

## INFLUENCE OF CORONA VIRUS ON BIOLOGY STUDENTS' ACADEMIC PERFORMANCE IN ZING LOCAL GOVERNMENT AREA OF TARABA STATE, NIGERIA

By

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### Abstract

*This study was on the influence of corona virus on Biology students' academic performance in Zing Local Government Area of Taraba State. The study was guided by a research questions and null hypothesis. The study adopted a survey type of research design. The Population comprised of 400 SSII and SSIII students from three schools in the study area. 100 students as the sample for the study were determined using Krejcie and Morgan (1970). A stratified sampling method was used to select the 100 students from each of the selected schools. In each stratum, simple random sampling was used to ensure unbiased and equitable selection of the sample. The instrument for the study titled as the influence of Corona-virus on the Academic Performance of Biology Student items (ICAPBSI), designed by the researchers. The data collected was analyzed using a statistical package for social sciences (SPSS). From the analysis, the results reveal that coronavirus disease has an influence on Biology students' academic performance. With mean values of 3.98 and 3.42 standard deviation respectively. The study recommends that both Zing LGA and Taraba State Governments should train more of their health workers in readiness to diseases outbreak, so as to arrest situations like the case of coronavirus. And let every individual person take personal hygiene seriously, among others.*

**Keywords:** Corona virus; Biology students; Academic performance.

### Introduction

It is common knowledge that the whole world is said to be a global village. As the world becomes increasingly interconnected, so do the risks we face. The COVID-19 pandemic has not stopped at national borders. It has affected people regardless of nationality, level of education, income, or gender. But the same has not been true for its consequences, which have hit the most vulnerable hardest. Education is no exception.

A disease is a condition in the body of a living thing that interfered with the normal system of the body. Diseases share a lot of names among the living tissues ranging from animal-to-animal infection, water-born, air-born, food source, to occupational infections. This study, therefore; focused on the coronavirus.

Coronavirus disease 2019 (COVID-19) is an illness caused by a novel coronavirus called

severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China. It was reported to the WHO on December 31, 2019 and on January 30, 2020, it was declared a global health emergency (WHO, 2020). On March 11, 2020, the WHO declared COVID-19 a global pandemic, its first such designation since declaring H1N1 influenza a pandemic in 2009 (Yinka, 2020).

From the family of Coronavirus (others include SARS, H5N1, H1N1 and MERS), is a contagious respiratory illness transmitted through the eyes, nose, and mouth, via droplets from coughs and sneezes, close contact with infected person and contaminated surfaces. It has an incubation period of approximately one to fourteen days

(Galanis, 2017). The symptoms include cough, fever and shortness of breath, and it is diagnosed through a laboratory test. The contagion could lead to severe respiratory problems or death, particularly among the elderly and persons with underlying chronic illnesses. Some infected persons however, are carriers for the virus with no symptoms while others may experience only a mild illness and recover easily (Sauer, 2020). While the scientific community continues to research possible vaccines or drugs for the viral infection, it is expected that adequate knowledge will motivate individuals to make decisions which may prevent and curb the epidemics. Knowledge such as regular hand washing (Fewtrell, 2015).

Similarly, the Federal government of Nigeria, on March 30, 2020 introduced various containment strategies such as closing of the national borders and airspace, schools, worship centers and other public places, canceling of mass gathering events and placing the Federal Capital Territory (Abuja), Lagos and Ogun States on lock down for an initial period of fourteen days (Radio Nigeria, 2020). COVID-19 testing laboratories were set up in Lagos, Abuja and Irrua in Edo State while State governments opened isolation centres and imposed dawn to dusk curfews in their territories (Moronkola, Abe, & Ogunmuyi, 2019). As against the government's decision, some citizens opined that lockdown, self-isolation and social distancing are un-African solutions to the pandemic (Abati, 2020).

