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ASSESSMENT OF AWARENESS, ATTITUDE AND PRACTICE OF NON-PHARMACEUTICAL INTERVENTIONS IN PREVENTION OF SEVERE ACUTE RESPIRATORY TRACT INFECTIONS AMONG NON-CIVIL SERVANTS IN NORTHERN NIGERIA

By

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Abstract

The study was conducted to assess the awareness, attitude and practice of non-pharmaceutical interventions in prevention of severe acute respiratory tract infections among non-civil servants in the northern Nigeria. Descriptive survey research design method was used. The study has population of 67,140,593 non-civil servants and sample size of 398 were selected through multi-stage sampling procedures consisting of stratified sampling, simple random sampling, proportionate sampling and convenience sampling procedures. The instrument used for the study was researcher structured questionnaire where 398 copies were administered and 389 were retrieved (97.7%). A split-half method was used for pilot test of Spearman-Brown Prophecy formula and 0.599 was obtained. Descriptive analysis of frequency counts and percentages were used to analyze the demographic information of the respondents, mean scores and standard deviation was used to answer research questions while inferential statistics of one sample t-test was used to test the formulated null hypotheses The result revealed that non-civil servants in northern Nigeria have positive attitude towards wearing face mask in public ($t=1.97$,df:388; $P<0.05$), hand washing ($t=1.97$, df:388; $P<0.05$). Based on the results, the following conclusions were drawn; non-civil servants in northern Nigeria have positive attitudes towards wearing face mask in public, washing hands. Based on the conclusion, it was recommended that government should make non-pharmaceutical interventions of severe acute respiratory tract infection preventive items available and affordable to non-civil servant in northern Nigeria.

Introduction

Severe Acute Respiratory Infection is an airborne virus and can spread through small droplets of saliva in a similar way to the cold and influenza. It was the first severe and readily transmissible new disease to emerge in the 21st century and showed a clear capacity to spread along the routes of international air travel. Respiratory tract infections (RTIs) are infections of parts of the body involved in breathing, such as the sinuses, throat, airways or lungs. Most RTIs get better without treatment (World Health Organization,

2022). Severe Acute Respiratory Infections (SARIs) are classified as upper respiratory tract infections (URIs) or lower respiratory tract infections (LRIs). The upper respiratory tract consists of the airways from the nostrils to the vocal cords in the larynx, including the paranasal sinuses and the middle ear (WHO, 2023). Corona virus is a group of disease that can affect humans and animals. Evidence over time indicates that the strain in animals is different from the strain that infect humans. Succinct to say that there are three well-known diseases caused by different viruses. They are, however, related genetically and the diseases they cause to humans are; Middle East Respiratory Syndrome [MERS], Severe Acute Respiratory Syndrome [SARS] and Corona virus Disease [Covid-19] (Akorede & Sulaiman, 2021).

The Primary Health Care system is the bedrock of the country's health system (Federal Ministry of Health, Nigeria, 2020) and the Community Health Workers (CHWs) are considered to be its backbone for several reasons (Mailman School of Public Health, 2017). In addition to contributing to several successful immunization, maternal, newborn, child health and reproductive health services, CHWs also played a critical role in the epidemic response to the 2014 Ebola Viral Disease outbreak (EVD) across several West African countries, including Nigeria (Perry, Dhillon, Liu, Chitnis, Panjabi, Palazuelos & Nyenswah, 2016). In the face of continued COVID-19 community transmission, the health system may likely become overwhelmed with increased risk of health workers' infection. Considering the fact that most people use the PHC centers, especially those in the rural and hard-to-reach areas, it is important that the staff should be adequately informed and resourced to provide first level care such as screening and referral of patients. On this ground, they described the current situation of the outbreak and argued the need for effective engagement of community health workers for appropriate responses to COVID-19.

