

Assessment of the Role of Health Education in the Prevention of Coronavirus (COVID-19) Infection among Public Secondary School Students in Lokoja Metropolis, Kogi State, Nigeria

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Abstract

The study assessed the role of health education in the prevention of Coronavirus (COVID-19) among secondary school students in Lokoja metropolis of Kogi State, Nigeria. The study adopted descriptive survey research design. Purposive and simple random sampling techniques were used to select two hundred (200) respondents. Data were collected using a self structured questionnaire with Cronbach's Alpha reliability index of 0.71. Descriptive statistics of mean and standard deviation and inferential statistics of t-test were used for data analysis. The results revealed that health education plays significant role in the prevention of COVID-19 infection through the provision of adequate knowledge on Covid-19 preventive measures. The study concluded that health education helped in effectively preventing the spread of Covid-19 infection among secondary school students in Kogi state through provision of adequate information on COVID-19 preventive measures and creating awareness on the need to adhere to the preventive measures on COVID-19. However, schools should collaborate with appropriate health authorities and organizations in promoting Covid-19 awareness particularly in secondary schools.

Keywords: Role, Health education, COVID-19, Prevention, Students

Introduction

The emergence of Coronavirus 2019 (COVID-19) infection has made the most far reaching public health and social-economic impact around the globe. (Stawick, Miller, Paladino, Geueski, & Yaffee, 2020; Iboyi et al., 2021). Most of the entire world have remained in lockdown following the pandemic onset in December 2019 in Wuhan city, Hubei province, China and subsequently global spread in early 2020 (Omoronyia, Ekpenyong). As at April, 2021 over 142 million confirmed cases and 3,037,398 deaths has been reported globally with Nigeria recording about 164,488 confirmed cases and 2,061 deaths and Kogi State recorded 5 confirmed cases and 2 deaths with Lokoja metropolis recording no cases (Nigeria Centre for Disease Control [NCDC], 2021; World Health Organisation [WHO], 2021).

Covid-19 is defined as an illness caused by a novel coronavirus now called Severe Acute Respiratory Syndrome Coronavirus (SARS-COV-2) (Tadesse, Gebrewahd, 2020 & Al-Hanwi et

al., 2020). Covid-19 is characterized by rapid transmission and can occur by close contact with an infected person. The details on the disease are evolving. As such, this may not be the only way the transmission is occurring therefore, prevention is the key thrust for control of the disease (Al-Hanwi et al., 2020; Omoronyia et al., 2020). The symptoms of COVID-19 which are similar to the common cold, though potentially more severe, include fever, cough, shortness of breath, fatigue, loss of taste or smell, sore throat, running nose, nausea and diarrhea (Okello et al., 2020; Iboi et al., 2021).

The scant current scientific evidence suggests that coronavirus disease 2019 is less severe in children and adolescents than in adults and that children and adolescents are more likely to be asymptomatic or have mild disease (Gray et al., 2020). However, these observations provide no elucidation of the potential role of children and adolescents in transmitting the disease. Well documented scientifically is the major transmission role children have had historically in the spread of respiratory infections generally through their close interactions in schools. (Gray et al., 2020). Moreover, children and teenagers aged 5-17 are considered to play the most important role in mass influenza A epidemics. While the lack of severity of Covid-19 in children and teenagers contrasts with that of other respiratory viruses such as influenza, similarities in the mode of transmission still exist (Worby *et al*, 2015). Recent studies by Llu et al. (2020) and Gray et al. (2020) have demonstrated severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) does infect children, with about fifty percent (50%) of pediatric cases asymptomatic. Consequently, they may have an important role in the transmission – albeit at lower levels than adults and could be “silent” transmitters (i.e infections without showing clinical signs of disease). (Gray et al., 2020).

It is well-known that health education plays a crucial role in the prevention and control of infectious diseases (Li et al., 2020). Health education has been recognized by WHO as an effective measure to prevent and control public health emergency for the public preparedness against the outbreak of infectious disease. It equips the public with the necessary knowledge, mitigates panic and seeks for positive attitude as well as compliance with the desired practices (Peng. et al., 2020). Health education is an important component of disease prevention activities in general. During disease outbreaks and health emergencies, it plays a key role in active response by offering well established tools especially in the absence of specific drugs and vaccines. (Gray et al., 2020). Li et al. (2020) noted that improved public health education awareness for emerging infectious diseases plays a critical role of making students to adhere to appropriate preventive behaviour like social distancing and practicing the necessary hygienic habits which definitely slows down the spread and control of COVID-19 infection. In any outbreak response, health education and community engagement is crucial in breaking the

transmission chain and preventing further outbreak. This also applies to the coronavirus disease (COVID-19) we are now facing. Although, there are still much to be understood yet, from the previous response experience, educating the students on a desirable health practices such as good personal hygiene including hand washing, cough etiquette, disinfecting of surfaces, use of face mask and social distancing represents the major weapons against Covid-19 infection (Gebretsadik, Gebremichael, & Belete, 2021). The World Health Organization (2020) states that “the best way to prevent and slow down transmission of Covid-19 is to be well informed about etiology SARS-COV-2 as well as the causes and mode of spread”.

