Original Research Article

LESSON LEARNED FROM POST COVID-19 PUBLIC PERCEPTION AND HYGIENIC BEHAVIOUR IN ZANZIBAR IN RELATION TO FUTURE PANDEMIC

ABSTRACT

Back Ground: During COVID - 19 Pandemic, there was a significant change in hygiene behavior due to implementation of the World Health Organization strategies intended to combat coronavirus transmission and other contagious diseases. The goal of this study is to assess the post COVID - 19 public perception and hygienic behaviors in Zanzibar.

Methods: This was a cross-sectional survey conducted in Zanzibar town from March 28 to May 19, 2021. The data were collected using questionnaire and direct observational hygiene-check then analyzed using Microsoft Excel and Statistical Package for Social Sciences (SPSS) Version 20.

Findings: A total of 299 respondents participated in this study, residents were 78.9% and non-residents were 20.7%. 49.2% of the study population were at the age between 18 – 28 years. Male were 53.8% and female 46.2%. The main source of COVID -19 information for residents were television 61% and radio 34.7% and for non-residents, television 76.3% and social media 15%. Majority of the residents 84.3% expressed fear on the presence of COVID -19 cases at neighboring countries against 58.7% of the non-residents. 59.9% of the residents and 75.4 % of the non-residents believed that Zanzibar was not safe from COVID -19. 47.5% of respondents believed that imposition of the preventive measures was the main factor that prevent Zanzibar from being strongly hit by COVID-19. The compliance of COVID -19 preventive measures was not satisfactory.

Conclusion: Despite observed perception and positive attitudes towards on COVID-19 preventive measures, we learned that adherence to health preventive practice remain as a big challenge. To attain sustainable modest hygienic practice for future pandemic preparedness needs appropriate use of identified main sources of information for frequently community health education and keep maintaining hand-washing facilities at least at public institutions.

Key words: *Post COVID-19, hygienic behaviors, residents, non-residents and preventive measures*

1. INTRODUCTION

In early 2020, Corona virus disease 2019 (COVID-19) was declared as a global pandemic disease that caused by the severe acute respiratory syndrome coronavirus-2 (SARS CoV-2), which belong to the SARS coronavirus (1) . The SARS-CoV-2 virus is spreading mainly through respiratory air droplets from infected person through coughing, sneezing, talking or even through contaminated hands and objects (2). Since WHO declaration on COVID-19 as pandemic, several guidelines have been developed and reliable infor-

mation on COVID-19 have been uploaded online by WHO and NCDC to help community dispel ignorance on COVID-19 (3). To protect oneself and others from SARS-CoV-2 infections, scientists has agreed on social distancing, hand washing, mask-wearing and staying at home as a key in prevention strategies (4). Frequent and proper hand washing practice, has been shown as the one of the most important measures to prevent infections with the virus (5). According to the WHO guidelines, effective hand washing with water and cleaning materials needs at least 20s (6). On the other hand, the use of masks as a personal respiratory protection has been said to provide the last line of defence in the safety and health controls system (7) by limiting exhaled particles (8).

Community adherence to basic hygiene principles during pandemic is of great importance (9). Knowledge, attitudes, perception, hygiene practices and awareness of the mode of disease transmission could play an important role in the prevention and control of pandemic diseases if they are well understood and become a part of habit in the respective community (10). In Tanzania, the first case of COVID-19 was reported in March 2020 (11). A range of protective measures was imposed to mitigate the spread of infection (12) . However, three month later Zanzibar started to easy imposed restrictions whereby international flights were resumed and academic institutions (Universities, Colleges, schools) were reopened (13). Our first study revealed 58.9% of the Zanzibari population were positive COVID-19 seroprevalence, without significant differences between Unguja and Pemba as well as between rural and urban areas (14). In this study, we intend to assess the post COVID -19 public perception and hygienic behaviors in Zanzibar for future pandemic preparedness.

2. METHODOLOGY

2.1 Study Sites

The study was carried out in Zanzibar City located in the Urban West Region of Zanzibar. Zanzibar is a part of the United Republic of Tanzania comprising of two major Islands Unguja and Pemba, the capital city is Zanzibar city. It has 5 regions, 3 from Unguja and 2 from Pemba. The west urban region composed of 3 districts one of which is urban district, it consists of the residents and non-residents from different countries. According to 2022 PHC it composed of 893,169 of the Zanzibar population (15). It is the most busiest city with many administrative offices, academic institutions (university, colleges, schools) markets, referral hospital, air and sea port with economic activities including business, tourism, fishing and small industries.

