

The Role of Knowledge and Attitude in Predicting Adherence to COVID-19 Preventive Measures among Teachers in Paynesville, Liberia

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ABSTRACT

COVID-19 has significantly altered daily activities worldwide, necessitating adherence to preventive measures to mitigate its spread. However, adherence remains low in many communities, including Liberia. This study investigates the role of knowledge and attitude as predictors of adherence to COVID-19 preventive measures among teachers in Paynesville, Liberia. Using a cross-sectional design, data was collected through self-reported questionnaires from 188 teachers across 15 schools in Paynesville. Results reveal significant relationships between knowledge, attitude, and adherence, indicating that both factors predict preventive behavior. Recommendations for improving adherence through public health campaigns and education are discussed.

Keywords: COVID-19, Preventive Measures, Knowledge, Attitude, Adherence, Public Health, Teachers, Liberia

INTRODUCTION

The COVID-19 pandemic has caused well-known interference, with increased cases and deaths worldwide. Declared a global health emergency in January 2020, the pandemic underscored the necessity of effective preventive measures. Despite governmental efforts to enforce guidelines, adherence to COVID-19 measures in communities like Paynesville, Liberia, remains relatively low.

The novel coronavirus affected millions of people globally, resulting in substantial ill health and mortality. In Liberia, as in many other developing countries around the world, the lack of effective treatment options made adherence to preventive measures—such as mask-wearing, physical distancing, and hand hygiene—essential. Despite public health mandates, many individuals underestimate the severity of the virus, leading to inconsistent adherence to these measures.

Research has shown that knowledge of the disease and a positive attitude toward preventive measures are critical in influencing individual adherence. Studies suggest that individuals with a better understanding of COVID-19 and its transmission are more likely to adopt preventive behaviors (Aynalem et al., 2021). Additionally, public attitudes toward infectious diseases play a significant role in shaping compliance with safety protocols (Adela, 2020). This study aims to explore the relationship between knowledge, attitude, and adherence to COVID-19 preventive measures among teachers in Paynesville, Liberia.

Research Questions

1. Does the level of knowledge about COVID-19 and attitudes toward the virus significantly predict adherence to preventive measures?
2. What is the relationship between knowledge of COVID-19 and adherence to preventive measures?
3. What is the relationship between teachers' attitudes toward COVID-19 and adherence to preventive measures?

METHODOLOGY

Study Design and Population

A cross-sectional descriptive survey was used to obtain data on factors influencing adherence to COVID-19 preventive measures. The study targeted teachers from 15 secondary schools in Paynesville, Montserrado County, Liberia.

Sampling Technique

Convenience sampling was employed to select 188 teachers from the 15 schools. The sample size was calculated using the Cochran formula to ensure statistical reliability.

Instrument

A self-administered questionnaire was used to collect data on teachers' knowledge and attitudes regarding COVID-19 preventive measures. The questionnaire contained Likert scale items assessing agreement with statements related to COVID-19 prevention. The scale ranged from 1 (Strongly Disagree) to 4 (Strongly Agree), with a maximum score of 120 and a minimum score of 30.

Data Collection Procedure

Data was collected over three weeks. Participants were informed of the study's objectives and provided consent before completing the questionnaires. The collected data was checked for completeness and appropriateness.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 21. Descriptive statistics, such as frequencies, percentages, and means, were used to analyze the research questions. Inferential statistics, including Pearson's correlation and logistic regression, were employed to test the hypotheses.

RESULTS

Knowledge and Adherence to COVID-19 Preventive Measures

A significant negative correlation was found between knowledge of the mode of infection and adherence to COVID-19 preventive measures ($r = -0.481$, $p = 0.000$). This suggests that inadequate knowledge about COVID-19 transmission negatively affects adherence. As individuals' understanding of the virus improves, they are more likely to comply with recommended precautions.

These findings align with studies by Van-Bavel, Baicker, and Boggio (2020), which emphasized the importance of trust in government and knowledge in promoting adherence to health guidelines.

Attitude and Adherence to COVID-19 Preventive Measures

A significant negative correlation was also observed between attitude toward COVID-19 infection and adherence to preventive measures ($r = -0.399$, $p = 0.000$). This implies that individuals with a more positive attitude toward disease prevention are more likely to adhere to safety protocols. A positive attitude enhances compliance with measures such as social distancing, mask-wearing, and handwashing.

This result is consistent with the findings of Almutairi et al. (2020), who highlighted the importance of public trust and a positive attitude toward government-imposed health measures.

Multiple Regression Analysis

Multiple regression analysis revealed that both knowledge ($\beta = 0.383$, $p = 0.000$) and attitude ($\beta = 0.251$, $p = 0.000$) significantly predict adherence to COVID-19 preventive measures. The R-squared value of 0.340

indicates that knowledge and attitude together explain 34.0% of the variance in adherence to preventive measures. The F-ratio ($F(2, 185) = 6.309, p = 0.000$) confirms the statistical significance of the model.

DISCUSSION

The results confirm that both knowledge and attitude significantly predict adherence to COVID-19 preventive measures. Teachers with better knowledge of the virus and positive attitudes toward preventive behaviors were more likely to adhere to safety protocols.

The negative correlation between knowledge and adherence suggests that misinformation or a lack of understanding about COVID-19 transmission can hinder adherence efforts. The positive relationship between attitude and adherence highlights the importance of fostering a collective positive attitude toward compliance with preventive measures.

These findings are consistent with previous research indicating that public health campaigns emphasizing accurate information and positive attitudes can enhance adherence to preventive measures (Aynalem et al., 2021; Adela, 2020).

CONCLUSION

Given the former COVID-19 pandemic and the absence of a universally effective treatment, adherence to preventive measures remains a key strategy in controlling virus transmission. This study highlights the importance of knowledge and attitude in promoting adherence to these measures among teachers in Paynesville, Liberia. Public health interventions should focus on improving knowledge about COVID-19 and fostering positive attitudes toward disease prevention.

RECOMMENDATIONS

1. Public health campaigns should focus on educating the public about the risks of COVID-19 and the importance of preventive measures.
2. Government and health authorities should continue to build trust through transparent communication and effective interventions.
3. Schools and educational institutions should organize workshops to enhance teachers' understanding of COVID-19 and its prevention.
4. Interventions should address individual-level barriers to adherence, such as misinformation and complacency.

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