



KNOWLEDGE AND PRACTICE OF HYGIENE AMONG PRIMARY SCHOOL STUDENTS IN PULWAMA DISTRICT OF JAMMU AND KASHMIR, INDIA

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ABSTRACT

The personal Hygiene relates to the promotion of personal health. Good personal hygiene is an aid to health, beauty, comfort and happiness. Clean hands possess clean books that achieve better grades.(Yalcin & Altin, 2004). This study may be useful to the “Ministry of Public Health and Sanitation, Ministry of Education, World Food Programme (WFP)” and other advancement accomplices managing training and wellbeing of school going youngsters so as to structure mediations to improve nourishment related practice. The purpose of this study is to find out the knowledge related to personal hygiene and to find out the different types of hygiene practices among primary school children of district Pulwama of Jammu and Kashmir, India. As we know that personal hygiene has a direct relationship with the health of the children. So, there is a need of this kind of study to be conducted in almost every part of the world. We are also doing a little effort to carry such a research in the district Pulwama, which is one of the districts in the Union Territory of India. A total of 400 students participated in this descriptive study, “200 boys (50.0%) and 200 girls (50.0%). The age distribution of the study population was between 9–11 years with majority (34.0 %) being 11 years. Mean age was $10.01 \pm 0.9SD$. The average household size was $4.9 \pm 1.4 SD$ with maximum of nine members and minimum of three members in a household. Questionnaire and interviews were used to collect data. Washing of hands before eating (91%) (N=364) were the top ranked hygiene practices and washing of hands after playing (9%) were the least ranked hygiene practice as reported by the students. It is revealed during this study that oral hygiene practices are comparatively poor in the students. After waking up in the morning only 8% (N=32) brush always and 89% sometimes. While as 79% never brush their teeth before going to bed. In this study t-value came out to be 5.34, which is significant at 0.01 level means boys and girls vary significantly with respect to their mean scores on awareness regarding hygiene. It was found that 72% (n=288) of students obtain hygiene knowledge from parents and 45% (N=180) from teachers. Without Proper Health , Good Education Is Not Possible; and Without Proper Education, Health Suffers.

KEYWORDS: Primary school children, oral hygiene, hand hygiene, Hygiene practices.

1. INTRODUCTION

The old saying, “healthy mind in a healthy body is absolutely correct. No one can achieve any considerable measure of success without sound health. Health is the best capital and friend of man” (Charles & Gopal, 2011, p.7). It is totally accepted that- “When health is absent wisdom can not reveal itself, art cannot manifest, science cannot develop, strength cannot fight and wealth becomes useless. In this type of research, the purpose is to find out knowledge about hygiene and to observe the different types of hygiene practices (like oral, body, hand hygiene etc) in the primary schools of district Pulwama of Jammu and Kashmir, India. As we know that personal hygiene and has a direct relationship

with the health of the person. So, better hygiene and diet (nutrition) gives us better children which in turn will give us a better nation. So, there is a need of this kind of study to be conducted in almost every part of the world. We are also doing a little effort to carry such a research in the district Pulwama, which is one of the districts in the Union Territory of India. Research has showed that “Good nutrition, hygiene and education are key factors on the global agenda. None of these three factors alone, however, will suffice to achieve social and economic development; only in combination will they enable progress towards a world without poverty and hunger” (Food Agricultural Organization [FAO], 2005a).The word hygiene is taken from Hygieia “the Greek goddess of



health cleanliness, sanitation". Good hygiene is a vast term. In nutshell it means keeping your whole body clean which includes oral, hand, feet etc. Majorin & Freeman (2014) revealed that "One gram of feces contain 10 million viruses, one million bacteria, 1000 parasite cysts and 100 worm eggs." Importance of personal hygiene should be inculcated in children right from a very young age, and it should be started from pre primary classes. Emphasis on habits such as:

1. Washing hands before eating.
2. Taking bath daily.
3. Brushing teeth twice a day.
4. Combing hair.
5. Wearing clean clothes.
6. Wearing footwear, preferably shoes.

