



# Personal Sanitary Conditions Of Primary School Students In Azam Campus Pune: A Research Article

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## Abstract

Poor nutritional status in primary school children can lead to several health problems such as easy susceptibility to common childhood diseases. Personal hygiene status is an important predictor of nutritional status and morbidity in children as water and sanitation related diseases are the leading causes of early morbidity and mortality in children. The present study was conducted to assess the nutritional status as well as personal hygiene practices of primary school going children. The present study was a cross-sectional study conducted in selected in Azam Campus Primary School Pune, in children 6–12 years of age. A sound mind comes from a sound body which would be possible through intake of healthy food, exercise, and personal hygienic practices. In the present study the investigators made an attempt to study the personal hygiene status of high school students. An observation checklist was constructed and validated by the researchers to assess the personal hygiene status of the high school students. The collected data were analyzed by using descriptive and inferential statistical techniques. Maintaining personal hygiene is important for social health, physical health and psychosocial health. The present study aimed to assess the knowledge and reported practices of school going children regarding personal hygiene with a view to develop an information booklet. Regarding knowledge and hygienic practices, mother's education plays vital role for school going children. Also, teachers with parents can play a pivotal role in providing health education regarding personal hygiene from early stage of childhood itself for longevity and to protect from illnesses.

**Keywords:** Hygiene, nutritional, personal Health, Sanitization,

## I. Introduction

The children of today are the citizens of tomorrow. As such, it is imperative to consider the health of a child not only as an investment into a nation's future economy but as an important indicator of the quality of life in that country. It is in the primary school going stage that most of a child's physical and mental development takes place. However, poor nutritional status in primary school children can lead to several health problems such as easy susceptibility to common childhood diseases like diarrhea and respiratory infections which in turn contribute to low school enrollment, high dropout rates, high absenteeism, and poor Class-room performance. [1] In Meghalaya, 22.9% of children under 5 years of age are underweight in urban areas, while in rural areas the figure stands at 29.9%. A staggering 43.8% of the children under 5 years in Meghalaya also suffer from stunting a sequelae of chronic malnutrition.[2] Nutritional status of children in many developing countries is affected by hygiene status, such as lack of clean water, poor sanitation, poor hygiene practices, and lack of access to toilets. This is an especially important issue for children under the age of five, as water and sanitation related diseases are the leading causes of early morbidity and mortality. School health services have tended to focus on nutritional support and clinical assessment. These inputs are absolutely necessary but so is the need to assess the state of personal hygiene, which is directly or indirectly related to the above-mentioned factors. [3]

## II. Unani concept of physical health and personal hygiene (jismani sehat- wa-shaqsi hifzane sehat):

For Unani Physicians "TIBB" is the knowledge of Human Health. Its purpose is to preserve health and endeavor to restore it whenever it is lost. Some factors related with health they are: The air of one's environment, Food and beverage, Movement and rest, Sleep and wakefulness, Evacuation and retention, Emotions. These factors must be properly appointed in quantity, quality, time and sequence in order for there to be Healthy. It is the changes in the humors caused by these six factors which most often lead to disease. When evaluating a person's health, one must first consider the temperament of the person's age, then the temperament of particular organ affected. For ex: The choice of food and herbs to treat in elderly person with a fever would be quite different from that of selected for an infant. Jismani Safai is synonymous with Shaqsi Hifzane Sehat i.e. Personal Hygiene which denotes immense sense of personal cleanliness. According to the concept of 'Tibb'; Unani physicians described Jismani safai (personal hygiene) as good and healthy habits which make the person habitual to certain types of behaviours and lifestyles which are termed as "Fitrat e Sanvi". Hygiene is derived from "Hygiea" which means to say "The Goddess of Health" in Greek mythology. Asqalibus (Asclepius-3900 B.C) 'Tabeeb-e-Awwal' (the first physician) of Greek Medicine bore two daughters 'Panacea' and 'Hygiea'. They gave rise to dynasties of healers (Curative Medicine) and Hygienists (Preventive Medicine) with different philosophies. Hygiene is the science of preserving and promoting health. Thus Personal Hygiene is a branch of "Hygiene". It is concerned with the adjustment which an individual must make to preserve and promote health and mind of one's body. Its main objective is to maintain highest standard of healthy living. It depends upon the good and hygienic habits which promote health for everyone including factors like: habit of wearing clean and tidy clothes, trimming of hairs, nails, habit of bathing, tooth brushing, hand wash with soap before eating and after defecation, physical exercise etc. which are conducive

for good health. Healthy and Hygienic habits are an integral part of Personal Hygiene; they are directly related with cleanliness and health care of an individual. An individual's health is solely dependent on personal hygiene and one cannot think of absolute health unless it is maintained. The people living in clean and hygienic environment are less susceptible to diseases when compared with those living in dwell, dirty and unhygienic surroundings.



**Fig. 1 Various Types of Personal Hygiene of Students in School life**

### III. Concept and Historical Aspect of Child Health and Child Care:

More than 90% of the world's children are born each year in the developing world 10 million children die per year and 7 out of 10 of these deaths are due to respiratory infections, diarrhea, measles, malaria and malnutrition. Many of them die each day due to most of common and preventable problems. Health and illness among children are the result of a complex dynamic change caused due to environmental, social, political and Economic factors. Approaches for child health evolved rapidly after II world war because of the efforts of UNICEF and WHO. The 30<sup>th</sup> world Health Assembly 1977 and Alma Ata International Conference on primary Health care 1978 defined a contemporary context on International Health development. The relevance of this experience to Health Services in the United States and other developed countries.

During the past several decades with regard to the health needs of children success have been achieved. 80% of the children throughout the world are now being immunized. Polio has been eradicated in the western hemisphere, strategies were made to eliminate measles, Oral Rehydration Therapy and community based protocols dealing with respiratory and other childhood illness save millions of children's lives every year. Thus the knowledge and experiences accrued in the past several decades by many child survival programmes have resulted in to a numerous innovative approach in child health initiatives and also provides reason for optimism.

There is a dramatic decrease in childhood mortality and potential to improve the lives of all children everywhere. Child care is defined as- Care provide by an individual outside the nuclearfamily such as baby sitting, nursery or even day care schools. The effect of child careon children’s development depends on the number of inter-related factors including the quality of child care experiences, as well as characteristics of child and family.

As estimated 13 million children age of 5 years and 60% of school age children younger than 13 years attend some form of child day care regularly. In United States child care facilities consists of child care centers, child care homes andspecial facilities for ill children or children with special medical needs. Child care centers also provide care and education for much number of children.

#### IV. Children in early school years:

During middle childhood i.e. from 6-12 years, children face new challenges. The cognitive ower to consider several factors simultaneously confers the ability to evaluate oneself and perceive other’s evaluations. As a result, Self- Esteem becomes a central issue among them. School age children are judged according to their abilityto produce society valued outputs, such as as-highest grades etc.



