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Effect of Hand Washing Practices and Prevalence of Related Diseases among Primary School Children in Tehsil Lalian, District Chiniot, Pakistan

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Abstract

Hand hygiene is fundamental to clinical practice and has been shown to reduce the risk of major diseases. School children and for that matter, primary school pupils are at higher risk the most because of the lack of paying special attention to a simple but very important personal hygiene behavior such as frequently washing hands with soap under running water and also due to insufficient knowledge on good hand washing with soap practice. Between November 2021 and March 2022, this study was conducted in Tehsil Lalian District Chiniot Pakistan. Data on hand washing practiced among primary school children were collected by using questionnaires. Ten students from each school were selected for the questionnaires and 20 schools in urban and 20 schools in rural areas were covered. The study helped us to check the current knowledge about hygiene and the availability of hand washing facilities in the school. Data were collected from above-mentioned schools by using questionnaires. Interviews were taken from the class students to check their knowledge about hygiene which they are given to the students to guide them about their hygiene and how they teach the students to keep them healthy. In rural schools, about 39% students were selected from class 3, 32% from class 4, and 29% students were selected from class 5, while in urban schools, about 35.5% students were taken from class 3, 36.5% from class 4 and 28% students from class 5 were selected. All schools (rural and urban) have the facility of hand washing points. About 96.75% schools have water supply within hand washing point while only 3.25 schools do not have a water supply. They have tissue papers facility instead of water. About 87.75% schools have sign boards of hand washing to guide the students while only 12.25% schools do not have sign boards on hand washing guide the students. About 71.5% students from rural schools wash their hands before eating food while 28.5% students wash their hands after eating. Further, 66.5% students from urban schools wash their hands before eating food while 32.5% students wash their hands after eating. About 74.5% students from rural schools, wash their hands after playing with friends while 25.5% students sometimes wash their hands. About 63.5% students from urban schools wash their hands after playing with friends while 36% students sometimes wash their hands and 0.5% never wash

their hands after playing with friends. About 77% students know the importance to wash their hands with soap when in school and 23% students do not. About 42.75% students strongly agree that hand hygiene reduces the chances of spreading infections, 28% student only agree, 13% disagree, 12% don't know while 4.25% strongly disagree. About 81% students think proper hand-washing minimizes the risk of germ attack while 19% students do not think so. About 88.75% students know that if they fail to wash their hands properly, they will be exposed to the disease while 11.25% students do not think so. About 80.25% students think that poor hand washing can cause disease while 19.75% students do not think so.

Keywords: hand washing; disease prevalence; school children; washing practice; rural areas; urban areas

Introduction

The health implications of infectious diseases affecting children of school-going age as a result of the low practice of personal hygiene practices and insufficient sanitary facilities in public primary schools is still a concern for worry in most poor and middle-income countries (Venkatesh et al., 2011; Ali et al., 2021). Hand hygiene is fundamental to clinical practice and has been shown to reduce the risk of HAI (Allegranzi and Pittet, 2009). Commonly, HH compliance in ED is poor and initiatives to improve and sustain HH adherence rates are a major challenge (Larson et al., 2005; Di Martino et al., 2011). Improvement strategies have included better access to cleansing agents such as alcohol-based hand rubs (ABHR), development of efficient workflows and evaluation of improved hand product dispensing devices (Larson et al., 2005; Haas and Larson, 2008; Scheithauer et al., 2013). Sustained improvement in HH compliance requires a supportive organizational culture, behavioral changes and continuous reinforcement of good HH practices (Di Martino et al., 2011).