School children mostly are enthusiastic towards playing and are careless about personal hygiene, shortage of information and practices of food. Little knowledge, guidance and attitudes towards individual hygiene such as "hand washing play a major roles in the occurrence of communicable (diseases that can spread) diseases and therefore have negative consequences for a child's long term all-round development". The family is the main source of nutrition and hygiene knowledge and also gives an appropriate environment to practice what is taught in schools. In addition to this "what is taught in school is influenced by the school curriculum". Though the school curriculum plays a key role in improving pupil's knowledge it is obviously not an adequate source of knowledge, collaboration, of all the stakeholders is of importance if pupils are to achieve adequate nutrition knowledge. The school environment is also an appropriate setting for wisdom and practicing what is learnt in school and at home. The simple practice of proper hand washing techniques and nail cutting must be demonstrated to these children and classrooms must have pictures explaining the importance of hygiene so that the concept sinks in their mind at a young age. In such matters, mother's participation in the school is necessary and special classes for mothers at school premises could be arranged on these topics such as healthy habits and nutrition. In our environment, any teaching to the child should be such that the child carries these messages home. Teachers must be role models to the students by adapting these practices themselves and must dress smart to school. School environment too must be clean. Adequate dustbins should be provided for proper disposal of waste. The cleanliness of classrooms must be assigned to different groups of students which help students to develop sense of cleanliness. Toilets in schools are essential things for maintaining hygiene. Proper toilet habits have to be developed in pupil right from beginning. Many of the children don't drink enough water in order to avoid using toilet during school time and latter they may develop urinary infections. The girls have an additional hygiene problem

(problem of menstruation). Hygiene related to menstruation of girls must be given awareness and should be given some practical instructions. The motto "CLEANLINESS IS GODLINESS" must be promoted with full vigor in schools.

Scope of Personal Hygiene: Scope of personal hygiene include-

- ❖ Daily cleaning with water body and hair.
- ❖ Periodically washing of hands and face.
- ❖ Cleaning of teeth daily.
- ❖ Washing of clothes with detergent.
- ❖ Remaining away from unhygienic people.
- ❖ Discouraging of habits such as touching the eyes, face, nose etc.
- ❖ Not picking fingers before picking up sheet paper.
- ❖ Avoiding nail biting.

Contribution of Personal Hygiene: Personal hygiene contributes to the following:

- 1) Protecting the child from germs.
- 2) Preventing diseases.
- 3) Giving the child a feeling of freshness.
- 4) Making him attractive.
- 5) Keep him physically fit. (Aggarwal, Gupta, 2007,pp.163,164).

Practical Activities for Personal Hygiene and Cleanliness: Following are the practical activities:

- 1) Bathing in clean water.
- 2) Eating eatables before washing them.
- 3) Articles like comb, handkerchief, towels, etc should not be shared with others.
- 4) Trimming nails every week regularly.
- 5) Avoiding biting nails.
- 6) Keeping teeth clean. Sparking teeth are attractive. Dirty teeth bring foul breath and toothache.
- 7) Wash clothes with clean water and drying them in open sun.
- 8) Washing hair and groom, dirty hair breeds lice.
- 9) Using footwear to protect feet from injury and worms.
- 10) Sound sleep is good for health.
- 11) Developing regular habits of food.
- 12) Not putting dirty fingers in mouth, nose, ear etc
- 13) Avoiding the use of pointed objects to clean teeth and ears.
- 14) Having plenty of rest when sick.
- 15) Breathing mostly from nose.
- 16) Drinking only purified water.
- 17) Using latrine and not in the fields.
- 18) Washing fruits and vegetables before consuming them.
- 19) Be psychologically strong.
- 20) Not using stale food.

Equipments Needed In School:

- 1) Water bowls.
- 2) A pair of scissors.
- 3) Some sheets of plastic.



- 4) Mugs.
 - 5) Towels.
 - 6) Tooth paste.
 - 7) Combs.
 - 8) Mirrors.
 - 9) Hair oil.
 - 10) Toilet must.
 - 11) Washing soap.
 - 12) Napkins.
 - 13) First aid box.
- Necessary utensils.

2. OBJECTIVES

- 1) To find out the socio-demographic characteristics of the children.
- 2) To find out the knowledge and practice of personal hygiene among the primary school students.
- 3) To compare the importance of personal hygiene between male and female students.
- 4) To find out the difference between the personal hygiene knowledge of boys and girls.

- 5) To find out sources of knowledge of primary school students about personal hygiene.

3. METHODOLOGY

1. **Research design:** A research design is the set of procedures and methods used in collecting and analyzing measures of the variables particular in the research problem. The research design defines the type of study. Here in this study research design is to find out the knowledge and practices related to personal hygiene among primary school children in the Pulwama district of Jammu and Kashmir, India.
2. **Variables:** There are two types of variables- “dependent variables and independent variables. The dependent variable here includes washing of hands with soap before and after eating, washing of hands with soap after visiting the toilet and washing of fruits and vegetables with clean water before eating them”. The independent variable includes “socio-demographic and socio-economic characteristics of the children”.

Table 1: Shows the Total No. of Government schools as per zone in the district pulwama.

