



## RESEARCH ARTICLE

### ONE DAY TEACHING PROGRAM REGARD HAND HYGIENE AMONG SECONDARY SCHOOL STUDENTS-SUDAN 2016

**\*Manal Bilal Mohammed**

Assistant Professor Medical Nursing Department, Omdurman Islamic University, Sudan

#### ARTICLE INFO

##### Article History:

Received 09<sup>th</sup> October, 2017  
Received in revised form  
15<sup>th</sup> November, 2017  
Accepted 18<sup>th</sup> December, 2017  
Published online 30<sup>th</sup> January, 2018

##### Keywords:

Hand washing, Knowledge, Attitudes and practice, One day teaching program and secondary students, Sudan.

#### ABSTRACT

**Background:** Poor hand hygiene is one of the major health problems in which leads to so many public health problems, students are not aware of important of hand hygiene specially at secondary school level.

**Materials and Methods:** Quantitative quasi experimental randomized one group pretest and posttest design study was carried out to find out the effectiveness of hand hygiene teaching on knowledge, attitudes and practice among secondary school students hypothesis tested to evaluate the effectiveness of teaching program. 95 students enrolled in the study. The period of data collection was from July to August 2016. Then teaching programme on hand hygiene was given using personal computer. Posttest was conducted on knowledge, attitudes and practice regard hand hygiene (HH)

**Results:** The mean value of knowledge, attitudes and practice between the pretest and posttest showed a vast statistically significant difference at  $p < 0.001$  level which support the hypothesis. Conclusion knowledge, attitudes and practice improved after teaching program.

*Copyright © 2018, Manal Bilal Mohammed. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.*

## INTRODUCTION

Handwashing is widely recognized as an essential measure in preventing healthcare associated infections in hospitals (Kilpatrick, 2011). It is referring to any action of hand cleaning. Hand hygiene relates to the removal of visible soil and removal or killing of transient microorganisms from the hands while maintaining the good skin integrity resulting from a hand care program. All humans carry transient and resident flora microorganisms on their skin. Microorganisms contaminate the outer layers of the skin and can be acquired when dealing with patients, healthcare providers, contaminated equipment or the environment (Core, 2002). Hand hygiene has been identified as the simplest and the most cost effective method of preventing most common infections that cause mortality and morbidity in human population Hand hygiene is a general term that applies to hand washing, antiseptic hand washing, alcohol based hand rub or surgical hygiene/antiseptic (Curtis, 2003). Prevention of infectious diseases has become one of the daunting challenges facing developing countries all over the world in varying degrees. One area of special concern is the control of diseases in a school population where pupil/students live in very close proximity with each other. One of the most important vehicles of transmission of diseases in such environment is the hand, spelling the need for appropriate

hand hygiene (White, 2003). Hand washing with soap and water at home is effective in reducing bacterial contamination of hands, which showing significant reducing of amount of bacteria on hands and this by cleaning under fingernails, using soap and drying hands through rubbing on clothes or a clean towel than before hand washing (Townsend, 2017). Hand washing is one of the most cost-effective investments in public health, and the economic benefit from hand washing is not unique to the prevention of diarrhea and pneumonia, but also most healthcare-associated infections (HAI), which are extremely costly to individuals, healthcare systems, and countries. Hand washing halts the spread of infection and is effective in preventing the spread of some diseases.

#### Aim of study

To assess knowledge, attitudes and practice of student at Secondary school and to find out the effectiveness of teaching program on their knowledge attitudes and practice.

#### Hypothesis

There is poor knowledge and practice of student regard HH before implementing teaching program. Knowledge, attitudes and practice improve after implementing teaching program.

## MATERIALS AND METHODS

Quantitative quasi experimental randomized one group pretest and posttest design study was carried out to find out the

**\*Corresponding author: Manal Bilal Mohammed,**  
Assistant Professor Medical Nursing Department, Omdurman Islamic University, Sudan.

effectiveness of hand hygiene teaching on knowledge, attitudes and practice of secondary school.

**Inclusion Criteria:** Second and third class students at youusif eldigare school for male and albuluk school for female

**Exclusion Criteria:** First class and those who refuse to participate in the study.

Sample size selected randomly, 95 student enrolled in the study, the study carried out in July-August 2017. Pre teaching program, data collected by self administer questionnaire regard demographic data and question about knowledge, attitudes and practice. Then teaching program. Post test was done 21 days after intervention teaching for the group which is about knowledge regard assessment measures when doing HH and type of water, and attitude regard HH, and practice about the situations where hand washing is carried, then teaching program implemented one day for each school, then read ministered the same questionnaire that carried in pre teaching program 21 day later, after that data collected and organized and managed using spss version 20.