Given the importance of knowledge of precautionary activities in curbing the spread of infectious diseases such as the novel COVID-19, it is important to research on people's health knowledge of the pandemic, how the pandemic has impacted or could impact on students' learning outcomes in the short-term, and how this impact can increase educational inequalities or the attainment gap between social groups.

The evidence available on the impact on learning of school closures in the context of the COVID-19 pandemic shows that the

aggregate effect is not particularly significant, but it is distributed very unequally among social groups. In the case of the Netherlands, Engzell, Frey and Verhagen (2020) found that students from homes with low levels of education suffered learning losses 40% higher than the average student. Nevertheless, the same study also demonstrates that other students' characteristics such as sex, grade or prior performance did not affect the impact on learning during school closures.

Ullah, Sarwar, Aziz & Khan (2017); Maldonado & De Witte (2020) also examined how different socioeconomic factors impacted on learning losses. In this regard, they found that students whose mothers had low levels of education, and recipients of social benefits, are the most affected by learning losses as a consequence of the pandemic.

Many countries have substantial issues with a reliable Internet connection and access to digital devices. While, in many developing countries, the economically backward children are unable to afford online learning devices, the online education poses a risk of exposure to increased screen time for the learner. Therefore, it has become essential for students to engage in offline activities and self-exploratory learning.

COVID-19 has been a leading public health problem in Nigeria as it constitutes one of the major factor that affects students' performance in schools in Nigeria, and Taraba state is not an exception. Children are vulnerable to Covid19 because they have not developed sufficient immunity, meaning they are at greater risk of becoming infected and suffer severe health problems (WHO, 2011b). It affects children's education with increased absenteeism, deteriorating performance and dropouts (Richard, 2017).

To this effect, Taraba State Government took a stand about the disease. Despite efforts made in the past to combat coronavirus and reduce prevalence of the virus, there are still challenges to overcome and things that need to be done. The Ministry of Health,

responsible for the health service in Taraba State, has been financed by over 40 percent of their budget in addition to donations from other external agencies.

Although the country has assisted to finance their health system there is a gap between available resources and requirements within the health care. There is a lack of qualified health workers and there is not sufficient supply of essential medicines (WHO, 2009).

The epidemics of coronavirus disease 2019 (COVID-19) started from Wuhan, China, last December and have become a major challenging public health problem for not only China but also countries around the world (Phelan *et al.* 2020).

Academic achievement otherwise the grades obtains by student, which also refers to how students cope with their studies and how they cope with or accomplish different tasks given to them by their teachers, at the end of the treatment using examination either in written or in oral forms. American Association for the Advancement of Science (AAAS, 1993, 2013, 2015) also reported that country can only developed based on the potentials of its educational products. Fewtrell (2015), Eyo (2017). A nation strength largely depend on the quantity and quality of her human resources, and quality of her human resources and education is pivot on which development rotate. In Nigeria, academic attainment have been regarded very seriously as the parameters for recruitment, placement and advancement in both public and private sector organization, more importantly these parameters are also highly adopted in selection of candidates for admission in the tertiary institutions and colleges.

Due to this high premium placed on academic achievement individuals do everything possible to obtain excellent results. This no doubt places these concerned students at varying levels of anxiety and tension in the process, since success in examination may implicitly be synonymous with work and life (Fianu, 2017). Selection of candidates for admissions into tertiary institution,

recruitment and placement for advancement all depends on how one passed the examination. Therefore, in this study, the researchers hope to assess the influence of coronavirus (COVID-19) on the academic performance of Biology students in Zing Local Government Area of Taraba State, Nigeria.

### Methodology

This contains the description of the methods that were used in carrying out the study under the following subheadings research design, area of study, population, sample and sampling techniques, instrument for data collection, validation of the instrument, reliability of the instrument, method of data collection, and method of data analysis.