**Fig. 2 Students in early School life**



**Fig. 3 Students in early School life**

Healthy development requires increasing separation from parents and the ability to provide acceptance among peer groups and also to negotiate challenges in the outside world. The thinking of young school age children differs from that of the younger children (1-2 years) whereas school age children increasingly apply rules based on the observable phenomena, point of view and their interpretations and perceptions about the realistic theories.

About 10% of the children in early school years perform poorly and have difficulty in learning academic skills. Some of them are even dubbed as mentally subnormal and are constrained by circumstances to drop from school. These children are not always retarded and may show a near normal intelligence and are potential for development by conventional test of intelligence. Poor school

achievement among children may not always be apparent. It may be due to chronic illness, frequent relocation, children with undetected error of refraction such as mild deafness, visual or auditory stimuli, cultural disharmony with his peers, lack of adequate environmental stimulation, incompetent and harsh teachers, immature child, some developmental dysfunctions causing learning disabilities (LD) and attention deficits are the two distinct overlapping syndromes which often co-exist.

Children's intellectual activities extend beyond the classrooms they enjoy different strategies and exercise the growing cognitive and linguistic mastery. Children at this stage can understand simple explanations of illness, disease or morbidity and their necessary preventive measures as well as treatment. Class Teacher is the role model for students. He or she has a unique position as she is familiar with each and every student of her class. Teacher's observation for school children is important in India as class teacher can detect changes in the child's appearance or behavior which suggest for illness or improper growth or development. They can easily suspect the children who need a medical attention. For this work the teachers should be adequately trained during their Teacher-Training or In-service Training courses.

## V. Health problems among children:

The main health problems encountered in the child population comprises of the following:

### A. Low birth weight:

Low Birth Weight (LBW) baby is one weighing less than 2.5 kg or 2500 gms preferably within the first hour of life. Clinically it is of two types:

- Babies born too earlier i.e. before the gestational period of 37 weeks are said to be "Pre-term Babies".
- Babies who have intra-uterine growth retardation, these babies are undernourished (small) for the given gestation (date). These babies are said to be "Small for Gestational Age" (SGA) or "Small for Dates" (SFD).

### Social causes:

Habit of smoking, low socio-economic status, poor housing facilities, low nutritional profile, less prenatal care, unhygienic environment etc.

### Prevention:

- Improvement in socio-economic conditions.
- Availability of proper social and health services
- Nutritious diet for mother
- Frequent prenatal checkups.
- Avoid smoking during pregnancy.

## B. Malnutrition:

Malnutrition is a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients. (Undernourishment) PEM, (over nourished) Obesity, (imbalanced nourishment) pellagra, (nutritional deficiency) xerophthalmia etc.

Malnutrition is a primary cause of morbidity and mortality and a complicating factor for other illnesses. Subsequent proteins, calories, micronutrients results in increased susceptibility to many infectious diseases. Acute and chronic infection may further exacerbate a child's nutritional deficiencies and often results in a child's death.



**Fig. 4 Malnutrition of students**



**Fig. 5 Malnutrition of students**

Under nutrition is widely recognized as a major problem in the developing world and PEM has been identified as a major health and nutritional problem among the children in India. PEM is a prolonged undernourishment with an interaction and infection, both early and abrupt weaning and late gradual weaning among children. It occurs particularly in weaklings among the children who are in first year of life, leading to permanent impairment of physical and possibly mental growth of children. Marasmus and kwashiorkor are the two clinical forms of PEM.

Marasmus is an infantile atrophy, inanition common in infants due to insufficient diet and poor hygiene it is mainly caused due to protein calorie deficiency. Its clinical manifestations are loss of weight until emaciation occurs, wrinkled skin due to loss of turgidity and subcutaneous fat, atrophy of muscle occurs with resultant hypotonic.

Kwashiorkor means a deposed child. It is a clinical syndrome that results with a severe deficiency of protein and inadequate calories intake. It is the most serious and prevalent form of malnutrition in the World today. It results in lack of stamina, inadequate growth, lethargy, loss of muscular tissue and immunodeficiency among children.

## Prevention:

PEM requires a balanced diet containing adequate quantity of protein and calories in a good biologic quantity and quality. Hygienic food with proper dietary instruction and food distribution is needed.

## VI. Health practices among children:

### ➤ Care of Hairs:

Hairs are an innumerable and incredible gift of nature, given to each and every individual. At birth the prominence of hairs are visualized more on the scalp and eyebrows. Few babies have course of hairs and few have dense and few also have thick rows.



**Fig. 6 Hair design of students**



**Fig. 7 Various type of Hair style students**

These vary along with the hereditary as well as specific geographical conditions. As the age advances it changes in its color which may even turn to grey or white and due to hormonal imbalance, degeneration of hairs also takes place. In present days baldness is one of the burning problems in males for which stress is one of the contributing factors. In a normal human being approximately 1 million Hair follicles are seen on the body of which nearly 1 lakh are on the scalp. Hair grows at a rate of 1 cm approximately/ month.

### ➤ Hygiene of Hair:

The condition of hairs to some extent reflects with the nutritional and general health of the body. Thin hairs are easily plucked which indicate a poor nutritional status. In PEM (Protein Energy Malnutrition), Kwashiorkor hair changes are common. If hairs are breaking it implies that its shaft is not receiving sufficient nourishment. Some people are having hair fall problem it may be due to poor general health and mental stress. Hair graying is concerned with normal ageing process. However deficiency in diet and mental or physical shock of various kinds may lead to premature graying of

hairs. Deficiency of pantothenic acid in diet also causes graying.

Health advice regarding care of hairs should be given to family members. In case of female children they should be advised to clean head for de-lousing by combing. Besides contrary to the blind belief the only function of a shampoo is to clean the hairs. It can neither stop the hair fall nor give any nourishment to them. Similarly hair oils also make the hairy shiny and decorative but none of them have the quality for growing / preserving the hairs

Hair requires adequate nourishment for its proper growth and protection. Hence at the time of birth more attention is given towards cleaning hairs. Now-a-days many herbal shampoos are used to clean the roots of hairs. The use of shikakai, ritha is most beneficial for cleaning hairs. In Tibb-e-Unani; neem oil, amla oil, Coconut oil is recommended which help in eradicating lice and dandruff

#### ➤ **Care for Nails:**

Nails do not correspond directly to the general health of an individual but they will have a definite impact indirectly on the prevalence of health and disease. The nails have a colour, with approximate size and look. But, if the same nails deviate from normality they can easily be detected. Deviation is counted as abnormality of nails because of "Quwat - e Namia". They play a crucial role in the transmission of a disease

#### ➤ **Hygiene of nails:**

In hygienic point of view care of nails is to restore them in their normal condition, saving them from any structural deformity and to maintain their look. Contaminated nails may contaminate the food stuffs and promote many diseases. Scratching with the nails and intake of food materials with them may disseminate some skin diseases as well as gastro – intestinal tract infections. The nails should be trimmed properly with regular intervals of time and they should be kept clean to avoid certain contaminations and diseases.