S.No	Zone	School	No.
1	Awantipora	Primary	51
		Middle	27
		High school	9
2	Kakapora	Primary	69
		Middle	33
		High school	9
3	Lurgam	Primary	68
		Middle	28
		High school	7
4	Pampore	Primary	44
		Middle	29
		High school	6
5	Pulwama	Primary	48
		Middle	32
		High school	9
6	Shadimarg	Primary	76
		Middle	35
		High school	14
7	Tahab	Primary	81
		Middle	36
		High school	10
8	Tral	Primary	61
		Middle	27
		High school	6

The target population of the study is government primary school students. Research has shown that, “nutrition education and other interventions targeting small children are most successful in early school years, since behavioral

pattern become more resistant to change after class six.”(Murphy et al ; 1994). In district Pulwama there are eight educational zones namely-Pulwama, Tahab, Kakapora, Tral, Awantipora, Lorgam, Pampore, and Shadimarg. With the help of random sampling, the investigator selected four zones e.g. zone Pulwamat,



zone Tahab, zone Pampora, and zone Kakapora. The investigator selected 10 students from each school, 5 boys and 5 girls. For this the investigator visited (10 multiplied by 40 equal to 400 students) 40 schools. In other words we can say that the investigator selected 100 students from each zone ie 400 students from 4 educational zones. In the school level “stratified random sampling” was used to choose students from both the sexes. A ratio of boys to girls as 1:1 was calculated. The sample is selected with the help of formula given below:

Cochran’s Sample Size Formula:

Cochran’s formula is

$$n = z^2pq/e^2$$

e = “desired level of precession”.

p = “is the (estimate) proportion of the population which has the attribute in question q = 1-p”

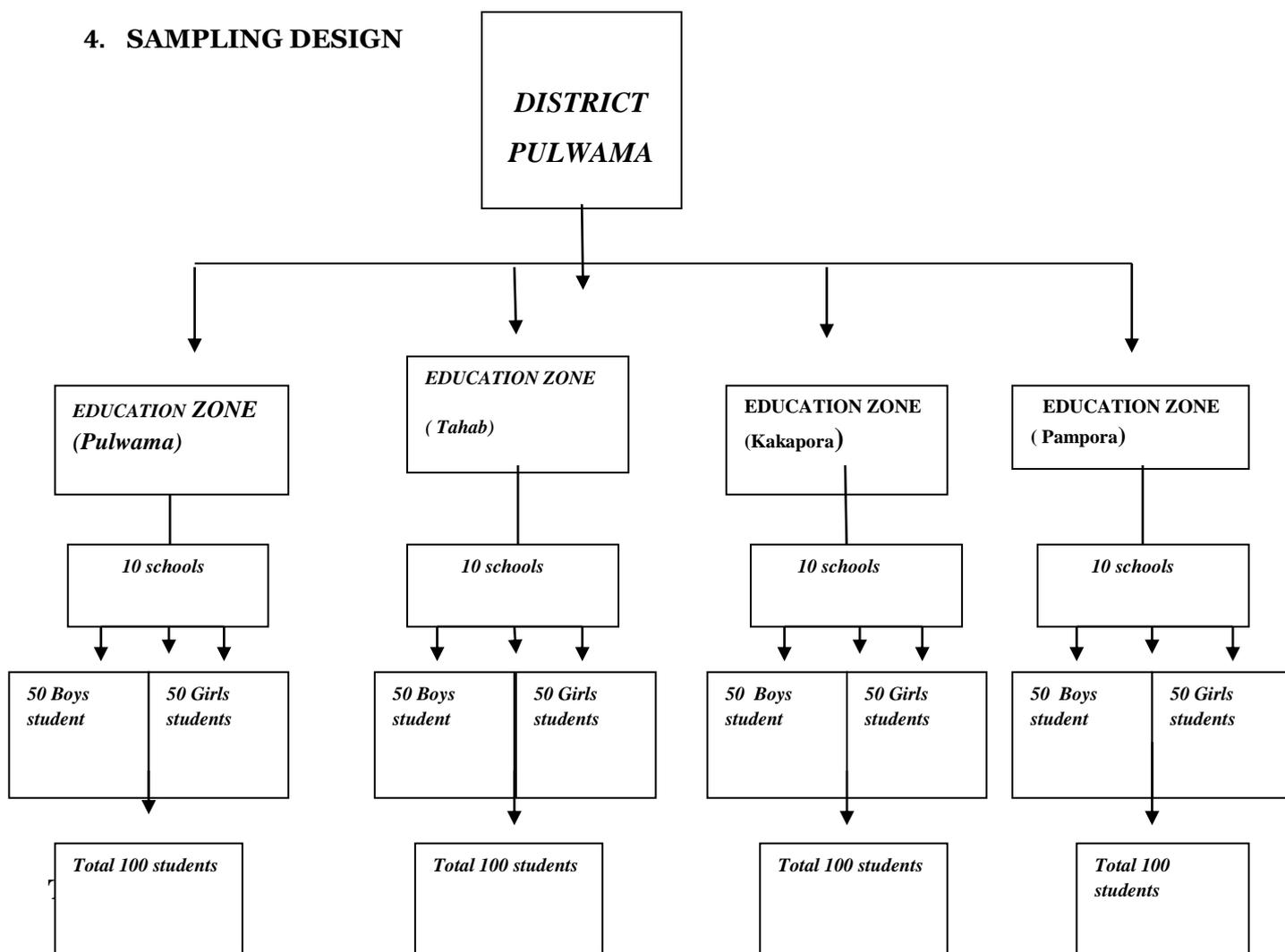
z = found in z table (selected critical value)

Applying the above formula here in this study.....

$$n = (1.96)^2 (0.5) (0.5) / (0.05)^2 = 385 = 400$$

Hence, our sample size is 400 students.