According to Michael, Ahlers, Hilary, Aralis, Wilson, Tang, Jeremy, Sussman, Gregg, Fonarow & Boback, (2022) non-pharmaceutical interventions (NPIs) are mitigation strategies that have been used to control the spread of transmissible diseases, epidemics and pandemics for more than one hundred years. Non-pharmacological intervention can be referred to as any sort of intervention not directly involving a medication; attempting to optimize a complex patient's healthcare needs or to better manage their chronic illness. Similarly, according to Louis, Hin, Baoyin & Matteo (2021) non-pharmaceutical interventions (NPIs) including resource allocation, risk communication, social distancing and travel restriction, are mainstream actions to control the spreading of Corona virus disease (COVID-19) worldwide. Different countries implemented their own combinations of NPIs to prevent local epidemics and healthcare system overloaded. Portfolios, as temporal sets of NPIs have various systemic impacts on preventing cases in populations.

Positive attitude towards the final successful control of COVID-19 is high according to Aynalem et al., (2020); Rugarabamu et al., (2020); Zhong et al., (2020) and Azlan et al., (2020) where they mentioned that the optimistic attitude is ubiquitous globally. Ali, Uddin, Banik, Hagazy, Zaman and Ambia, (2020) also stated thus, a positive attitude on final success is likely unrelated to any demographic characteristic. Similarly, in a study carried out by Richard, Clarisse, Daniel, Arlette, Aime and Sanhoun, (2021) it was stated that people's attitudes towards non-pharmaceutical protocols especially if they were confronted with a person suspected to have the virus they would protect themselves and assist that person. In respond they demonstrate positive attitudes to the use of face masks and the practice of regular hand washing. Johnson, (2020) maintained that attitudes were significantly associated with the source of information and educational qualification. Furthermore, it revealed that, there are confirmed cases of COVID-19 in other parts of the world and that the world will win the fight against the disease through demonstrating positive attitudes towards non-pharmaceutical protocols of covid-19. The level of knowledge of a disease condition is associated with attitude towards the disease and these interact to substantially affect the practices and measures aimed at controlling it.

Statement of the problem

It has been observed by the researcher that, majority of the population of non-civil servants of study area do not have positive attitudes towards non-pharmaceutical intervention of severe acute respiratory tract infection prevention, especially wearing face mask in public, frequent hand washing. Despite the efforts making by the Nigerian government and non-governmental agencies on enlighten the general populous on the prevention of severe acute respiratory tract infection through proper adhering to non-pharmaceutical intervention such as wearing of face mask, frequent hand washing, But the populous of non-civil servants in northern Nigeria, are not adequately complying with them. It was in the light of the above that the researcher carried out the study on assessment of the awareness, attitude and practice of non-pharmaceutical intervention in prevention of severe acute respiratory tract infections among non-civil servants in Northern Nigeria.

Research Questions

1. What is the attitude of non-civil servants in northern Nigeria towards wearing face mask in public as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infection?
2. What is the attitude of non-civil servants in northern Nigeria towards hand washing as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infections?

Research Hypotheses

1. The attitude of non-civil servants in Northern Nigeria is not significant towards wearing face mask in public as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infection.
2. The attitude of non-civil in Northern Nigeria is not significant towards hand washing as non-pharmaceutical intervention in the prevention ofsevere acute respiratory tract infection.

Methodology

Descriptive survey research design method was used. The study has population of 67,140,593 non-civil servants and sample size of 398 were selected in the twelve wards of the six LGAs of the six selected states in northern Nigeria. Multi-stage sampling procedures consisting of stratified sampling, simple random sampling, proportionate sampling and convenience sampling procedures was used. The instrument used for the study was researcher structured questionnaire where 398 copies were administered and 389 were retrieved (97.7%). A pilot test was carried out at Kiyawa LGA (Andaza and Kiyawa Wards) Jigawa State in which split-half method of Spearman - Brown Prophecy formula was used and 0.599 was obtained. Descriptive analysis of frequency counts and percentages were used to analyze the demographic information of the respondents, mean scores and standard deviation was used to answer research questions while inferential statistics of one sample t-test was used to test the formulated null hypotheses.

Results

The following research hypotheses were tested and presented on the following tables:

Hypothesis One: The attitude of non-civil in northern Nigeria is not significant towards wearing face mask in public as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infections.

