Scholars Bulletin *(Health)*

An Official Publication of "Scholars Middle East Publishers"
Dubai, United Arab Emirates
Website: http://scholarsbulletin.com/

ISSN 2412-9771 (Print)
ISSN 2412-897X (Online)

Hand Washing Practices in Kieni East Sub-County, Nyeri, Kenya

Mwamburi Cosmas Mwashumbe[1*], Otieno George Ochieng[1], Munene Kennedy Muriithi[2], Muriu Nelson Mwangi[2]
[1]Department of health Management and Informatics, School of Public Health, Kenyatta University, Kenya
[2]Department of Health, County government of Nyeri

***Corresponding author**
Mwamburi Cosmas Mwashumbe

Article History
Received: 15.05.2018
Accepted: 26.05.2018
Published: 30.05.2018

DOI:
10.21276/sb.2018.4.5.12

Abstract: Hand washing with soap is among the most effective and inexpensive ways to prevent diarrheal diseases and pneumonia, which together are responsible for the majority of child deaths. Routine Surveillance data shows increased morbidity from diseases of poor hygiene and environmental health in Kieni East sub-County, Nyeri County of Kenya. The objectives of the study were to assess hand hygiene, evaluate prevalence of diarrhea, find out relationship between socio-demographic characteristics and state of sanitation and evaluate relationship between hand washing practices and diarrhea diseases. A cross-sectional survey was conducted among 200 household selected randomly between October and November 2017. Additional data was obtained from key informant interviews with facility in-charges and community resource persons. It was found that majority (78%) of the respondents washed their hands after visiting the toilet while 20% washed their hands before preparing food. Whereas toilet facilities had a high coverage (97%), coverage of hand washing facilities was lower (60%). Coverage of hand washing facilities with soap was very low (27%). There was a significant relationship between level of education (p=0.025) and availability of hand washing facilities with soap. Similarly, there was a significant relationship between occupation (p=0.019) and availability of hand washing facilities with soap. There was a significant relationship between households with hand washing facilities with soap (p=0.00) and diarrhea cases reported in the previous 4 weeks. The study concluded that there is poor hand hygiene among residents of Kieni East sub-County. Although majority of respondents recognized the importance of hand hygiene, hand washing was not frequently observed. A sensitization program is urgently required in Kieni East sub-County on hand washing and hand hygiene.

Keywords: Hand hygiene, Hand Washing, Diarrhea cases.

INTRODUCTION

Hand washing, also known as hand hygiene, is the act of cleaning hands for the purpose of removing soil, dirt, and microorganisms [1]. Hand washing with soap is among the most effective and inexpensive ways to prevent diarrheal diseases and pneumonia, which together are responsible for the majority of child deaths. Every year, more than 3.5 million children do not live to celebrate their fifth birthday because of diarrhea and pneumonia. Yet, despite its lifesaving potential, hand washing with soap is seldom practiced and not always easy to promote [2]. Hand hygiene is recognized as the leading measure to prevent cross-transmission of microorganisms. Faeces from people or animals is an important source of infective organisms like Salmonella, E. coli and norovirus that cause diarrhea, and it can spread some respiratory infections like adenovirus and hand-foot-mouth disease. These kinds of organisms can get onto hands after people use the toilet or change a nappy, but also in less obvious ways, like after handling raw meats that have invisible amounts of animal faeces on them. Infective organisms can also get onto hands if people touch any infected object that has pathogens on it because someone coughed or sneezed on it or was touched by some other contaminated object [1]. When these pathogens get onto hands and are not washed off, they can be passed from person to person and make people sick. Hand washing with soap removes germs from hands. This helps prevent infections because: people frequently touch their eyes, nose and mouth without even realizing it. Pathogens can get into the body through the eyes, nose and mouth and cause diseases. Microbes from unwashed hands can get into foods and drinks while people prepare or consume them. They can multiply in some types of foods or drinks, under certain conditions, and make people sick. They can be transferred to other objects, like handrails, table tops, or toys, and then transferred to another person's hands. Removing microbes through hand washing therefore helps prevent diarrhea and respiratory infections and may even help prevent skin and eye infections [3].

A consistent practice of proper hand washing with soap and water has the great potential of keeping

a family, especially, mothers and children, away from germs and hence ill health. The hands are about the most important human anatomical structures that man uses to interact with his environment. This interaction transcends virtually all aspects of the environment: hands are used to lift objects; they are used to touch pet animals and plants in the biological environments; and also used for social actions like shaking of hands, petting and hugging. Mothers and other care givers are engaged in these interactions and more particularly with respect to catering for their under-five children. Inadvertently, their hands pick up micro-organisms and other materials that may be harmful to children. In general, 'critical moments' for hand washing include after using the toilet, cleaning a child up following defecation, before preparing food and before eating. Other times when hand washing is important are after changing diapers, attending to a sick person, handling raw meat, fish or poultry, after handling garbage, treating a wound or cut, contact with domestic animals, before preparation and eating of food [2].