Hand-washing practice stops the spread of many diseases and infections. It is a very cheap and simple method to avoid infection. It can improve the learning and teaching process among the children and can be reduced the rate of absenteeism. A worldwide study shows the results as the rate of absenteeism is reduced by developing the hand washing practice among children (Monse et al., 2013). Due to water related diseases and infections, there are approximately 443 million school days are lost due to this water related illness. Nowadays it becomes a great and leading factor for absenteeism worldwide (Water and Sanitation Programme, 2012). Hand-washing practice stops the spread of many diseases and infections. It is a very cheap and simple method to avoid infection. It can improve the learning and teaching process among the children and can be reduced the rate of absenteeism. A worldwide study shows the results as the rate of absenteeism is reduced by developing the hand washing practice among children (Monse et al., 2013). Due to water related diseases and infections, there are approximately 443 million school days are lost due to this water related illness. Nowadays it becomes a great and leading factor for absenteeism worldwide (Water and Sanitation Programme, 2012). Poor personal hygiene is the main reason which causes 80% diseases and 2.2 million people mostly children died due to respiratory infections and diarrhea annually (Beth et al., 2007; Bilal et al., 2021).

As we know the children spend their maximum time in schools and have close contact between their friends and classmates and share different objects whole of the day. They also touch each other's face and shake hand with each other. So, if the teaching of hand washing going properly the chances of illness may reduce by improving hand washing practice. Especially teach the children about when they need to wash their hands before eating and after using washrooms too (Mayuri et al., 2017; Bilal et al., 2021).

According to Beth et al. (2007), communicable diseases originate in the school environment is a major cause of school absenteeism among students. Many microscopic organisms like bacteria and viruses are attached to our hands at any time which cause sickness (Judah et al., 2009; Shah et al., 2022).

Handwashing is a good habit for a Childs health (Curtis et al., 2009). Many researchers showed that antibacterial soaps are more effective than plain soaps to reduce the germs on the skin and hands. Safe hygiene practices can be prevented many diseases like diarrhea (Gibson et al., 2002).

Aims and Objectives

The objectives of the study were as follows:

1. To determine the effectiveness of hand hygiene knowledge.
2. To assess the effectiveness of hand hygiene teaching on compliance.
3. To correlate the knowledge on hand hygiene with compliance with hand washing.

Materials and Method

200 students from 20 rural schools and 200 students from 20 urban schools of Tehsil Lalian District Chiniot Pakistan were covered under this study. The study helped us to check the current knowledge about hygiene and the availability of hand washing facilities in the school. Data were collected from above-mentioned schools by using questionnaires. Interviews were taken with the class students to check their knowledge. Hand-washing facilities of the schools were observed and prevalence of students from disease was also observed. All collected data were analyzed by SPSS Version 17.

Results

In Table 4.1, 400 pupils were chosen for the interview, of which 200 were from urban and 200 from rural school districts. About 39% students were selected from class 3, 32% from class 4 and 29% students were selected from class 5, while in urban school, about 35.5% students were taken from class 3, 36.5% from class 4 and 28% students from class 5 were selected. Overall, in class 3 37.25% students. In rural school 52% students were males and 48% were females and in urban schools 48% were males and 52% were female's total ratio of females and males was 50:50.

The occupations of their fathers and mothers were different. 58.25, 11, 6.25, 5.5, 4.25 and 2% were labors, farmers, shopkeepers, drivers, teachers and doctors respectively while 12.75% have other occupations like salesmen, painters, plumbers, etc. Mothers' occupation were also different. 68.75% mothers housewives, 15.50% labors, 7.5% teachers, 2.75% tailor, 2% working as house cleaner while 3.5% mothers were severing in others occupation like salesman, parlor, etc. 0.25% students mothers language was Punjabi and only 9.75 mothers speak Urdu.