2.2 Study design and Sample Size

This was a cross-sectional survey conducted in Zanzibar between March 28 and May 19, 2021. The sample size was calculated by using Fischer's formula, given by n = (Z2pq)/d2; where

n = estimated sample size

Z = Z score for confidence interval (1.96)

p = prevalence so our p will be taken as 25% = 0.25

q = 1-p

d = tolerable error (0.05)

So, n = 1.962 x 0.25 x (1-0.25)/ (0.05)2

n = 288.

2.3 Data collection and Data Analysis

The quantitative data were collected using a face to face semi-structured questionnaire and direct observational hygiene-check approaches. Questionnaire were constructed in the Swahili language for residents and English for Non-residents. The questionnaire were pre-tested and adjusted to capture information on: socio-demographic characteristics; knowledge of COVID-19 transmission and prevention measures; attitudes and perceptive toward COVID-19 prevention. Checklist for assessment for direct evidence of presence hy-

gienic practice on: Availability of water source /sanitizer, hand wash practices, mask wearing and availability of COVID -19 preventive posters. The researchers adhered to COVID-19 preventive public health measures including proper use of face masks.

The data analyses were performed using Microsoft Excel and statistical package for social sciences (SPSS) version 20. The data were analyzed and the results were displayed in charts and tables.

3. RESULTS

3.1 Socio-demographic characteristics

A total of 299 respondents participated in this survey, residents were 236 (78.9%) and Non-residents were 63 (21.1%). Majority of the study population were male 161(53.8%) and female138 (46.2%). The majority of the respondents were at the age of 18 – 28 years which makes 147 (49.2%) of all participants. The middle-aged groups 29-39 years were 75 (25.1%). The total of 42(14.0%) were between age of 40 - 50 years while the group with lowest number 35 (11.7%) was 51 years and above.

3.2 Knowledge and Sources of Information about COVID-19

The findings showed that 99.3% of the residents and 100% of non-residents had good knowledge on COVID-19. For the residents, the predominant source of information was television 61%, radio 34.7%, and 2.5% through social media, newspaper and internet. For the non-residents, television was the predominant source of information by 76.3%, from radio was 0% but 15% through social media, newspaper and internet. More females were reached with information via television than males (101:91) inversely more male were reached with information via radio than female (52: 30) respondents. However, via relatives male and female were the same but via newspapers and internet more males reported as their source of information than females 16:5 respondents. Table 1

Table1. Source of information on COVID-19

Source of information on COVID-19	Citizenship		Total
	Residents	Non-residents	
Radio	82 (34.7%)	0 (0%)	82 (27.4%)
Television	144 (61%)	48 (76.2%)	192 (64.2%)
Relatives	4 (1.7%)	0 (0%)	4 (1.3%)
Others	6 (2.5%)	15 (23.8%)	21 (7.1%)
Total	236 (100%)	63 (100%)	299 (100%)

3.3 Perception towards COVID-19

3.3.1 Safe believe on Covid-19 cases in Zanzibar

Both residents and non-residents respondents were asked about their believes on Zanzibar safety from COVID - 19 infection. The findings revealed 179 (59.9%) of the residents believed that Zanzibar was not safe from COVID -19 against 120 (40.1%) who believed that Zanzibar is safe. 75.4 % of the non-residents believed that Zanzibar was not safe from COVID -19.

3.3.2 Fear of COVID -19 in Zanzibar

The participants were asked about whether they fear anything about presence of COVID -19 cases at our neighboring countries. The results shown majority of the resident participants 84.3% expressed fear on the presence of COVID -19 cases at neighboring, however only 58.7% of the non-residents expressed fear. Fig 1