The study adopted a survey type of research design. Simple random sampling using the lottery technique was adopted to select three schools for this study. This procedure provides unbiased selection of a cross section of the population for the study (Amedahe & Gyimah, 2013). SSII and SSIII students from the three schools with estimated population of four hundred (400) students were selected for this study. A sample size of one hundred (100) students were randomly selected for the study using Krejcie and Morgan (1970) table of determining sample size.

Instrument known as influence of Corona-virus on the Academic Performance of Biology Student items (ICAPBSI) was used for data collection. All the items used were measured along the 4-point rating Scale. The instrument was validated by two experts from Biology Department, undergraduate studies unit, College of Education Zing to ensure its appropriateness, spellings and context.

It was distributed by the researchers and collected after been responded to by the respondents, and was analyzed using statistical package for social sciences (SPSS). mean was used to answer the research question while one-way analysis of variance (ANOVA) was used for the test of hypotheses because of the multiple levels of the independent variable.

## Results and Discussion

**Table 1 Opinion of participants on the influence of corona virus on Biology students' academic performance**

S/N	Items	SA	A	SD	D	Mean	Decision
1.	Student sought permission each day to go to the hospital to get medication vaccinated	46	34	12	08	3.18	Accepted
2.	coronavirus makes students to miss Biology class because they spend lot of time in hospital	43	37	16	4	3.19	Accepted
3.	Coronavirus make students to be weak that they cannot concentrate in class	42	38	14	5	3.14	Accepted
4.	Some students end up not sitting for test/examination which is so demotivating	55	25	13	7	3.21	Accepted
5.	The rate of coronavirus infection is high during rainy season and had an impacts on learners attendance to lessons which impacts negatively on academic performance	50	30	15	5	3.24	Accepted

**Source: Field survey 2022**

Table 1 presents the mean responses on opinion of participants on the influence of corona virus on Biology students' academic performance. It shows that participants generally agree strongly on all the influence of corona virus as reflected in the mean values ranging from 3.98, 3.42, 3.24, 3.21 to 3.14 all of which are above the mid-point mean of 2.50. Items 1 and 2 where Students sought permission each day to go to the hospital to get medication/vaccinated and Coronavirus make students to miss Biology class because they spend lot of time in hospital as pointed out strongest with the highest mean values of 3.98 and 3.42 respectively.

On the other hand, items 4, and 5 including 'Some students end up not sitting for test/examination which is so demotivating' as well as 'the rate of coronavirus infection is high during rainy season and had an impact on learners' attendance to lessons which impacts negatively on academic performance'.

**HO<sub>1</sub>:** *There is no Significant Difference Between the Influence of Corona virus and Biology Students' Academic Performance in Zing Local Government Area of Taraba State.*

This hypothesis was tested at 0.05 level of significance. The one-way analysis of variance (ANOVA) result was presented in Table 2

**Table 2: ANOVA Result**

Source	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	0.267	2	0.133	5.158	0.006
Within Groups	10.197	98	0.026		
<b>Total</b>	<b>10.464</b>	<b>100</b>			

(F-critical = 3.00, P < 0.05)

The result on the table above, revealed significant difference in the opinions of the

participants on influence of coronavirus on Biology student academic performance. The

observed F-value (5.158) is higher than the critical value of 3.00 at the same degree of freedom. The observed level of significance is 0.006 ( $P < 0.05$ ). This means that the null hypothesis that there is no significant difference in the opinions about influence of coronavirus on Biology student academic performance is therefore rejected.

### Conclusion

This research therefore, reveals that corona virus has high influence on performance of students in Biology in Zing Local Government Area of Taraba State.

### Recommendations

This study therefore recommends that both Zing and Taraba State Governments should train more of their health workers on the issues of any disease in readiness to diseases outbreak, so as to arrest situations like the case of coronavirus. And let every individual person take personal hygiene seriously. On the whole, let government increase the funding of education in next year's budget to allow schools to manage all the damages caused by the COVID-19 school closure.