Class of Student							
	Rural		***Urban***		***Total***		***P-value***
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Class 3	78	39.00	71	35.50	149	37.25	
Class 4	64	32.00	73	36.50	137	34.25	
Class 5	58	29.00	56	28.00	114	28.50	
Total	200	100	200	100	400	100	
Gender							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Male	104	52.00	96	48.00	200	50.00	
Female	96	48.00	104	52.00	200	50.00	0.383
Total	200	100	200	100	400	100	

Father Occupation							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Shop keeper	12	6.00	13	6.50	25	6.25	0.620
Labor	113	56.50	120	60.00	233	58.25	
Farmer	24	12.00	20	10.00	44	11.00	
Driver	11	5.50	11	5.50	22	5.50	
Teacher	9	4.50	8	4.00	17	4.25	
Doctor	4	2.00	4	2.00	8	2.00	
Others	27	13.50	24	12.00	51	12.75	
Total	200	100	200	100	400	100	
Mother Occupation							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
House wife	135	67.50	140	70.00	275	68.75	0.274
Teacher	12	6.00	18	9.00	30	7.50	
Labour	38	19.00	24	12.00	62	15.50	
tailor	5	2.50	6	3.00	11	2.75	
Maid	4	2.00	4	2.00	8	2.00	
Expire	6	3.00	8	4.00	14	3.50	
Total	200	100	200	100	400	100	
Mother tongue							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Urdu	23	11.50	16	8.00	39	9.75	0.133
English	0	0.00	0	0.00	0	0.00	
Punjabi	177	88.50	184	92.00	361	90.25	
Others	0	0.00	0	0.00	0	0.00	
Total	200	100	200	100	400	100	

Table 4.1: Socio-demographic characteristics.

Table 4.2 shows the facilities that was available in selected schools About 84.50% rural schools have hand washing point close to toilet and only 15.5% have far from toilets. Further, 79% urban schools have hand washing point close to toilet and only 21% have far from toilets. Chi square analysis revealed significant difference between urban and rural schools. About 96.75% schools have water supply within hand washing point while only 3.25 schools does not have water supply. They have tissue papers facility instead of water. About 90.75% schools have soap at hand washing point while only 9.25% schools do not have soap. Only 90% have towels and 10% don't have.87.75% have sign board of hand washing and 12.25 schools don't have boards of hand washing sign. About 74% rural schools have hand hygiene policy while only 26% rural schools do not have hand hygiene policy. Further, 75.5% urban schools have hand hygiene policy while only 24.5% rural schools do not have hand hygiene policy.

Presence of hand washing point in the school							
	Rural		***Urban***		***Total***		***P-value***
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Present	200	100.00	200	100.00	400	100.00	---
Absent	0	0.00	0	0.00	0	0.00	
Total	200	100	200	100	400	100	
Location of hand washing point							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Close to toilet	169	84.50	158	79.00	327	81.75	0.002
Far away from toilet	31	15.50	42	21.00	73	18.25	
Total	200	100	200	100	400	100	
Presence of water supply within hand washing point							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	193	96.50	194	97.00	387	96.75	0.075
No	7	3.50	6	3.00	13	3.25	
Total	200	100	200	100	400	100	
Presence of soap at hand washing point							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	181	90.50	182	91.00	363	90.75	0.550
No	19	9.50	18	9.00	37	9.25	
Total	200	100	200	100	400	100	
Presence of towels/paper tissues at hand washing point							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	182	91.00	178	89.00	360	90.00	0.290
No	18	9.00	22	11.00	40	10.00	
Total	200	100	200	100	400	100	
Do school have sign boards of hand washing to guide the students?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	173	86.50	178	89.00	351	87.75	0.496
No	27	13.50	22	11.00	49	12.25	
Total	200	100	200	100	400	100	
Does school have Hand Hygiene policy?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	148	74.00	151	75.50	299	74.75	0.922
No	52	26.00	49	24.50	101	25.25	
Total	200	100	200	100	400	100	

Table 4.2: Availability of hand washing facilities at selected school.