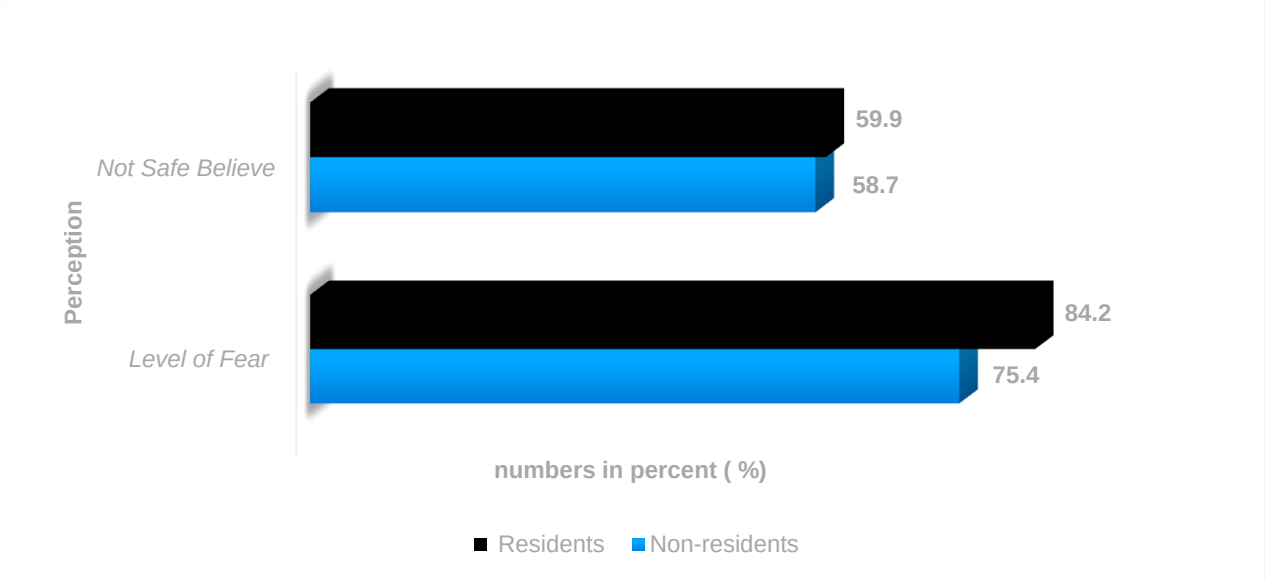

Fig. 1 Perception of residents and non-residents towards COVID - 19

3.3.3 What prevents Zanzibar to be hit strongly by COVID -19?

The participant were asked on factors that they believed are the reason that COVID - 19 not strongly hit Zanzibar population. The high number of both residents and non-residents 47.5% believed that imposition of the preventive measures was the main factor that prevent Zanzibar from Covid-19. However, 20.4% is due to religious believe, 6.4% weather condition, 5.7% body immunity and 8.4% they do not know the factors. Fig. 2

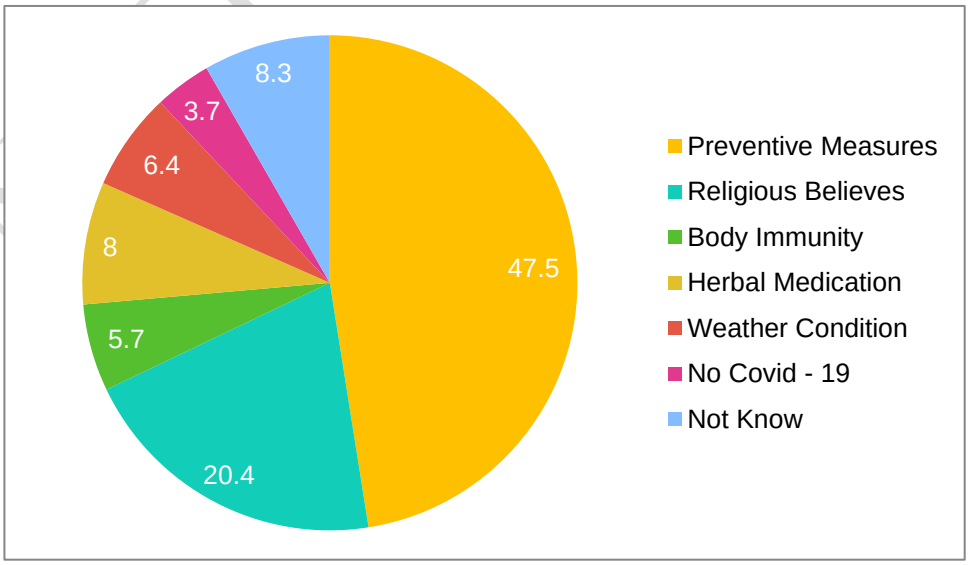

Fig. 2 Perception and Believes of Participants on the factors that prevents Zanzibar to be strongly hit by COVID – 19 [number in percent (%)]

