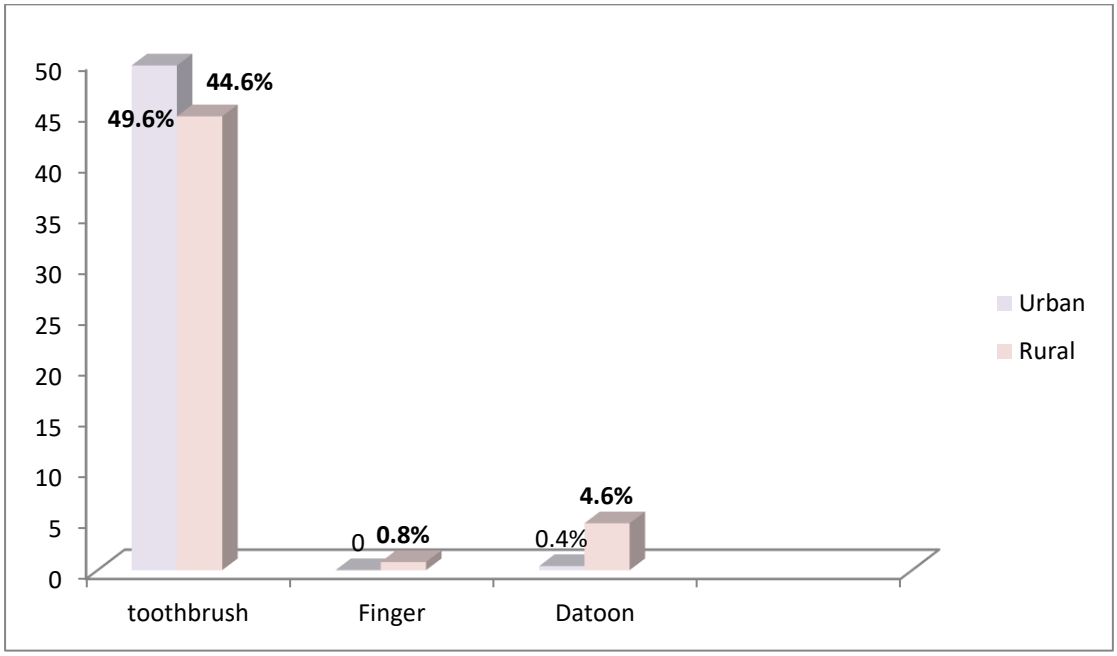


Fig.1: shows that maximum 49.6 per cent of the respondents were found to use toothbrush for brushing their teeth in urban area whereas it was observed that maximum 44.6 per cent in rural area.

Table: 4.3.3 Items used for brushing

Urban			Rural	
Items	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Toothpaste	118	49.2	79	32.9
Manjan	2	0.8	40	16.6
Salt	0	0.00	1	0.4

Total	**120**	**50.00**	**120**	**50.00**

Table: 4.3.3 shows that maximum 49.2 per cent of the respondents use toothpaste for brushing their teeth in urban area whereas it was observed that only 32.9 per cent in rural area.

Table: 4.3.4 Brushing frequency per day

Urban			**Rural**	
Brushing frequency	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Morning	90	37.5	106	44.1
Night	1	0.4	1	0.4
Morning & night	29	12.1	13	5.5
Total	**120**	**50.00**	**120**	**50.00**

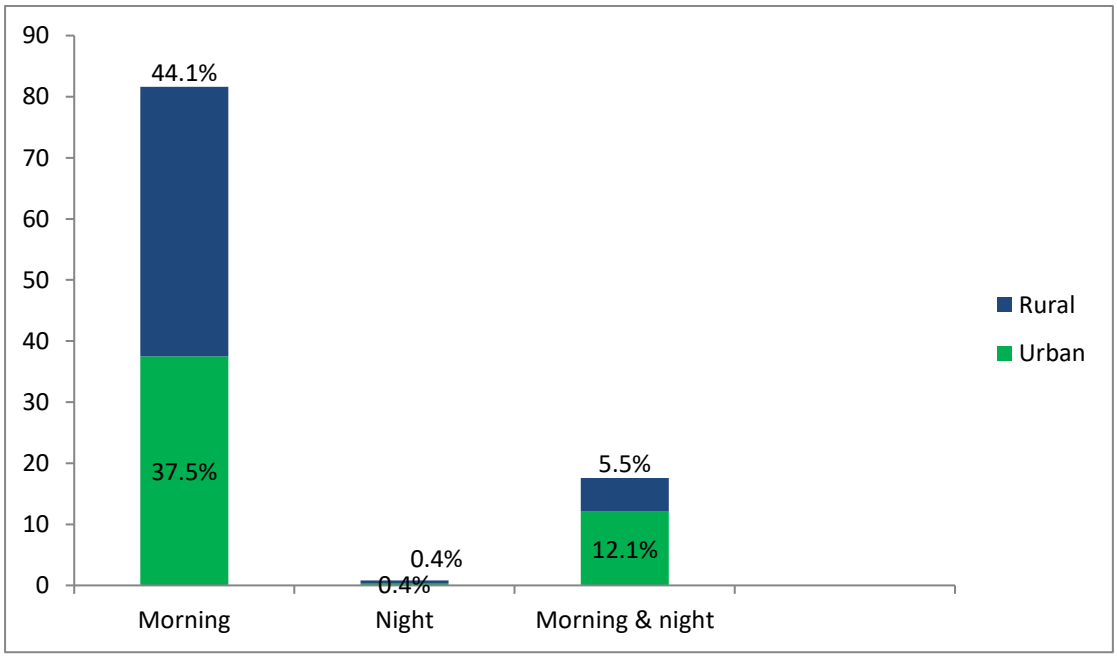


Fig:2 shows that maximum 44.1 per cent of the respondents brush their tooth only in morning in rural area as well as maximum 37.5 per cent in urban area.

Table: 4.3.5 cleaning of tongue

Urban			Rural	
Cleaning tongue	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	118	49.2	116	48.3
No	2	0.8	4	1.7
Total	**120**	**50.00**	**120**	**50.00**

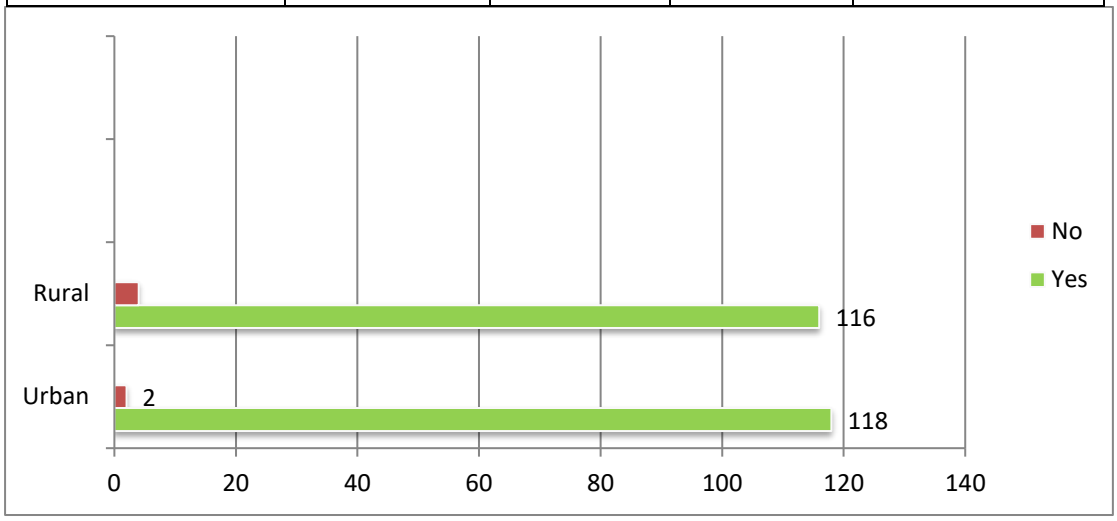


Fig 3: shows that maximum 49.2 per cent of the respondents clean their tongue in urban area where as it was observed that maximum 48.3 per cent in rural area.

Table: 4.3.6 Frequency of cleaning tongue

			Rural	
Cleaning tongue	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Daily	89	37.1	99	41.2
Alternate days	25	10.4	11	4.6
Once in a week	4	1.7	6	2.5
Never	2	0.8	4	1.7
Total	**120**	**50.00**	**120**	**50.00**

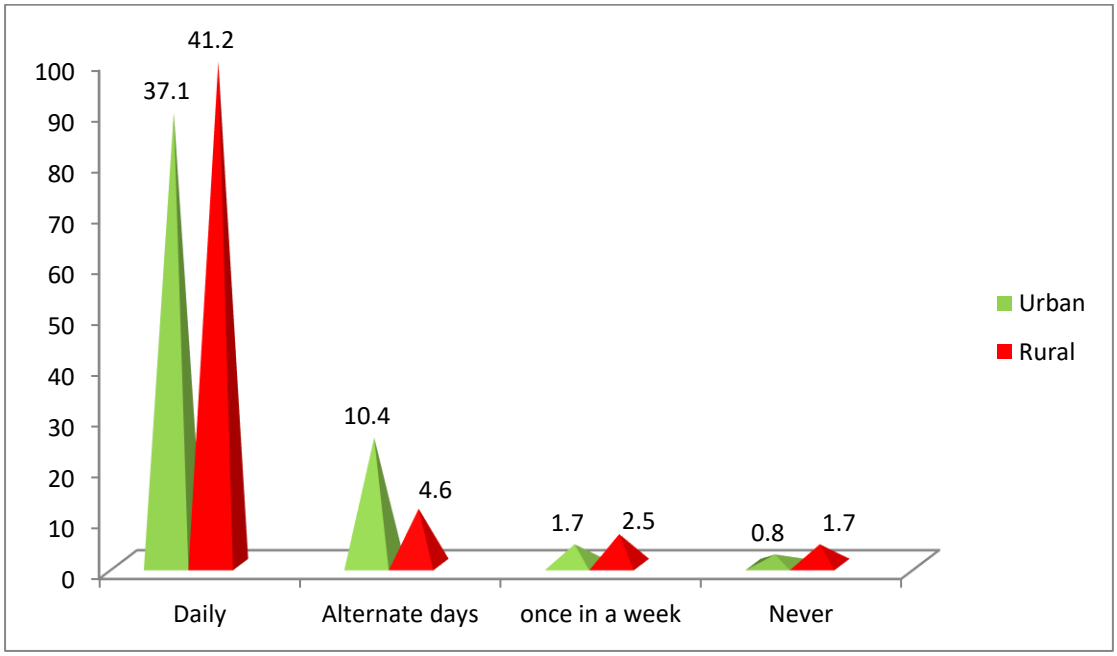


Fig 4: shows that maximum 37.1 per cent of the respondents clean their tongue daily in urban area where as it was observed that maximum 41.2 per cent in rural area.