In preparation for the Kenya National Hand washing Campaign, a nationwide cross sectional survey in 800 households with two components: (i) direct structured observation of hygiene practices at key junctures (food handling, cleaning a child after defaecation, toilet use), followed by (ii) a structured interview addressing potential socio-economic, water access and behavioral determinants of hand washing was conducted in Kenya. Results, observed a total of 5182 critical opportunities for hand washing, and hand washing with soap at 25% of these. Hand washing with soap was more often practiced after faecal contact (32%) than in connection with food handling (15%) [4]. Hand washing culture is relatively higher in Mombasa and Nyeri (13 percent and 12 percent consistent hand washing with soap) while other regions recorded 1–2 percent, except Machakos which recorded 4 percent. Routine Surveillance data shows increased morbidity from diseases of poor hygiene and environmental health in Kieni East sub-County. The highest morbidity among under 5 children was due to: upper respiratory tract diseases (59%), pneumonia (11.4%) and diarrheal diseases (11.3%). High morbidity among over 5 years population: Upper respiratory tract diseases (38.4%), Arthritis (39.4%), Diseases of the skin (11.5%) [5] Low immunization coverage of 70.6% in the year 2016. The HIV prevalence in the sub county stands at 1.3%, whereas non-communicable diseases such as diabetic and hypertension prevalence rate stands at 0.25% and 0.95% out of all the new outpatient department cases in the year 2016 [5]. It is against this backdrop that the researcher sought to identify handwashing practices in the study area.

OBJECTIVES OF THE STUDY

- To assess hand hygiene in Kieni East Sub-County, Nyeri, Kenya
- To evaluate prevalence of diarrhea in Kieni East Sub-County, Nyeri, Kenya
- To find out relationship between socio-demographic characteristics and state of sanitation
- To evaluate relationship between hand washing practices and diarrhea diseases

METHODOLOGY

This was a cross sectional study and a desk review of various existing plans and policies at the County level in order to sufficiently evaluate community health needs in Kieni East sub-county. The study was conducted among the residents of Kieni East sub County in Nyeri County in central part of Kenya. Individuals (adults and non-health care personnel) male and females who have lived in Kieni East sub-county for at least one year prior to the survey. The individuals who did not meet these criteria were excluded. The study used purposive sampling method. Sampled proportionately number of households in each of the two wards where a household survey was conducted in each ward. A total of 200 household surveys were conducted, 100 in each of the two wards; Gakawa ward and Thengu ward by community health extension workers. Data was collected with the use of questionnaires containing semi-structured and structured questions and also observation checklist. The questionnaire were administered to the respondents irrespective of their literacy level. Data were analyzed using computer statistical software SPSS 23.0 (Inc., Chicago, USA, 2015)

FINDINGS

Socio-Demographic Characteristics of Respondents

Majority (80%) of the respondents in the study were female whereas the male participants accounted for 20% of the respondents. Findings in Table-1 shows that 35% of the respondents were aged between 31 and 40 years while those aged between 21 and 30 years accounted for 31% of the respondents. The mean age was 37 years. Half (50%) of the respondents in the study had acquired primary education, 34% had acquired secondary education while 8% had acquired a diploma. Findings in Table-1 show that 38% of respondents were farmers, 16% were self-employed and 15% were housewives. Over half (54%) of the households had between 4 and 5 members, 28% had between 6 and 8 years while those that had between 1 and 3 members accounted for 18%. The mean household size was 5. In half (50%) of the households, there was one child under the age of 5 years while there was 2 children in 23% of the households. The mean number of children under 5 years was 1.

Table-1: Socio-Demographic Characteristics of Respondents

Characteristics	Category	Frequency(n=200)	Percentage	Mean	Standard deviation
Gender	Male	160	80%	37	11.17
	Female	40	20%		
Age (years)	>20	3	2		
	21-30	61	31		
	31-40	70	35		
	41-50	43	22		
	51-60	12	6		
	61-70	8	4		
	>71	3	2		
Education	None	2	1%		
	Primary	100	50%		
	Secondary	68	34%		
	Certificate	8	4%		
	Diploma	16	8%		
	Degree	6	3%		
Occupation	Farmer	76	38		
	Housewife	30	15		
	Teacher	13	6		
	Self-employed Business	33	16		
	Casual laborers	3	2		
	Others	45	23		
Household Size	1-3	35	18	5	1.45
	4-5	107	54		
	6-8	55	28		
	>8	3	2		
Children below 5 years in Household	0	50	25	1	0.807
	1	100	50		
	2	45	23		
	3	2	1		

Hand Hygiene

Majority (78%) of the respondents washed their hands after visiting the toilet while 20% washed their hands before preparing food as shown in Figure-1.

