



Awareness on Washing Hands to Prevent Spread of Disease Among Common People

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ABSTRACT

Proper and regular hand hygiene can reduce the spread of infection in the family of children raised at home. Alcohol-based hand disinfectants usually eliminate viruses associated with systemic infections like respiratory and gastrointestinal infections. The study aimed to investigate a multicultural factor that focused on the use of alcohol-based hand sanitizers to reduce the transmission of diseases at home and further education in hand hygiene. The study was conducted to raise awareness among the general public about the importance of hand washing to prevent the spread of the disease. The survey was conducted among the people in Chennai using a standard questionnaire. The sampling method in the present study was a convenient sampling method. The minimum bias for sampling is done based on selection criteria. Internal justification is a group of pairs, which can normalize the pattern with similar external credibility and exposure. Data is collected and aggregated. The results of this study relate to individual behavior and perception of hand washing. However, the commitment to hand washing is low and needs to be increased. Although self-reporting has increased in the community with hand washing in the community, it is suspected that there is still a risk of developing the disease.



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Washing your hands with soap will remove germs from your hands (Gerald *et al.*, 2012). This helps with decreasing the in infections because people do often make contact with the eyes, nose, and oral cavity, unintentionally without their knowledge (Hilburn *et al.*, 2003). Numerous studies have found that hand hygiene reduces the risk of cross contamination of infections. Proper hand washing helps prevent the spread of microorganisms (such as bacteria and viruses) that cause these diseases (Naikoba and Hayward, 2001).

INTRODUCTION

Handwashing is effective in preventing many of the epidemics related to global warming, such as coronaviruses, SARS, influenza, colds, cholera, diarrhea, and infectious eye diseases (Sandora *et al.*, 2005).

The habit of washing the hands before providing any kind of medical care can prevent or reduce the spread of the disease (Meadows and Saux, 2004). Common respiratory diseases caused by improper hand hygiene include colds, flu, chickenpox, and meningitis (Anderson *et al.*, 2008). We often hear about infections in hospitals and this is the result

of improper handwashing by staff and patients (Li *et al.*, 2019; Birnbach *et al.*, 2012). The article "Handwashing Compliance by HealthCare Workers" provides information on handwashing compliance before and after events was 9% and 22% for the working professionals in ICU, respectively and 3 % to 13% for the working professionals in medical ICU and cardiac surgeries (Naikoba and Hayward, 2001). The article based on a study on the awareness and practice of handwashing in women's in the universities states that handwashing is an important factor in reducing infection and preventing cross-contamination (Mott *et al.*, 2007). A National Survey of Handwashing Practices and Awareness states that (Bloomfield *et al.*, 2007) approximately 80% of the population believes hand washing helps prevent the spread during epidemics (Updegraff *et al.*, 2011).

The CDC states that hand washing prevents one in three diseases associated with diarrhea and one in five respiratory infections, such as cold or flu (Fournier and Berry, 2012). Numerous studies have shown that hand hygiene reduces the risk of infection cross-contamination, can prevent the spread of germs (Kim *et al.*, 2012) by making people aware of hand washing helps them (Park *et al.*, 2006). The purpose of the study is to raise awareness about hand washing to prevent the spread of disease among the general population.

MATERIALS AND METHODS

The survey was conducted among residenats of chennai using a standardised questionnaire. The sampling method was a convenient sampling method. The minimum bias for sampling is done based on selection criteria. Internal validity was group of pairs, which can normalize the pattern with similar external credibility and exposure. Data was collected and tabulated. Standardized questionnaires are based on knowledge, time management, interest and understanding. The data collection software used was online google forms. Data manipulation software was done in excel spreadsheet. Statistical tests used are Descriptive statistics. Independent variables can be common people, chennai. Dependent variables can be knowledge, time management, interest, understanding. Steps followed in survey planet software analysis the mean and percentage. Statistical software used was SPSS. All protocols for this study was granted exemption status by the institutional review board, and written informed consent was obtained from all participants.