Table: 4.3.7 washing hand after defecation

Urban			**Rural**	
Washing hand	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Soap/liquid hand wash	120	50.00	113	47.1
Ash	0	0.00	3	1.2
Mud	0	0.00	3	1.2
Only water	0	0.00	1	0.4
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.3.7 shows all 50.00 per cent of the respondents use soap/liquid hand wash to wash their hands after defecation in urban area as well as maximum 47.1 per cent in rural area.

Table: 4.3.8 Frequency of bathing

Urban			**Rural**	
Taking bath	**Frequency**	**Percentage**	**Frequency**	**Percentage**

Daily	114	47.5	106	44.2
Alternate days	4	1.7	12	5.00
After 2 days	1	0.4	1	0.4
Once in a week	1	0.4	1	0.4
Total	**120**	**50.00**	**120**	**50.00**

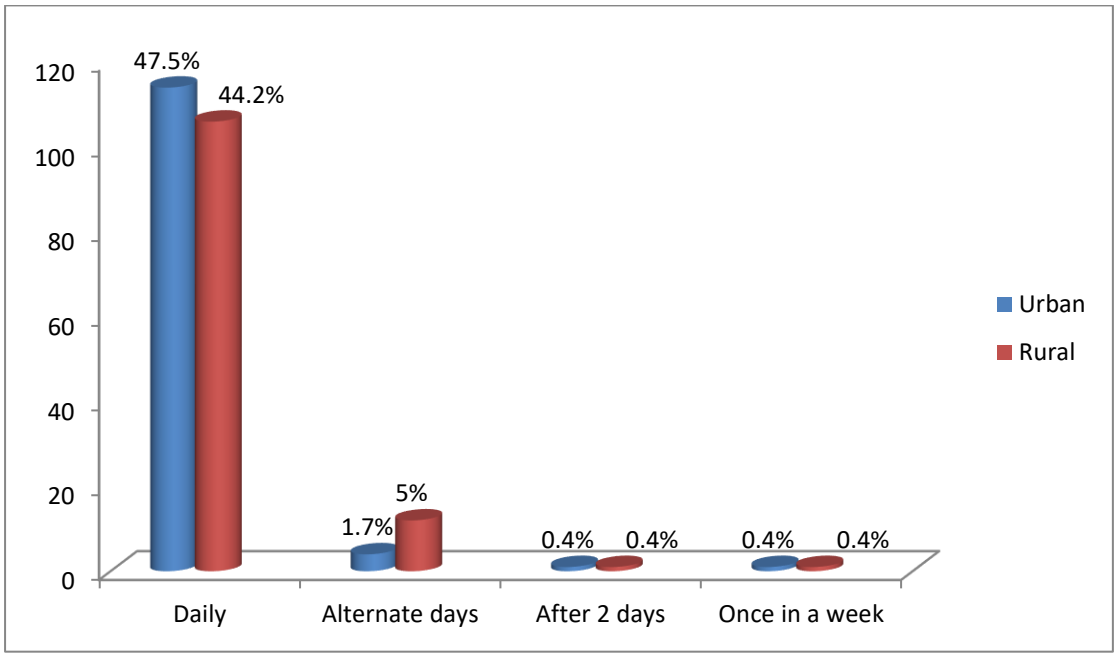


Fig: 5 shows that the maximum 47.5 per cent of the respondents found to take bath daily in urban area and maximum 44.2 per cent in rural area.

Table: 4.3.9 Trimming of hand nails

Urban			**Rural**	
Trimming nails	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Once in a week	111	46.2	96	40.00
Once in a month	8	3.3	11	4.6
Twice in a month	1	0.4	10	4.2
Nail biting habit	0	0.00	3	1.2
Total	**120**	**50.00**	**120**	**50.00**

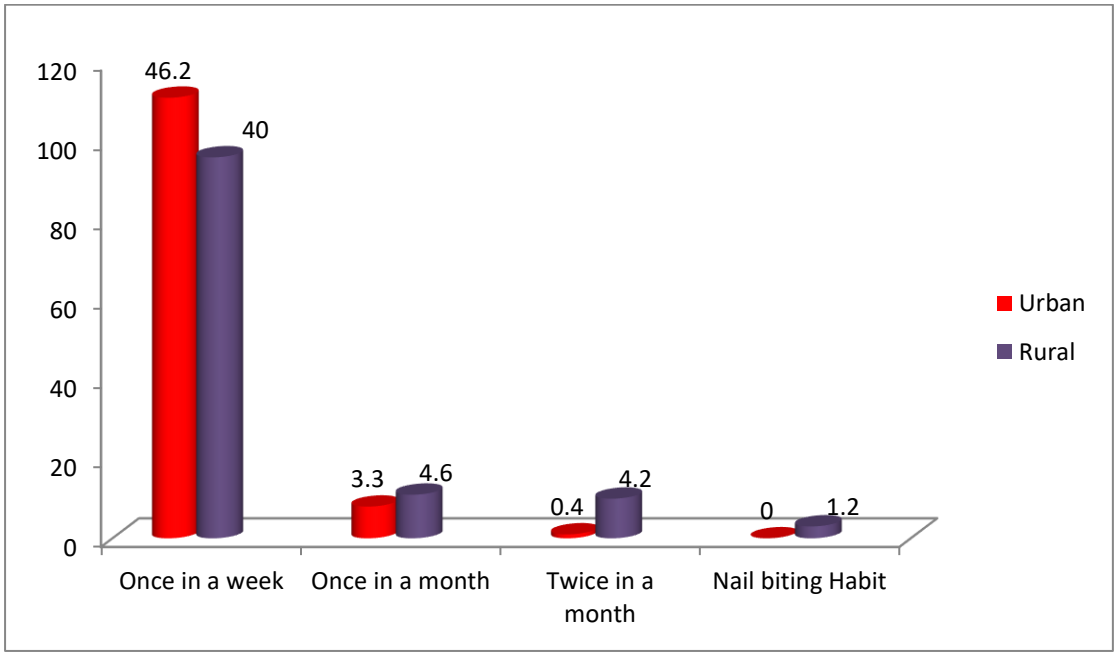


Fig: 6 shows that maximum 46.2 per cent of the respondents trim their hand nails in a week in urban area whereas it was observed that maximum 40.00 per cent in rural area.

Table: 4.3.10 trimming of feet nails

Urban			**Rural**	
Trimming nails	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Once in a week	21	8.8	10	4.2
Once in a month	73	30.4	86	35.8
Twice in a month	25	10.4	17	7.1
Break with hands	1	0.4	7	2.9
Total	**120**	**50.00**	**120**	**50.00**

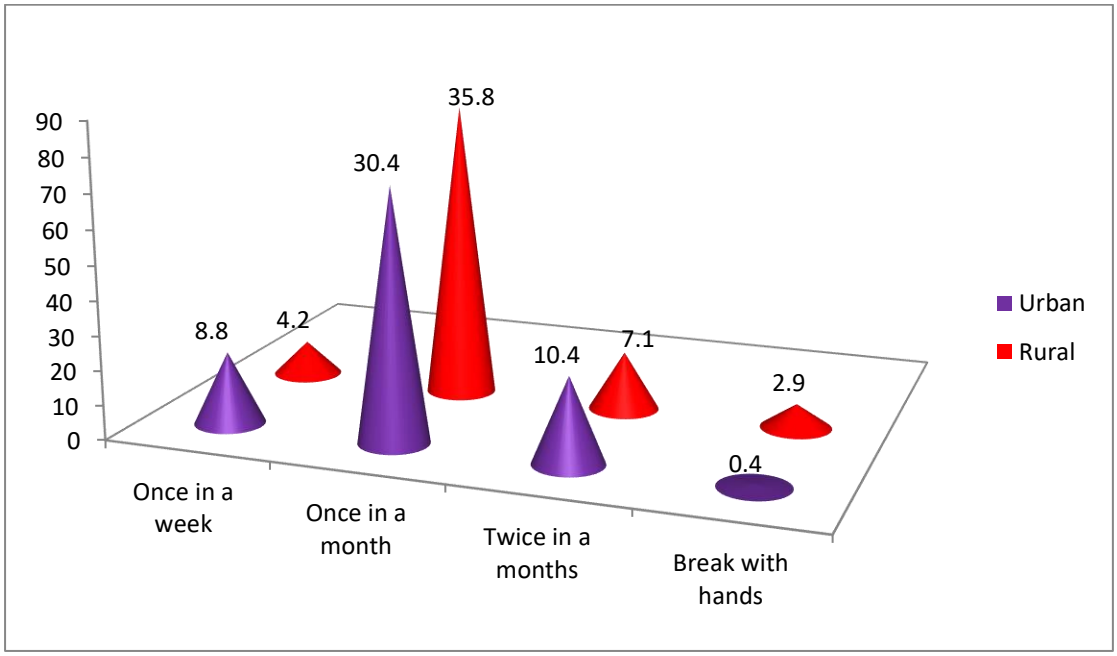


Fig 7: shows that maximum 30.4 per cent of the respondents trim their feet nails in a month in urban area whereas it was observed that maximum 35.8 per cent in rural area.