4. SAMPLING DESIGN



5. Statistical techniques: The investigator took the help of different statistical tools like mean, %, SD and t- test to organize, summarize, and analyze the collected data and draw the valid conclusions and reasonable deductions.

- Percentages:** Ratios or proportions with the base 100 are more easily understood and compared. Here in this study total knowledge of hygiene is converted into the percentage.
- Means:** The investigator used the mean to summarize the facts into few significant

figures which is then easily understood and compared. For example, the mean hygiene knowledge of girls is higher than boys. A good average should be rigidly defined; it should be based on all the observations of data; it should not be affected by fluctuations of the sampling. Here in this study, mean helped us in t- test to show the significant difference between boys and girls for the variable hygiene.

- Standard Deviation:** Standard deviation is the most important measure of “dispersion”.



It takes the value of every observation into account but does not suffer from the same arithmetical deficiencies as the mean deviation. Mathematically, it is equal to under root of variance. Here we calculated the standard deviation of two groups which in turn helped in t test.

4. **t- Test:** when there are only two groups to be compared through their sample statistics or parameters, the statistical test that is used for analyzing the data is known as t- test. There can be mainly two kinds of situations with the groups and each group can be small or large in sample size. Here the investigator used the independent group t test to calculate the difference between the hygiene knowledge between boys and girls.
5. **Bar diagram:** This is the simplest pictorial representation of categorical data. The investigator represented the categories along the horizontal axis and the frequencies or scores obtained on the vertical axis in the form of bars.
- 6.

5. GEOGRAPHICAL AREA

Location of study: The study has been conducted in Pulwama District of Kashmir division. District “Pulwama” came into creation in the year 1979. This district consists of eight educational zones: Tral, Pampore, Pulwama, Kakapora, Awantipora, Shadimarg, Lurgam & Tahab. According to 2011

census, “Pulwama district has a population of 570060. This gives it a ranking of 535th in India (out of total of 640). The district has a population density of 598 inhabitants per square kilometer. Literacy rate of the district is 63.48% with 74.36% literacy rate of males and 51.8% of females. The overall literate population of the district is 293958 including 178326 are males and 115632 are females. Pulwama district has a sex ratio of 913 females for every 1000 males. The population of children in the age group of 0-6 years accounts for 97,374, among them 53234 are male children and 44140 are female children. The sex ratio of child population in the age group of (0-6 years) is 829”.

6. RESULTS

The next step after data collection is the analysis, interpretation, calculation and organization of data. Data analysis is the process of inspecting, rearranging, modifying, and transforming data to extract useful information from it. Data is unorganized information. Statistics helps us to organize this data and draw the meaningful conclusions. Statistician **John Tukey** defined data analysis in 1961 as: “*Procedures for analyzing data, techniques for interpreting the results of such procedures, ways of planning the gathering the data to make its analysis easier, more precise or more accurate, and all the machinery and results of (mathematical) of statistics which apply to analyzing data.*”

Demographic characteristics of study pupils

Table 2: Showing the Demographic characteristics of Govt. Primary School students of district Pulwama.

	Characteristics	Number	Percentage
Sex	Boys	200	50.0
	Girls	200	50.0
	Total	400	100
Age (years)	9	132	33.0
	10	132	33.0
	11	136	34.0
Household Head	Father	324	81.0
	Mother	76	19.0
Education (parents)	Illiterate	276	69.0
	Primary	92	23.0
	Upper primary & above	32	8.0
Occupation(Parents)	Unemployed	296	74.0
	Self employed	84	21
	Employed	20	5

A total of 400 students participated in this study, “200 boys (50.0%) and 200 girls (50.0%). The age distribution of the study population was between 9–11 years with majority (34.0 %) being 11 years. Mean age was 10.01 ± 0.9SD. The average household size was 4.9 ± 1.4 SD with maximum of nine members and



minimum of three members in a household. Most (81.0 %) households had fathers as household head with only a few (19.0 %) were being headed by females.”

Table 3: Showing the overall percentage of knowledge of personal hygiene of Govt. Primary School students.

