Faculty of Natural and Applied Sciences Journal of Mathematics and Science Education
Print ISSN: 2814-0885 e-ISSN: 2814-0931
www.fnasjournals.com
Volume 4; Issue 1; March 2023; Page No. 12-18.

PERCEIVED EFFECTS OF HEALTH EDUCATION ON THE PREVENTION OF COVID-19 AMONG JUNIOR SECONDARY STUDENTS IN WARRI SOUTH LOCAL GOVERNMENT AREA, DELTA STATE, NIGERIA

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Abstract
The study was designed to investigate the perceived effects of health education on the prevention of Coronavirus disease (COVID-19) among Junior secondary school students in Warri South Local Government of Delta State. The study adopted a descriptive survey research design. The population of the study comprised all Junior Secondary School Students in Warri South LGA of Delta State. The simple random sampling technique was used to select two hundred (200) respondents. Data were collected using a self-structured questionnaire with the Split half method of reliability whose index was established at 0.81. Descriptive statistics of mean and standard deviation and inferential statistics of t-test were used for data analysis. The results revealed that health education has significant effects on the prevention of COVID-19 infection. it was found that Health Education creates awareness, and provides adequate knowledge and strategies on Covid-19 preventive measures. It was concluded that health education helped in the effective prevention of the spread of Covid-19 infection among junior secondary school students in Warri South Local Government of State through the provision of adequate information on COVID-19 preventive measures and creating awareness on the need to adhere to the preventive measures on COVID-19 among JSS students in the study area. A recommendation was made based on the findings that schools should collaborate with appropriate health authorities and organizations in promoting Covid-19 awareness, particularly in secondary schools through health education
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Keywords: Health Education, COVID-19, Curbing, JSS Students, Effects

Introduction

In recent times, the world was threatened globally by a novel disease called coronavirus. The coronavirus is an infectious and highly contagious disease that can easily be transmittable from person to person, object to person or through the air. The emergence of the Coronavirus 2019 (COVID-19) infection has made the most far-reaching public health and social-economic impact around the globe (Stawick et al., 2020; Yaffee et al., 2021; Iboi et al., 2021). Most of the entire world has remained in lockdown following the pandemic onset in December 2019 in Wuhan City, Hubei province, China and subsequently global spread in early 2020 (Omoronyia, 2020). As of April 2021, over 142 million confirmed cases and 3,037,398 deaths have been reported globally with Nigeria recording about 164,488 confirmed cases and 2,061 deaths and Delta State recorded over 6 confirmed cases and 1 death with Warri metropolis recording 2 cases (Nigeria Centre for Disease Control [NCDC], 2021; World Health Organization [WHO], 2021). COVID-19 is as an illness caused by a novel coronavirus now called Severe Acute Respiratory Syndrome Coronavirus (SARS-COV-2) (Tadesse & Moluye., 2020). Covid-19 is characterized by rapid transmission and can occur through close contact with an infected person. The details of 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).

Cite this article as:
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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 diarrhoea (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 abrupt 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 is the profession of educating people about health. Areas within this profession encompass environmental health, physical health, social health, emotional health, intellectual health, and spiritual health. It can be defined as the principle by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintenance, or restoration of health. Health education has been recognized by WHO as an effective measure to prevent and contro public health emergencies for 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 like coronavirus plays a critical role in making students adhere to appropriate preventive behaviour like social distancing and practising the necessary hygienic habits which slow down the spread and control of COVID-19 infection.

In any outbreak response, health education and community engagement are crucial in breaking the transmission chain and preventing a 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 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 the transmission of Covid-19 is to be well informed about the aetiology SARS-COV-2 as well as the causes and mode of spread". Health education can improve students' knowledge of covid-19 infection and promote the development of appropriate behaviours and attitudes 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 campaigns or awareness 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 the 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).

According to Zhong, Luo, and Li (2020) in a survey, it was revealed 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 an effective slowdown of the infection. Similarly, a study from South Africa revealed that comprehensive health education and publicity improved residents' attitudes towards SARS, and

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enhanced their awareness of preventing SARS which led to more behavioural changes in the prevention of SARS and significantly decreased the occurrence rates of the epidemic. This, therefore, fully testifies to the crucial role of comprehensive health education publicity in the prevention of infectious diseases (Song et al., 2015; Li et al., 2021). It is based on the above reason that this study seeks to investigate the perceived effects of Health Education in curbing COVID-19 among junior secondary school students in Warri South Local Government Ares of Delta State.