#### ➤ **Care of oral cavity and teeth:**

In the oral cavity many species of bacteria were present which are responsible for condition like sepsis such as carious teeth, septic, tonsils, unhealthy mucous membrane and even infected sinuses. The stream of bacteria is constantly pouring into the mouth when they find favourable conditions which will easily grow in the remnants of foods

After eating food the surface of the teeth is covered with a layer of sugar in which harmful bacteria survive and proliferate easily. This layer is called as dental "plaque." The bacteria grow up and produce a toxic substance on teeth which also infect and damage the gums. This result in the deposition of tartar, gingivitis, pyorrhea and also foul smell from the mouth, inflammation of gum margins may lead to pyorrhoea, dental abscess and even stomatitis.

Ulcers on the tongue, buccal mucosa and pharynx are infective in nature. In children coated tongue may be due to thrush or fungal infections. Lips may show excoriation at both the angles or it may be due to Vitamin B complex deficiency poor oral hygiene may lead to halitosis.



### ➤ Hygiene of oral cavity:

Above said oral infections can be avoided by brushing teeth and mouth rinsing regularly before going to bed. One should use medicated toothpaste for brushing teeth. Instructions regarding oral hygiene of infants and children should be given to their parents. The parents should brush their child's teeth by using fluoridated tooth paste and most importantly brush should be replaced when its bristles begin to flatten. Teeth should be brushed twice in a day and in addition teeth should be immediately brush after eating any sweet or sticky food items. After every meal mouth should be rinsed with water and gums should be massaged with finger.



**Fig. 8 Teeth cleaning of students**



**Fig. 9 Paste for students**

### ➤ Care of Nose.

Nose is a vital organ it is an important sensory organ responsible for, in vertebrates including human being. Its special function is respiration i.e. inhaling and exhaling. It processes the air before entering the lungs. A normal adult 18,000-20,000 liters of air is consumed every day. Besides respiration also purify and warm up the air. The inner mucosa of the nose and septum get affected easily under the influence of weather and different climatic changes which a rise problems such as common cold, nasal blockage, sinusitis, epistaxis, influenza etc. When nose is ill or often blocked we are forced to breathe through mouth which is a very annoying inconvenience.

There is a chance of entering foreign particles through the nose into the body which may later lead to some diseases for which common cold is the best known example. Where both the nose and sinuses get blocked and filled with secretions where tough conditions arises like blowing, sniffing, snoring causing irritation in patients. Stuffy nose blockage due to running nose, nasal, stiffness, congestion, obstruction in nasal breathing, bad cold are some of the noticeable changes which effects the individuals quality of life in different aspects like decreased energy level, debility, insomnia or disturbed sleep, fatigue, severe headache. Thus these sources of substantial uneasiness will hamper the normal qualities of lives.

### ➤ **Hygiene of Nose:**

Proper care is needed to maintain its hygiene such as cleaning the inner nose with lukewarm water with a regular interval which minimizes the therapeutic risk to some extent. Exposure to cold weather, dust and allergies should be avoided. If a nose is dry some functions will be impaired to avoid nasal mists and sprays should be used to maintain nasal health. But beware that the nasal decongestion, sprays should not be used for a long period. Nose is a house of receptors responsible for sense of smell, without smell the entire flavor of things is lost. It is a major disruption in a wellbeing when a person loses his sense of smell. Many of them consider it as a major disability nasal sinus complaints are the common causes for which people consult a physician. It is important to treat nasal symptoms promptly so as to prevent worsening of lung problems frequently.

## **VII. Necessary Health Practices among Children:**

### **A. Habit of neat clothing:**

Clothes are the main defender against the external heat, radiations, U.V rays and other factors. It has a great impact on human body. Clothing differs according to the seasonal changes and geographical conditions and certainly clothes should be wearing as per the need of the body instead of acquiring benefits. Besides dirty clothes lead to local infections on the skin, if the clothes are infested with lice and it is suspected that the body of lice are especially found on the inner surface of the clothes then it is advised that the clothes should be boiled before washing to destroy the eggs, nymphs and adult lice which is more beneficial than spraying insecticides on the clothes.

People should be aware of using common combs and clothes to avoid transmission of lice and infections. Tight fitting clothes should be avoided as they interrupt the normal blood circulation, respiration, digestion and other muscular functions. Loose clothing and light colored clothes are recommended especially during night time as it achieves maximum comfort as well as allows optimum circulation in the periphery without any hindrance.

The number of clothes we change depends on the socio-economic conditions of the family and also on the occupational status. It is a good thing to change the clothes on the daily basis otherwise they should be changed at least with an interval of 2 days. It is very important that one should not wear the clothes of other person, as there is a high risk of transmitting infections and contagious diseases. The clothes should be washed thoroughly with soaps/detergents in hot water and they should be dried in sunlight at last they should be ironed and wear to kill the germs completely.

### **B. Habit of Tooth Brushing:**

This is the best means for removal of food debris and dental plaque. Dental plaque is the name given to soft porous material that accumulated around the neck of teeth.

Unani physicians also prescribe miswak for strengthening of teeth and gums. It is not only clean the teeth but also provide good long lasting smell in the oral cavity which makes a good feeling. It strengthens the digestive power of stomach and also helps in shifting the collection of purified, tenacious and viscous humour from central nervous system and brain to the excretory organs. It makes them suitable for normal excretion. It also removes collection of thick fluid from sinuses which help to provide relief in certain type

of headache. Teeth should be cleaned at least twice a day. Many people countrywide also use tender twigs of Neem or Babul (Acacia) as a tooth brush and ash or charcoal as a tooth powder. Soon after eating food the teeth should be cleaned and mouth should be rinsed because the food particles in the mouth begin to ferment and form an acid within 15-20 minutes.

**Use of fluorides:** If drinking water contains less than 0.5mg of fluorides/ liter excessive dental carries are observed. The optimum level of fluorides in drinking water should be in between 0.5 – 0.8 mg /liters. It is seen to be a common practice in many developed countries to add fluorides to drinking water especially in fluoride deficient areas. This technique helps in reducing 15-20% of dental carries. The use of fluoride is valuable in preventing Dental caries.

### C. Diet:

One should avoid excessive intake of refined carbohydrates such as sugar, sweets, pastries, cakes, chocolates and biscuits which promotes dental caries. Soft and sticky foods that adhere to teeth produce more decay than that of other foods. On the other hand intake of fruits and vegetables such as apple and carrot etc reduce the frequency of dental caries. These fruits are natural tooth brushes and their daily intake should be promoted. Certain habits also promote dental caries such as ; habit of holding sweet in mouth causing marked increase in tooth decay, similarly babies holding bottle of milk while feeding or juices in their mouths frequently when going to sleep likely to develop dental caries. Habit of eating snacks frequently in between meals also favours tooth decay.