Question	n	%
Being neat and clean helps to keep you healthy.	316	79.0
Washing of hands with soap is better than water only.	310	77.5
Showering everyday keeps you clean.	280	70
Brushing your teeth regularly prevent tooth decay.	197	49.2
Biting your nail with your teeth is unhealthy.	160	40

The data in the above Table 3 shows that a substantial proportion of the pupils knew that “taking shower everyday is needed to keep you clean” (70%), Washing hands with soap is healthier than with water only (77.5 %) and oral hygiene knowledge was

comparatively low i.e “brushing your teeth using tooth paste prevents teeth problems” (49.2%). Similarly, biting nails with teeth is not healthy (40% only). This completes our objective number 2.

Table 5: Showing the Comparison between Male and Female Primary School Students “Perception about the Importance of Personal Hygiene”.

Perception about hygiene.	Male students		Female students	
	n	Percentage	n	Percentage
Fight against diseases	34	17.0	50	25.0
Don't know	140	70.0	114	57.0
Other reason	26	13.0	36	18.0
Total	200	100	200	100

The data in the above table shows the comparison between the boys and girls in respect of importance of personal hygiene i.e. whether the personal hygiene helps us to fight against the various diseases or not. It has been found that girl students are more conscious about the importance of personal

hygiene. *This finding was expected as girls take care of themselves, and care about their self image more than boys.* 25% of girls said that hygiene is important to fight against diseases. While as only 17% of boys said diseases can be minimized by being clean.

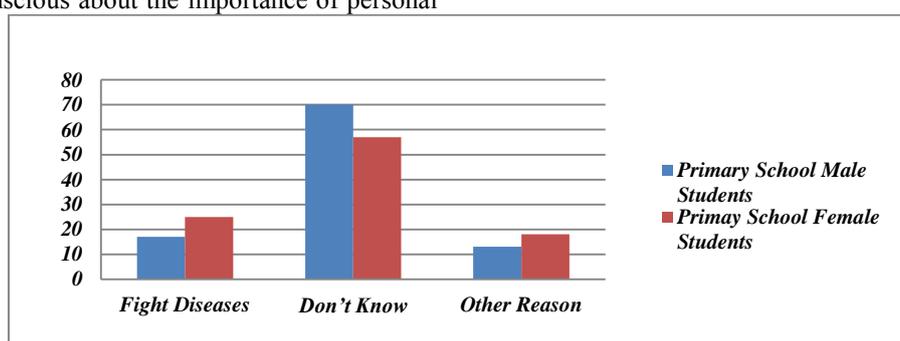


Figure 2: Showing the Comparison between Male and Female Primary School Students “Perception about the Importance of Personal Hygiene”.

Table 6: Showing the Hand Washing Practices of Govt. Primary School Students.

Hand washing	Always		Sometimes		Never	
	n	%	n	%	n	%
Before eating.	364	91.0	29	7.25	7	1.75
After using the toilet.	272	68.0	96	24.0	32	8.0
After playing.	36	9.0	76	19.0	288	72.0
Using soap.	72	18.0	296	74.0	32	8.0

The above Table 6 shows that the hand washing practices of students before and after eating, before and after playing, before and after using bathroom. It is revealed from the above table that the hand washing practices of students before eating is comparatively good, while as after playing has been

found very poor. Before eating 91% of students wash their hands and only 1.8% never wash their hands before eating. On the other hand only 9.0% of students wash their hands always after playing and 72.0% never wash their hands after playing.

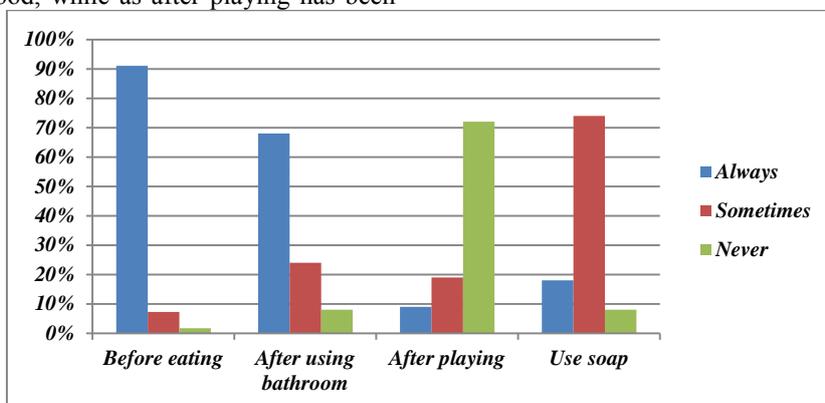


Figure 3: Showing the hand washing practices of students before after eating and playing (N=400).

Table 7: Showing the Brushing Practices of Teeth of Overall Sample of Govt. Primary School Students.