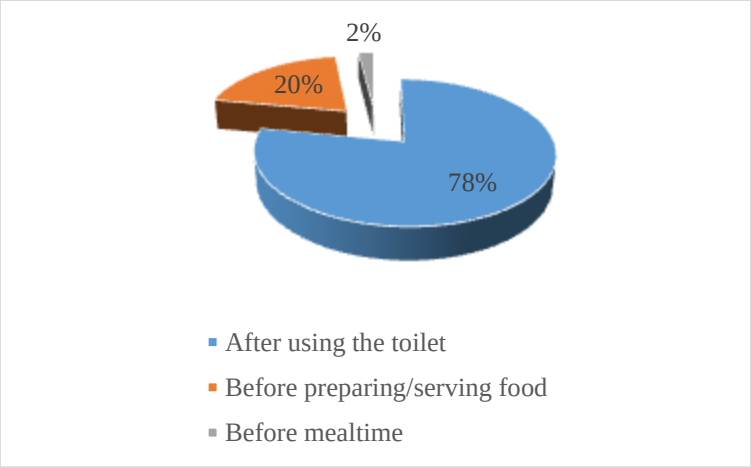

Fig-1: Hand Washing Practices

Figure-2 shows Gakawa ward has toilet coverage of 99% with 72% hand washing facilities, where 24% of the hand washing facilities has soap and 48 % do not have soap. Thengu ward has toilet

coverage of 95% with 49% hand washing facilities, where 30% of the hand washing facilities has soap and 19 % do not have soap.

Prevalence of Diarrhea

Findings in Figure-3 show that there was a diarrhea case reported in the previous 4 weeks in 6% of the households.

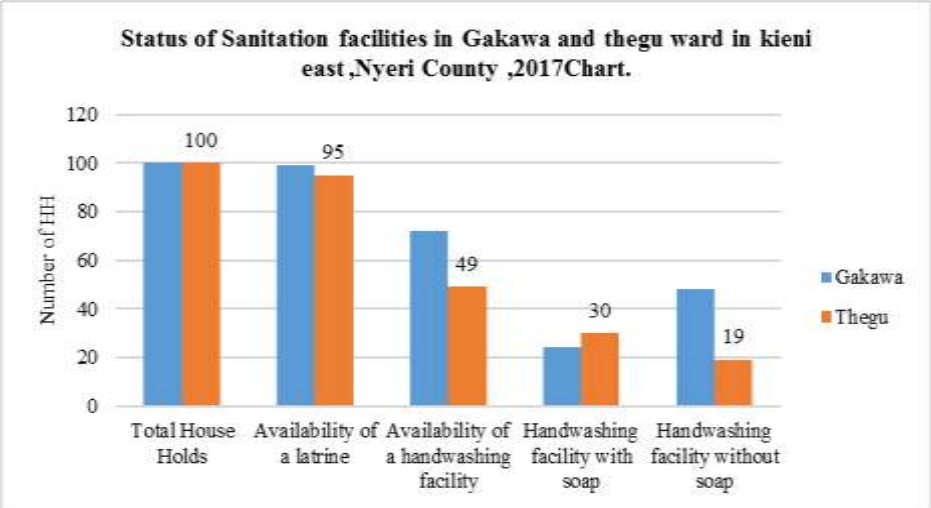

Fig-2: Status of Sanitation Facilities

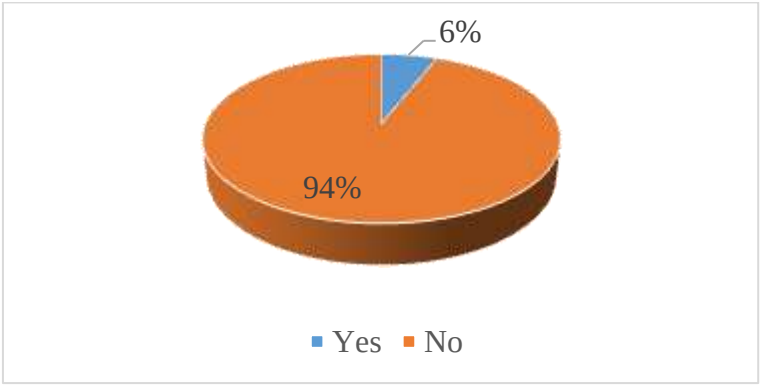

Fig-3: Prevalence of Diarrhea

Relationship between Socio-Demographic Characteristics and State of Sanitation

There was a significant relationship between level of education (p=0.025) and availability of hand washing facilities with soap. Similarly, there was a significant relationship between occupation (p=0.019) and availability of hand washing facilities with soap as shown in Table-2.