Researchers have proved that parental example has the strongest influence upon child health as well as dental health practice. Foundation for good oral health should be laid in early childhood.

**Regular Dental Checkup:** Dental checkup should be recommended twice in a year for early diagnosis and treatment of dental ailments. In some countries regular dental services are provided to all school children.

### D. Habit of Bathing:

Bathing is the second important and necessary health practice needed to maintain a good health and personal hygiene among individuals. Bathing not only keeps our skin and body clean but also improves the blood circulation and also gives the sense of freshness to body, mind and soul. Every individual is exposed to dirt, toxic compounds and many other impurities. Human skin is resistant to a few of these but not all which in future many make a foot step to disease. Apart from this skin is also responsible to remove many biological waste particles produced in the human body through its pores by means of sweat. Every square inch of skin shows approximately 100 – 150 preparatory pores and in every 24 hours the skin expels out nearly 1 to 1.5 liters of sweat and toxic wastes through the sweat pores. If the skin is not cleaned periodically the pores get clogged as well as malodor. Hence it should be made compulsory for every individual to have a bath at least once in a day or else in alternative days. Since skin is the only receptor which usually comes in contact with the External Environment and obviously in accumulate dirt on it. The accumulated dirt consists of solid particles which are left over from the evaporated sweat, bacteria or germs and dead epithelial cells. These dirt particles clogs the opening of sweat glands and if these are not removed frequently they may lead to skin infections like boils, scabies, psoriasis,

eczema etc.

Daily bath with antiseptic soaps and clean water is essential not only to remove the dirt but also to keep the body free from all odors and germs. Soap is a good surface cleansing agent. It should be applied to the body directly especially on the axilla and on the back of the neck where the perspiration is marked. After bathing the body should be thoroughly dried with a clean cloth. It is equally important to change the undergarments at least once in a day to keep the body hygienic and also to keep the body odorless.

#### **E. Technique of Bathing:**

One should use clean water for bathing; otherwise instead of getting benefits one may invite troubles. While taking bath we should rub our body fully to dislodge the sustained dirt blocking the pores of our skin. Apart from these the soaps used should be of unpleasant fragrance which gives a feeling of getting rid of germs and all impurities and also a sense of pleasant experience. In order to have compatibility, with the extremes of temperature one should avoid hot water bath in summer instead of warm water and in winter season one should use hot water which will bring concealed waste products (fuzlaat) towards the skin pores for expulsion. After bath a clean rough towel is used to rub against the skin thoroughly, this will ensure adequate blood circulation and toning of skin. Bathing is very essential among school going children. As every child spends most of his time with other children. So it is beneficial in preventing many kinds of diseases.

#### **F. Habit of Hand wash with soap before eating and after defecation:**



**Fig. 10 Hand wash practice of students**



**Fig. 11 Hand wash practice of students**

It has been recognized that Hand Wash is one of the most effective and simple way to reduce the transmission of diseases among children. Hands and nails pick up dirt and bacteria easily as they come in contact with many things in our daily routine. So they should be kept clean all ways by washing with an anti-bacterial soaps or handwash from time to time, especially before going to eat and after attending toilet. Many serious and life threatening diseases can be transmitted through unhygienic and dirty hands.

Especially through feaco-oral routes, when hands are not washed after defecation. Escherichia Coli, Cholera, typhoid fever, food poisoning, poliomyelitis and Hepatitis A etc. are some dangerous diseases which can easily be transmitted through the feaco-oral routes and unwashed hands.

- Hands should be washed before meals.
- Before handling food material and utensils etc. & before going to cook.
- Hands should be washed after handling raw food.
- After licking fingers.
- After touching pimples or sores, coughing, sneezing eating.
- After handling waste products
- After touching nose, ears, hairs or any other bare parts of the body.
- After handling animals & after completing the duty of cleaning house.
- And last but not the least and very importantly hands should be cleaned after defecation i.e. after attending toilets

### G. Technique of Hand Wash:

Children should be advised to use like warm water to wet their hands before applying hand wash or soap to prevent irritation. They should be asked to rub their hands together vigorously for about 10 – 15 seconds and make sure that both sides of their hands should be washed thoroughly around the thumbs, between each and every finger and lastly around and under the nails. Then tell them to rinse with clean water. After cleaning allow the children to dry their hands thoroughly because if hands remain wet then the germs will spread more easily. So at least ask them to use a clean dry towel or tissue paper to dry their hands. Themes related with hand wash are: 2008 is mentioned as “International year of Sanitation”.

### MATERIALS AND METHOD

A Health survey programme (for about 6 months) among the primary school children studying from 1<sup>st</sup> to 4<sup>th</sup> classes was organized to determine the factors affecting the health status of primary school children and also to detect the leading morbidities in children related with the unhygienic conditions and poor health practices.

- **Study procedure:**

After taking necessary permission from our Honorable Principal to complete the research proposal by Conducting Health Survey Programmes in primary schools and by obtaining consent from the Head Mistress of the Schools a Health study programme was conducted. The Head's of schools instructed their staff members to extend their fullest co-operation. The type of study, its purpose and the schedule of visits were intimated before conducting the Health survey programme.

- **Study Area:**

The study was conducted in the area containing 2 schools one Urdu medium primary school and the other is an English medium primary school, offering education from 1<sup>st</sup>- 4<sup>th</sup> Standards. The children were mainly from neighbouring slum and upper slum localities. The Health Survey programme was conducted in both primary schools to determine the factors affecting the health status of primary school children and also to detect the leading morbidities in children related with the unhygienic conditions and

poor health practices.

- **Study Design:**

A onetime observational survey based cross-sectional study also called as 'Prevalence Study' was conducted among the primary school going children to determine the factors affecting the health status of primary school children and also to detect the leading morbidities in children related with the unhygienic conditions and poor health practices.

- **Study Period:**

The study was conducted for the period of 6 month.

- **Study Sample Size:**

As the study area include two primary co-education schools comprising classes from 1<sup>st</sup> to 4<sup>th</sup> and the age of the subjects included in the study sample was between 5-11 years. There were four sections each in a class. But the sections of the class with leisure period were taken for check up during the study. Thus 500 children were selected by using 'Simple Random Sample' method from the total to include in the study as a sample size so as to keep the data as precise as possible.

- **Inclusive Criteria:**

- Children of age group 5 – 11 years.
- Students studying from 1<sup>st</sup> – 4<sup>th</sup> Standard.
- Both male and female students.
- Students from both English and Urdu medium primary schools.

- **Exclusive Criteria:**

- Children below the age of 5 years and above 11 years.
- Students studying in upper primary and high school
- Students of Primary schools other than the study area.
- Children with systemic diseases and other complications were excluded from the study.