4. Assessment on practices

Practices toward COVID -19 were assessed at various location including Mnazi mmoja hospital, Darajani market, Malindi sea port, Abeid Amani Karume airport and Zanzibar Public Health Emergency Operations Center (a center for COVID -19 check for residents and the Non-residents). Checklist for assessment for direct evidence on the presence of hygienic practice on: availability of water source/sanitizer, hand wash practices through water/sanitizer, availability of body temperature check, mask wearing and availability of COVID -19 preventive posters.

About 87.1% of location has water source/sanitizer, 40% of observed population were practicing hand wash/sanitizers, and only 26.5% had body temperature checking, however, only 3% of assessed location had COVID -19 preventive posters. On wearing face masks, it showed 34% of observed population wore masks while 66.3% of health workers were wearing the masks. Fig. 3

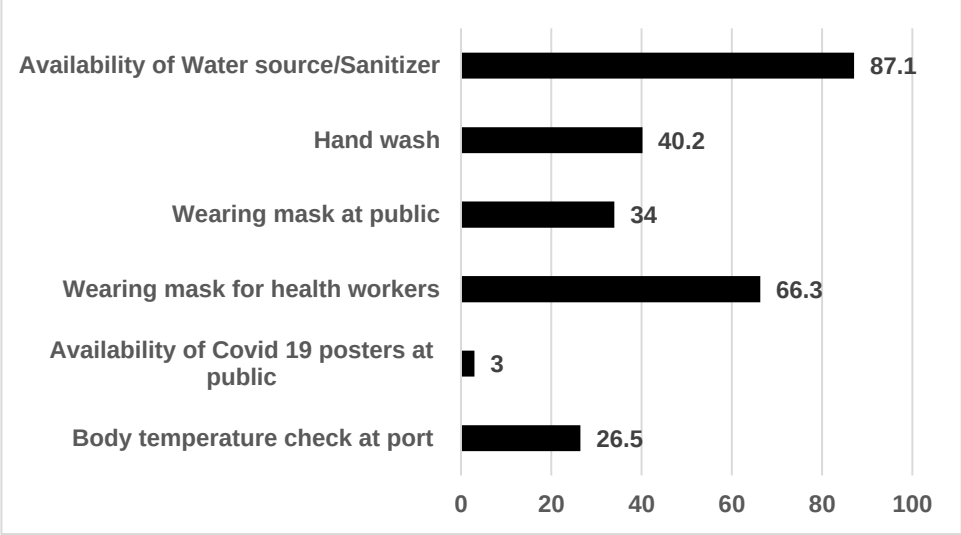

Fig. 3 Attitudes of Participants towards COVID -19 [number in percent (%)]

5. DISCUSSION

This study focused on assessing public perception, hygienic behaviors and its sustainability in Zanzibar Community during COVID -19. In order to curb the severity and spread of emerging pandemics, it is necessary for the community to adhere to preventive measures (9). Assessment of disease awareness/knowledge of the population's is very crucial step for developing disease prevention and control strategies (10). Based on our findings, nearly more than 99% of residents and non-residents population participated in this study had good knowledge on the disease. Our findings are in agreement with studies conducted in Tanzania mainland (12) and neighboring country Kenya (16) and Uganda (17) also in other countries like Egypt (18), Nigeria (19), Iran (10) which reported high COVID-19 knowledge among the population but contrary to the findings from two Ethiopia (20),(21), Cameroon (22) and Democratic Republic of Congo (23), where participants had poor knowledge of COVID-19. Good knowledge in infection control has been reported in previous studies from different countries as a predictor of good practice (12). Thus the high level of COVID-19 knowledge observed in this study might be because the survey was conducted during post COVID- 19 era.