Table: 4.3.11 Knowledge about hand washing technique

Urban			**Rural**	
Washing technique	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	106	44.2	94	39.2
No	14	5.8	26	10.8
Total	**120**	**50.00**	**120**	**50.00**

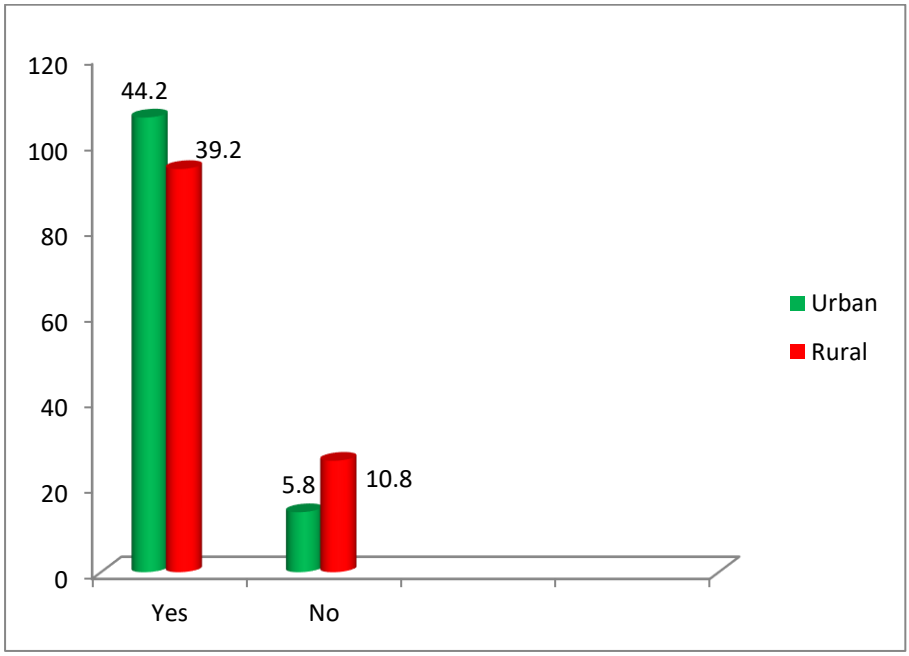
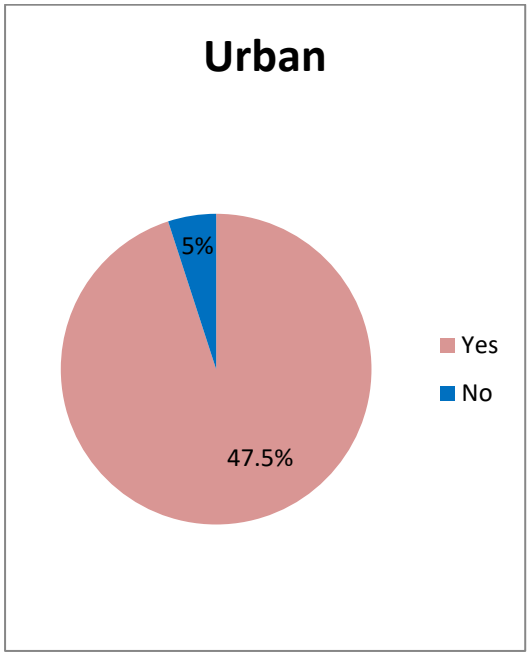


Fig 8: shows that maximum 44.2 per cent of the respondents know about washing technique of hand in urban area whereas it was observed that maximum 39.2 per cent in rural area.

Table: 4.3.12 washing hand before eating

Urban			**Rural**	
Washing hand	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	114	47.5	112	46.7
No	6	2.5	8	3.3



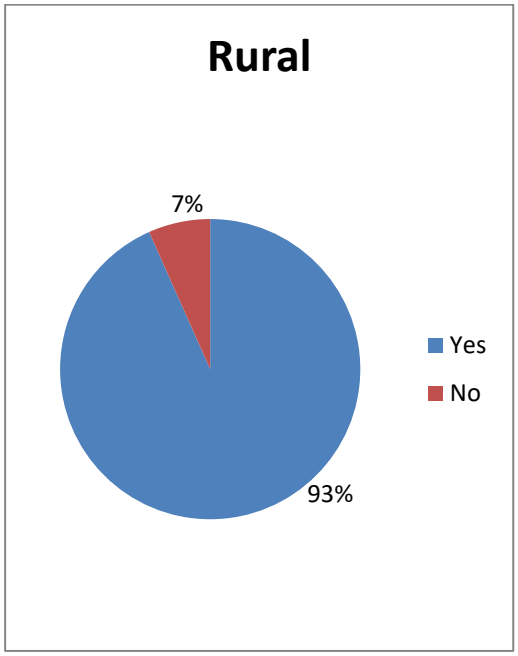


Fig: 9 shows that maximum 47.5 per cent of the respondents wash their hands before eating in urban area whereas maximum 46.7 per cent in rural area.

Table: 4.3.13 Carrying drinking water from home

Urban			**Rural**	
Carry water	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Sometimes	11	4.6	30	12.5
If required	19	7.9	26	10.8
Always	89	37.1	35	14.6
Never	1	0.4	29	12.1
Total	**120**	**50.00**	**120**	**50.00**

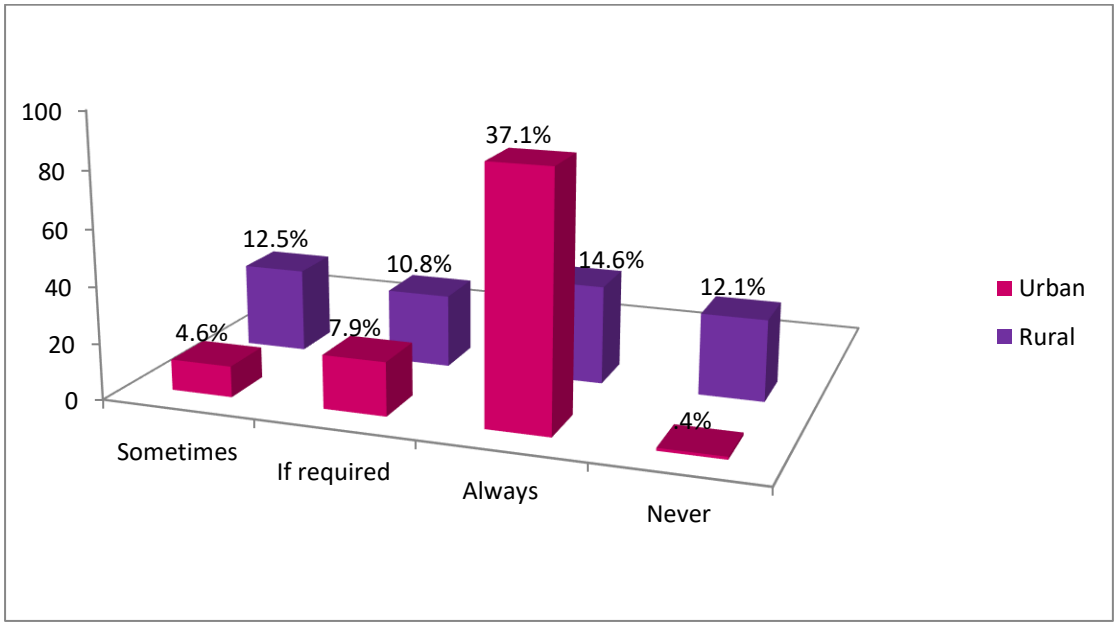


Fig: 10 shows that maximum 37.1 per cent of the respondents always carry water from their homes in urban area and maximum 14.6 per cent in rural area.

Table: 4.3.14 Source of drinking water

Urban			**Rural**	
Drinking water	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Municipal supply	8	3.3	71	29.6
Hand pump	2	0.8	31	12.9
Tube Well/boring	26	10.8	17	7.1
Aquaguard/Aaro	84	35.00	1	0.4
Total	**120**	**50.00**	**120**	**50.00**

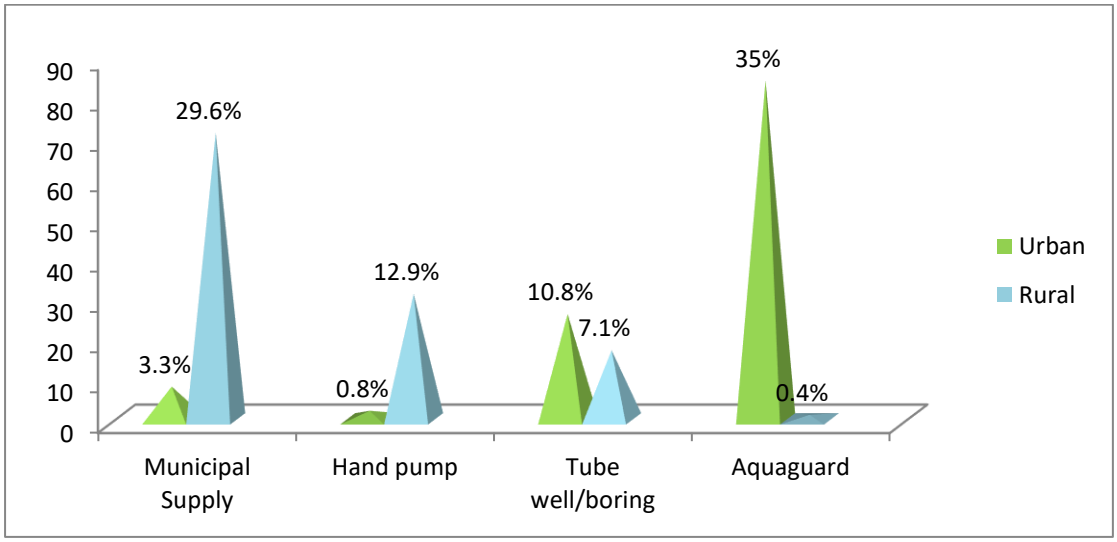


Fig: 11 shows that maximum 35.00 per cent of the respondents consume drinking water from aqua guard in urban area whereas it was observed that maximum 29.6per cent of the respondents consume drinking water from municipal supply in rural area.

