

KNOWLEDGE, ATTITUDE, AND PRACTICES OF GUIMARAS RESIDENTS ON PANDEMIC SECURITY MEASURES

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ABSTRACT Public compliance with health and security measures is a critical factor in mitigating the spread of infectious diseases during pandemics. This study examined the KAP of pandemic security measures of residents in Barangay New Poblacion, Buenavista, Guimaras. Data were collected from 150 respondents using a validated questionnaire with high reliability and a quantitative descriptive-correlational design. Descriptive statistics and non-parametric tests were employed to analyze the data, and Spearman's rho was used to determine the relationships among the variables. The results revealed that the respondents demonstrated a very high level of knowledge, attitude, and practices. No significant differences in knowledge across sociodemographic variables were found, indicating uniform information dissemination. However, significant differences were observed in attitude and practices based on age and employment status, suggesting that contextual and experiential factors influence behavioral responses. Correlation analysis revealed significant relationships among KAP variables, with knowledge being moderately related to attitude and practices, whereas attitude exhibited a strong relationship with practices. These findings highlight the KP gap's presence. The study concludes that while knowledge is essential, behavioral compliance is more strongly influenced by attitudes and external factors, supporting the integration of the TPB in understanding public health behavior.

Keywords: COVID-19 Compliance Behavior, Health Behavior, Knowledge-Attitude-Practice (KAP) Model, Public Health Measures, Risk Perception

INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic has profoundly challenged global public health systems, emphasizing the critical role of community compliance with health and security measures in mitigating disease transmission. Governments worldwide implemented non-pharmaceutical interventions (NPIs), including mask-wearing, hand hygiene, social distancing, and mobility restrictions, as primary strategies to control the spread of the virus. However, the effectiveness of these interventions depends not only on policy enforcement but also on how individuals understand, perceive, and translate these measures into everyday behavior. Consequently, examining populations' KAP has become essential in understanding behavioral responses during health crises.

The KAP model provides a foundational framework for analyzing how individuals respond to PHIs. The model posits a linear progression in which knowledge influences attitudes, which, in turn, shape practices. This framework has been widely applied in pandemic-related studies to assess patients' compliance with preventive measures. Empirical evidence from various countries consistently demonstrates that populations

generally exhibit high levels of knowledge and relatively positive attitudes toward COVID-19 preventive measures; however, actual practices often remain inconsistent or suboptimal. Studies conducted in China, Bangladesh, Indonesia, Uganda, and Nigeria reported high knowledge and generally favorable attitudes; however, only moderate adherence to preventive behaviors was observed (Kundu et al., 2021; Kundu et al., 2021; Reuben et al., 2020; Ssebuufu et al., 2020; Yang et al., 2020). This recurring pattern highlights a critical limitation of the KAP model, particularly its assumption that knowledge automatically translates into practice.

The KP gap is more pronounced in rural and low-income settings. Studies conducted in Ethiopia, Cameroon, the Philippines, and Bhutan have shown that while individuals may possess adequate knowledge of COVID-19 preventive measures, their attitudes may be mixed and their practices often weaker or inconsistent (Desalegn et al., 2021; Lau et al., 2020; Umer et al., 2021). These findings indicate that factors beyond cognitive awareness, including socio-economic constraints, cultural norms, and resource accessibility, influence behavioral compliance. Individuals in economically disadvantaged communities may find it difficult to consistently practice preventive measures despite being aware of their importance due to financial limitations or occupational demands.

A growing body of literature has identified sociodemographic characteristics as significant determinants of KAP outcomes. Variables such as age, gender, educational attainment, occupation, income, and place of residence influence the knowledge and compliance of individuals with health protocols. Higher levels of education and urban residence are consistently associated with better knowledge and more consistent preventive practices, whereas individuals in rural or low-income communities tend to exhibit lower levels of compliance (Yang et al., 2020; Lihua et al., 2020; Kundu et al., 2021; Reuben et al., 2020; Yoseph et al., 2021). Similarly, occupation plays a crucial role, as health professionals, teachers, and students generally demonstrate higher knowledge levels than manual laborers and unemployed individuals (Habib et al., 2021; Bates et al., 2020). These variations underscore the importance of examining sociodemographic differences when assessing KAP in specific communities.