Brushing teeth	Always		Sometimes		Never	
	n	%	n	%	n	%
After waking up in the morning.	32	8.0	356	89	12	3.0
After eating breakfast.	0	0.0	24	6.0	376	94.0
Before sleeping.	4	1.0	80	20.0	316	79.0

The data in the above Table 7 presents data about brushing practices of teeth on various occasions. It is revealed during this study that oral hygiene practices are comparatively poor in the students. The most common times when the students brushed their teeth are -after waking up in the

morning and before going to bed. Only 8% of students brush their teeth always in the morning after waking up, 89% brush their teeth sometimes. After eating breakfast brushing practice was almost absent. Before going to bed 20% of students brush their teeth but only sometimes.

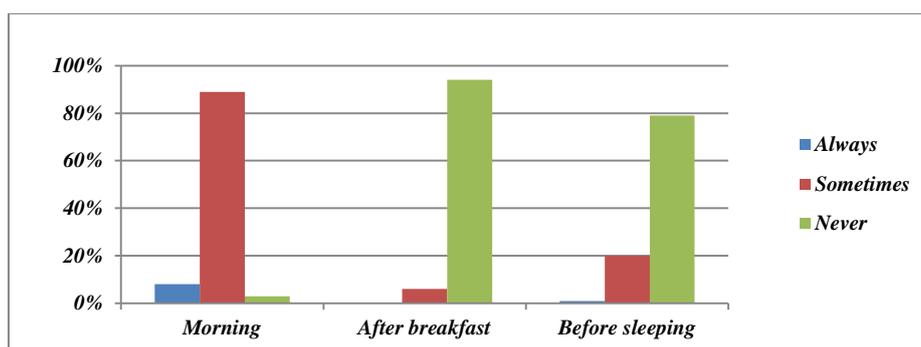


Figure 4: Showing the Oral Hygiene Practices of Govt. Primary School Students.



Table 8: Showing the Objectively Observed Personal Hygiene Characteristics of Overall Govt. Primary School Students.

	Yes		No	
	n	%	n	%
Clean clothes	88	22.0	312	78.0
Finger nails clean & trimmed	144	36.0	256	64.0
Clean face	272	68.0	128	32.0
Eye discharge present	28	7.0	372	93.0
Clean hair	196	49.0	204	51.0

The Table 8 shows the observations made by the researcher about the personal hygiene characteristics. The researcher observed that knowledge and practices of hygiene were not well correlated with students as maximum percentage of students was not wearing clean clothes, no clean hands and hair. The researcher objectively observed that only 22.0% of students have clean clothes and

78.0% of students were having unclean clothes. Clean hair (49.0%) and clean face (68.0%) observation from the students were comparatively good. Hand hygiene (nails) was comparatively poor, only 36.0%. On the other hand eye discharge was observed in very few students.

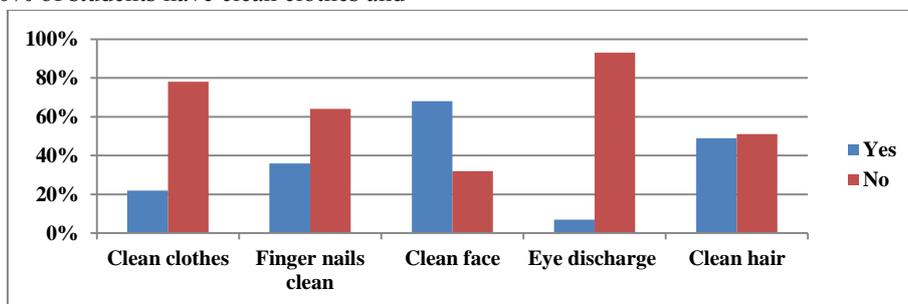


Figure 5: Showing the Observation of Personal Hygiene of Govt. Primary School Students.

Table 9: Showing the difference between Primary school boy and girl students on variable of hygiene.

Group	n	Mean	S.D	t- value	Sig.level
Boys	200	63	7.4	5.34	0.01
Girls	200	68	11		

The ability to define the “personal hygiene was significantly higher among girls”. The above table represents the t-value for primary school male and female students in respect of the variable of hygiene awareness. It is revealed from Table 9 that t-value came out to be 5.34, which is significant at 0.01 level. This indicates that primary school boys

and girls vary notably with respect to their mean scores on awareness and regarding hygiene. Hence, the hypothesis that “there is no significant difference between the hygiene knowledge of boys and girls is rejected.”

Table 10: Showing the Overall Percentage of Knowledge Sources of Personal Hygiene of Govt. Primary School Students.

Source Of Hygiene Knowledge	n	Percentage
Parents	288	72.0
Teacher	180	45.0
TV	60	15.0
Books	36	9.0
Others	20	5.0

The data presented in the Table 10 reveals that the most common sources of knowledge providers about personal hygiene to these primary school

students are parents followed by teachers and least knowledge came from books. Parents give 72% hygiene knowledge to the students while as teachers



in the class room provides about 45% knowledge about personal hygiene to the students. Very few

students specify some other uncommon sources also like friends etc.