Table: 4.3.16 Preference of respondents eating roadside

Urban			**Rural**	
Eating roadside	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	69	28.8	87	36.2
No	51	21.2	33	13.8
Total	**120**	**50.00**	**120**	**50.00**

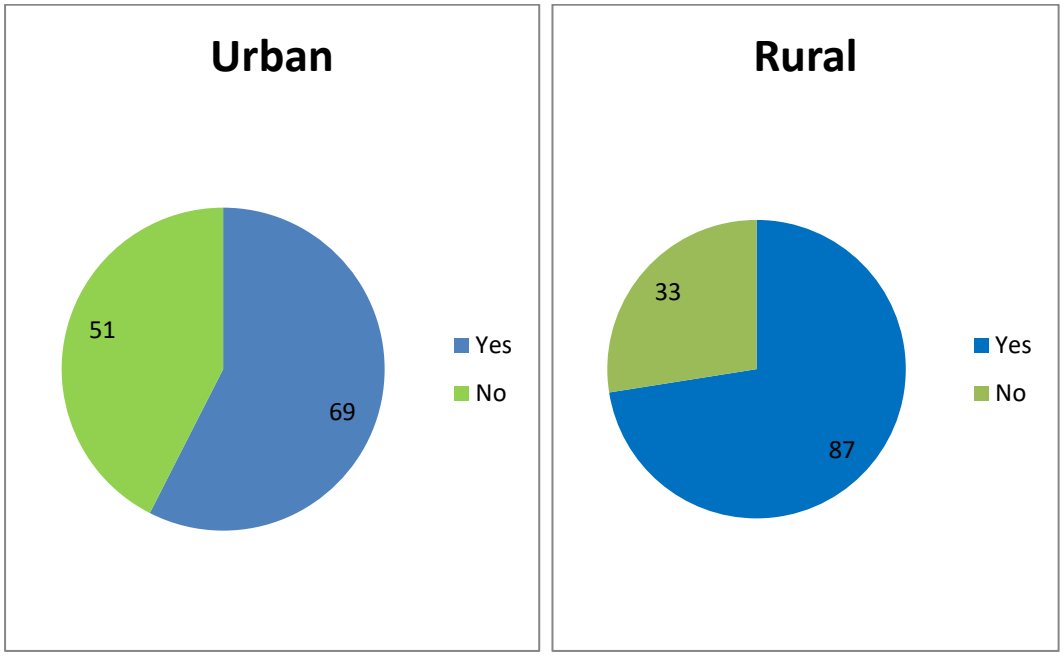


Fig: 12 shows that maximum 28.8 per cent of the respondents prefer eating roadside in urban area whereas it was observed that maximum 36.2 per cent in rural area.

Table: 4.3.17 Frequency of eating fast food

Urban			**Rural**	
Frequency of eating	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Very much	31	12.9	28	11.7
While partying	36	15.00	23	9.6
Daily	25	10.4	49	20.4
Never	28	11.7	20	8.3
Total	**120**	**50.00**	**120**	**50.00**

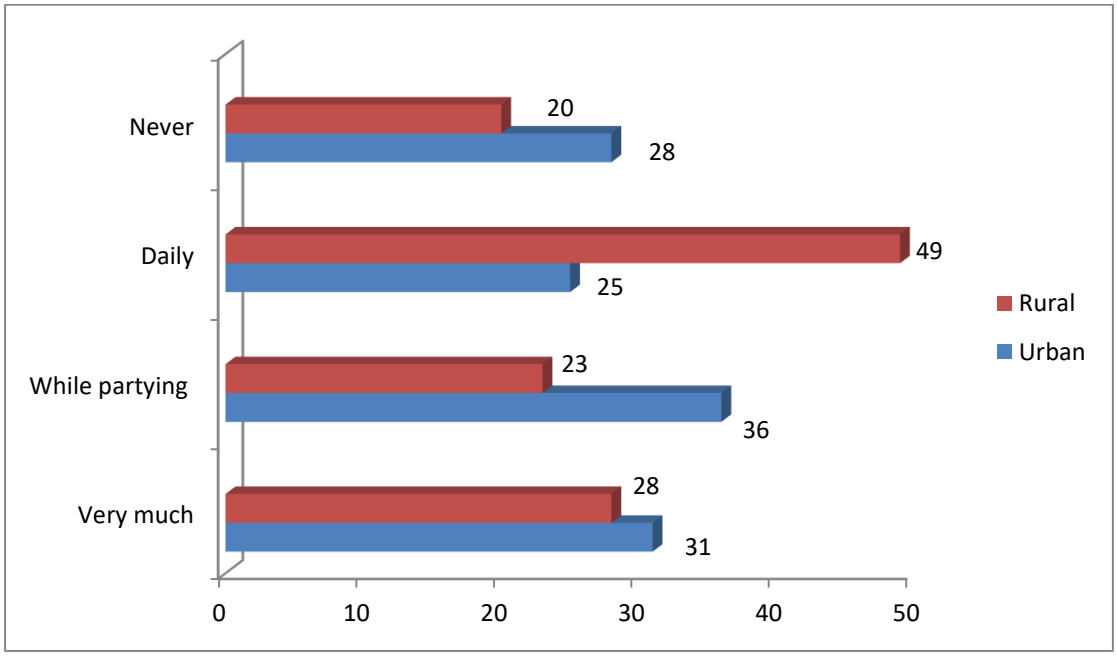


Fig: 13 shows that maximum 12.9 per cent of the respondents eat very much fast food in urban area whereas it was observed that maximum 20.4 per cent of the respondents prefer eating fast food daily in rural area.

Table: 4.3.18 Frequency of eating out

Urban			**Rural**	
Eating out	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Daily	47	19.6	65	27.00
Once in a week	18	7.5	18	7.5
Once in a month	24	10.00	11	4.5
Very rarely	31	12.9	26	10.8
Total	**120**	**50.00**	**120**	**50.00**

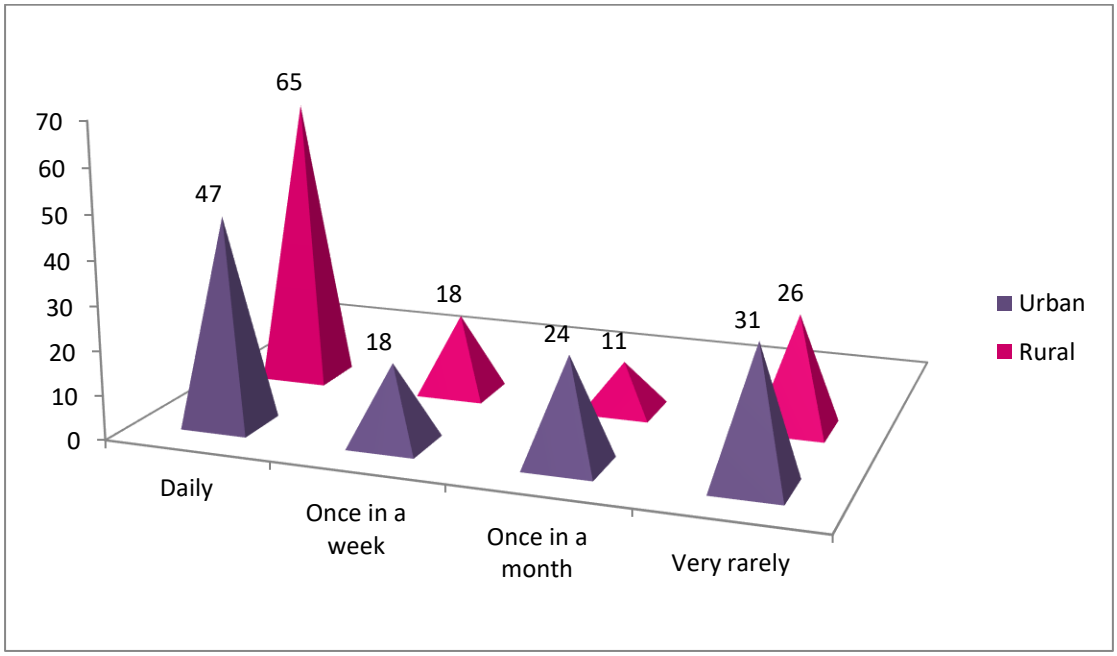


Fig: 14 show that maximum 19.6 per cent of the respondents eat outside daily in urban area whereas it was observed that maximum 27.1 per cent in rural area.

