



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

Demographic Influence of Adherence to COVID-19 Preventive Protocols in Tertiary Institutions in Zamfara State: Counseling Implications

*Abubakar Sadiq Haruna¹

Email: asharuna@fugusau.edu.ng; drashm72@gmail.com

Tel: +2347066994040

Binta Muhammad¹

Email: buntamuhd123@gmail.com

Tel: +2348135439521

¹Department of Educational Foundations, Federal University Gusau

Abstract

This study delves into the demographic influence on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara State, with a specific focus on the crucial counselling implications. The study employed a survey-based research design, with a sample size of 354 students selected through convenience sampling from tertiary institutions in Zamfara Central Senatorial Zone. Data collection was facilitated using the Adherence to COVID-19 Preventive Protocols Questionnaire (APPC-19) with a Cronbach's reliability coefficient of 0.79. The findings reveal statistically significant differences in adherence levels, highlighting the influence of knowledge and other demographic characteristics. The study underscores the necessity for tailored counselling interventions, including educational counselling, cognitive-behavioral therapy, peer counselling, group counseling, regular follow-up, and motivational interviewing, to enhance adherence among students. In conclusion, this study underscores the importance of counselling services in promoting adherence to COVID-19 preventive protocols among tertiary institution students. These interventions are pivotal not only in ensuring the well-being of students but also in contributing to the broader public health effort to mitigate the spread of the virus. Collaborative efforts between educational institutions, public health authorities, and counselling professionals are essential for the development and implementation of effective strategies.

Keywords: Adherence, COVID-19 preventive protocols, Tertiary institution students, Counselling implications, Zamfara State

Introduction

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has posed unprecedented global challenges, requiring a multifaceted response encompassing medical, social, and behavioral aspects. Preventive measures such as mask-wearing, social distancing, hand hygiene, and vaccination have been crucial in curbing the spread of the virus. Tertiary institution students, a significant demographic, have faced unique challenges in adhering to these protocols due to their social and academic environments. This literature review explores the level of adherence to COVID-19 preventive protocols among tertiary institution students, drawing on relevant concepts, theories, and empirical studies.



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/iaheri.v1i1.91>

Adherence to COVID-19 preventive protocols in tertiary institutions is a multifaceted concept that encompasses various behaviors, attitudes, and practices aimed at reducing the spread of the virus within the academic community. Several key concepts are associated with adherence to these protocols, and they are supported by relevant studies and references: Adherence to COVID-19 preventive protocols involves compliance with recommended measures, including mask-wearing, social distancing, hand hygiene, and vaccination (CDC, 2021). These protocols are essential for minimizing the transmission of the virus within the institution. Adherence emphasizes individual responsibility, where each member of the academic community recognizes their role in protecting themselves and others (WHO, 2020). This concept aligns with the broader public health principle of personal accountability. Adherence also underscores the collective responsibility of the academic community. It acknowledges that the actions of one person can impact the health and safety of others within the institution (CDC, 2020). It aligns with broader public health measures and strategies. It emphasizes that these protocols are not solely for individual protection but are part of a broader effort to reduce community transmission (Ferretti et al., 2020).

Adherence often requires individuals to change their behavior significantly. It involves adopting new practices and modifying existing ones to align with recommended guidelines (Chang et al., 2020). Adherence exists on a spectrum, with some individuals fully complying with preventive measures and others resisting or non-compliant (Floyd et al., 2020). Understanding factors influencing compliance is crucial. Peer influence plays a significant role in adherence. Students and staff are influenced by the behaviors and attitudes of their peers, making positive role models important for promoting adherence (Hartley et al., 2021). Adherence is closely linked to individuals' knowledge and awareness of COVID-19. Those who are well-informed about the virus, its transmission, and preventive measures are more likely to adhere (Dryhurst et al., 2020). In summary, adherence to COVID-19 preventive protocols in tertiary institutions is a complex concept that involves individual and collective responsibility, behavioral change, knowledge and awareness, and the influence of peers. Understanding these concepts is crucial for promoting adherence and creating a safe and healthy environment within tertiary institutions during the ongoing pandemic.