Table 4.3 show the hand washing practice in schools and their about 71.5% students from rural schools wash their hands before eating food while 28.5% students wash their hands after eating. Further, 66.5% students from urban schools wash their hands before eating food while 32.5% students wash their hands after eating. About 75.50% students from rural schools wash their hands with soap while 24.5% students do not use soap. Further, 76% students from urban schools wash their hands with soap while 24% students do not use soap. Chi square analysis revealed significant difference between urban and rural schools. About 76% students from rural schools always wash their hands after visiting toilet while 23.5% students sometime wash their hands and 0.5% never washes their hands. About 66.5% students from urban schools always wash their hands after visiting toilet while 33% students sometime wash their hands and 0.5% never washes their hands. About 74.5% students from rural schools, wash their hands after playing with friends while 25.5% students sometime wash their hands. About 63.5% students from urban schools wash their hands after playing with friends while 36% students sometime wash their hands and 0.5% never washes their hands after playing with friends. Chi square analysis revealed significant difference between urban.

When you wash your hands?							
	Rural		***Urban***		***Total***		***P-Value***
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Before eating	143	71.50	133	66.50	276	69.00	0.240
After eating	57	28.50	65	32.50	122	30.50	
Both time	0	0.00	2	1.00	2	0.50	
Total	200	100	200	100	400	100	
Do you wash your hands with soap or not?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	151	75.50	152	76.00	303	75.75	0.002
No	49	24.50	48	24.00	97	24.25	
Total	200	100	200	100	400	100	
Do you wash your hands after visiting toilet?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Always	152	76.00	133	66.50	285	71.25	0.934
Sometime	47	23.50	66	33.00	113	28.25	
Never	1	0.50	1	0.50	2	0.50	
Total	200	100	200	100	400	100	
Do you wash your hands after playing with friends?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Always	149	74.50	127	63.50	276	69.00	0.006
Sometime	51	25.50	72	36.00	123	30.75	
Never	0	0.00	1	0.50	1	0.25	
Total	200	100	200	100	400	100	

Table 4.3: Hand washing practices among school-children (answered by students).

Table 4.4 shows the knowledge the knowledge about hand washing 77% was wash their hands and 33 don't have knowledge to wash their hands. Only 49% students know the importance of hand washing to prevent diseases 39% know that its importance to remove germs and 12 % have knowledge to remove for dirt's. About 46% students think that plain soap (Non antibacterial) is best for hand washing due to economical reason, 28.5% students prefer antibacterial soap, 18.25% student suggest alcohol-based sanitizers and 7.25 students do not know. About 81% students think proper hand washing minimize the risk of germ attack while 19% students does not think so. About 81% students think proper hand washing minimize the risk of germ attack while 19% students does not think so. About 80.25% students think improper hand washing cause the infectious diseases attack while 19.5% students does not think so. About 67% students know that food poisoning is controlled by proper hand washing, 29% said that stomach infection is controlled by proper hand washing, 3.5% students know that flue and cough is controlled by proper hand washing while 0.5% students said that all above diseases is controlled by proper hand washing. About 67.25% students think that teachers always regularly told students about the benefits of hand washing, 29.5% think that teachers sometime regularly told students about the benefits of hand washing while 3.25 considered that teachers never told students about the benefits of hand washing.

Is it important to wash your hands with soap when in school?							
	Rural		***Urban***		***Total***		***P-Value***
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	157	78.50	151	75.50	308	77.00	0.074
No	43	21.50	49	24.50	92	23.00	
Total	200	100	200	100	400	100	
Why is it important to wash your hands?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
To prevent diseases	106	53.00	90	45.00	196	49.00	0.794
To remove germs	70	35.00	86	43.00	156	39.00	
To remove dirt	24	12.00	24	12.00	48	12.00	
Total	200	100	200	100	400	100	
Which soap type is best to use in hand washing?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Plain soap (Non antibacterial)	99	49.50	85	42.50	184	46.00	0.481
Antibacterial soap	40	20.00	74	37.00	114	28.50	
Alcohol Based sanitizers	42	21.00	31	15.50	73	18.25	
Don't know	19	9.50	10	5.00	29	7.25	
Total	200	100	200	100	400	100	
Hand hygiene reduces chances of spreading infections.							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Strongly agree	77	38.50	94	47.00	171	42.75	0.304
Agree	54	27.00	58	29.00	112	28.00	
Don't know	24	12.00	24	12.00	48	12.00	
Disagree	34	17.00	18	9.00	52	13.00	