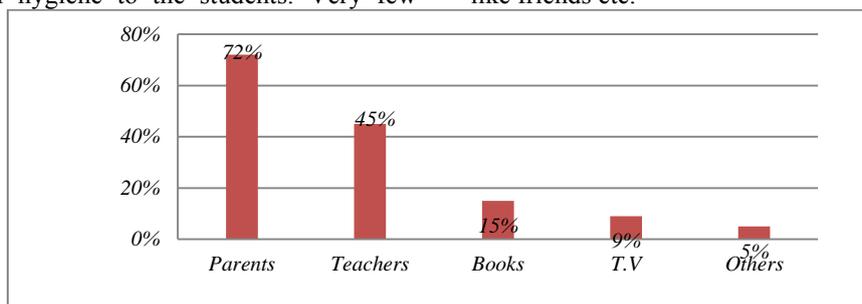


Figure 6: Shows The Source Of Knowledge About The Personal Hygiene Of Govt. Primary School Students.

DISCUSSION

In this study, “400 students participated, 200 male students (50.0%) and 200 female students (50.0%). The researcher evaluated the knowledge and practices of personal hygiene among these primary school students. Around half (45%) (N=180) of the students said that the knowledge about personal hygiene came from their teachers (Fig 6). The observations from this study inferred that school is the best stage where children get training about personal hygiene. It is well recognized that kids are more receptive to learning and are very likely to implement healthy behaviors at a younger age. Furthermore, they have also demonstrated that “they can also be agents of change by spreading what they have learned in school to their family and community at large” (Sarkar, 2013, pp. 153-158). It was also revealed from this study that there was a weak association between hygiene knowledge and clean clothes, hands and hair. Which means knowledge is not sufficient factor for personal hygiene. In this vary study the researcher also found that boys were on the lower side of hygiene score than girls. “In one of the finding Dutta & Dasgupta (2010) found that, “the mean score for girls (4.15 ± 0.98) was significantly higher than that for boys (3.2 ± 1.4) [$P < 0.05$]”. This result was expected because girls are more aesthetic and hygiene conscious than boys. “When it comes to hand washing, our results are consistent with previous studies” (Lopez & Freeman, 2009, pp. 94-101). Before eating, after using toilets and after playing- in these occasions students used soap while washing their hands. As it is evident using soap is one of the low cost health protective techniques against infectious diseases. It was also observed that in some cases “hand sanitizer” was also encouraged as a personal hygiene practice among the children. Forgetfulness and laziness were the most common reasons for not washing their hands. *But at the same time in this study there are several evident limitations including inappropriate responses from the students.*

7. SUGGESTIONS

On the basis of above research, the researcher has following suggestions for future research:-

1. This sort of research can be conducted on more samples on state wise basis.
2. Research can be conducted on teachers/parents knowing their opinion for developing the health & hygiene awareness among pupils.
3. Same type of study can be conducted on middle and high school students.
4. The study can be extended over more number of samples including the various levels of education.
5. A study can be devised to see the affiliation between health academic achievement Vs health awareness.
6. A study can be framed to observe the health & hygiene consciousness in relation to locality.
7. Other similar researches to be conducted in areas not having the same characteristics as the study area to find out the factors that affect nutritional knowledge, attitudes and practices. Such areas are likely to be having different nutrition challenges.

8. CONCLUSION

From this study the investigator concluded following points:

- 1) Government primary school girls and boys vary in their level of hygiene importance (Fig.2). It has been found that girl students are more conscious about the importance of personal hygiene. *This finding was expected as girls take care of themselves, and care about their self image more than boys.* 25% of girls said that hygiene is important to fight against diseases. While as only 17% of boys said diseases can be minimized by being clean.
- 2) Washing of hands before eating (91%) (N=364) were the top ranked hygiene practices and washing of hands after playing (9%) were the least ranked hygiene practice as reported by the students.(Fig.3)
- 3) It is revealed during this study that oral hygiene practices are comparatively poor in



the students. After waking up in the morning- 8% (N=32) brush always and 89% sometimes. Before going to bed 20% (N=80) of students brush their teeth sometimes, While as 79% never brush their teeth before going to bed.(Fig.4)

- 4) The investigator observed that knowledge and practices of hygiene were not well correlated with students as maximum percentage of students were not wearing clean clothes, no clean hands and hair. For example, in Table 3 79% (N=316) of students said “being neat and clean keeps us healthy”, on the other hand Table 8 depicts only 22% (N= 88) of children were observed having clean clothes.
- 5) Government primary school boys and girls vary on the variable of hygiene. From Table 9 it was found that t-value is 5.34, which is significant at 0.01 level.
- 6) The most common sources of knowledge about personal hygiene to the primary school students were parents followed by teachers. It was found that 72% (n=288) of students obtain hygiene knowledge from parents, 45%(N=180) from teachers.(Fig.6)