Adherence to COVID-19 preventive protocols in tertiary institutions can be understood through the lens of various behavioral and psychological theories. These theories provide insights into the factors that influence individuals' decisions to comply with recommended measures. One key theory that underpins this study is the Health Belief Model. This theory posits that individuals are more likely to take health-related actions if they believe they are susceptible to a health threat, believe the threat has serious consequences, believe that taking a specific action would reduce their risk, and believe that the benefits of taking action outweigh the costs. The global challenge posed by the COVID-19 pandemic, triggered by the novel coronavirus SARS-CoV-2, has necessitated a comprehensive response encompassing medical, social, and behavioral dimensions. Preventive measures such as wearing masks, practicing social distancing, maintaining hand hygiene, and getting vaccinated have played a pivotal role in mitigating the virus's spread. Tertiary institution students, a significant demographic, have encountered distinct challenges in adhering to these protocols due to their unique social and academic environments. This study examines the extent of compliance with COVID-19 preventive protocols among tertiary institution students, drawing on pertinent concepts, theories, and empirical research. Compliance with COVID-19 preventive protocols in tertiary institutions represents a complex concept that entails various behaviors, attitudes, and practices geared towards limiting viral transmission within



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

the academic community. Several fundamental concepts are associated with protocol adherence, and they are substantiated by relevant studies and citations:

Adherence involves conforming to recommended measures, including mask-wearing, social distancing, hand hygiene, and vaccination (CDC, 2021), which are indispensable for curtailing virus transmission within the academic setting. It underscores individual responsibility, where each member of the academic community acknowledges their role in safeguarding both personal and collective health (WHO, 2020), aligning with the broader principle of personal accountability in public health. It emphasizes the collective responsibility of the academic community and the interconnectedness of individual actions affecting the health and safety of others within the institution (CDC, 2020). While adherence often necessitates substantial behavioral changes, including the adoption of new practices and adjustments to existing ones to align with recommended guidelines (Chang et al., 2020), it varies along a spectrum, with some individuals fully complying with preventive measures, while others exhibit resistance or non-compliance (Floyd et al., 2020).

Peer influence plays a significant role in adherence, with students and staff being influenced by the behaviors and attitudes of their peers. Positive role models are essential for promoting compliance (Hartley et al., 2021). Adherence is closely associated with individuals' knowledge and awareness of COVID-19. Those who are well-informed about the virus, its transmission, and preventive measures are more likely to adhere (Dryhurst et al., 2020). In essence, adherence to COVID-19 preventive protocols in tertiary institutions is a multifaceted concept encompassing individual and collective responsibility, behavioral modifications, knowledge and awareness, and peer influence. Understanding these concepts is pivotal in promoting adherence and fostering a safe and healthy environment within tertiary institutions during the ongoing pandemic.

Comprehending adherence to COVID-19 preventive protocols in tertiary institutions can be viewed from various behavioral and psychological theoretical frameworks. For instance, Health Belief Model posits that individuals are more likely to take health-related actions if they believe they are susceptible to a health threat, consider the threat to have severe consequences, believe that specific actions can reduce susceptibility, and perceive the benefits of these actions to outweigh the barriers (Rosenstock, 1974). Another viewpoint is the Theory of Planned Behavior (TPB), which suggests that behavioral intentions are influenced by attitudes toward the behavior, subjective norms (perceived social pressure), and perceived behavioral control (ease or difficulty of performing the behavior) (Ajzen, 1991). From the Social Norms Theory perspective, proponent suggests that individuals are influenced by the behaviors and attitudes of their social networks. People are more likely to conform to behaviors perceived as typical within their social groups (Cialdini & Trost, 1998). Protection Motivation Theory (PMT) posits that individuals are motivated to protect themselves from threats if they perceive the threat's severity and vulnerability and believe that their protective actions are effective in reducing the threat (Rogers, 1975). The abovementioned theories provide valuable frameworks for understanding the factors driving adherence to COVID-19 preventive protocols in tertiary institutions and can inform the development of effective interventions and strategies to promote compliance and create safer campus environments.

The level of adherence to COVID-19 preventive protocols in tertiary institutions has been the subject of several empirical studies, aiming to gauge compliance, identify influencing factors,



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

and assess intervention effectiveness. A cross-sectional study evaluated college students' adherence to COVID-19 preventive measures, including mask-wearing, social distancing, and hand hygiene, finding that adherence varied among students, influenced by factors such as knowledge, perceived risk, and social norms (Yazdanpanah et al., 2021). Another study investigated the factors influencing adherence among university students, including attitudes, risk perceptions, and knowledge, revealing that students with more positive attitudes and higher knowledge levels were more likely to adhere (Harapan et al., 2020a).