Table-2: Relationship between Socio-Demographic Characteristics and State of Sanitation

Variable	P-value
Gender	0.460
Age	0.172
Education	0.025***
Occupation	0.019***
Household size	0.8459

Relationship between Hand Washing Practices and Diarrhea Diseases

There was a significant relationship between households with hand washing facilities with soap (p=0.00) and diarrhea case reported in the previous 4 weeks as shown in Table-3.

Table-3: Relationship between Hand Washing Practices and Diarrhea Diseases

Variable	P-value
Hand washing	0.360
Hand washing facilities with soap	0.000***

DISCUSSION

The study sought to to ascertain hand-washing practices in Kieni East sub-County. It was found that majority (78%) of the respondents washed their hands after visiting the toilet while 20% washed their hands before preparing food. Whereas toilet facilities had a high coverage (97%), coverage of hand washing facilities was lower (60%). Coverage of hand washing facilities with soap was very low (27%). The findings therefore show a very poor handwashing practices among residents of Kieni East sub-County. There was a significant relationship between level of education (p=0.025) and availability of hand washing facilities with soap. Similarly, there was a significant relationship between occupation (p=0.019) and availability of hand washing facilities with soap. There was a significant relationship between households with hand washing facilities with soap (p=0.00) and diarrhea cases reported in the previous 4 weeks.

The findings demonstrate poor hand washing practices among study participants. Evidence from the findings shows level of education and socio-economic status to be predictors of handwashing practices. The findings also show that the prevalence of diarrhea especially in children under 5 years is attributable to poor hand washing practices in the study area. The findings are in agreement with findings of Tüzün, Karakaya and Deniz [6] as well as findings of Schmidt *et al.,* [4] who found that the level of education is a predictor for hand hygiene. This is also in agreement with findings of Rabbi and Dey [7] who found that socio-economic factors including education of household head and respondent, water availability and access to media have strong positive association with hand washing with soap. The findings are consistent with Luby *et al*., [8] that handwashing before preparing food is a particularly important opportunity to prevent childhood diarrhoea, and that handwashing with water alone can significantly reduce childhood diarrhoea. The findings are also consistent with findings of Curtis and Cairncross [9] washing hands with soap can reduce the risk of diarrhoeal diseases by 42-47% and interventions to promote handwashing might save a million lives.

CONCLUSION

The study concludes that there is poor hand hygiene among residents of Kieni East sub-County. Although majority of respondents recognised the importance of hand hygiene, hand washing was not frequently observed. Washing of hands was majorly done but infrequently observed during meal preparation and consumption or when cleaning babies.

RECOMMENDATION

A sensitization program is urgently required in Kieni East sub-County on hand washing and hand hygiene. Such a program should target lowly educated and the poor. Distribution of free soap would greatly aid efforts to enhance hand washing in the area.

ACKNOWLEDGEMENTS

Special thanks to our respondents in Kieni East sub-county for data collection.

REFERENCES

1. Borchgrevink, C. P., Cha, J., & Kim, S. (2013). Hand washing practices in a college town environment. *Journal of environmental health*, *75*(8), 18.
2. Aigbiremolen, A. O., Abejegah, C., Ike, C. G., Momoh, J. A., Lawal-Luka, R. K., & Abah, S. O. (2015). Knowledge and Practice of Hand Washing among Caregivers of Under-Five Children in a Rural Nigerian Community. *Public Health Research*, *5*(5), 159-165.
3. Merenu, I., Uwakwe, K., Diwe, K., Duru, C. B., & Chineke, H. (2015). Knowledge, Attitude and Practice of Handwashing amongst Residents of Orlu Metropolis. *International Invention J Medicine and Medical Sciences*, *2*(7), 101-9.
4. Schmidt, M. (2009). Special issue: societal aspects of synthetic biology.
5. District health information system (DHIS, 2016) report.
6. Tüzün, H., Karakaya, K., & Deniz, E. B. (2015). Turkey Handwashing Survey: suggestion for taking the ecological model into better consideration. *Environmental health and preventive medicine*, *20*(5), 325.
7. Rabbi, S. E., & Dey, N. C. (2013). Exploring the gap between hand washing knowledge and practices in Bangladesh: a cross-sectional comparative study. *BMC public health*, *13*(1), 89.
8. Luby, S. P., Halder, A. K., Huda, T., Unicomb, L., & Johnston, R. B. (2011). The effect of handwashing at recommended times with water alone and with soap on child diarrhea in rural Bangladesh: an observational study. *PLoS medicine*, *8*(6), e1001052.
9. Curtis, V., & Cairncross, S. (2003). Effect of washing hands with soap on diarrhoea risk in the community: a systematic review. *The Lancet infectious diseases*, *3*(5), 275-281.