In addition to demographic factors, information dissemination channels significantly shape public knowledge and behavior during the pandemic. Studies indicate that mass media platforms—such as television, radio, and social media—serve as primary sources of COVID-19 information. While these channels play a vital role in increasing awareness, they also contribute to variability in understanding due to differences in information quality, accessibility, and public trust. Although commonly promoted preventive measures, such as mask-wearing and handwashing, are widely understood and practiced, other measures—such as avoiding crowds and disinfecting surfaces—are less consistently followed. This inconsistency further reinforces the KP gap and highlights the need for more targeted and context-specific interventions.

This study integrates insights from behavioral theories, particularly the Theory of Planned Behavior (TPB), to address the KAP model's limitations. TPB posits that behavior is influenced by not only attitudes but also subjective norms and PBC. This framework provides a comprehensive explanation of the observed inconsistencies between knowledge and practice. Even when individuals possess adequate knowledge and positive attitudes, social expectations, perceived barriers, or a lack of resources may constrict their behavior.

Individuals may understand the importance of social distancing but may be unable to practice it because of work-related obligations or economic pressures. Similarly, social norms and peer influence may either reinforce or discourage compliance with health protocols.

Despite the extensive global literature on KAP, a significant gap remains in localized studies that examine how these patterns manifest in specific communities. In the Philippine context, KAP research has primarily focused on broader populations, with limited attention given to barangay-level dynamics, particularly in rural or semi-urban settings. Given the socio-economic diversity and varying levels of access to information and resources, investigating how residents in specific localities respond to pandemic security measures is essential. Barangay New Poblacion in Buenavista, Guimaras, provides a relevant context for such an investigation, as it represents a community where sociodemographic variations and access disparities may influence behavioral responses.

Furthermore, while previous studies have established the existence of relationships among knowledge, attitudes, and practices, there is a need to examine the strength and nature of these relationships must be examined within localized contexts. Understanding whether knowledge significantly predicts attitudes and practices—and to what extent—can inform the design of targeted interventions. Additionally, analyzing differences across demographic groups can help identify vulnerable populations that require focused support, thereby enhancing public health strategies' effectiveness.

This study aims to assess the knowledge, attitudes, and practices of pandemic security measures among residents in Barangay New Poblacion, Buenavista, Guimaras. Specifically, it seeks to: (1) determine the level of knowledge, attitude, and practices of residents; (2) identify significant differences in these variables when grouped according to selected sociodemographic factors; and (3) examine the relationships among knowledge, attitude, and practices. This study contributes to a more nuanced understanding of public compliance during health crises and provides evidence-based recommendations for improving community-level interventions by integrating the KAP framework with behavioral insights from TPB.

METHODOLOGY

Research Design

This study employed a quantitative descriptive-correlational research design to assess the residents' KAP toward security measures during the COVID-19 pandemic. The descriptive component was used to determine the current level of KAP among respondents, while the correlational approach was used to examine the relationships among the variables and differences across selected sociodemographic characteristics. This design is appropriate for identifying patterns, associations, and variations without manipulating the study variables, thereby accurately representing real-world conditions.

Respondents and sampling technique

The study respondents consisted of 150 residents of Barangay New Poblacion, Buenavista, Guimaras. The sample size was determined using Slovin's formula, which is commonly applied in social science research to estimate an appropriate sample from a given population when the margin of error is specified. The computed sample size ensured adequate population representation while maintaining statistical reliability.

A non-probability sampling technique, specifically convenience sampling, was employed due to accessibility and time constraints. Respondents were selected based on their availability and willingness to participate, provided they met the inclusion criteria, which required them to be residents of the barangay and at least 18 years old at the time of data collection. Although this method limits generalizability, it is appropriate for localized exploratory and descriptive studies.