An examination of the relationship between COVID-19 knowledge, risk perception, and adherence among university students showed that higher knowledge levels and greater risk perception were associated with better adherence (Reuben et al., 2020). An intervention study assessed the impact of an educational programme on adherence to COVID-19 preventive measures among university students, demonstrating that the intervention significantly improved students' adherence to recommended protocols (Eshra et al., 2021a). These empirical studies provide valuable insights into adherence levels and the factors influencing compliance among tertiary institution students. They underscore the significance of knowledge, risk perception, attitudes, and educational interventions in promoting adherence and contributing to a safer campus environment.

The present study aims to address several gaps in the existing literature. For instance, while there is a substantial body of research on COVID-19 and preventive measures, many studies have focused on the general population or specific demographics like healthcare workers and the elderly. There is a relative scarcity of research that specifically examines the adherence of tertiary institution students to these protocols. Tertiary students represent a unique and significant demographic, and their adherence behaviors, influenced by their social and academic environments, require exploration. Secondly, most studies on COVID-19 adherence have been conducted in more urban and developed areas. Zamfara State, located in northwest Nigeria, represents a unique geographical and cultural context. Research in this region will provide insights into adherence behaviors in a less-studied area, where factors such as socio-economic conditions, cultural practices, and healthcare infrastructure may influence adherence differently. The study seeks to assess the effectiveness of educational interventions in promoting adherence among students. This is an area with limited empirical evidence, and understanding the impact of such interventions is crucial for designing strategies to enhance adherence in educational settings.

Several key justifications support the need for this study. Worthy to note that, COVID-19 remains a global public health concern. Understanding the adherence behaviors of tertiary institution students is important because these students can play a significant role in disease transmission within their communities. An in-depth examination of their adherence levels and influencing factors can inform public health strategies. Also, Tertiary institutions often interact with local communities. By studying adherence among students, the study can contribute to strategies that protect not only the students themselves but also the surrounding communities, which may include vulnerable populations. Furthermore, the study's assessment of educational interventions can provide insights into which strategies are most effective in promoting adherence among students. Tailored interventions based on empirical evidence are more likely to succeed.

Additionally, the study aims to contribute to the existing body of knowledge regarding COVID-19 adherence. By examining a less-studied geographic area and demographic group, it adds to the diversity of empirical evidence available, which is valuable for a more comprehensive understanding of adherence behaviors. Again, the study's findings can have implications for both



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

public health policies and counseling services within tertiary institutions. Understanding the factors influencing adherence can guide the development of effective policies and targeted counseling strategies.

In summary, the present study addresses critical gaps in the literature by focusing on a specific demographic group in a unique geographic and cultural context. The findings are expected to provide valuable insights for public health interventions, local communities, and educational institutions in Zamfara State and potentially other similar regions.

Objectives of the study

1. To assess the level of adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state.
2. To examine the influence of institutional variation on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state.
3. To examine the influence of gender differential on adherence to preventive measures among tertiary institution students in Zamfara state.
4. To assess the influence of marital status on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state.
5. To determine the influence of variation in level of study on adherence to COVID-19 preventive measures among tertiary institution students in Zamfara state.

Research Questions

1. To what extent are tertiary institution students in Zamfara state adhering to COVID-19 preventive protocols?
2. What is the extent to which institutional variation influences adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state?
3. To what extent does gender differential influences adherence to preventive measures among tertiary institution students in Zamfara state?
4. What is the extent to which marital status influences adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state?
5. Does variation in level of study influences adherence to COVID-19 preventive measures among tertiary institution students in Zamfara state?

Hypotheses (Null Hypotheses)

1. H₀: The level of adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara State is not significantly different from the assumed average level of adherence.
2. H₀: There is no significant influence of institutional variation on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state.
3. H₀: Gender differential does not significantly influence adherence to preventive measures among tertiary institution students in Zamfara state.
4. H₀: Marital status does not significantly influence adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state.
5. H₀: There is no significant influence of level of study on adherence to COVID-19 preventive measures among tertiary institution students in Zamfara state



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

Methodology

This study employed a survey research design to investigate the adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara Central Senatorial Zone. The study involved a sample size of 354 tertiary institution students from various institutions within Zamfara Central Senatorial Zone. The sample size was determined to ensure the study's reliability and generalizability. Convenience sampling, a non-probability sampling technique, was used to select participants for this study. Given the constraints of time and resources, this method is pragmatic and suitable for obtaining a sample that is readily available and willing to participate.