RESULTS AND DISCUSSION

In the current study, about 35% of people agreed that cience and government recommend permanent alternatives to handshaking and about 20% of the respondants were strongly agreeing that statement. Figure 1 58.42% are in age groups between 25-40; 17.82% are in age groups above 40; about 23.76% are in age groups between 15-25. Figure 2 represents bar graph depicting the correlation between age and awareness on hand washing 27% of 15-25 years participants were aware of hand washing; 55% of 25-40 years participants were aware of hand washing; 18% of 40 and above aged participants were aware of hand washing. It was significant that people within age group 15 -25 years are more aware about the importance of hand washing and among them females are more aware compared to males.

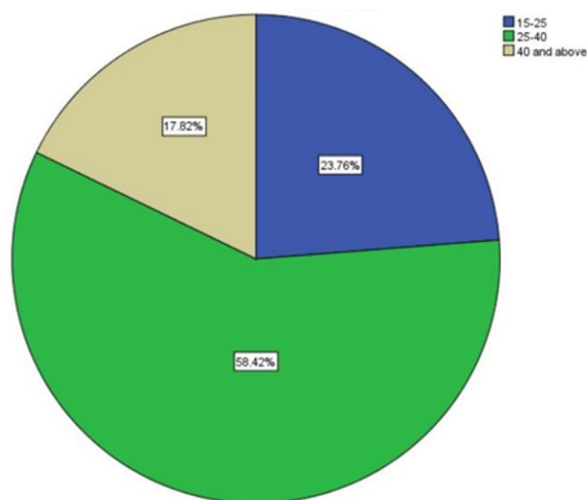


Figure 1: Pie chart representing the participant's age.

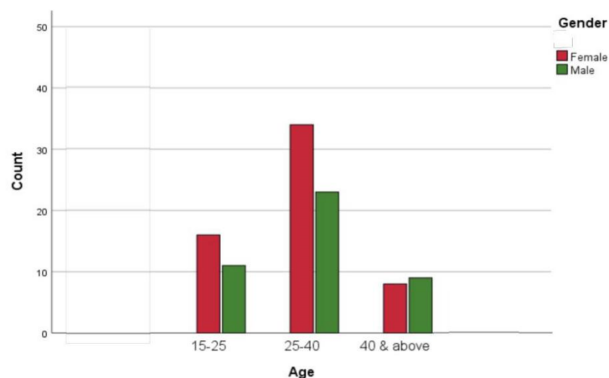


Figure 2: Bar graphs depict the correlation between gender and awareness on hand washing.

Figure 3 represent the participant's awareness on

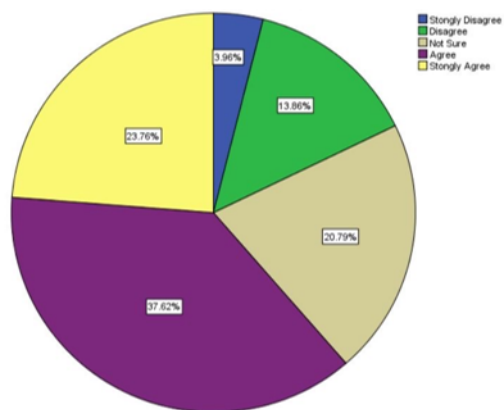


Figure 3: Pie chart representing the participant’s awareness on researchers and government recommend permanent alternatives to handshaking.

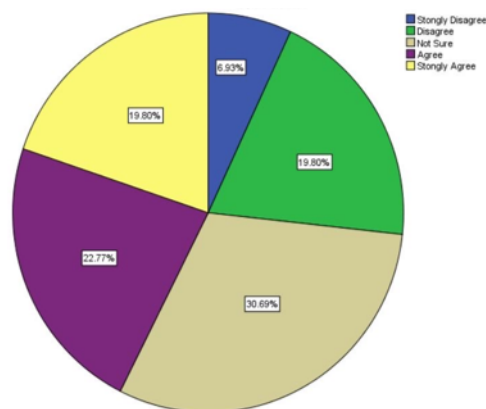


Figure 6: Pie chart representing the participant’s awareness on water shortage communities prevent spread of diseases.