Health education can improve students’ knowledge on covid-19 infection and promote the development of appropriate behaviors and attitude toward covid-19 prevention and control. Health promotion is based on health education which is found in health knowledge. Health education effectively slows the spread of covid-19. Conducting school health education campaign or awareness does not only provides the students with proper knowledge and behaviour towards covid-19 infection but also benefits the comprehensive development of schools (Gray et al., 2020). Therefore, health education must be strengthened to improve health knowledge of students on COVID-19 infection. (Wang et al., 2018; Broucke, 2020).

Research evidence indicates that health and hygiene campaigns, which reinforce consistent messaging and persuade people to alter their habits, are effective in reducing infection rates. (Gray et al., 2020). A survey by Zhong, Luo, and Li (2020) shows that health education programmes aimed at improving COVID-19 knowledge are helpful for Chinese residents to hold optimistic attitudes and maintain appropriate practices which led to effective slowdown of the infection. Similarly, a study from China revealed that comprehensive health education and publicity improved Beijing residents’ attitude towards SARS, enhanced their awareness of preventing SARS which led to more behavioural changes in the prevention of SARS and this significantly decreased the occurrence rates of the epidemic. This therefore, fully testifies the crucial role of comprehensive health education publicity in the prevention of infectious diseases (Song et al., 2015; Li et al., 2021). However, most of the messaging has targeted the general population not secondary school students specifically. Development of an appropriate and engaging hygiene and social distancing education campaign targeting secondary school students is urgently needed in order to reinforce adult messages appropriately and maximize secondary school students’ compliance. Accordingly, this study examined the role of health education in the prevention of COVID-19 infection among secondary school students in Lokoja Metropolis of Kogi State, Nigeria.

Purpose of the Study

The main purpose of this study is to assess the role of health education in the prevention of Covid-19 among secondary school students in Lokoja metropolis of Kogi State. Specifically, the study seeks to find out if:

1. providing secondary school students in Lokoja metropolis with adequate knowledge through health education will effectively prevent the spread of COVID-19 infection.
2. creating awareness among secondary school students in Lokoja metropolis on the need to adhere strictly to COVID-19 preventive measures will effectively prevent the spread of COVID-19 infection.

Research Questions

1. Would providing secondary school students in Lokoja metropolis with adequate knowledge through health education will effectively prevent the spread of COVID-19 infection?
2. Would creating awareness among secondary school students in Lokoja metropolis on the need to adhere strictly to COVID-19 preventive measures will effectively prevent the spread of COVID-19 infection?

Research Hypothesis

H₀₁: Health education play no significant role in the prevention of COVID-19 infection among secondary school students in Lokoja metropolis.

Materials and Methods

Area of Study

The study was conducted among public secondary school students in Lokoja metropolis of Kogi State.

Research Design

This study adopted descriptive design. The design involves logical collection of data for the purpose of describing existing observed phenomenon in a concise form and permits clear representation of samples of the target population.

Population of the Study

The population for this study is all public secondary school students in Lokoja metropolis in Kogi state which is seven thousand and fifty four students (Kogi state Secondary Education Board, 2021).

Sample and Sampling Techniques

A sample of 200 students were selected for the study. In selecting the sample, there are eleven (11) secondary schools in Lokoja metropolis, out of which four (4) were purposively selected. Simple random sampling technique was used to select fifty (50) students from each of the selected schools.

Instrument for Data Collection

A researcher structured questionnaire titled “Questionnaire on the assessment of the role of health education on the prevention of COVID-19 infection” was used to collect data for the study. The questionnaire consisted of two sections namely: Section A and B. Section A elicited information on demographic data of the respondents while Section B consisted of eight items on the role of health education on the prevention of Covid-19 infection. A four point Likert rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used. In order to ensure face and content validity of the instrument, the researcher structured set of questionnaire was submitted to three (3) experts in health education department for vetting so as to ensure their appropriateness, relevance and clarity. The experts suggestions and criticisms were adopted for the final draft on the questionnaire. To determine the reliability of the instrument, the researcher adopted a split-half method. The instrument was administered to twenty (20) respondents outside the study area. The result of the administered questionnaire was computed and correlated using Cronbach Alpha statistics and a reliability coefficient (r) of 0.71 was obtained, this confirms that the instrument is reliable for the study.

Data Collection

The researcher visited each of the four (4) schools and administered the questionnaire after obtaining permission from the school authority. On the spot, administration and collection was done in order to avoid loss and to check for incomplete responses of the respondents.

Data Analysis

Data collected was analyzed using descriptive statistics of mean and standard deviation for the research question and therefore, any mean score of response that is 2.5 and above is positive or acceptable and any mean score or response less than 2.5 in negative or not

acceptable. While inferential statistics of t-test was used to test the hypothesis at 0.05 alpha level of significance.