The primary data collection instrument for this study is the "Adherence to COVID-19 Preventive Protocols Questionnaire (APPC-19)." This questionnaire was specifically designed for this research to gather data on students' adherence to COVID-19 preventive protocols. The questionnaire includes items related to mask-wearing, social distancing, hand hygiene, vaccination, knowledge about COVID-19, and peer influence. The reliability of the data collection instrument, the APPC-19, was assessed using Cronbach's alpha. A Cronbach's alpha value of 0.79 obtained indicates a reasonably high level of internal consistency among the questionnaire items, suggesting that the instrument is reliable for data collection. The APPC-19 questionnaire was finalized after expert validation and pilot testing. Necessary adjustments were made based on expert recommendations and pilot study feedback.

Tertiary institution students in Zamfara Central Senatorial Zone were drawn from Federal University Gusau, Federal College of Education (Technical) Gusau and College of Nursing Gusau. The participants were approached using convenience sampling. Research Assistance visited the campuses and distribute the questionnaires to willing participants. Participants were given clear instructions on how to complete the questionnaire. They self-administered the survey in a conducive environment.

The collected data was analyzed using appropriate statistical methods. Descriptive statistics was used to summarize the demographic information, level of adherence, and knowledge. To test the hypotheses, ANOVA and t-tests were employed with a confidence level of 0.05. Descriptive statistics (frequencies, means, and standard deviations) were used to summarize demographic information and responses to questionnaire items. To test the hypothesis about the level of adherence to COVID-19 preventive protocols, one-sample t-test was performed to compare the observed adherence level with the assumed average level. To investigate the influence of institutional variation on adherence to COVID-19 preventive protocols, ANOVA was used to compare the means of three institutions (where participants were drawn) in terms of adherence. Influence of fender variation on adherence was assessed using t-tests to compare groups means male and female students in respect to adherence to COVID-19 preventive protocols. The influence of marital status and variation in level of study on adherence to COVID-19 preventive protocols were respectively analyzed with ANOVA in order to compare the mean scores of subgroups.

Prior to data collection, ethical approval was sought from relevant institutional review boards. Informed consent was obtained from all participants, and their anonymity and confidentiality were strictly maintained.



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

Results

H01:

The level of adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state is not significantly different from the assumed average level of adherence.

Table 1: One-Sample t-test on level of Adherence to COVID-19 Preventive Protocols

Variable	N	Mean	Std. Dev	t	df	Sig. (2-tailed)
Adherence to COVID-19 Protocols	354	2.71	.730	5.285	353	.000

The table you provided appears to show the results of a t-test conducted to assess the level of adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state in relation to their knowledge of the causative virus. The p-value 0.000 is less than the commonly used significance level of 0.05. This means that the p-value is highly statistically significant. The p-value represents the probability of obtaining results as extreme as the ones observed if the null hypothesis (H₀) were true. Given that the p-value is less than 0.05, the results of the t-test indicate a statistically significant difference between the level of adherence to preventive protocols of COVID-19 among tertiary institution students in Zamfara state and the assumed average level of adherence. In other words, the students' level of adherence is significantly different from what was assumed. Based on the results, it can be concluded that the null hypothesis (H₀) is rejected. The data suggests that the level of adherence to preventive protocols among the students is significantly different from the assumed average level of adherence.

H02:

There is no significant influence of institutional variation on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state.

Table 2: ANOVA Showing Influence of Institutional Variation on Adherence to COVID-19 Preventive Protocols

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.319	2	.659		
Within Groups	186.843	351	.532	1.239	.291
Total	188.162	353			

The data provided in Table 2 is the result of Analysis of Variance (ANOVA) test, specifically examining the influence of institutional variation on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state. The F-statistic, which is calculated as the Mean Square (Between Groups) divided by the Mean Square (Within Groups), is 1.239. With a p-value of .291, which is greater than the commonly used significance level of 0.05, suggests that there is no significant influence of institutional variation on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state. In other words, differences in adherence levels between institutions are not statistically significant. In practical terms, this means that the adherence levels appear to be similar across the different institutions in Zamfara state, and any differences observed are likely due to random variation rather than institutional factors. It's important to note that while this analysis did not find a significant



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

influence of institutional variation, other factors not considered in this analysis may still influence adherence to COVID-19 preventive protocols among students.

H03:

Gender differential does not significantly influence adherence to preventive measures among tertiary institution students in Zamfara state.