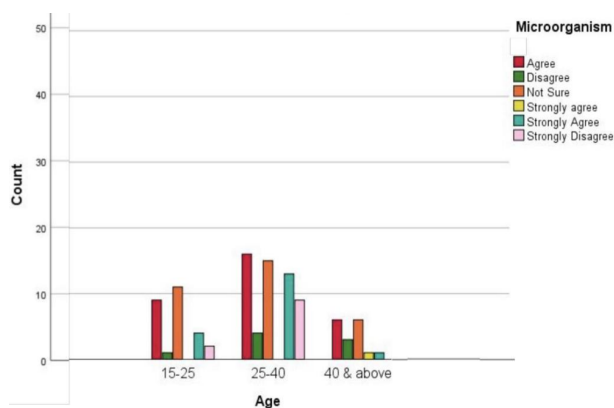


Figure 4: Bar graphs depict the correlation between age and regarding drying after a handwash with respect to reducing microbial spread.

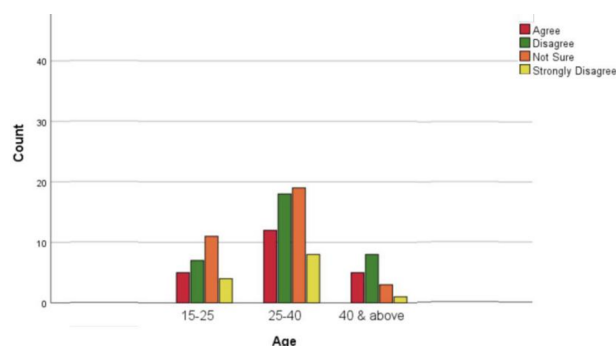


Figure 7: Bar graphs depict the correlation between age and awareness on hand washing in disease prevention.

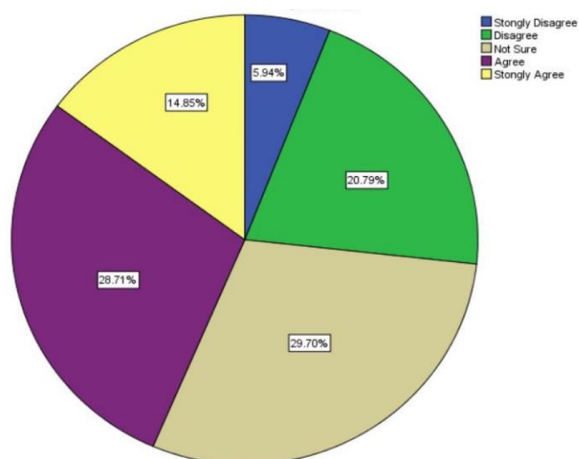


Figure 5: Pie chart representing the participant’s awareness on Hand sanitation for food handlers.

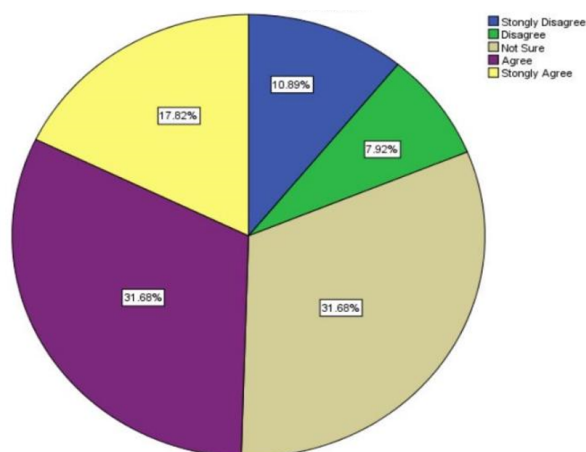


Figure 8: Pie chart representing the participant’s awareness on infections prevention through handwashing and cleaning of the surfaces frequently.