Table: 4.3.19 Respondents view about eating outside

Urban			**Rural**	
Is it Hygienic	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	14	5.8	35	14.6
No	106	44.2	85	35.4
Total	**120**	**50.00**	**120**	**50.00**

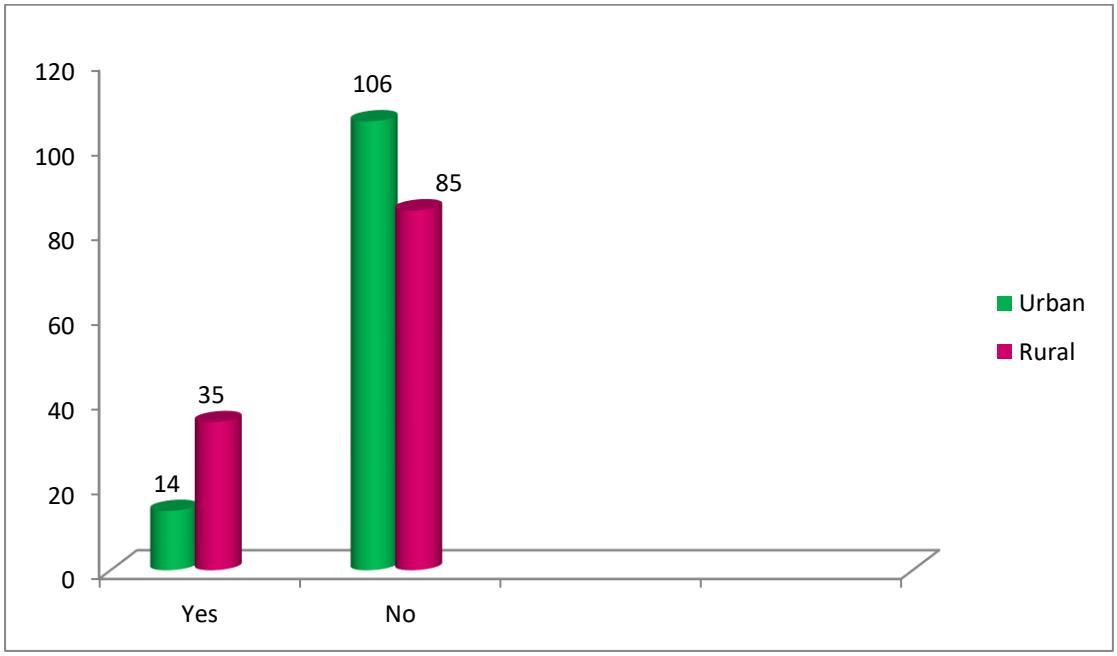


Fig: 15 shows that maximum 44.2 per cent of the respondents were aware that eating outside is unhygienic in urban area whereas it was observed that maximum 35.4 per cent in rural area.

Table: 4.3.20 Habit of washing hand and feet after playing

Urban			**Rural**	
Habit	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	112	46.7	110	45.8
No	8	3.3	10	4.2
Total	**120**	**50.00**	**120**	**50.00**

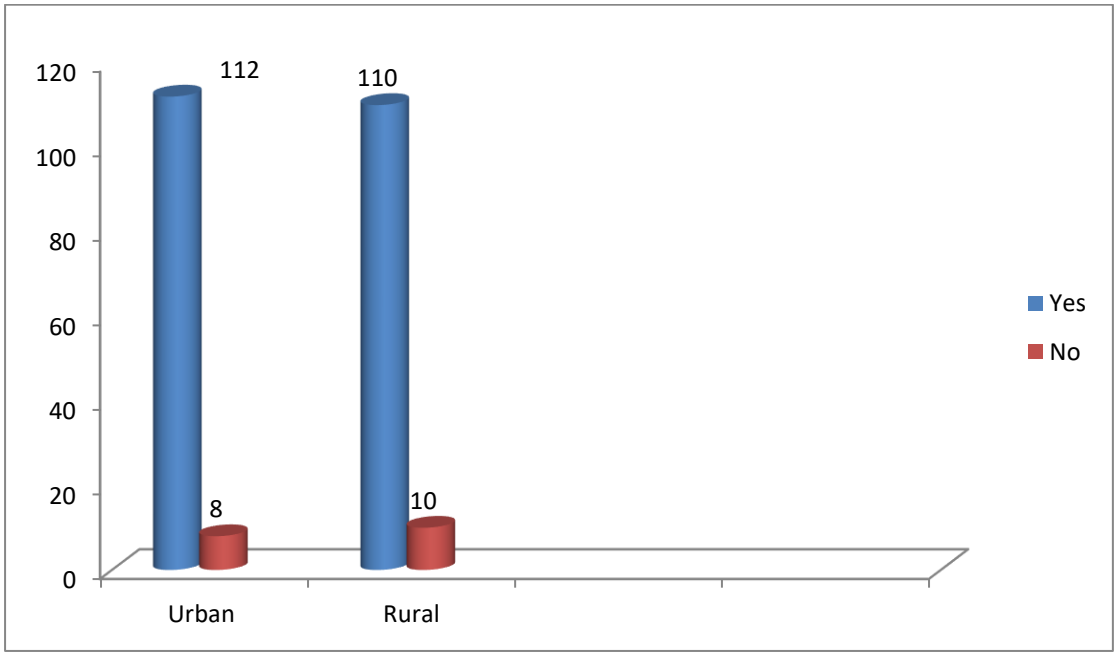


Fig: 16 shows that maximum 46.7 per cent of the respondents wash their hands and feet after playing in urban area whereas it was observed that maximum 45.8 per cent in rural area.

Table: 4.3.21 Respondents preference wearing footwear

Urban			**Rural**	
Wearing footwear	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Every time	100	41.7	64	26.7
While going toilet	17	7.1	27	11.2
While going out	3	1.2	25	10.4
Never	0	0.00	4	1.7
Total	**120**	**50.00**	**120**	**50.00**

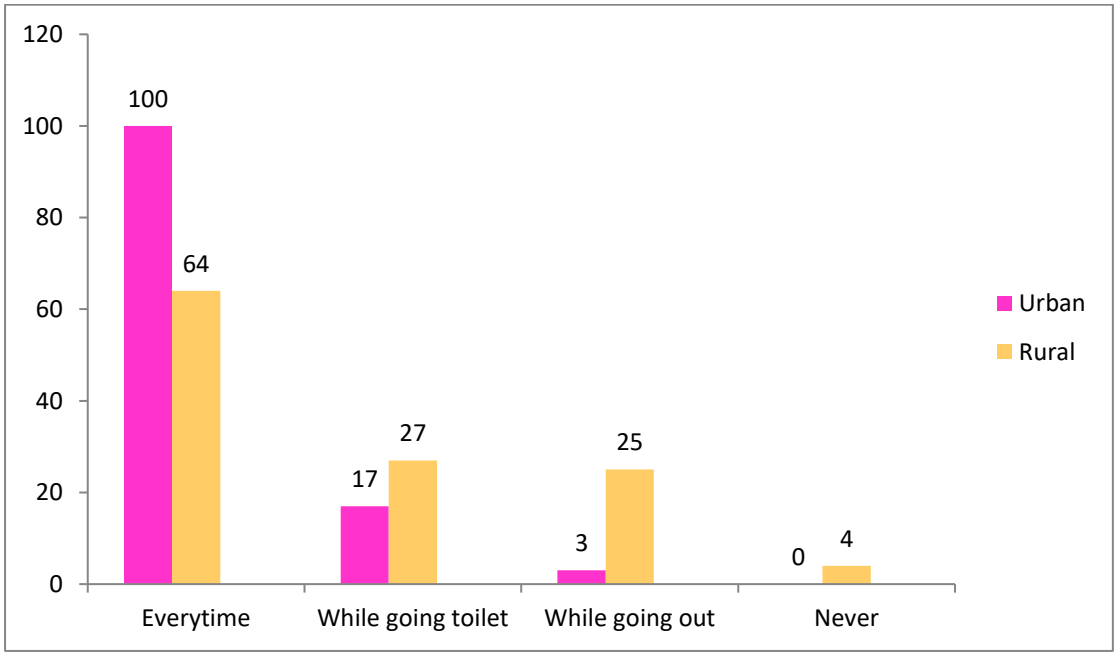


Fig: 17 shows that maximum 41.7 per cent of the respondents prefer being wearing footwear every time in urban area whereas it was observed that maximum 26.7 per cent in rural area.

Table: 4.3.22 resting after mid-day meal

Urban			**Rural**	
Resting	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	39	16.2	31	12.9
No	81	33.8	89	37.1
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.3.22 shows that maximum 33.8 per cent of the respondents do not rest after mid-day meal in urban area whereas it was observed that maximum 37.1 per cent in rural area.

Table: 4.3.23 Respondents response about resting after mid-day meal

Urban	**Rural**

Resting	Frequency	Percentage	Frequency	Percentage
Good	112	46.7	92	38.3
Not good	8	3.3	28	11.7
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.3.23 shows that maximum 46.7 per cent of the respondents think it's good to rest after mid-day meal in urban area whereas it was observed that maximum 38.3 per cent in rural area.

Table: 4.3.24 eating while watching television

Urban			Rural	
Eating while watching	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	23	9.6	16	6.7
No	97	40.4	104	43.3
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.3.24 shows that maximum 40.4 per cent of the respondents do not eat while watching television in urban area whereas it was observed that maximum 43.3 per cent in rural area because they were not having television**.**

Table: 4.3.25 Watching TV, computer, playing video game, using mobile for long duration

Urban			Rural	
Long duration	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	100	41.7	84	35.00
No	20	8.3	36	15.00
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.3.26 shows that maximum 41.7 per cent of the respondents watch television for long hours in urban area whereas it was observed that maximum 35.00 per cent in rural area.