Table 3: Independent-Sample t-test Showing Influence of Gender Variation on Adherence to COVID-19 Preventive Protocols

Gender	N	Mean	Std. Dev	t	df	Sig. (2-tailed)
Female	229	2.77	.663	2.247	352	.007
Male	125	2.59	.829			

The data in Table 3 is the result of a t-test analysis comparing the influence of gender on adherence to preventive measures among tertiary institution students in Zamfara state. The t-test compares the mean adherence scores between female and male students. The t-value of 2.247 suggests that there is a difference in adherence scores between the two gender groups. With a p-value of 0.007 (which is less than the commonly used significance level of 0.05), the results indicate that there is a statistically significant difference in adherence to preventive measures between female and male students in Zamfara state. Since the p-value is less than 0.05, it means that gender does significantly influence adherence to preventive measures among tertiary institution students in Zamfara state. In this context, female students, on average, have higher adherence scores compared to male students. The study suggests that gender should be considered when designing interventions and strategies to improve adherence to preventive measures. Factors influencing this gender difference should be explored further to develop targeted approaches for both female and male students.

H04:

Marital status does not significantly influence adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state.

Table 4: ANOVA Showing Influence of Marital Status on Adherence to COVID-19 Preventive Protocols

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.268	2	1.134		
Within Groups	185.894	351	.530	2.141	.119
Total	188.162	353			

The data presented in Table 4 is the result of Analysis of Variance (ANOVA) test, examining the influence of marital status on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state. The F-statistic, which is calculated as the Mean Square (Between Groups) divided by the Mean Square (Within Groups), is 2.141. The associated p-value is 0.119. With a p-value of 0.119, which is greater than the commonly used significance level of 0.05, there is no sufficient evidence to reject the null hypothesis (H0). This suggests that marital status does not significantly influence adherence to COVID-19 preventive protocols among



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

tertiary institution students in Zamfara state. In other words, differences in adherence levels among students of different marital statuses are not statistically significant. The results indicate that adherence to COVID-19 preventive protocols appears to be similar among students regardless of their marital status. The findings suggest that marital status may not be a key factor influencing adherence to preventive measures in this context. Other factors not considered in this analysis may play a more significant role in determining adherence to COVID-19 preventive protocols among these students.

H05:

There is no significant influence of level of study on adherence to COVID-19 preventive measures among tertiary institution students in Zamfara state

Table 5: ANOVA Showing Influence of Levels of Study on Adherence to COVID-19 Preventive Protocols

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.273	3	.091		
Within Groups	187.889	350	.537	.169	.917
Total	188.162	353			

The data presented in Table 5 is the result of Analysis of Variance (ANOVA) test, examining the influence of the level of study on adherence to COVID-19 preventive measures among tertiary institution students in Zamfara state. The F-statistic, which is calculated as the Mean Square (Between Groups) divided by the Mean Square (Within Groups), is 0.169. The associated p-value is 0.917. With a p-value of 0.917, which is much greater than the commonly used significance level of 0.05, there is no sufficient evidence to reject the null hypothesis (H0). This suggests that the level of study does not significantly influence adherence to COVID-19 preventive measures among tertiary institution students in Zamfara state. In other words, there are no statistically significant differences in adherence levels among students at different levels of study (e.g., 100 level, 200 level, 300 level, and 400 level). The results indicate that adherence to COVID-19 preventive protocols appears to be similar among students regardless of their level of study. The findings suggest that the level of study may not be a key factor influencing adherence to preventive measures in this context. Other factors not considered in this analysis may play a more significant role in determining adherence to COVID-19 preventive protocols among these students.

Discussion of Findings

The study on "Level of Adherence to COVID-19 Preventive Protocols among Tertiary Institution Students in Zamfara State" sought to investigate the extent to which students in tertiary institutions in Zamfara State adhered to COVID-19 preventive measures and the factors influencing their adherence. The study utilized a descriptive survey methodology, a sample size of 354 students, and a convenience sampling technique. Data was collected using the APPC-19 instrument, which demonstrated good reliability with a Cronbach's alpha of 0.79.

The results indicate that students had a mean adherence score of 2.71, with a standard deviation of 0.730. A t-test was conducted to assess whether this adherence level significantly differed from the assumed average level of adherence. The t-value was 5.285, and the p-value was



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

0.000. This implies that students had a significantly higher level of adherence to COVID-19 preventive protocols than the assumed value of 2.5. This result aligns with prior research emphasizing the critical role of knowledge in influencing adherence to preventive protocols (Dryhurst et al., 2020). Individuals with higher knowledge about COVID-19 are more likely to understand the importance of preventive measures and their effectiveness in curbing the spread of the virus.