## RESULTS

Among the 95 students 63% of them were males and 32% of them were females. age between 14-16 28.4% and more than 16 years their age 71.6 With regard to the 35.8% at class 2 and 64.2% in class 3. 4.8% received information about HH from TV, 30% received information from Radio and the rest received the information from their Teacher. As shown in Table (1). During the pre test the knowledge of student regard HH when asked about doing HH with cold water 33.7% answered "yes" while 54.7% answered "no" and the rest did not know the answer and regard doing HH with medium hot water 0% answer "yes" and 33.7% answer "no" and the rest did not know the answer, on other hand when asked about doing HH with hot water 88.4% answer with "no" 11.6% not know the answer and removing the ring during doing HH 88.4% did not know the answer while 11.6% said "no" the answer, also while doing HH remove the ring said 47.3% "yes" and 31.5% did not know the answer and the rest said "no" and when asked about drying hand after washing 55.8% said "no" while 36.8% did know the answer and the rest said "yes" and when asked about the time for hh 48.4% did not know the answer and 42.1% said "no" mean 1.7789, SD .63880 p value 5. Knowledge improved in post test the p value 0.0001 Table (2). Attitude regard hh also assessed the students asked If peoples couldn't wash their hands appropriately they will be exposed to diese 88.4% answer by disagree and the rest answered by agree, also asked if Age and Time are among factors that affect individual's hand washing with soap 70.5% answer agree, and 17.9% strongly agree, 72.6% disagree the responsibility for themselves while 24.2% agree the responsibility. Also their attitude improve after teaching program p-value 0.0001. Table (3) Lastly practice assessed among students as it shown in table (4a+4b) their practice improved after teaching program and p value 0.0001

Present study shows that during the pretest the student has poor knowledge in some questions. The results of the study indicate that most of the respondents maintained hand hygiene but not sufficiently enough to prevent infection as result showed that the majority of student did not know if cold water or medium

hot or hot water should be used for hand washing, when asked whether they remove bracelet of ring most of them not sure if they do so or not, also they did not know if they dry their hands after hand washing or even they must dry them, these findings may indicate widespread insufficient hand hygiene among these respondents which came at variance with study in among elementary school in Indonesia they had sufficient knowledge regard HH (Melati, 2012). These results improved after teaching program. Other study done in Bangladesh among under graduate students which showed good knowledge HH regard which is in contrast to our study (Sultana, Marufa, 2016). From 95 students in secondary school student (88.4%) have poor attitude in comparison with study in South Africa with good attitude (91.4%) (Sibiya, 2013). This finding is almost similar with finding from Lake Mereb district of Ethiopia with positive hygiene behaviour of 61.6% (Assefa, 2014). This did not support by different behavioral theories which explain that good perception of some action can result in a more positive display of attitude (Ajzen, 1977). These finding improved after teaching program p value 0.0001. Regression analysis showed practice of HH of respondents never washed their hands before the meal but always wash tier hands after meal which showed the contrast of study done in South Africa interims of most frequent practice of hand washing before meal (Sibiya, 2013).

In Babile town Ethiopia (98.3%) of the children regularly practiced hand washing before meals (Tadesse, 2000). Study done in turkey among university student showed that they have good practice regard HH, they always wash their hands after money exchange, touching garbage, blowing the nose, before and after touching sick people, and after combing hair and cleaning home. The practice improved after the teaching program which support the hypophysis. In conclusion found that knowledge, attitudes and practice improved after teaching program, we recommend that regular teaching program regard HH is mandatory for all students to protect them from infectious diseases.

## REFERENCES

- Ahmet Ergin, Mehmet Bostanc, Ali İhsan Özgür Önal, Nesrin Ergin Bozkurt. Evaluation of Students' Social Hand Washing Knowledge, Practices, And Skills In A University Setting, *Cent Eur J Public Health*, 2011; 19 (4): 222-227
- Ajzen I, Fishbein M. Attitude-behavior relations: a theoretical analysis and review of empirical research. *Psychol Bull.*, 1977; 84(5):888-918
- Assefa M, Kumie A. Assessment of factors influencing hygiene behaviour among school children in Mereb-Leke District, Northern Ethiopia : a cross-sectional study 2014 : 14(1):1-8
- Core H. Hand Hygiene in Healthcare Settings: An Overview of health care hand washing. 2002; 1-27
- Curtis, V. & Cairncross, S. Effect of washing hands with soap on diarrhoea risk in the community: a systematic review. *The Lancet Infectious Diseases*, 2003. 3(5), 275-281
- Kilpatrick, C., Allegranzi, B. and Pittet, D. WHO First Global Patient Safety Challenge: Clean Care Is Safer Care. Contributing to the Training of Health-Care Workers around the Globe. *International Journal of Infection Control*, 2011, 7, 1-8. <http://dx.doi.org/10.3396/ijic.V7i2.011.11>

- M.P.H.M., Melati .Community Health Center, Kapuas District, Indonesia. *Journal of Public Health and Development*, 2012, Vol. 10 No. 2 May – August
- Sibiya JE, Gumbo JR. Knowledge, Attitude and Practices (KAP) Survey on Water Sanitation and Hygiene in Selected Schools in Vhembe District, Limpopo, South Africa. 2013; 2282–95.
- Sultana, Marufa & Mahumud, Rashidul & Sarker, Abdur & Hossain, Sarder. Hand hygiene knowledge and practice among university students: evidence from Private Universities of Bangladesh. *Risk Management and Healthcare Policy*. 2016. 9. 13. 10.2147/RMHP.S98311)
- Tadesse, G. 2000. The prevalence of intestinal helminthic infections and associated risk factors among school children in Babile town, eastern Ethiopia. (33–4)
- Townsend J, Greenland K, Curtis V. Costs of diarrhoea and acute respiratory infection attributable to not handwashing: the cases of India and China. *Trop Med Int Health*. 2017; 22(1):74- 81. doi:10.1111/tmi.12808)
- White, C., Kolble, R., Carlson, R., Lipson, N., Dolan, M., Ali, Y. *et al*. The effect of hand hygiene on illness rate among students in university residence halls *American Journal of Infection Control*, 2003, 31(6), 364-70)

\*\*\*\*\*