Research Instrument

A researcher-developed questionnaire was used as the primary data-gathering instrument to assess residents' KAP regarding pandemic security measures. The instrument was structured into four parts. The first part elicited the respondents' profile, including sex, age, civil status, employment status, residence, and educational attainment. The second, third, and fourth parts measured the respondents' knowledge, attitude, and practices, respectively, with each construct consisting of 15 items, yielding 45 scale items. The items were developed based on existing literature and aligned with the study objectives to ensure conceptual relevance and content adequacy.

The instrument employed a five-point Likert scale to quantify responses, with values ranging from 1 to 5. The scale was interpreted as follows: 4.21–5.00 (very high), 3.41–4.20 (high), 2.61–3.40 (moderate), 1.81–2.60 (low), and 1.00–1.80 (very low). This scaling approach enabled the systematic measurement of respondents' levels of knowledge, attitude, and practices and facilitated the quantitative analysis and interpretation of the data.

Validity and Reliability of the Instrument

The content was validated by subject matter experts to ensure the accuracy and appropriateness of the instrument, who evaluated the questionnaire based on clarity, relevance, and alignment with the study objectives. Necessary revisions were made according to the recommendations of experts.

The instrument was subjected to a reliability test involving a pilot group of respondents. The results yielded a Cronbach's alpha coefficient of 0.952, indicating excellent internal consistency. This high reliability coefficient confirms the suitability of the instrument for data collection and consistently measures the intended constructs.

Data Gathering Procedure

Permission was obtained from the appropriate local authorities prior to data collection. The researchers personally administered the questionnaires to the selected respondents to ensure the clarity of instructions and completeness of responses. The respondents were given sufficient time to answer the questionnaire, and any queries were immediately addressed to minimize misunderstanding.

All questionnaires were retrieved, checked for completeness, and organized for encoding and analysis after data collection. The use of a structured instrument ensured uniformity in responses and minimized data variability.

Statistical Treatment of Data

The collected data were analyzed using descriptive and inferential statistical techniques in accordance with the study objectives. The mean was used to determine the respondents' level of knowledge, attitude, and practices. The Mann–Whitney U test was employed for comparisons between two independent groups to test for significant differences across profile variables, whereas the Kruskal–Wallis H test was used for comparisons involving more than two groups. Spearman's rho correlation coefficient was used to examine the relationships among knowledge, attitude, and practices. All statistical analyses were conducted at a p-value of 0.05, indicating that results in a p-value of 0.05 were considered statistically significant.

Ethical Considerations

This study was conducted in accordance with established ethical standards for research involving human participants. Before participation, informed consent was obtained from all respondents, ensuring that they were fully aware of the study's purpose, procedures, and voluntary nature. Participants were assured of the confidentiality and anonymity of their responses, and no personal identifiers were included in the analysis.

Respondents were informed of their right to withdraw from the study at any time and without any consequences. All collected data were used solely for academic purposes and were handled with strict confidentiality. This study was conducted in accordance with the ethical research guidelines and was approved by the appropriate institutional review body.

Result and Discussion

Level of Knowledge, Attitude, and Practices

Table 1 shows that the residents of Barangay New Poblacion demonstrated a very high level of knowledge ($M = 4.87$), attitude ($M = 4.80$), and practices ($M = 4.80$) toward pandemic security measures. Although all three dimensions fall within favorable ranges, the slight variation between knowledge and the behavioral components (attitude and practices) indicates that although respondents are highly informed, their knowledge translation into consistent behavioral compliance is comparatively less optimal. This pattern suggests a knowledge–practice gap, where awareness does not fully translate into sustained action. The very high mean score for knowledge implies that residents have a strong understanding of COVID-19 transmission, symptoms, and preventive measures. This may be attributed to the extensive dissemination of information through mass media platforms, government advisories, and community-based campaigns. Likewise, the high level of attitude indicates that respondents generally recognize the importance and effectiveness of implementing pandemic security measures. However, the slightly lower level of practices suggests that behavioral compliance is not entirely consistent, highlighting a discrepancy between cognitive awareness and actual behavior.