- **Criteria for Assessment:**

The criteria for assessment in the study were based on the subjective and objective parameters. The result is calculated in percentage (%) and the findings are depicted in the form of "Tables and Figures". The data thus collected is analyzed and the result is evaluated using appropriate Statistical tests.

**Subjective Parameters:** It includes -

Demographic parameters such as sex, age, socio-economic status, religion of the students studied. The general physical examinations depend upon the condition of clothing, hairs, nails, teeth and nose. Necessary health practices such as habit of brushing, bathing, hand wash with soap before eating and after defecation and physical activities. Depending upon the marks obtained the status of personal hygiene was determined as poor, fair or good. To emphasize the morbidities associated with unhygienic and bad health practices.

- **Objective Parameters:** It includes –

The tools were pre-tested and pre-designed. The questionnaire regarding putative indicators is used to interview the students about their personal hygiene, health practices and their family particulars. Stethoscope, clinical thermometer, weighing machine and measuring tape were used to record the respiratory rate, body temperature, weight and height of the students respectively.

- **Inference of the Result:**

General examination and examination about necessary health practices were scored as 1, 2, and 3 for the poor, fair and good ranking respectively.

The score of all the observation were then cumulated to infer the level or status of the personal hygiene as - Good / fair / Poor.

- **Data Collection:**

The children were interviewed about the necessary health practices by using a pre designed - School Survey Questionnaire. Each and every child was assessed by the same questions individually and accordingly with the help of class teacher, the children were graded under scoring technique. The age of children was calculated by referring school records or registers. Thus age is calculated up to the nearest completing month. Since children more than 11 years were not included. The ongoing survey was conducted for about 6 months i.e. twice in a week and on each day of the survey 12-15 subjects were examined and interviewed. Subsequently the parents of the students included in the study sample were also informed to make a visit, as to know about their education, occupation and family income. Parents of some students approached during the study period. Some parents were personally interviewed on the Parent's Meet Day (Open Day). Some families of the examined students were contacted through phones by collecting their phone numbers from school records. Some families were neither visited nor approached personally and their phone numbers were also not available, to such families questionnaire were sent to their homes and the students were made sure to return back the questionnaire after filling by their parents.

- **General or Physical Examination :**

A complete physical examination of each and every child from head to toe was done keenly by observing and interviewing and the deviations were recorded. The children were examined based on their condition of clothing, hairs, nails, teeth, and nose.

- **Anthropometry:**

- Pulse rate was recorded manually in (t/min)
- Respiratory rate was recorded with the help of stethoscope, in (t/min).
- Body temperature was recorded by using common clinical thermometer under the scale (°F)
- Weight and height of the children were also recorded with the help of pre-tested tools like weighing machine and common height measuring scale respectively.

## VIII. Observation and Results

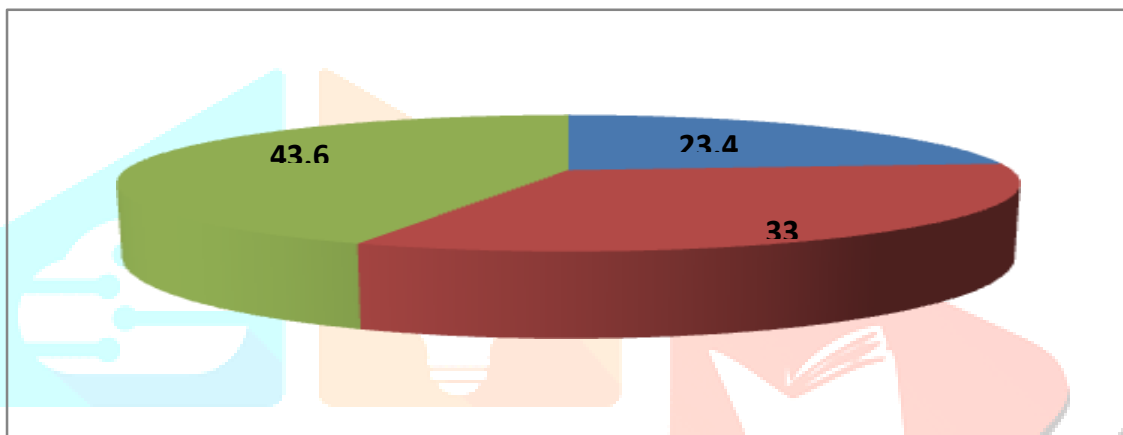
The distribution of demographic parameters of the group of students studied.

**Table no. 1) The distribution of age of the group of students studied.**

Demographic Parameter	No. of Students (n=500)	Percentage(%)	Chi-Square value ( $\chi^2$ )	P-value
<b>Age Group (years)</b>				
5 + to 6+	117	23.4	30.678	0.001
7 + to 8+	165	33.0		
9+ to 10+	218	43.6		

P-value less than 0.05 is considered to be statistically significant

**Figure no. 1) The distribution of age of the group of students studied.**

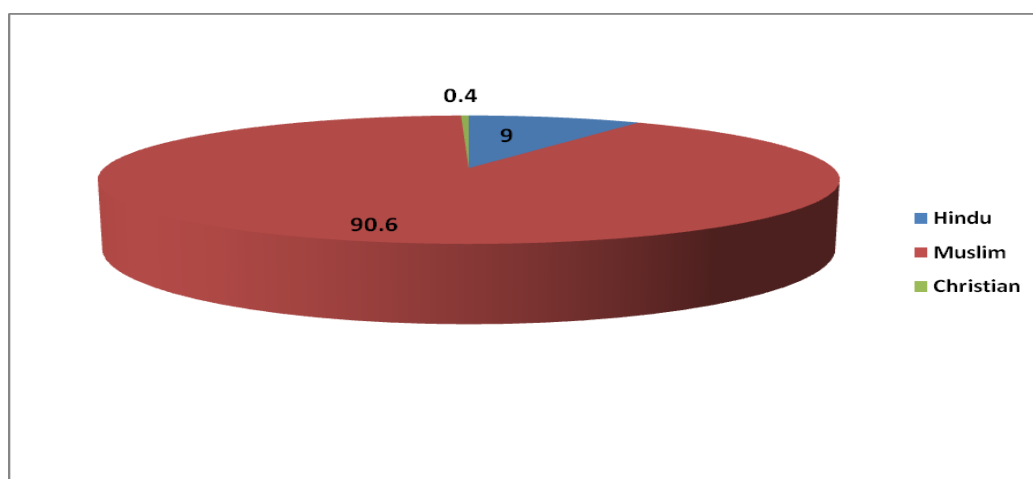


### Comments:

- The age distribution of the participating students is significantly different.
- Majority of student's age was between 9+ - 10+ years at the time of study.