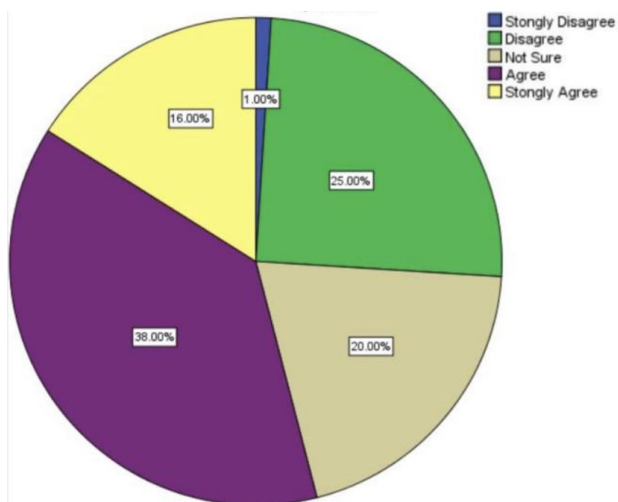


Figure 9: Pie chart representing the participant’s awareness on infections can be transmitted through soap.

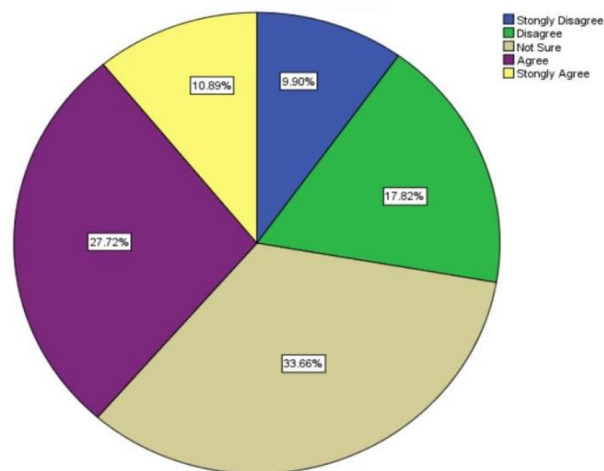


Figure 12: Pie chart representing the participant’s awareness on washing hands too much weakens your immune system.

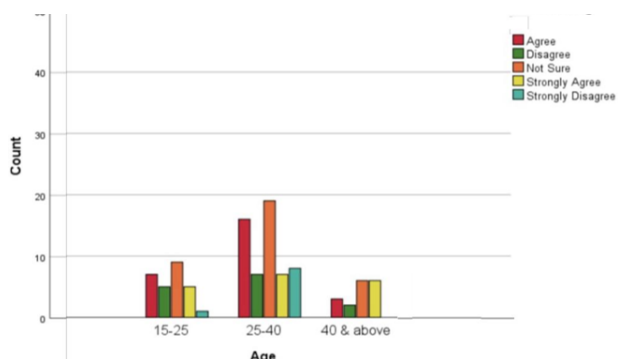


Figure 10: Bar graphs depict the correlation between age and awareness on rubbing hands together can kill germs.