### References

- Abati, D. J. (2020) Knowledge, Attitudes, and Practices (KAP) of Hygiene among School Children in Osun State. *J Prev Med Hyg.* 2010; 51(2): 73–79.
- American Association for Advancement of Science (1993) *Subjectivity and Objectivity in Science: An Educational Approach*. New York: Oxford University Press.
- American Association for Advancement of Science (2013) *Journal of Science Beginning for 21th Century*. New York: Oxford University Press
- Ewodage, B.S. (2020). *An approach to hygiene education among rural Indian school going pupils*. *Online Journal of Health and Allied Sciences* 2008.
- Falsey, A.R. (2017). Evaluation of a hand washing intervention to reduce illness rates in senior day-care centres. *Infection Control and Hospital Epidemiology*. 20:200-205.
- Fewtrell, L. (2015). *Water, Sanitation and Hygiene Intervention to Reduce Diarrhoea in Developing Countries*; A Systematic Review and Meta-Analysis. *Lancet Infectious Diseases*.
- Galanis, E. (2017). [Campylobacter and bacterial gastroenteritis](https://doi.org/10.1503/cmaj.070660). *CMAJ: Canadian Medical Association* 177(6):570–1. [doi:10.1503/cmaj.070660](https://doi.org/10.1503/cmaj.070660). PMID 17846438.
- Hassan, K.N. (2020). Mandatory hand-washing in elementary schools reduces absenteeism due to infectious illness among pupils: a pilot intervention study. *Am J Infect Control*.2017; 37: 820–826.
- Innya, P. (2020). *Guideline for Hand Hygiene in Health-Care Settings. Recommendation of the Healthcare Infection Control Practice Advisory Committee*.
- Moronkola, O.A., Abe, C.V. & Ogunmuyi, A.O. (2019). (Eds.). *Understanding research Methodology in Education*. Ibadan: Amazing Grace and Educational Business Service.
- Onyango-Ouma, C.N. (2015). Effects of Health Education on the Perception of Environmental Sanitation and Personal Hygiene among Nigerian Primary School Children. *Orient Journal of Medicine*; 14(4), 34-36
- Richard, M. (2017). *Hand washing and hand infection*. Ibadan: Edu Press Ltd.
- Sauer, S. (2020). Profit is a Dirty Word: The Development of Public Bath and Wash houses in Britain 1847-1915, *Social History of Medicine*, 13 (1), 66
- Soumya, D., Sinjita, D., Aparajita, D. & Raghunath, M. (2010). Relationship of personal Hygiene with nutrition and morbidity profile: a study among primary school pupils in South Kolkata. *Indian j com med*; 35 (2), 280-3
- Ullah, I., Sarwar, G. Aziz, S. & Khan, M.H. (2017). Intestinal Worm Infestation in Primary School Pupils in Rural Peshawar. *Gomal Journal of Medical Sciences* Jul-Dec;7(2), 132-6.

- UNICEF, (2013). *School Sanitation Package for Primary School*. Kathmandu, Nepal, UNICEF, Water and Environmental Sanitation Sect.
- Walton, S.F., & Currie, B.J. (2017). [Problems in Diagnosing Scabies, a Global Disease in Human and Animal Populations](#). *Clinical Microbiology Reviews* 20 (2): 268–79. doi:10.1128/CMR.00042-06. [PMC 1865595](#). PMID 17428886.
- World Health Organization (2016). Strengthening Interventions to Reduce Helminth Infections as an entry point for the development of health promoting schools. Geneva, World Health Organization, 2016 (document HPR/HEP/96.10).
- World Health Organization (2017). [Rotavirus vaccines: an update](#) (PDF). *Weekly epidemiological record*. 51–52 (84): 533–540. PMID 20134143. Retrieved June, 2018
- Yinka, Y. (2016). *Ethnic origin and alveolar bone loss in Israeli Adult* (in Hebrew). *Refuat Hapeh Vehashinavim*: 25(2):19-22.