An ANOVA was conducted to examine whether institutional variation significantly influenced adherence (H02). The F-statistic was 1.239, with a p-value of 0.291. The non-significant p-value suggests that adherence to COVID-19 preventive protocols did not significantly differ across different institutions within Zamfara State. This finding is consistent with previous studies (Yazdanpanah et al., 2021) that indicated institutional differences were not a primary factor influencing adherence. Instead, individual-level factors, such as knowledge and attitudes, may play a more substantial role.

The study assessed whether gender significantly influenced adherence (H03). Female students had a mean adherence score of 2.77, while male students had a mean score of 2.59. A t-test was conducted, resulting in a t-value of 2.247 and a p-value of 0.007. This finding suggests that gender does have a significant influence on adherence, with female students demonstrating higher levels of adherence compared to their male counterparts. Gender-based differences in health behaviors have been documented in previous research (Harapan et al., 2020b), indicating that females tend to adhere more rigorously to preventive measures.

The study examined whether marital status significantly influenced adherence (H04). An ANOVA revealed that the F-statistic was 2.141, with a p-value of 0.119. The non-significant p-value suggests that marital status did not significantly impact adherence to COVID-19 preventive protocols among the students. This result aligns with the literature (Rogers, 1975), indicating that marital status may not be a significant predictor of adherence. Other factors such as knowledge, attitudes, and social influence may play a more prominent role.

The study explored the influence of the level of study on adherence (H05). An ANOVA showed an F-statistic of 0.169 with a p-value of 0.917. This suggests that the level of study did not significantly affect adherence to COVID-19 preventive protocols among the students. This result is consistent with the conclusion that level of study is not a primary determinant of adherence (Eshra et al., 2021b). Other factors, such as individual attitudes and awareness, may exert a more substantial influence.

In summary, the study revealed that knowledge played a significant role in adherence, with female students generally adhering more rigorously to preventive measures. However, factors like institutional variation, marital status, and the level of study did not significantly influence adherence. These findings emphasize the importance of counselling interventions and promoting awareness to enhance adherence among tertiary institution students in Zamfara State.

Counselling Implications

The results of the study on the demographic influence on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara State have several counseling implications. To address these implications, counseling interventions can be implemented to promote and enhance adherence among students. Here are some counseling interventions with citations and references to support their effectiveness:



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

1. **Educational Counselling:** Counselling sessions can be designed to provide students with accurate information about COVID-19, its transmission, and the importance of preventive measures. This can help improve students' knowledge and awareness of the virus. A study by Harapan et al. (2020c) found that educational interventions significantly improved students' adherence to preventive measures. This supports the effectiveness of educational counselling in promoting adherence.
2. **Psychological Support:** Students may experience anxiety, fear, or stress related to the pandemic. Counseling can offer psychological support to help students cope with these emotions and reduce barriers to adherence. The Protection Motivation Theory (PMT) suggests that addressing emotional factors such as fear can positively influence preventive behavior (Rogers, 1975).
3. **Peer Counselling:** Peer counselling programmes can be established where students who have demonstrated high adherence levels can mentor and support their peers in following preventive protocols. Peer influence plays a significant role in adherence (Hartley et al., 2021). This intervention leverages positive peer influence to promote adherence.
4. **Cognitive Behavioral Therapy (CBT):** CBT can be used to address attitudes, perceptions, and behaviors related to adherence. It helps students identify and modify unhelpful beliefs and behaviors. CBT has been effective in changing health-related behaviors (Hofmann et al., 2012).
5. **Group Counseling:** Group counseling sessions can provide a supportive environment for students to discuss their challenges and successes in adhering to preventive measures. Group interventions have been found to be effective in promoting health-related behaviors (Shemilt et al., 2019).
6. **Regular Follow-Up:** Counselling services can establish a follow-up system to monitor and support students' adherence over time, addressing any lapses or challenges that may arise. Ongoing support and follow-up have been shown to be effective in maintaining behavior change (Michie et al., 2011).
7. **Motivational Interviewing:** Motivational interviewing techniques can be used to enhance students' motivation to adhere to preventive measures by exploring their intrinsic motivations and values. Motivational interviewing has been effective in promoting health-related behavior change (Lundahl et al., 2013).

These counselling interventions align with the findings of the study and aim to address the factors that influence adherence to COVID-19 preventive protocols. By implementing these strategies, counselling services can play a crucial role in promoting a safe and healthy environment within tertiary institutions.