Table: 4.4 OBSERVATION CHECKLISTS OF THE RESPONDENTS

Table: 4.4.1 Coated tongue

Urban			**Rural**	
Coated tongue	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	9	3.8	26	10.8
No	111	46.2	94	39.2
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.4.1 shows that 46.2 per cent the respondents do not have coated tongue in urban area whereas it was observed that maximum 39.2 per cent in rural area. This was done by examining each student individually**.**

Table: 4.4.2 Untrimmed nails

Urban			**Rural**	
Untrimmed nails	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	27	11.2	33	13.8
No	93	38.8	87	36.2
Total	**120**	**50.00**	**120**	**50.00**

Table: 4.4.2 shows that 38.8 per cent the respondents do not have untrimmed hand nails in urban area whereas it was observed that maximum 36.2 per cent in rural area.

Table: 4.4.3 washing of water bottle

Urban			**Rural**	

Washing of bottle	Frequency	Percentage	Frequency	Percentage
Yes	42	17.5	20	8.3
No	70	29.1	24	10.00
No bottle	8	3.3	76	31.6
Total	**120**	**50.00**	**120**	**50.00**

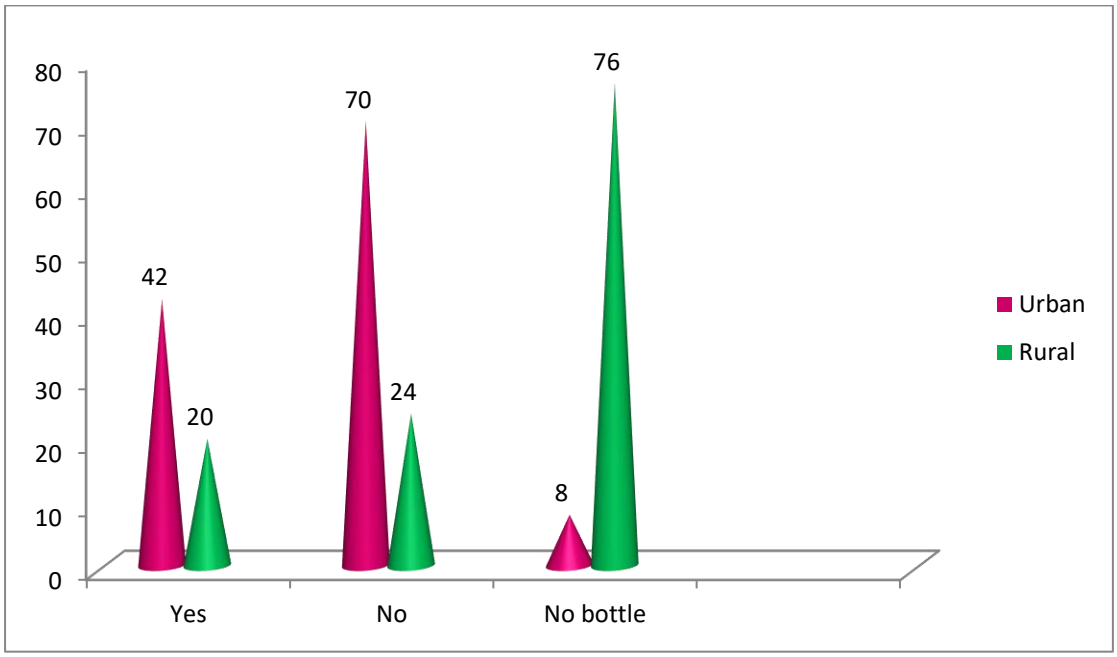


Fig: 18 shows that 42.5 per cent the respondents wash their water bottles in urban area whereas it was observed that maximum 23.3per cent of the respondents do not bring water bottle in rural area.

Table: 4.4.4 Frequency of changing of socks

Urban			Rural	
Changing socks	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Daily	39	16.2	34	14.2
Alternate days	40	16.7	25	10.4
2-3 days	31	12.9	39	16.2
In a week	10	4.2	8	3.3
Don't wear	0	0.00	14	5.8
Total	**120**	**50.00**	**120**	**50.00**

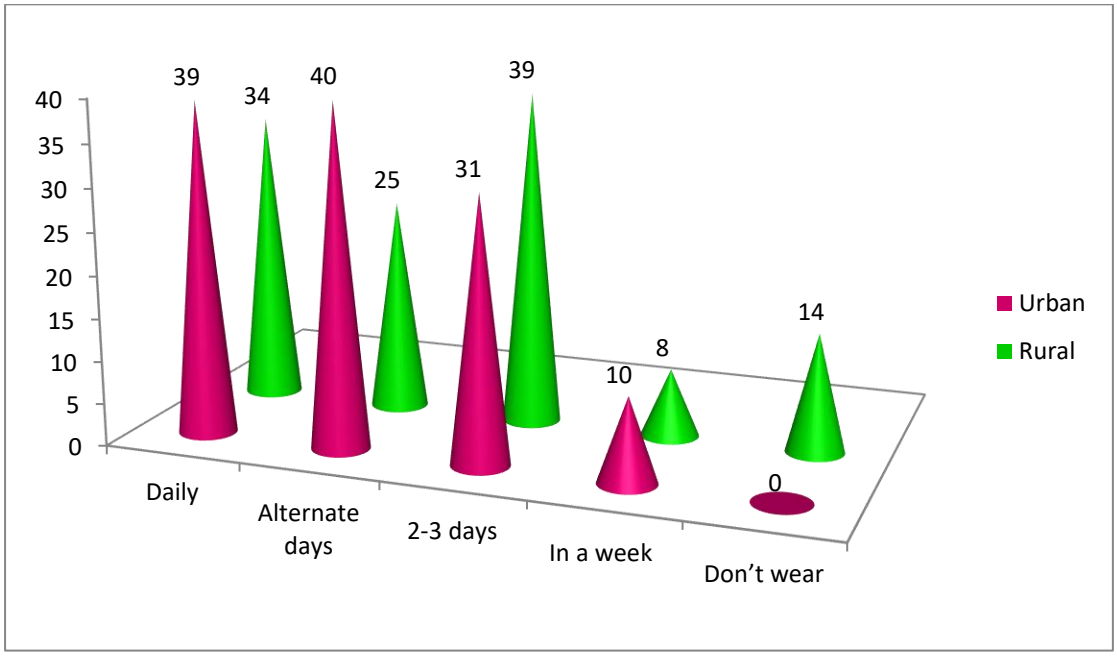
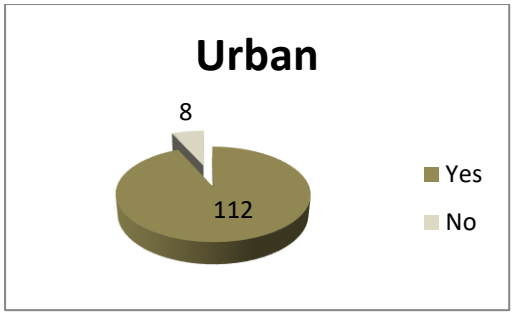


Fig: 19 shows that maximum 16.7 per cent the respondents change their socks on alternate days in urban area whereas it was observed that maximum 16.2 per cent of the respondent's change their socks after 2-3 days in rural area.

Table: 4.4.5 Hand washing technique

Washing technique	Frequency	Percentage	Frequency	Percentage
Yes	112	46.7	97	40.4
No	8	3.3	23	9.6
Total	**120**	**50.00**	**120**	**50.00**



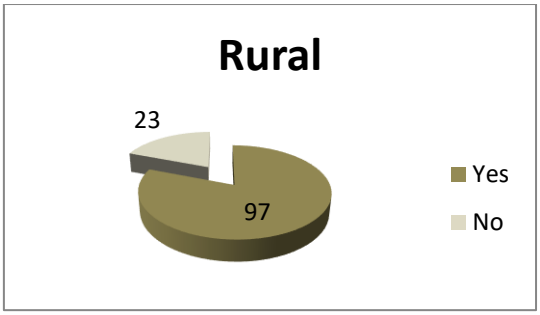


Fig: 20 shows that maximum 46.7 per cent the respondents know about hands washing technique in urban area whereas it was observed that maximum 40.4 per cent in rural.