Strongly disagree	11	5.50	6	3.00	17	4.25	
Total	200	100	200	100	400	100	
Do proper handwashing minimize the risk of germ attack?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	168	84.00	156	78.00	324	81.00	0.157
No	32	16.00	44	22.00	76	19.00	
Total	200	100	200	100	400	100	
Is handwashing is important to keep you healthy?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	157	78.50	164	82.00	321	80.25	0.740
No	43	21.50	36	18.00	79	19.75	
Total	200	100	200	100	400	100	
Is improper handwashing can cause the infectious diseases?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	161	80.50	161	80.50	322	80.50	0.859
No	39	19.50	39	19.50	78	19.50	
Total	200	100	200	100	400	100	
Which disease is controlled by proper handwashing?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Food poisoning	146	73.00	122	61.00	268	67.00	0.936
Stomach infection	48	24.00	68	34.00	116	29.00	
Flue and Cough	6	3.00	8	4.00	14	3.50	
All of above	0	0.00	2	1.00	2	0.50	
Total	200	100	200	100	400	100	
Do teachers regularly told you about the benefits of hand washing?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Always	149	74.50	120	60.00	269	67.25	0.809
Sometime	46	23.00	72	36.00	118	29.50	
Never	5	2.50	8	4.00	13	3.25	
Total	200	100	200	100	400	100	

Table 4.4: Knowledge about hand washing (answered by students).

Table 4.5 shows that about 76.25% students know that unclean hands are way to transmission of disease while 23.75% students do not. 88.75% students know that if they fail to wash their hands properly they will be exposed to disease while 11.25% students does not think so. About 83.25% students think that all clean objects are free from germs while 16.75% students do not think so. About 79.5% students think that germs can be acquired when desks, door, books and animals are touched while 20.5% students do not think so. About 80.25% students think that poor hand washing can cause disease while 19.75% students do not think so. About 77.5% students think that school should celebrate hand-washing day while 22.5% students do not. About 36.5% students think that fever with or without cough / cold can be caused if hand will not properly washed, 18.25% think that respiratory diseases will caused, 17.25% think that passage of worms in loose stole, 16% students think that diarrhea will caused while 12% think that all above diseased can be caused if hands will not properly washed. About 51% students think that teachers should told their students about proper hand washing while 49% students not.

Do you know that unclean hands are way to transmission of disease?							
	Rural		***Urban***		***Total***		***P-Value***
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	153	76.50	152	76.00	305	76.25	0.373
No	47	23.50	48	24.00	95	23.75	
Total	200	100	200	100	400	100	
Do you know that if you fail to wash their hands properly you will be exposed to disease?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	179	89.50	176	88.00	355	88.75	0.733
No	21	10.50	24	12.00	45	11.25	
Total	200	100	200	100	400	100	
Are all clean objects are free from germs?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	165	82.50	168	84.00	333	83.25	0.223
No	35	17.50	32	16.00	67	16.75	
Total	200	100	200	100	400	100	
Can germs be acquired when desks, door, books and animals are touched?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	158	79.00	160	80.00	318	79.50	0.862
No	42	21.00	40	20.00	82	20.50	
Total	200	100	200	100	400	100	
Poor hand washing can cause disease?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	160	80.00	161	80.50	321	80.25	0.592
No	40	20.00	39	19.50	79	19.75	
Total	200	100	200	100	400	100	