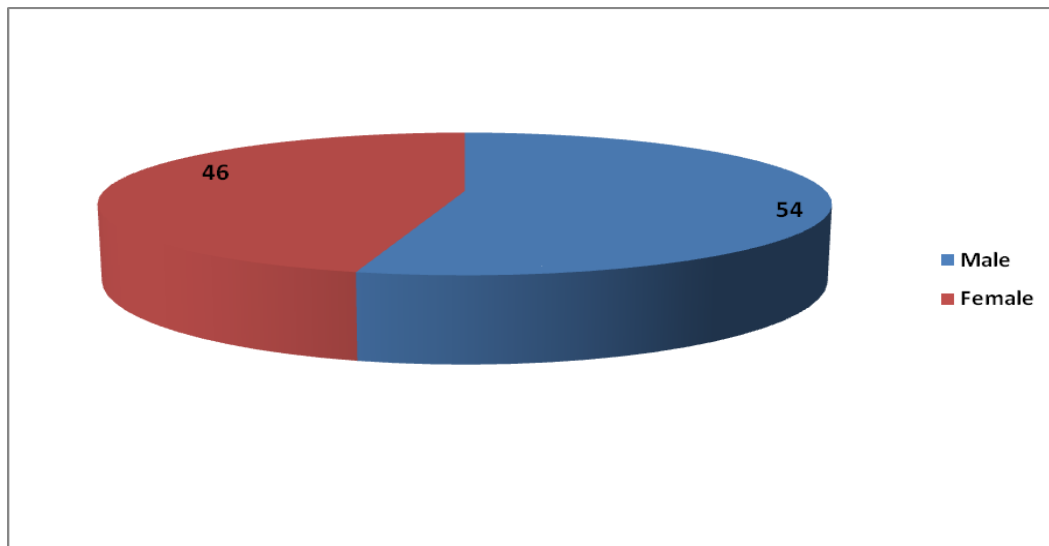
**Table no. 2) The distribution of sex of the group of students studied.**

Demographic Parameter	No. of Students (n=500)	Percentage (%)	Chi-Square value ( $\chi^2$ )	P-value
<b>Sex</b>				
Male	270	54.0		
Female	230	46.0	3.200	0.074



P-value less than 0.05 is considered to be statistically significant.



**Figure no. 2) The distribution of sex of the group of students studied.****Comment:**

- The distribution of sex of the participating students is not significantly different.

**Table no. 3) The distribution of religion of the group of students studied.**

Demographic Parameter	No. of Students (n=500)	Percentage(%)	Chi-Square Value ( $x^2$ )	P-value
<b>Religion</b>				
Hindu	45	9.0	723.947	0.001
Muslim	453	90.6		
Christian	2	0.4		

P-value less than 0.05 is considered to be statistically significant.

**Figure no.3) The distribution of religion of the group of students studied.****Comments:**

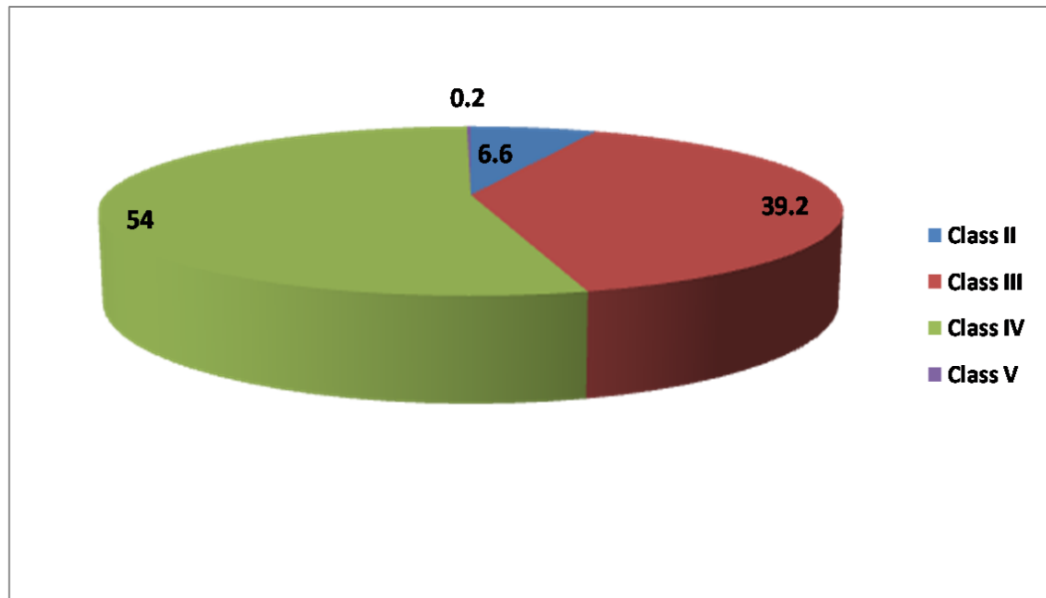
- The religious status of the participating students is significantly different.
- Majority of students were Muslims.

**Table no. 4) The distribution of socio-economic status of the group of students Studied.**

Demographic Parameter	No. of Students (n=500)	Percentage(%)	Chi-Square value ( $x^2$ )	P-value
<b>Socio-EconomicStatus</b>				
Class II	33	6.6	160.341	0.001
Class III	196	39.2		
Class IV	270	54.0		
Class V	1	0.2		

P-value less than 0.05 is considered to be statistically significant.

**Figure no. 4) The distribution of socio-economic status of the group of Students Studied.**



**Comments:**

- The socio-economic status of the participating students is significantly different.
- Majority of students belong to upper lower (IV) socio-economic class.

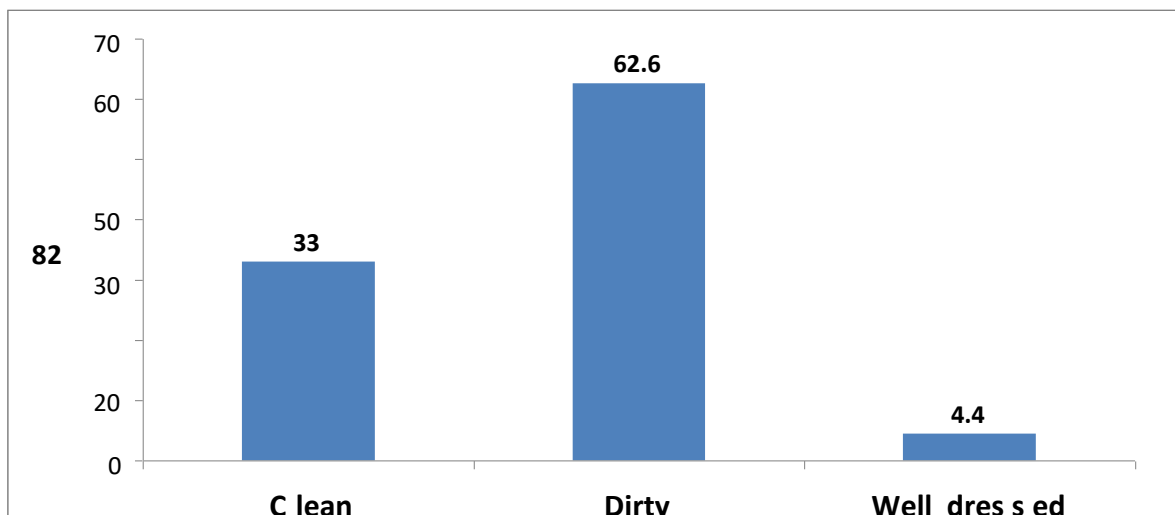
**The distribution of general physical examination of the group of the students studied.**