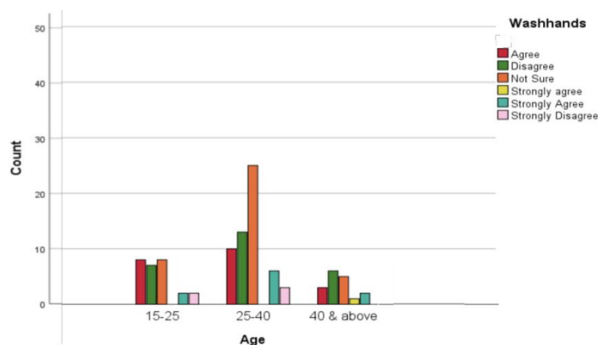


Figure 11: Bar graphs depict the correlation between age and awareness on washing hands at frequently.

researchers and government recommend permanent alternatives to handshaking; 37.62% of the participants agreed with this statement; 3.96% strongly disagree with this statement; about 20.79% are not sure of this statement. Figure 4 depicts the correlation between age and drying after a hand wash with respect to reducing microbial spread. 26% of 15-25 years participants were aware of microbial spread; 54% of 25-40 years participants were aware of microbial spread; 20% of 40 and above aged participants were aware of hand washing. Figure 5 represent the participant’s awareness on Hand sanitation for food handlers; 28.71% of the participants were aware of that it is required for hand sanitation while handling food. Figure 6 represent the participant’s awareness on water shortage communities prevents spread of diseases; 22.7% of the participants were aware of this issue; 30.69% are not were aware of this issue. Figure 7 depict the correlation between age and awareness on hand washing to prevent the spread of disease. 28% of 15-25 years participants were aware of hand washing to prevent the spread of disease; 58% of 25-40 years participants were aware of hand washing to prevent the spread of disease; 14% of 40 and above aged participants were aware of hand washing to prevent the spread of disease. This shows majority of the participants within 25-40 years were aware of hand washing to prevent the spread of disease. Figure 8 represent the participant’s awareness on infections are reverted through regular hand washing and cleaning of shared surfaces; 31.68% of the participants were agreeing with this statement; 10.89% strongly disagreeing with the statement ; about 31.68% are not sure of this statement. Figure 9 represent the participant’s awareness on

infections can be transmitted through soap; 38% of the participants were agreeing with this statement, about 1% strongly disagreeing with this statement and about 20.00% are not sure of this statement. Figure 10 depict the correlation between age and awareness on rubbing hands together can kill germs. This shows majority of the participants within 58% of 25-40 years participants were aware of rubbing hands together can kill germs. Figure 11 depict the correlation between age and awareness on washing hands at regular intervals. 30% of 15-25 years participants were aware on washing hands at regular interval; 55% of 25-40 years participants were aware of washing hands at regular interval; 15% of 40 and above aged participants were aware on washing hands at regular interval. Figure 12 represents that the participant's awareness on washing hands too much weakens your immune system, 27.72% of the participants have this opinion; about 9.90% strongly disagreeing; about 33.66% are not sure of this statement.

From the result, it is evident that the disinfection can be done by thorough hand washing and cleaning the surfaces which are shared to decrease infections which can provide as an additional tool for effective infection control in special care facilities. Rubbing hands together can kill germs which was investigated in previous clinical studies. This Study gives about hand sanitizer and its effective against spread of disease that helps in creating the awareness of importance on the importance of hand washing (Gerald et al., 2012; Hilburn et al., 2003). Diseases brought about by flu infections, rhinoviruses, coronaviruses and respiratory syncytial infections (RSVs) are a significant wellbeing burden. Virus particles can be shed in enormous numbers in different body liquids from a tainted individual or a transporter, including blood, salivation and nasal secretions. Virus move from surfaces to hands, then hands to fingers to food has been demonstrated. Other contemplates have indicated a high pace of spread once a viral contamination is brought into a family home or foundation. Improved handwashing and surface hygiene procedures are shown to interrupt the transmission of infective agent infections via hands, surfaces or fomites. Study have ascertained that the dirt in the hands in excessively weaken system and viruses will also shed in massive numbers and might survive for long periods on surfaces with more dirt. Previously our department has published (Ariga et al., 2018; Jyothi et al., 2017; Duraisamy et al., 2019; Selvan and Ganapathy, 2016; Ganapathy et al., 2016) extensive research on various aspects of prosthetic dentistry (Jain et al., 2017; Vijayalakshmi and Ganapathy, 2016; Gana-

pathy et al., 2017; Ashok and Suvitha, 2016; Subasree et al., 2016), this vast research experience has inspired us to research about the awareness on washing hands to prevent spread of disease among common people (Ashok et al., 2014; Venugopalan et al., 2014; Kannan and Venugopalan, 2018; Basha et al., 2018).