Does your school celebrate Hand washing day?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	158	79.00	152	76.00	310	77.50	0.661
No	42	21.00	48	24.00	90	22.50	
Total	200	100	200	100	400	100	
Which diseases can be caused if you will not wash your hand properly?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Fever with or without cough / cold	60	30.00	86	43.00	146	36.50	0.951
Diarrhea	24	12.00	40	20.00	64	16.00	
Passage of worms in loose stole	42	21.00	27	13.50	69	17.25	
Respiratory diseases	44	22.00	29	14.50	73	18.25	
All of above	30	15.00	18	9.00	48	12.00	
Total	200	100	200	100	400	100	
Did your teacher told you to wash you hands?							
	Rural		***Urban***		***Total***		
	Frequency	***Percentage***	***Frequency***	***Percentage***	***Frequency***	***Percentage***	
Yes	105	52.50	99	49.50	204	51.00	0.772
No	95	47.50	101	50.50	196	49.00	
Total	200	100	200	100	400	100	

Table 4.5: Knowledge about prevalence and remedy to disease (answered by students).

Discussion

Proper washing reduce the incidence of major food borne disease like Covid-19 (Bilal et al., 2021). According to Neuzil et al. (2002), diseases that originate in the school environment contribute to absenteeism of school-aged children, teachers, and parents in addition to an increase in healthcare costs. Food safety indicators like microbiological hygiene and safety between food establishments did not correspond with differences in commitment (Boeck et al., 2016).

School which have proper hand washing points along with clean water and good quality soap have reduce incidence of food borne diseases (Bilal et al., 2021). All these available information points to the fact that there is a strong correlation or association between poor hand washing with soap practices and worm infestation among primary school pupils, which also has enormous effect on their academic performance (Curtis, 2009). Aiello et al. (2007) concluded that this systemic review assesses the use of triclosan containing products vs plain soap in a community. Soaps having triclosan range of concentration as compared to plain soap for preventing diseases and reduce the number of bacteria present on hands.

This results as produced in the study instigates the need for parents, teachers and educational authorities the need to broaden the knowledge of the pupils with adequate (Saboor et al., 2013). Significant number of primary school children of Banki had good personal hygiene and is improved age wise but at primary school level there should be do more work to learning about the personal hygiene (Ahmadu et al., 2013; Khan et al., 2022). Schaffner and Schaffner, (2007) many reports tells us that the antibacterial soaps have more

effects as compared to plain or antibacterial soaps to decrease the quantity of bacteria on hands and secure us from germs.

A strategy to address this is to provide relevant, engaging education, supported by role models in clinical practice in order to address gaps in knowledge and attitudinal changes (Kaur et al., 2014). Likewise, low knowledge about hand washing practice was founded in many parts of the word (Ebong, 1994). According to a study by Fewtrell et al. (2007), it is very common to have a school pupil to be infected with all the three types of common worms found in children namely tapeworm, roundworm and hookworm all as a result of poor hand washing with soap practices. Also, their study revealed that just the simple act of washing hands with soap under running water can reduce the transmission and spread of respiratory infections among school pupils by 16%. Many structural factors are important in whole of the process such as time to hand wash, hygiene facilities, and encouragement about daily routine hand-washing facilities, because it has positive impact and it is a social norm (Bilal, 2021). To make it more effective in our primary educational institutions, the priorities of staff should be changes, and quality facilities should be provide (Chittleborough et al., 2012). Madhur and Kakati, (2016) showed that as childe is very close to their mother to full fill every need. Mothers hand should be free of bacteria to keep her baby healthy. If a mother is not taking care of her personal hygiene especially hands hygiene she play her role as a carrier and vector of transmission of bacteria to her child. Setyautami et al. (2012) reported that many people do not wash their hands after desiccation and before talking meal. It is need of the hour to start a worldwide campaign about the importance of handwashing globally.

Conclusion

From the results of questionnaire, it is concluded that proper washing reduce the incidence of major food borne disease. Also, school which have proper hand washing points along with clean water and good quality soap have reduce incidence of food borne diseases. Further, guidance from teachers to students and parents also play a vital role in the good health of young generation.

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