**Table no. 5) The distribution of general physical examination (Clothing).**

General physical examination	No. of Students (n=500)	Percentage (%)	Chi-Square value(x <sup>2</sup> )	P-value
<b>Clothing</b>				
Clean	165	33.0	254.068	0.001
Dirty	313	62.6		
Well dressed	22	4.4		

P-value less than 0.05 is considered to be statistically significant.

**Figure no.5) The distribution of general physical examination (Clothing).**



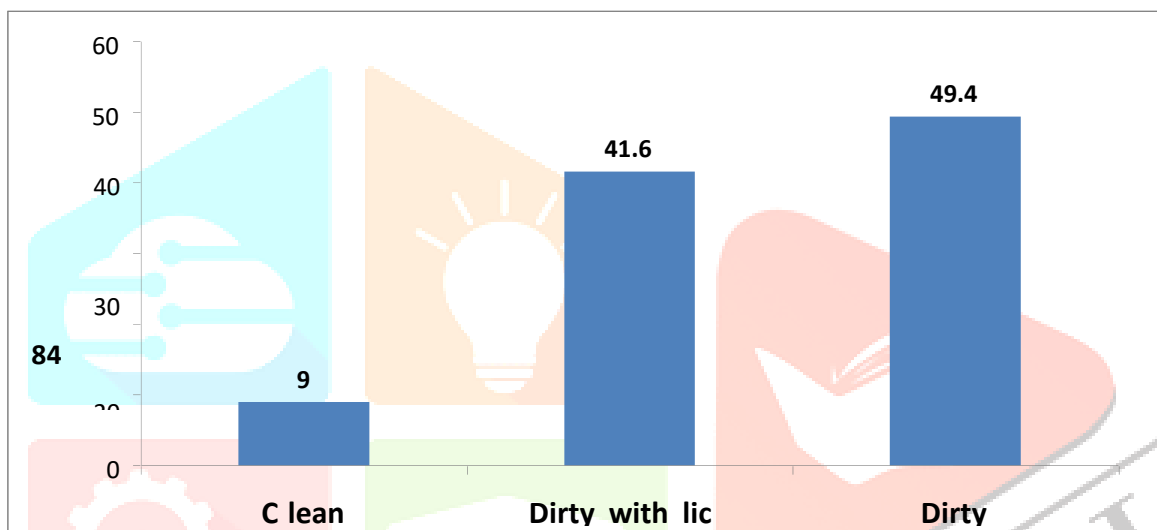
**Comment:**

- Significantly higher proportion of students had dirty clothing.

**Table no.6) The distribution of general physical examination (Hairs).**

General physical examination	No. of students (n=500)	Percentage (%)	Chi-Square value (x <sup>2</sup> )	P-value
<b>Hairs</b>				
Clean	45	9.0	137.788	0.001
Dirty with lice	208	41.6		
Dirty	247	49.4		

P-value less than 0.05 is considered to be statistically significant.

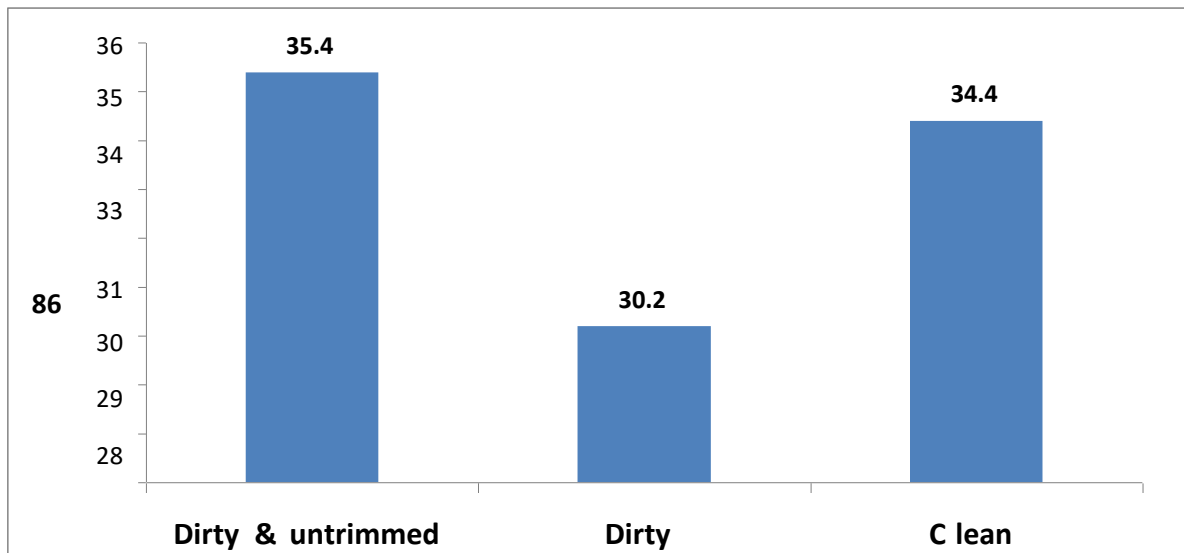
**Figure no. 6) The distribution of general physical examination (Hairs).****Comments:**

- Significantly higher proportion of students had dirty hairs.
- However 41.6% of the students had dirty hairs with lice infestation.

**Table no.7) The distribution of general physical examination (Nails).**

General physical examination	No. of Students (n=500)	Percentage (%)	Chi-Square Value (x <sup>2</sup> )	P-value
<b>Nails</b>				
Dirty & untrimmed	177	35.4	2.284	0.319
Dirty	151	30.2		
Clean	172	34.4		

P-value less than 0.05 is considered to be statistically significant.