The observed gap between knowledge and practice can be explained by several factors. First, behavioral inertia may limit individuals' ability to consistently adopt preventive measures, as habitual behaviors tend to persist despite increased awareness. Second, resource constraints, such as limited access to hygiene materials or the necessity of engaging in economic activities, may hinder full compliance with recommended practices. Third, differences in risk perception may influence behavioral responses, as individuals who perceive themselves to be at lower risk may be less motivated to strictly adhere to preventive measures. Collectively, these factors suggest that behavioral adoption is shaped not only by knowledge but also by contextual and psychological influences.

The findings are consistent with those of global and local studies that report similar patterns in KAP outcomes. Research conducted in China, Bangladesh, and Indonesia found that populations generally exhibit high knowledge and positive attitudes but demonstrate varying levels of adherence to preventive practices (Yang et al., 2020; Kundu et al., 2021). Similarly, a study in the Philippines revealed that individuals from low-income households possessed adequate knowledge but exhibited inconsistent practices because of economic and situational constraints (Lau et al., 2020). These studies reinforce the conclusion that knowledge alone does not guarantee behavioral compliance.

The findings partially support the KAP model, which posits that knowledge influences attitudes and practices. However, the observed variation between knowledge and behavioral components highlights the model's linear assumption's limitations. The results are more comprehensively explained through the TPB, which emphasizes that attitudes, subjective norms, and perceived behavioral control influence behavior. Thus, even when individuals possess high levels of knowledge and positive attitudes, social expectations, environmental conditions, and perceived barriers may constrain their ability to translate these into consistent practices.

Table 1. Level of Knowledge, Attitude, and Practices

Variable	Mean	Interpretation
Knowledge	4.87	Very High
Attitude	4.80	High
Practices	4.80	High

Differences in Knowledge, Attitude, and Practices Across Profile Variables

The results in Table 2 show that knowledge did not differ significantly across sex, age, civil status, employment status, residence, and educational attainment. This indicates that residents’ awareness of pandemic security measures was generally uniform across sociodemographic groups. This finding suggests that information about COVID-19 protocols may have been widely disseminated within the barangay, allowing residents from different backgrounds to acquire similar knowledge levels. This supports previous studies showing that mass media, television, radio, and social media became major sources of COVID-19 information during the pandemic (Yang et al., 2020; Lihua et al., 2020; Adela et al., 2020; Lau et al., 2020).

However, attitudes differed significantly when respondents were grouped according to age ($H = 8.693$, $p = .034$) and employment status ($H = 15.694$, $p = .003$). This means that while residents had similar knowledge, their perception, acceptance, and level of agreement toward security measures varied depending on life stage and work-related circumstances. Age may influence attitudes because older and younger residents may differ in terms of risk perception, health vulnerability, and exposure to pandemic-related responsibilities. Employment status may also shape attitudes because employed, unemployed, and self-employed residents experience different levels of mobility restriction, economic pressure, and exposure to enforcement measures. This finding is consistent with studies showing that age, occupation, income, and employment-related exposure significantly influence KAP outcomes during the COVID-19 pandemic (Habib et al., 2021; Lee et al., 2021; Umer et al., 2021).

Only age showed a significant difference in practices ($H = 7.923$, $p = .048$). This implies that actual compliance with pandemic security measures varies among age groups. Although all groups may have understood the protocols, their ability or motivation to practice them consistently may have differed. Younger residents may have had greater mobility and social interaction, whereas older residents may have been more cautious due to perceived health risk. This supports the broader KAP literature, which indicates that preventive practices are often uneven even when knowledge and attitudes are generally favorable, especially when risk perception, resources, and social routines differ across groups (Bekele et al., 2020; Yangzom et al., 2022; Desalegn et al., 2021).

Overall, the findings suggest that sociodemographic factors did not strongly affect residents’ knowledge, but they did influence selected behavioral dimensions, particularly attitude and practice. From the KAP perspective, knowledge may be widely shared in the community, but attitudes and practices remain shaped by personal circumstances and lived experiences. From the perspective of the TPB, age and employment status may influence

subjective norms, perceived risk, and perceived behavioral control, which explains why residents may know the same rules but differ in their willingness and consistency in following them.