9. REFERENCES

1. Aggarwal, J.C., & Gupta, S. (2007). *Early childhood: Care & Education*. New Delhi: Shipra Publication.
2. Charles, k. & Gopal, R. (2011). *Health education: Teachers from a doctor's perspective*. Hyderabad, Neelkamal Pvt. Ltd.
3. Gall, Nicholas.,(1978). *Foundation and Principles of Health Education*, New York, John Wiley & Sons.
4. Davies, M.B., (1954). *Hygiene and Health Education for Training Colleges*, Longmans , Green And Co. London.
5. Murray CJL, Lopez AD.(1996.) *The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries, and Risk Factors in 1990 and Projected to 2020*. Cambridge: Harvard University Press.
6. Tambekar, D.H. & Shirsat, S.D, (2012).*Minimization of Illness Absenteeism in Primary School Students Using Low-Cost Hygiene Interventions*. *Online Journal of Health and Allied Sciences*, Volume 11, Issue 2, pp. 1-4. Retrieved from <http://cogprints.org/8895/1/2012-2-7>.
7. Talukdar, Kaushik and Baruah, Rupali (2015). *Prevalence of Skin Infection and Personal Hygiene Practices amongst Primary School Children: A Community Based Cross-Sectional Study in Kamrup (Rural) District of Assam*. *International Journal of Scientific Study*, Vol. 3, Issue 3, pp. 11-14.Retrieved from http://www.ijssn.com/uploads/2/0/1/5/20153321/ijss_jun_0a03.
8. Sarkar M. *Personal hygiene among primary school children living in a slum of Kolkata, India*.*Journal of Preventive Medicine and Hygiene*. 2013; 54(3):153-158.
9. Curtis V, Cairncross S. *Effect of washing hands with soap on diarrhea risk in the community: a systematic review*. *Lancet Infect Dis*. 2003; 3: 275–281.
10. WHO/FAO. *DIET, NUTRITION AND THE PREVENTION OF* Report of a Joint WHO / FAO Expert Consultation. WHO Technical Report Series. 2003;916:1-4.
11. Majorin F, Freeman MC, Barnard S, Routray P, Boisson S, Classen T. *Child Feces Disposal Practices in Rural Orissa: A Cross Sectional Study*. *Plos One*, 2014; 9(2): e89551.
12. Lopez-Quintero C, Freeman P, Neumark Y. *Hand Washing Among School Children in Bogotá, Colombia*. *Am J Public Health*. 2009; 99: 94-101.
13. Ranganathan, Namita, (2000). *The Primary School Children: Development and Education*. Hyderabad: Orient Longman, Private Limited.
14. Sawra, Shantanu Kumar and Swargiary, Bhubaneswar (2015). *Dental caries among school children of Baksa district, Assam*. *Journal of Dental and Medical Sciences*, Vol. 14, Issue 10, pp. 86-87. Retrieved from <http://www.iosrjournals.org/iosr-idms/papers/Vol14-issue10/Version3/S0141038687>.
15. Sharma, N.P. (2008). *A-Z Illustrated Encyclopaedia of Health Education*.KhelSahitya Kendra, Ansari Road, Darya Ganj, New Delhi, pp.1-5.
16. Singh, Gurdeep; Kaur, Gurmeet; Mengi, Vijay and Singh, Bhupinder (2014).*A study of Dental Caries among School Children in Rural Area of Jammu*.*Annals of Dental Specialty*, Vol. 2, Issue 1, pp. 1-5. Retrieved from http://www.annalsofdentalspecialty.net.in/uploads/2/0/3/9/20391221/01_ads_13_023.
17. Vivas, Alyssa; Gelaye, Bizu; Aboset, Niquusu; Kumie, Abera; Berhane, Yemane and Williams, Michelle A. (2010). *Knowledge, Attitudes, and Practices (KAP) of Hygiene among School Children in Angolela, Ethiopia*. *Journal of Preventive Medicine and Hygiene*, Vol. 51, Issue 2, pp. 73-79. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3075961/>
18. Wood, Layne, (2015).*Cleanliness & Personal Hygiene*. Retrieved from <http://www.livestrong.com/article/100348-reasons-personal-hygiene/>
19. World Health Organisation, Sanitation. Retrieved from <http://www.who.int/topics/sanitation/en/>
20. Singh, Sunita (2009). *A Comparative Study of Health Awareness among Students of Government and Government Aided School*. *The Primary Teacher*, July,October 2008 and January 2009, pp. 56-63.