Table 1: Summary of one sample t-test analysis on attitude towards wearing face mask in public as non-pharmaceutical intervention of severe respiratory tract infection prevention

Variable	N	Mean	SD	SE	Df	T	P
Attitude towards wearing f/mask	389	5.501	1.265	0.064	388	85.748	.000
Decision means	389	2.50					

t=1.97, df: 388; P<0.05 5.709

The result on table 1 shows that the mean scores (5.501) with the standard deviation of 1.265 and standard error of 0.064 of the respondents on attitude towards wearing face mask in public as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infection is greater than decision mean of 2.50. This means that non-civil

servants in the northern states of Nigeria have positive attitude towards wearing face mask in public as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infections. It also indicates that non-civil servants in northern Nigeria have positive attitude towards wearing face mask in public as non-pharmaceutical intervention of severe acute respiratory tract infections prevention (t=85.748, df:388; P<0.05). Calculated P value .000 is less than 0.05 alpha level of significant. Therefore, the hypothesis tested was rejected.

Hypothesis Two: The attitude of non-civil in northern Nigeria is not significant towards hand washing as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infections.

Table 2: Summary of one sample t-test analysis on attitude towards hand washing as non-pharmaceutical intervention of severe respiratory tract infection prevention.

Variable	N	Mean	SD	SE	Df	t	P
Attitude towards hand washing	389	4.602	0.698	0.035	388	129.95	.000
Decision means	389	2.50					

t_{tab}=1.97, df: 388; P<0.05

The result on table 2 shows that the mean scores (4.602) with the standard deviation of 0.698 and standard error of 0.035 of the respondents on attitude towards hand washing as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infections. This means that non-civil servants in the northern states of Nigeria have positive attitude towards hand washing as non-pharmaceutical intervention of severe acute respiratory tract infections prevention is greater than decision mean of 2.50. It also indicates that non-civil servants in northern Nigeria have positive attitude towards hand washing as non-pharmaceutical intervention of severe acute respiratory tract infections prevention (t=129.95, df:388; P<0.05). Calculated P value .000 is less than 0.05 alpha level of significant. Therefore, the hypothesis tested was rejected.

Discussions

The outcome of this study revealed that non-civil servants in northern Nigeria have positive attitude towards wearing face mask in public as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infection(t=85.7, df:388; P<0.05). This resembles with the finding of Melesie et al (2020) on COVID-19 Knowledge, Attitudes and Prevention Practices Among People with Hypertension and Diabetes Mellitus Attending Public Health Facilities in Ambo, Ethiopia and the result revealed that concerning attitude, 335 (79.2%) had strongly believed that DM and HTN patients were more at risk of death because of COVID-19. The finding of the study is agreed with the

study of Abdulrazaq, Muhammad, Iliyasu and Abdulrazaq (2021) on knowledge, attitude and practice. A survey was conducted among Hausa Muslim society in Nigeria. The results showed that 158(17.8%) had good attitude COVID-19 prevention using cut-off scores of 75%, 86.5%, and 75% respectively.

Non-civil servants in northern Nigeria have positive attitude towards hand washing as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infection ($t=129$, df:388; $P<0.05$). Qifa, Yuwei and Liemin (2022) reported in their study Pros and Cons factors influence population attitudes towards non-pharmaceutical interventions and vaccination during post–COVID-19. Questionnaires were used to survey attitudes toward vaccination and NPIs in Ningbo city, China on general population. Confirmatory factor analysis of the survey data by structural equation model was used to define the pros and cons factors of attitudes. The strength and direction of each factor's effect on population attitudes were illustrated by Bayesian network analysis. Results showed that cues to action produced a driving force for positive attitudes, followed by willingness and behavior, trust, response efficiency, and knowledge, whereas perceived barriers produced a driving force for negative attitudes, followed by autonomy and threat.

Conclusions

Based on the findings of this study, the following conclusions were drawn:

1. Non-civil servants in northern Nigeria have positive attitude towards wearing face mask in public as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infection.
2. Non-civil servants in northern Nigeria have positive attitude towards hand washing as non-pharmaceutical intervention in the prevention of severe acute respiratory tract infection.

Recommendations

Based on the findings of this study, the following recommendations were made**:**

1. Government should make non-pharmaceutical intervention of severe acute respiratory tract infections preventive items available to non-civil servants in the northern Nigeria**.**
2. Government should make non-pharmaceutical intervention of severe acute respiratory tract infections preventive items affordable to non-civil servants in the northern Nigeria**.**

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