Table: 4.4.6 Uncombed hairs

Uncombed hairs	Frequency	Percentage	Frequency	Percentage
Yes	4	1.7	17	7.1
No	116	48.3	103	42.9
Total	**120**	**50.00**	**120**	**50.00**

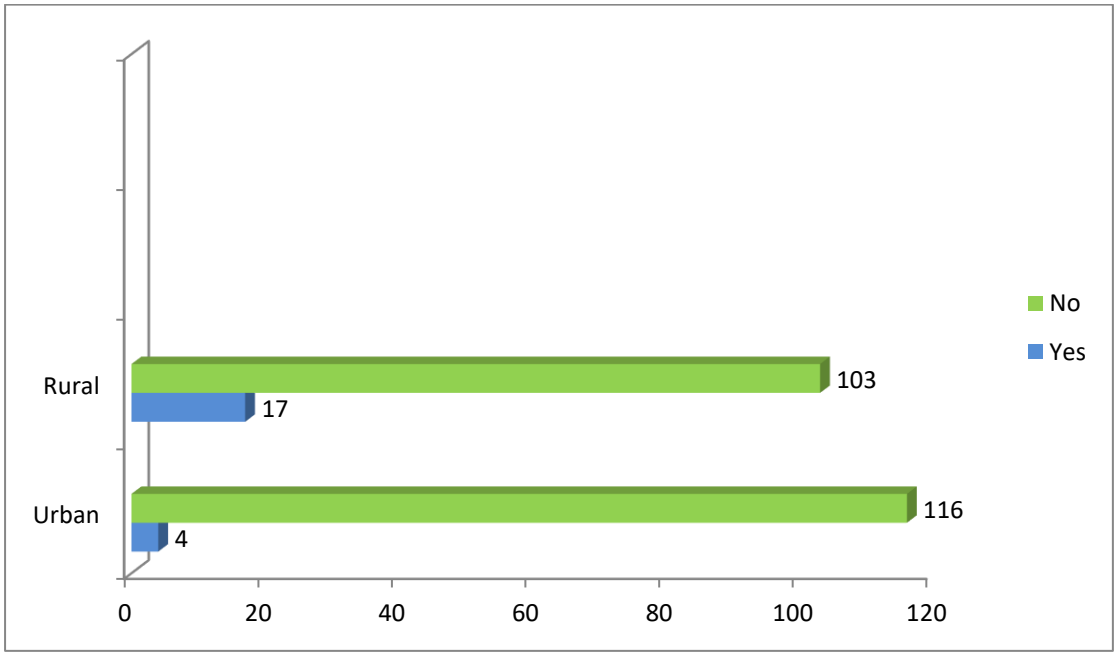


Fig: 21 shows that maximum 48.3 per cent the respondents did not have uncombed hair in urban area whereas it was observed that maximum 42.9 per cent in rural area.

Table: 4.4.7 Stink of sweat

Stink of sweat	Frequency	Percentage	Frequency	Percentage
Yes	5	2.1	19	7.9
No	115	47.9	101	42.1

Total	**120**	**50.00**	**120**	**50.00**

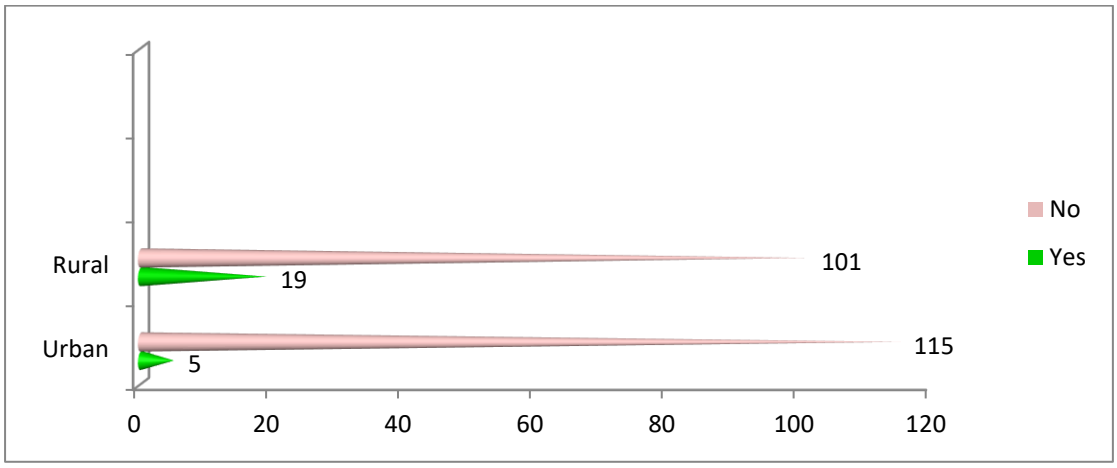


Fig: 22 shows that maximum 47.9 per cent of the respondents did not stink of sweat in urban area whereas it was observed that maximum 42.1 per cent in rural area.

Table: 4.5.GAP BETWEEN KNOWLEDGE AND PRACTICE

S.no	**Activities**	**Urban**		**Rural**	
		knowledge	**Practice**	**knowledge**	**Practice**
1.	Coated tongue	49.2	45.4	48.3	37.5
2.	Untrimmed nails	46.2	35.00	40.00	26.2
3.	Washing of water bottle	37.1	19.6	14.6	6.3
4.	Hand washing technique	44.2	40.9	44.2	34.6
5.	Teeth cleaning	37.5	36.7	44.1	38.3
6.	Uncombed hair	35.00	33.3	35.8	28.7
7.	Stink of sweat	47.5	45.4	44.2	36.3

DISCUSSIONS

Study on the topic "*An Analysis Of Knowledge & Practices of adolescents On Personal Hygiene"* among secondary and higher secondary school students of nazafgarh was conducted with the objectives to ascertain the level of knowledge

about personal hygiene from respondents, to identify the practices of personal hygiene among adolescents, to identify the gap between knowledge & practices of personal hygiene and to suggest a suitable educational strategy for minimizing the gap existing between knowledge and practices of personal hygiene.

The study entitled about personal hygiene among the adolescent so the respondents were selected from 6^{th} -11^{th} standard. Students of 10^{th} and 12^{th} standard are excluded because they were busy in their board examination. Altogether 240 respondents were taken from urban (120) and rural (120) for comparative study. This signifies that now days both sexes are given preference for at least primary education, male students were (50.8%) and female were (49.2%) in which highest percentage (56.3%) falls into age group 13-15years. This finding is supported by **(Phiri.*1998 & 2000)*** survey done in an urban and rural community in southern Malawi, 1998. Royal Society of Tropical Medicine and Hygiene, London, U.K. in 2000 found in his study that sex ratio of male to female was 1:1**.** There were similar proportions of children attending school in the urban community (60.2%) as was in the rural community (59.9%). Eighty per cent of the respondents belonged to Hindu religion.

Analysis about personal hygiene according to the respondents, resulted that maximum (49.6%) were in a habit of daily bathing, washing of hands after defecation (48.3%), sweeping of house in routine (42.5%), washing of hands before eating (41.75%), washing clothes (32.9%).This shows that they were also aware that all other practices mentioned were also included in personal hygiene activities. This finding is supported by the finding, an approach to hygiene education among rural Indian school going children **(Dongre *et al.2007*)** that the prevalence of intestinal parasitic infection was significantly high among children having poor hand washing practices (37.2% – 53.2%). One month after hygiene education, the proportion of children having practice of hand washing with soap after defecation significantly improved from (63.6% to 78%).

Response of hygiene included female's students (17.1%) wash their hair twice in a week and some of them wash once in a week which is unhygienic. Sweat, dirt, oil glands, humidity and moist whether may cause the presence of head lice, (13.8%) had lice during survey. This sometime causes itching and fungal infection in the scalp. There is similar study done in Sindh by (**Mahmud *et al.2011)*** reported in their study that about 7% girls aged 12 years and older suffered from head lice infestation. Impact of household socio-economic status on infestation rates among women was different in urban and rural settings; urban women with low socio-economic status were more vulnerable than similar women in rural settings**.** Many diseases in adolescents are caused due to drinking unsafe water. These water borne diseases like jaundice, diarrhea, cholera are very common .This study reveals that Maximum (29.6%) of the respondents in rural use drinking water obtained from the municipality supply, (13.7%) from Hand pump and other sources. They even don't wash their storing pots before refilling it. Similar type of study was done by **(Singh *et al.2010)*** in Kashmir, that there was higher prevalence of parasitosis among rural orphanage children compared to urban orphanage students (76%- 48%). Highest prevalence of 70% was seen in the age group 8-11years. Students using river/stream water had higher rates of parasitosis compared to those who were using tap water.

In order to maintain proper dental hygiene, dentist advice to brush after every meal or at least twice in a day (morning and night). In present study on personal hygiene, as far as brushing of teeth is concerned maximum (77.5%) of the respondents brush in morning and only minimum (21.7%) in morning and night. This finding is supported by **(Morowatisharifabad *et al. 2011*)** that it depends on the self-efficacy and decisional balance differed significantly across the stages of interdentally cleaning behavior change. Adolescents are fond of eating chips, (kurkure, fries, biscuits, chocolates, pastery, sweets, chat, pani-puri, maggi, burger, pizza, hot-dog, choumine,cold-drink etc). apart from having healthy complete diet. 65% Students eat out, (55.4%) of them eat daily because they like very much and have a routine habit of eating after school, though they know its unhygienic but they love doing it! This snacking habit effect their health and oral hygiene this finding is supported by **(Astrøm & Mbawalla. *2011*)** Arusha, northern Tanzania that

principal component of health and oral health-related behaviors (tooth brushing, using soap, intake of sugared mineral water, intake of fast food and intake of sweets) suggested two factors labeled hygiene behavior and snacking. Regularly snacking habit have many negative effects on health because it fulfills your appetite but does not nourish the requirement of body which is required for development. Worm infestation, diarrhea, PEM, anemia, upset stomach, food poisoning, obesity etc. **(Bhativa V *et al.2007)*** in Chandigarh resulted that the overall prevalence of the PEM was observed as 62.62% which was higher among boys (65.87%) as compared to girls (58.90%). The peak prevalence was found in the age group of 6–12 years. A significant association between acute ailments (diarrhea, ARI, and fever with rash) and PEM was observed. Prevalence of worm infestation on the basis of history was recorded as 35.67%. Over half (58.4%) of the children were anemic.

Maximum (83.4%) of the respondents knew about the hand washing technique and maximum (94.2%) of the students said that they wash their hands before eating. But when observed during the lunch interval there was very few among them who washed their hands. Maximum (92.5%) of the respondent agreed that they wash their hands and feet after playing and even they admitted that if they were not cross-checked by their mothers most of the time they avoided and started having snacks because at that time their hunger is out of control. When they go out for playing, felt thirsty, whatever source of water is available (tap water or hand pump) they had it. Unknowingly that it will affect their health. This helped to analyze gap between knowledge and practices. This finding is supported by **(Kone *et al.2008)*** survey done in Harare City, Zimbabwe stated that 11203 cases were reported with a case fatality rate of 3.98%. We interviewed 140 cases and 140 controls. washing hand before eating (4.24%- 11.70%) were independent risk factors, while drinking tap water (0.005%- 0.11%), washing hands after using toilet (0.19%- 0.39%); eating hot food always (0.29% - 0.49%) were independently protective factors.