Statement of the Problem

Health Education is a subject in the school system that aimed at providing relevant health knowledge, attitude and skill essential for the promotion of positive health knowledge, attitude, practice and skills in students at any level. Health education provides useful messages to the public, especially during an outbreak of any infection or disease. During the COVID-19, pandemic, health education served as a useful tool to the public as people relied on it for gaining useful information about the current state of the pandemic. This health information came to the public from different channels, especially through the media. surprisingly, most of the messaging targeted the general population not secondary school students specifically. However, it is believed that the development of an appropriate and engaging hygiene and social distancing education campaign targeting secondary school students is urgently needed to reinforce adult messages appropriately and maximize secondary school students' compliance. Secondary school students were left with confusion in their minds about the necessity of health education concerning the prevention and curbing of the novel coronavirus disease. It was against this backdrop that this study sought to find out the effects of health education in curbing COVID-19 among Junior Secondary School Students in the Warri South Local Government Area of Delta State.

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 Junior secondary school students in Warri South Local Government Area of Delta State. Specifically, the study seeks to find out if:

1. Providing Junior Secondary School Students in Warri South Local Government Area of Delta State with adequate knowledge through health education will effectively prevent the spread of COVID-19 infection.
2. Creating awareness among Junior Secondary School Students in Warri South Local Government Area of Delta State on the need to adhere strictly to COVID-19 preventive measures will effectively prevent the spread of COVID-19 infection.

Research Questions

1. How does providing Junior Secondary School Students in Warri South Local Government Area of Delta State with adequate knowledge through health education effectively prevent the spread of COVID-19 infection?
2. How could create awareness among secondary school students in Warri South Local Government Area on the need to adhere strictly to COVID-19 preventive measures effectively prevent the spread of COVID-19 infection?

Research Hypothesis

Ho1: Health education plays no significant role in the prevention of COVID-19 infection among secondary school students in Warri South Local Government Area of Delta State.

Methodology

The study was conducted among public Junior Secondary School Students in Warri South Local Government Area of Delta State. This study adopted a descriptive design. The design involves the logical collection of data to describe the existing observed phenomenon in a concise form and permits a clear representation of samples of the target population. The population for this study is all public secondary school students in Warri South Local Government Area of Delta State which is eleven thousand and fifty-four (11,054) students (Delta state Post Primary Education Board, 2021). A sample of 200 students was selected for the study. There are eleven (11) public Junior Secondary Schools in Warri South Local Government Area of Delta State, out of which four (4)

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were purposively selected. A simple random sampling technique was used to select fifty (50) students from each of the selected schools.

A researcher-structured questionnaire titled "Questionnaire on the Assessment of the Role of health education in 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 the demographic data of the respondents while Section B consisted of eight items on the role of health education in 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. To ensure the face and content validity of the instrument, the researcher structured a set of questionnaires that were submitted to three (3) experts in the health education department for validation to ensure their appropriateness, relevance and clarity. The expert's suggestions and criticisms were adopted for the final draft of 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.

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 were done to avoid loss and to check for incomplete responses from the respondents. Data collected was analyzed using descriptive statistics of mean and standard deviation for the research questions therefore, any mean score of responses 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 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 the 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
	Grand mean	**2.90**	**1.052**	**Accepted**

As revealed in Table 1 above, the mean score of all the items except item 5 is 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 Junior Secondary School Students in Warri South Local Government Area of Delta State, Nigeria.

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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 Warri South Local Government Area of Delta State.

Variables	N	Mean	Std Dev	Df	t-test value	t-crit	Decision
Role of Health Education in the Prevention of Covid-19 infection.	200	2.90	35	199	3.241	1.96	Rejected

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 states that health education plays no significant role in the prevention of COVID-19 infection among secondary school students in Warri South Local Government Area of Delta State 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 Junior Secondary School Students in Warri South Local Government Area of Delta State. Furthermore, the study revealed that providing students with adequate knowledge and creating the necessary awareness of the causes, mode of transmission, symptoms and preventive measures of COVID-19 plays a significant role in effectively preventing the spread of COVID-19 among Junior Secondary School Students in Warri South Local Government Area of Delta State. This finding aligns 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 for effectively preventing and controlling the spread of epidemics and outbreaks of infectious diseases in schools. They further noted that students with adequate knowledge of infectious diseases developed appropriate behaviours towards infectious diseases by adhering to the preventive measures for infectious diseases. Yeu (2015) and Solhi et al. (2017) in their separate studies observed that creating awareness through health education students on measures helped in slowing down the spread of the diseases. A similar study by Song et al. (2015) showed that comprehensive health education and publicity improved Beijing residents' attitude towards SARS, and enhanced their awareness of preventing SARS which led to more behavioural changes in the prevention of SARS and 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 of emerging infectious diseases plays a critical role in making students adhere to appropriate preventive behaviours which slow down the spread of the epidemic. Also, Gray et al.(2020) argued that health and hygiene awareness campaigns which reinforce consistent messaging and persuade 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 et al., 2021) Kim et al., 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 disease 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 Junior secondary school students through the provision of adequate information on and creating awareness of the need to adhere strictly to COVID-19 preventive measures.

Recommendations

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

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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 to further create awareness on ways of preventing COvid-19 infection and decreased the occurrence rates of the epidemic.

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