Results

Table 1: Mean score and Standard deviation of responses on the role of health education in the prevention of Coronavirus (COVID-19) infection.

S/N	STATEMENT	MEAN	STD. DEV	DECISION
1	Health education helps improve students' knowledge on the prevention of covid-19 infection	3.34	1.118	Accepted
2	Health education helps in promoting student's development of appropriate behaviour's towards covid-19 prevention and control	3.05	1.088	Accepted
3	Health education can help in effectively slowing down the spread of covid-19 infection among secondary school students	2.84	1.123	Accepted
4	Health education helps in dealing with misinformation about covid-19 infection among secondary school students	2.55	1.070	Accepted
5	Health education helps in empowering schools and communities on covid-19 preventive measures	2.40	0.983	Rejected
6	Health education can help in creating awareness among students on the preventive measures or protocols to be observed during covid-19 infection	3.46	1.114	Accepted
7	Health education helps to promote health attributes towards prevention of covid-19 infection among secondary school students	2.95	1.056	Accepted
8	Health education helps to improve students access to more correct and reliable information on covid-19 infection	2.64	1.015	Accepted
	Aggregate mean =	2.90		

As revealed in Table 1 above, the mean score of all the items except item 5 are above 2.5 with the aggregate total mean score of 2.90. This implies that Health education plays a significant or an important role in the prevention of Coronavirus (Covid-19) among secondary school students in Lokoja Metropolis of Kogi state, Nigeria.

Table 2: One sample t-test analysis on the role of health education in the prevention of Covid-19 infection among secondary school students in Lokoja metropolis.

Variable	N	Mean	Std. Dev.	Df	t-test value	t-crit	Decision
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Role of Health Education in the prevention of Covid-19 infection.	200	2.90	199	3.241	1.96	Rejected
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Table 2 shows that the calculated t-value of 3.241 is greater than the critical value of 1.96 at the 0.05 level of significance. Thus, the null hypothesis which state “health education play no significance role in the prevention of COVID-19 infection among secondary school students in Lokoja metropolis is hereby rejected”.

Discussion

The findings from the study revealed that health education plays a critical role in the prevention of COVID-19 infection among secondary school students in Lokoja metropolis. Furthermore, the study revealed that providing students with adequate knowledge and creating the necessary awareness on the causes, mode of transmission, symptoms and preventive measures on COVID-19 plays a significant role in effectively preventing the spread of COVID-19 among secondary school students in Lokoja metropolis of Kogi state. This finding is in consonance with numerous studies. Wang et al. (2018) in his study opines that adequate knowledge of students on infectious diseases like Covid-19 serves as an important channel of effectively preventing and controlling the spread of epidemics and outbreaks of infectious diseases in schools. They further noted that students with adequate knowledge on infectious diseases developed appropriate behaviours towards infectious diseases by adhering to the preventive measures for the infectious diseases. Yeu (2015) and Solhi, Abolfath, Darabi Mirzael and Dagar (2017) in their separate studies observed that creating awareness through health educating students on measures helped in slowing down the spread of the diseases. Similar study by Song et al, (2015) showed that comprehensive health education and publicity improved Beijing residents attitude towards SARS, enhanced their awareness of preventing SARS which led to more behavioural changes in the prevention of SARS and this significantly decreased the occurrence rates of the epidemic.

This study is also in line with Li et al. (2020) who opined that improved public health awareness for emerging infectious diseases plays a critical role in making students adhere to appropriate preventive behaviours which definitely slow down the spread of the epidemic. Also Gray et al. (2020) argued that health and hygiene awareness campaign which reinforce consistent messaging and persuading people to alter their habits are effective in reducing infection rates among students. Numerous empirical studies also showed that health education can change unhealthy attitudes and behaviours which effectively slow down the spread of infectious diseases and epidemics such as COVID-19 (Mohammadi, Tavafian, Ghofranipoor, &

Aminshokravi, 2012; Kim, Kim, & Jee, 2016 & Simkhada et al., 2020). Finally, the World Health Organization as cited by Gray et al. (2020) states that the best way to prevent and slow down transmission is to be well informed about SARS-COV-2, the diseases it causes, how it spreads and preventive measures and this can be effectively done through health education.

Conclusion

The study concluded that health education helped in effectively preventing the spread of Covid-19 infection among secondary school students through provision of adequate information on and creating awareness on the need to adhere strictly to COVID-19 preventive measures.

Recommendations

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

1. The schools should collaborate with appropriate health authorities and health organizations on promoting Covid-19 awareness among secondary school students.
2. The schools should also collaborate with parents to make sure students adhere strictly to Covid-19 preventive measures both at home and in school.
3. A video/cartoon-based entertainment education intervention on Covid-19 should be provided by the schools for students viewing so as to further create awareness on ways of preventing COvid-19 infection.

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