This study on personal hygiene among adolescents also revealed that maximum respondents of urban eat while watching television. This is again unhygienic touching remote frequently for changing channels while eating and instead of concentrating

on food they concentrated on television. The present study shows that maximum (41.7%) of the respondents watch television for long hours in Urban and maximum (35.00%) in Rural. They even play video games, games on computer and mobile for long hours. This finding is supported by **(Chernenkov & Gumeniuk. *2009)*** done in Delhi, India resulted that the impact of using cellular phones and personal computers on the health status of 277 Saratov school children (mean age 13.2 +/- 2.3 years). About 80% of the adolescents have been ascertained to use cellular phones and computers mainly for games purpose. The active users of cellular phones and computers show a high aggressiveness, anxiety, hostility, and social stress, low stress resistance, and susceptibility to arterial hypotension. The negative influence of cellular phones and computers on the schoolchildren's health increases with the increased duration and frequency of their use.

Most of the Indian families value their culture even today. There has been a very common practice seen in all houses that they remove their footwear outside the door on the main entrance and have their other sleepers for inside. But most of them prefer being barefooted, this study reveals that (68.4%) preferred wearing sleeper every time, (27.5%) preferred being barefooted most of the time,(18.3%) wear only while going to toilet and (11.6%) preferred wearing only while going out. Studies related to personal hygiene revealed that these small habits also lead to health problems, specially being barefooted in the toilet. This study is supported by **(Wani *et al.2007)*** in Srinagar, Kashmir-India resulted in a survey, 514 samples of stool was collected out of which resulted that (46.7%) had 1, or more parasites. Prevalence of Ascaris lumbricoides was highest (28.4%), followed by Giardia lamblia (7.2%), Trichuris trichiura (4.9%), and Taenia saginata (3.7%). Conditions most frequently associated with infection included the water.

CONCLUSIONS

This study concludes that personal hygiene according to the respondent's maximum of them knew about the hygiene activities but was not aware of practicing. This study revealed that daily bathing 49.6% in urban and 37.1% in rural,

about 90% of the respondents included trimming of hand nails in urban as well as rural, 48.3% of the respondents wash their hands after defecation in urban and 32.9% in rural as well. Maximum 30% of the respondents belong to age group between 13-15 years in urban and 26.3% in rural. 36.2 % of the respondents belonged to Nuclear family in urban and 28.8% belonged to Joint families in rural.25.5% of the respondents had more than 5 members in their families in Urban and 34.6% in rural respondents knew about personal hygiene activities but they were not aware of practicing them properly. There were differences in habits of urban and rural adolescents. There are differences even in their eating habits which came out from this study that maximum 28.8% of the respondents prefer eating roadside in urban and maximum 36.2% in rural. Both are fond of eating out though they knew its unhygienic but their choices were differed from each other rural students like to eat pani-puri, chat, baraf ka gola, orange candy etc. whereas urban students like all the eatable mentioned above but also preferred junk food like chips, patties, burger, pizza, noodles, chocolates, maggi, fries, cold-drink etc. The present study shows that maximum (41.7%) of the respondents watch television for long hours in urban and maximum (35.00%) in rural. They even played video games, games on computer and mobile for long hours. Percentage was less in rural because most of them were not having television.

Therefore this study concludes with the opinion that adolescents of both urban and rural have to be educated for their different unhygienic problems and habits according to their own context. The levels of practices were not up to the mark. When the knowledge and practices was identified with the help of observation checklist a gap was observed between knowledge and practice. Thus, this study concludes that therefore educational strategies suggested in this study needs to be implemented and promoted by further research for urban and rural adolescents to make a high standard of hygiene our society, which may become model for other parts of the world.

EDUCATIONAL STRATEGIES:

- Adolescent awareness program should be implemented in schools with the help of government and NGO's.
- The schools and colleges should organize training programs regarding the knowledge on personal hygiene, their benefits and create awareness about diseases caused due to unhygienic activities.
- Parents and teachers should be trained with all the advance techniques for educating adolescents so that both can learn good habits with interest.
- Adolescent should be supported in a friendly way by their families and the educational institutes in their problems, so that they can share everything without hesitation.
- Parents, teachers and children should be educated about healthy eating habits and about the after effects of eating out.
- Mothers and teachers should educate girls for maintaining menstrual hygiene, genital hygiene.

ANNEXURES & BILLIOGRAHY

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INTERVIEW SCHEDULE

Personal Details:-

Name: ……

Age (yrs): ……

Sex: M/F

1. Religion:
   a) Hindu b)Muslim c)Christian d)Others
2. Locality:
   a) Rural b)Urban
3. Type of house:
   a)Kaacha b) Semi- pakka c) Hut d)Others
4. Marital status:
   a) Unmarried b) Married c) Widow/widower d) Divorced
5. Family type:
   a) Joint b) Nuclear
6. Total number of family member
   a) Two b)Three c)Four d)More than four

Knowledge about personal hygiene:

1. According to you what is personal hygiene?
   a) Brushing tooth daily twice.
   b) Bathing daily.
   c) Having hair cut.
   d) Trimming hand nails.
   e) Trimming feet nails.
   f) Sweeping house.
   g) Washing clothes.
   h) Eating fresh food.

i) Covering leftover food.

j) Maintaining genital hygiene.

k) Cleaning of ears & eye.

l) Washing hands before eating with soap.

m) Washing hands after defecation.

n) Washing of undergarments.

o) Others

Daily activities:

2. When you get up in morning?

   a) 5 AM b) 6 AM c) 7 AM d) After 7 AM

3. How do you brush your teeth?

   a) Toothbrush b) Finger c) Datoon (twigs of neem)

4. What do use to brush your teeth?

   a) Tooth paste b) Maanjan c) Salt

5. How many times you brush your teeth?

   a) In morning b) In night c) Morning & Night

6. Do you clean your tongue?

   a) Yes b) No

7. How many times you clean your tongue?

   a) Daily b)Alternate days c) One's a week d) Never

8. How do you clean your tongue?

   a) Tongue cleaner b) Tooth brush bristles c) Fingers d) Others

9. How do you wash your hands after defecation?

   a) Soap/Liquid hand wash b)Ash c)Mud d) Others

10. How often you take bath?

    a) Daily b) After a day c) After 2 day d)Once in a week

11. What you use for bathing?

    a) Soap b) Simply water c) Other

12. How many times you clean your hairs?

    a) Daily b) Alternate days c) Once in a week d) Once in a month

13. What do you use to clean your hairs?

a) Shampoo b) soap c) Mud d) Others

14. Do you have lice in your hair?

a) Yes b) No

15. How often do you trim your nails of hand?

a) In a week b) In a month c) Twice a month d) Never

16. How often do you trim your nails of feet?

a) In a week b) In a month c) Twice a month d) Never

17. When do you go for hair cut?

a) In 1 month b) In 2 months c) In 6 months d)As per requirement

18. Do you wash your clothes?

a)Yes b) No

19. What do you use for washing clothes?

a) Detergent b) soap c) Detergent+ soap

20. What do you use for washing your undergarments?

a) Detergent b) Soap c) Bleach d) Plain water

21. Where do you dry your clothes?

a) In sunlight b) Bathroom c) Room d) In shade

22. Where do you dry your undergarments?

a) In sunlight b) Bathroom c) Room d) In shade

23. Is it necessary to dry undergarments in sunlight?

a) Yes b) No

24. Do you clean your armpit hairs?

a) Yes b) No

25. How do you clean them?

a) Razor b)Scissor c) Hair remover d)None

26. Do you clean wax of your ears?

a) Yes b) No

27. What do you use to clean it?

a) Match stick b)Safety pin c)Hair pin d)Ear bud

Your views about personal hygiene:

28. Do you exchange clothes with your friends?

a) Never b) Occasionally c) In case of emergency d) Rarely

29. Do you think it's hygienic?

a) Yes b) No

30. Do you know about the washing technique of hands?

Yes b) No

31. Do you wash your hand before eating?

a)Yes b) No

32. Do you carry your water from your home?

a) Sometimes b) If required c)Always d)Never

33. From where do you get water?

a) Municipal supply water b) Hand pump c) Tube well/Aqua guard d) Well

34. Do you prefer eating roadside/in street?

a) Yes b) No

35. Do you like fast food?

a) Very much b) while partying c) Daily d) Never

36. How often do you eat outside?

a) Daily b) In a week c) In a month d) Very rarely

37. Do you think it's hygienic?

a) Yes b) No

38. Do you wash your hands & feet after playing?

a) Yes b) No

39. Do you prefer being bare footed?

a)Yes b) No

40. At what time do you use footwear?

a) Every time b) Going to toilet c) Going out d) Never

41. Do you rest after mid-day meal?

a) Yes b) No

42. Do you eat while watching television?

a) Yes b) No

43. Do you think is it right to watch television for long hours?

a) Yes b) No

44. Is it good to a nap at day time?

a) Yes b) No

Observation checklist table to identify the gap between practice & knowledge

S.NO	**Activities known but not practiced**	**Yes**	**No**
1)	Coated tongue		
2)	Untrimmed nails		
3)	Washing of water bottle		
4)	Checking of socks(How often they change)		
5)	Hand washing technique		
6)	Checking their tooth		
7)	Uncombed hair		
8)	Stink of sweat		