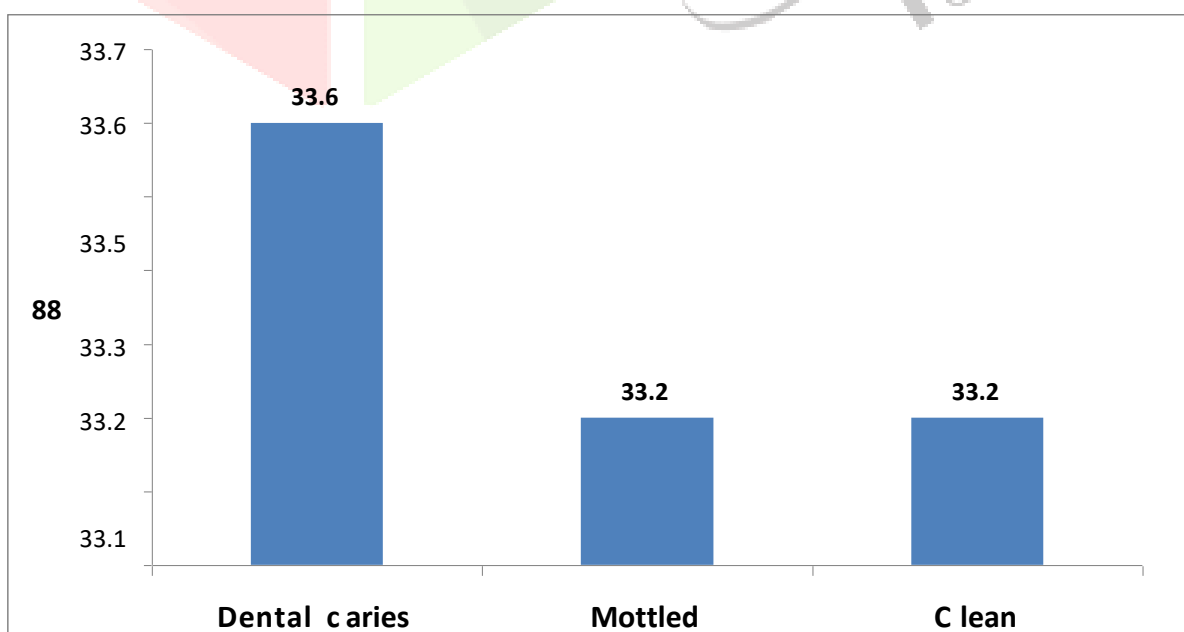
**Figure no.7) The distribution of general physical examination (Nails).****Comment:**

- ☑ Significantly higher proportion of students had dirty and untrimmed nails.

**Table no. 8) The distribution of general physical examination (Teeth).**

General physical examination	No. of Students (n=500)	Percentage(%)	Chi-Square value ( $\chi^2$ )	P-value
<b>Teeth</b>				
Dental caries	168	33.6	0.016	0.992
Mottled teeth	166	33.2		
Clean	166	33.2		

P-value less than 0.05 is considered to be statistically significant.

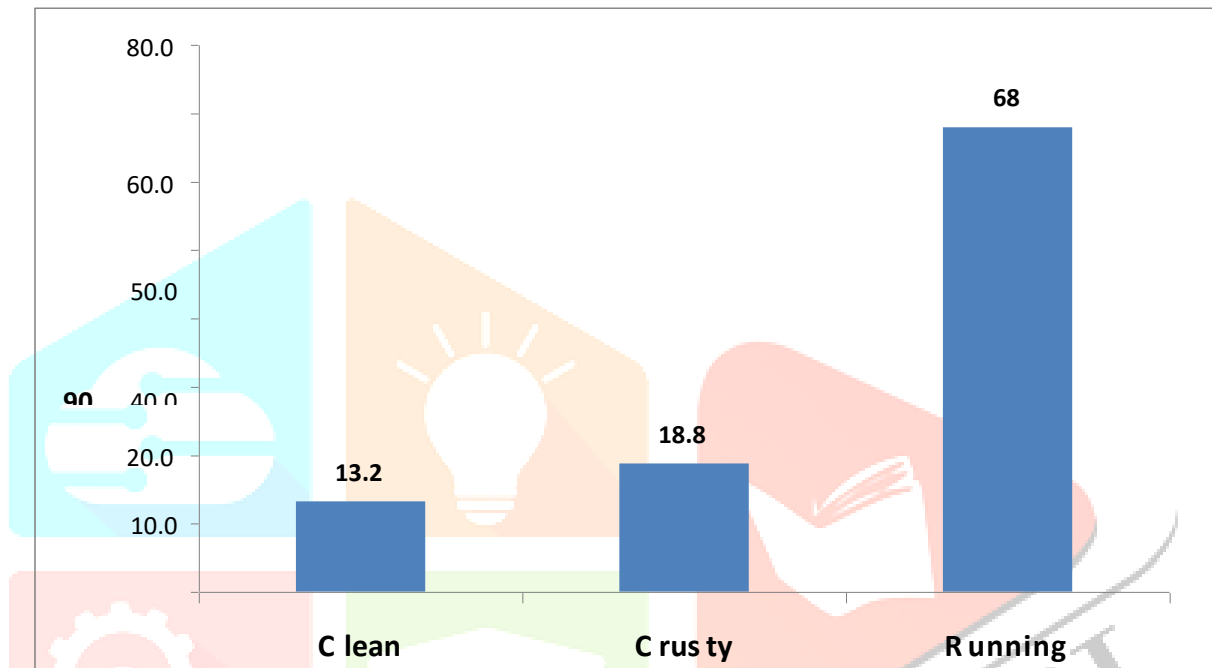
**Figure no. 8) The distribution of general physical examination (Teeth).****Comment:**

- ☐ Significantly higher proportion of students had dental caries.

**Table no. 9) The distribution of general physical examination (Nose).**

General physical examination	No. of Students (n=500)	Percentage (%)	Chi-Square value ( $\chi^2$ )	P-value
Nose				
Clean	66	13.2	272.752	0.001
Crusty	94	18.8		
Running	340	68.0		

P-value less than 0.05 is considered to be statistically significant.

**Figure no. 9) The distribution of general physical examination (Nose).****Comments:**

- Significantly higher proportion of students had Running nose.
- However 18.8% of the students had crusty nose

**CONCLUSION**

Health is the primary asset for human life. Practice of personal hygiene plays major role in personal health management which can be inculcated through proper health education. The continuous health education and guidance may help the student to practice personal hygiene. Changes in the health behavior of school children are possible if the health education intervention is properly implemented to them. Teachers need to provide health education intervention for school children, for improving personal hygiene among them, at various levels. Curriculum must give more emphasis on the topics of personal hygiene education for developing healthy human resources and bright future of the nation. From the present study conducted among school children in government school, Kolkata, it can be concluded that the percentage of hygiene practices among school children was found to be satisfactory, however when asked to demonstrate correct hand washing procedure, 86.1% demonstrated the same in an incorrect manner. Majority of students seem to use clean, filtered water for drinking purpose, however the filtration methods they were using and reliability of those methods were not studied. As a component of Swachh Bharat Abhiyan in India, knowledge and practices

regarding basic hygiene and sanitation appears to be satisfactory, however knowledge regarding correct procedures seems to be lacking.

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