In Figure 2, X-axis represents Age and Y-axis represents number of participants. Correlation between age and awareness on hand washing was done using chi-square test p Value 0.000 ($p < 0.05$) hence it is found to be statistically significant. Out of 100 participants, 27% of 15-25 years participants were aware of hand washing; 55% of 25-40 years participants were aware of hand washing; 18% of 40 and above aged participants were aware of hand washing.

In Figure 3, 37.62% of the participants agreed with this statement; 3.96% strongly disagree with this statement; about 20.79% are not sure of this statement.

In Figure 4, X-axis represents Age and Y-axis represents the number of participants. Correlation between age and regarding drying after a hand wash with respect to reducing microbial spread was done using chi-square test p Value 0.000 ($p < 0.05$) hence it is found to be statistically significant. Out of 100 participants, 26% of 15-25 years participants were aware of microbial spread; 54% of 25-40 years participants were aware of microbial spread; 20% of 40 and above aged participants were aware of hand washing.

In Figure 5, 28.71% of the participants were agreeing with this statement; 5.94% strongly disagreeing with this statement; 29.70% are not sure of this statement.

In Figure 6, 22.7% of the participants were agreeing with this statement; 6.93% strongly disagreeing with this statement ; 30.69% are not sure of this statement.

In Figure 7, X-axis represents Age and Y-axis represents number of participants. Correlation between age and awareness on hand washing in disease prevention was done using the chi-square test, p-Value 0.000 ($p < 0.05$) hence statistically significant. Out of 100 participants, 28% of 15-25 years participants were aware of hand washing in disease prevention; 58% of 25-40 years participants were aware of hand washing to prevent the spread of disease; 14% of 40 and above aged participants were aware of hand washing to prevent the spread of disease.

In Figure 8, 31.68% of the participants were agreeing with this statement; 10.89% strongly disagree-

ing with the statement ; about 31.68% are not sure of this statement.

In Figure 9, 38.00% of the participants were agreeing with this statement, about 1% strongly disagreeing with this statement and about 20.00% are not sure of this statement.

In Figure 10, X-axis represents Age and Y-axis represents number of participants. Correlation between age and awareness on rubbing hands together to kill germs, with chi-square test, p-Value 0.000 ($p < 0.05$) hence statistically significant. Out of 100 participants, 27% of 15-25 years participants were aware that rubbing hands together can kill germs; 58% of 25-40 years participants were aware of rubbing hands to prevent the spread of disease; 15% of 40 and above aged participants were aware of rubbing hands together can kill germs.

In Figure 11, X-axis represents Age and Y-axis represents number of participants. Correlation between age and awareness on washing hands at regular intervals with chi-square test p Value 0.000 ($p < 0.05$) hence statistically significant. Out of 100 participants, 30% of 15-25 years participants were aware on washing hands at frequently; 55% of 25-40 years participants were aware of washing hands at frequently; 15% of 40 and above aged participants were aware on washing hands at frequently.

In Figure 12, 27.72% of the participants were agreeing with this statement; about 9.90% strongly disagreeing with this statement; about 33.66% are not sure of this statement.

The Limitations can be Online survey and sample size is low, bias. The Future Scope can be the online distribution channel segment is anticipated to be highly attractive during the forecast period.

CONCLUSION

Within the limitations of this study, it can be concluded that the awareness on the hand washing to maintain proper hand hygiene was in optimum within the respondents, and both male and female participants have good knowledge about hand hygiene to prevent spread of infections.

Conflict of interest

The authors declare that they have no conflict of interest for this study.

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