Regarding the sources of information about COVID -19, for the residents, the commonest source of information was television 61% and radio 34.7%. The social media, newspaper and internet makes only 2.5%. However for the Non-residents, television was the predominant source of information by 76.3% then radio was 0%. Our findings are in agreement with findings from Uganda and Ethiopia whereby the main sources of COVID -19 related information were radio and television (17), (23). Perhaps because most of the resident participants were urban residents who are literate and for Non-residents likely could be attributed to the

presence of television English news media program than radio and internet. On the other hand, more females were reached with information via television than males (101:91) inversely more male were reached with information via radio than female (52: 30) respondents. Our finding differ from study conducted in Uganda et.al where more males were reached with information via television than females, but support our study where radio found to be commonest source of information for male than female (17). This result may be possible due to the fact that in Zanzibar more females used to remain at home for longer, so likely to seek health-related information through television than males.

Following presence of high reported COVID -19 cases from Tanzania neighboring countries, our study assessed participant perception towards COVID-19 including safety, fear and reasons that drives the participant to believe that the COVID-19 infection was not severely hit Zanzibar community. The findings revealed high number of the resident participants 59.9% and 75.4 % of the resident participants believed that Zanzibar was not safe from COVID-19. 84.3% of Residents and 78.9% of Non-residents expressed to have fear of COVID-19. 47.5% of both residents and Non-residents believed that imposition of the preventive measures was the main factor that prevent Zanzibar from COVID -19. 20.4% of native respondent believed is due to religious believe, 6.4% due to weather condition, 5.7% due to body immunity and 8.4% they do not know the reasons. Previous studies has been revealed that source and type of information is the source of fear and panic over COVID-19 (24) that negatively affecting the mental health of community in a dose-dependent manner (25).

Practices toward COVID -19 were assessed at various location where by about 87.1% of location has water source/sanitizer, but only 40.2% of persons were practicing hand wash/sanitizers. Hands washing practice found to reduce the risk of transmission of contagious and WASH-related diseases (3). The significant decrease in post-COVID-19 hand washing practices indicates that the COVID-19 imposed hand washing practices is due to the fear and panic associated with COVID-19 (3). On wearing face masks, it showed 44% of observed persons wore masks in the public and 66.3% of health workers at working areas. Generally, observed that the compliance of Covid-19 preventive measures was not satisfactory. According to CDC in the hierarchy of safety and health controls, the use of personal respiratory protection has been said to provide the last line of defence as has proven to be an effective barrier to reducing the transmission of respiratory diseases (7). Recent study in Ethiopia highlighted that the awareness, the fear and panic, are among the major reason for hygiene behavior changes while decline in disease transmission, number of death and facility access are among the major reasons for low hygiene practice in the post-COVID-19 (3). It was previously reported that several attributes shows that in coming future, the pandemic-imposed changes in hygiene behavior could have positive consequences (3). This kind of findings can be taken as the first step toward preparedness for the coming pandemics.

Our previous study revealed 58.9% of the Zanzibari population were positive COVID-19 seroprevalence without significant differences between rural and urban areas (14). With increased awareness, regular installation of hand-washing facilities at public and home subsequently with frequent use of community sources of information for health education could sustainably nurture the modest hygienic practice and make it part of community behavior. Moreover, the observed positive social, cultural community norms and religious teachings in hygiene and good behavior in society during COVID-19, could provide a room for shift of hygiene behavior changes from temporary fear and panic to awareness driven. To the best of our knowledge during COVID -19 there was no any comprehensive study conducted in Zanzibar to assess knowledge, attitudes, public perceptions and hygienic practice. Our finding could be taken as lesson to be learnt for preparedness for future pandemic.

Limitation of our study is that was only conducted in Zanzibar urban area as the most active and highly community gathered area for business, tourism, fishing, transport, public, academic and health services and sport activities without focusing in age, gender, academic, employment and geographical background.

6. CONCLUSION

Despite observed high proportion of knowledge, awareness and positive perception and attitudes towards COVID-19 and its preventive measures, we learned that adherence to preventive hygienic practice remain

as a big challenge. To attain sustainable modest hygienic practice for future pandemic preparedness needs appropriate use of those identified as the main sources of information for frequently community health education and keep maintaining hand-washing facilities at least at public institutions.

ETHICAL APPROVAL

Ethical clearance for the study was obtained from Ethics Committee of Zanzibar Health Research Institute (ZAHREC) with Ref. No ZAHREC/04/ST/FEB/2021/15. Participants were provided informed consent prior to providing responses at the time of survey.

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