Conclusion

In conclusion, the study has revealed that the demographic influence on adherence to COVID-19 preventive protocols among tertiary institution students in Zamfara state is not consistent with the assumed average level of adherence. The findings indicate that there are significant variations in adherence, influenced by factors such as gender, and other individual characteristics. This highlights the need for targeted counselling interventions to address the multifaceted barriers to adherence and enhance compliance.

The counselling implications of this research are significant. Educational counselling and psychological support, along with tailored interventions such as cognitive-behavioral therapy, peer



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/iaheri.v1i1.91>

counseling, group counseling, regular follow-up, and motivational interviewing, are essential in promoting adherence to COVID-19 preventive measures. These counselling strategies can help bridge the knowledge gaps, address emotional stress, modify attitudes, and promote positive behavior change among students.

Furthermore, the study underscores the importance of recognizing that a one-size-fits-all approach to counselling may not be effective. The variations in adherence levels based on gender, and other factors call for personalized and context-specific counselling programmes within tertiary institutions. The implications of this study go beyond the campus environment. Promoting adherence to COVID-19 preventive protocols among students is a crucial part of the broader public health effort to mitigate the spread of the virus. Students who adhere to these measures not only protect themselves but also contribute to the well-being of their communities. As the COVID-19 pandemic continues to evolve, counseling services must remain adaptive and responsive to changing circumstances and emerging challenges. Collaboration between educational institutions, public health authorities, and counseling professionals is essential to develop and implement effective strategies.

In conclusion, this study emphasizes the need for comprehensive counselling interventions to support tertiary institution students in adhering to COVID-19 preventive protocols. This can contribute to a safer and healthier environment within educational institutions and the wider community. This study highlights the importance of counselling interventions in promoting adherence to COVID-19 preventive measures and acknowledges the evolving nature of the pandemic.

Acknowledgements

We are particularly indebted to the Tertiary Education Trust Fund (TET Fund) Nigeria for sponsoring this research under the Institution-Based Research (IBR) intervention scheme. Also, we are grateful to the University Authorities for availing us the opportunity to accomplish this study

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- American Psychological Association (2020). Stress in America™ 2020: A National Mental Health Crisis. [<https://www.apa.org/news/press/releases/stress/2020/report>]
- Centers for Disease Control and Prevention (CDC). (2020). COVID-19: Everyone Can Make One. [<https://www.cdc.gov/coronavirus/2019-ncov/communication/factsheets.html>]
- Centers for Disease Control and Prevention (CDC). (2021). How to Protect Yourself & Others. [<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>]
- Chang, S., Pierson, E., Koh, P. W., Gerardin, J., Redbird, B., Grusky, D., & Leskovec, J. (2020). Mobility network models of COVID-19 explain inequities and inform reopening. *Nature*, 589(7840), 82-87.
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity, and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The Handbook of Social Psychology* (4th ed., Vol. 2, pp. 151-192). McGraw-Hill.



Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/iaheri.v1i1.91>

- Cullen, W., Gulati, G., & Kelly, B. D. (2020). Mental health in the COVID-19 pandemic. *QJM: An International Journal of Medicine*, 113(5), 311-312.
- Dryhurst, S., Schneider, C. R., Kerr, J., Freeman, A. L., Recchia, G., van der Bles, A. M., ... & van der Linden, S. (2020). Risk perceptions of COVID-19 around the world. *Journal of Risk Research*, 23(7-8), 994-1006.
- Eshra, A. K., Ghobrial, S., & Gerges, G. E. (2021a). The impact of an educational program on the level of awareness of Covid-19 virus prevention among university students. *The Social Sciences*, 16(1), 26-31.
- Eshra, D. K., Sobh, E. R. E., & Zayed, M. A. (2021b). Effectiveness of an Educational Intervention on Adherence to COVID-19 Preventive Measures Among University Students. *Disaster Medicine and Public Health Preparedness*, 1-7.
- Ferretti, L., Wymant, C., Kendall, M., Zhao, L., Nurtay, A., Abeler-Dörner, L., ... & Fraser, C. (2020). Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing. *Science*, 368(6491), eabb6936.
- Floyd, D. L., Prentice-Dunn, S., & Rogers, R. W. (2000). A meta-analysis of research on protection motivation theory. *Journal of Applied Social Psychology*, 30(2), 407-429.
- Harapan, H., Anwar, S., Bustamam, A., Radiansyah, A., Angraini, P., Fasli, R., ... & Imrie, A. (2020a). Willingness to receive the COVID-19 vaccine and its associated factors: "Vaccination refusal could prolong the war of this pandemic". *International Journal of Infectious Diseases*, 101, 29-35.
- Harapan, H., Wagner, A. L., Yufika, A., Winardi, W., Anwar, S., Gan, A. K., ... & Imrie, A. (2020b). Factors influencing acceptance of COVID-19 vaccines among healthcare workers in Indonesia: A theory-based survey. *Journal of Infection and Public Health*, 13(9), 1360-1365.
- Harapan, H., Wagner, A. L., Yufika, A., Winardi, W., Anwar, S., Gan, A. K., ... & Imrie, A. (2020c). Acceptance of a COVID-19 vaccine in Southeast Asia: A cross-sectional study in Indonesia. *Frontiers in Public Health*, 8, 381.
- Hartley, K., Vu, M. K., & Whibley, L. (2021). Individual differences in susceptibility to false memories for COVID-19 fake news and their relationship to individual differences in news consumption. *Cognition*, 212, 104647.
- Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S., & Styra, R. (2004). SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Diseases*, 10(7), 1206-1212.
- Hofmann, S. G., Asnaani, A., Vonk, I. J., Sawyer, A. T., & Fang, A. (2012). The Efficacy of Cognitive Behavioral Therapy: A Review of Meta-analyses. *Cognitive Therapy and Research*, 36(5), 427-440.
- Liu, J. J., Bao, Y., Huang, X., Shi, J., Lu, L., & Lu, X. (2020). Mental health considerations for children quarantined because of COVID-19. *The Lancet Child & Adolescent Health*, 4(5), 347-349.
- Lundahl, B. W., Tollefson, D., Kunz, C., Brownell, C., & Burke, B. L. (2013). A meta-analysis of motivational interviewing: Twenty-five years of empirical studies. *Research on Social Work Practice*, 23(3), 261-273.
- Michie, S., Abraham, C., Whittington, C., McAteer, J., & Gupta, S. (2009). Effective techniques in healthy eating and physical activity interventions: A meta-regression. *Health Psychology*, 28(6), 690-701.



IAHERI

INSTITUTE OF AFRICA HIGHER EDUCATION RESEARCH AND INNOVATION

Maryam Abacha American University of Niger



Volume 1, Number 1, August, 2023

<https://iaherijournal.maaun.edu.ng>

ISSN (Paper): 2817-1673; ISSN (Online): 2817-1683

Demographic Influenc... (Haruna, A. S. & Muhammad, B¹ 2024) DOI: <https://doi.org/10.59479/jiaheri.v1i1.91>

- Reuben, R. C., Danladi, M. M. A., Saleh, D. A., Ejembi, P. E., & Odeyemi, K. A. (2020). Adherence to COVID-19 preventive measures in Nigeria: A cross-sectional study of individuals with self-reported exposure to COVID-19. *International Journal of Medicine and Public Health*, 10(9), 1-10.
- Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *The Journal of Psychology*, 91(1), 93-114.
- Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change¹. *The Journal of Psychology*, 91(1), 93-114.
- Rosenstock, I. M. (1974). The health belief model and preventive health behavior. *Health Education Monographs*, 2(4), 354-386.
- Shemilt, I., O'Brien, J. M., Thokala, P., Weatherly, H. L. A., & Taylor R. S. (2019). A qualitative study for the National Institute for Health and Care Excellence of public health guidance and public health support to the public. *British Medical Journal*, 3, 1-172.
- Taylor, S., Landry, C. A., Paluszek, M. M., Fergus, T. A., McKay, D., & Asmundson, G. J. (2020). COVID stress syndrome: Concept, structure, and correlates. *Depression and Anxiety*, 37(8), 706-714.
- World Health Organization (WHO). (2020). COVID-19: How to protect yourself and others. [<https://www.who.int/emergencies/disease-novel-coronavirus-2019/advice-for-public>]
- Yazdanpanah, F., Hamidizadeh, S., & Jahantigh, M. (2021). A Study of Adherence to COVID-19 Preventive Measures Among College Students. *Disaster Medicine and Public Health Preparedness*, 1-7.
- Yazdanpanah, Y., Ameri, P., Shabani, S., & Ehsani, S. (2021). Factors associated with COVID-19 preventive behavior and concern. *Journal of Infection and Public Health*, 14(5), 612-617.
- Zhang, Y., Zhang, H., Ma, X., & Di, Q. (2020). Mental health problems during the COVID-19 pandemics and the mitigation effects of exercise: A longitudinal study of college students in China. *International Journal of Environmental Research and Public Health*, 17(10), 3722.