Table 2. Significant Differences in Knowledge, Attitude, and Practices According to Socio-Demographic Variables

Profile Variable	Knowledge Test Value	p-value	Interpretation	Attitude Test Value	p-value	Interpretation	Practices Test Value	p-value	Interpretation
Sex	U = 3035.50	.220	Not significant	U = 3099.00	.168	Not significant	U = 2898.00	.625	Not significant
Age	H = 2.934	.202	Not significant	H = 8.693	.034	Significant	H = 7.923	.048	Significant
Civil status	H = 2.925	.403	Not significant	H = 4.501	.212	Not significant	H = 4.484	.214	Not significant
Employment status	H = 2.927	.570	Not significant	H = 15.694	.003	Significant	H = 6.624	.157	Not significant
Residence	H = 2.180	.902	Not significant	H = 6.827	.337	Not significant	H = 4.289	.638	Not significant
Educational attainment	H = 2.233	.897	Not significant	H = 5.790	.447	Not significant	H = 6.325	.388	Not significant

Note: Note. U = Mann–Whitney U test; H = Kruskal–Wallis H test. Significant at $p < .05$.

Relationship Among Knowledge, Attitude, and Practices

Table 3 shows that knowledge, attitude, and practices were significantly and positively related. Knowledge was significantly associated with attitude ($r = 0.361$, $p = 0.000$), indicating that residents who had higher pandemic security measures knowledge also tended to show more favorable attitudes toward these measures. Knowledge was also significantly associated with practices ($r = 0.528$, $p = 0.000$), suggesting that better awareness was associated with stronger preventive behavior. The strongest relationship was observed between attitude and practices ($r = 0.610$, $p = 0.000$), implying that residents with more positive attitudes were more likely to consistently observe security measures.

These findings support the KAP model, which explains that knowledge contributes to attitude formation and that attitude influences actual practice. However, the correlations also show that the relationships are not perfect. This means that while knowledge is important, it does not automatically guarantee consistent practice. Residents may understand health protocols but still vary in compliance because of social norms, perceived risk, access to resources, work demands, and community expectations.

The result is consistent with previous KAP studies showing that knowledge and attitude are usually associated with preventive practices, but contextual factors influence behavioral compliance. Umer et al. (2021) emphasized that while knowledge can improve attitudes and practices, community engagement and access to resources also affect compliance. Similarly, Desalegn et al. (2021) found that even when knowledge and attitudes are favorable, socioeconomic conditions and perceived barriers may still shape actual practices. Several studies have also noted that people may know COVID-19 measures but

fail to fully implement them, confirming the persistence of the knowledge–practice gap (Bekele et al., 2020; Adela et al., 2020; Yangzom et al., 2022; Desalegn et al., 2021; Umer et al., 2021).

From the perspective of the TPB, the strongest link between attitude and practices suggests that compliance is driven not only by awareness but also by behavioral intention, perceived control, and social influence. Thus, public health programs should not only provide information but also strengthen positive attitudes, reduce barriers to compliance, and reinforce community norms that support sustained pandemic security measures.

Table 3. Relationships Among Knowledge, Attitude, and Practices on Pandemic Security Measures

Variables Compared	Mean Scores	r-value	p-value	Interpretation
Knowledge and Attitude	Knowledge = 4.93; Attitude = 4.80	0.361	0.000	Significant positive relationship
Knowledge and Practices	Knowledge = 4.93; Practices = 4.87	0.528	0.000	Significant positive relationship
Attitude and Practices	Attitude = 4.80; Practices = 4.87	0.610	0.000	Significant positive relationship

Note: Significant at $p < 0.05$

CONCLUSION

The study concludes that while awareness and attitudes toward pandemic security measures are generally favorable, they do not consistently translate into sustained behavioral practices. Cognitive understanding and contextual, social, and experiential factors influence behavioral compliance. The interrelationship among knowledge, attitude, and practices is evident but not strictly linear, with attitudes playing a more critical role in shaping behavior. These findings affirm the relevance of the KAP framework while highlighting its limitations and support the use of the TPB in explaining behavioral outcomes. Thus, effective public health interventions must extend beyond information dissemination and address the broader factors that influence sustained compliance.

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