

RESIDENTS' KNOWLEDGE, ATTITUDE, AND PRACTICE TOWARD COVID-19 DURING THE NEW PERIOD IN PHONG DIEN DISTRICT, CAN THO CITY

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ABSTRACT

Background: COVID-19, a global health threat for over two years, has extensive and widespread effects. Due to the ever-changing nature of the Coronavirus, new variants are continually appearing, and more contagious variants emerge (such as Delta or Omicron variants, etc.) if we neglect to prevent the Covid-19 disease. A recent World Health Organization report shows that good hand hygiene and simple, low-cost prevention practices can prevent more than 70% of infections of Covid-19. Therefore, strategies to practice personal hygiene, vaccination, avoid overcrowding and wear masks outdoors are still recommended for disease control and prevention. Our study aims to provide the public with accurate, objective, and scientific knowledge on COVID-19 and its prevention. **Objectives:** 1. Assess the current status of people's knowledge, attitudes, and practices in the Phong Dien district in the new period. 2. Determine some factors related to people's disease prevention practice. **Materials and methods:** 1632 participants in cross-sectional descriptive research. Collect data by directly interviewing the subjects through a set of prepared questionnaires. **Results:** The percentage of people with good general knowledge is 9.6%, positive attitude at 89.9%, and good general practice is 32.5%. Most people know the cause of Covid-19 (99.1%); the lowest knowledge is that eating a healthy diet can fight Covid-19, accounting for 11.1%. Regarding COVID-19 prevention practices, 52.0% of people have time to wash their hands ≥ 20 seconds, and most of them wash their hands more than 90% of the time after touching surfaces such as door locks, elevator buttons when coughing, sneezing, etc. The content about good attitudes accounted for 85.3% to 96.4%. Subjects who have been infected with COVID-19 good practices is 1.5 times higher than those who have never been infected with COVID-19 ($p=0.02$), families with ever infected with COVID-19 people have good practices 1.3 times higher than families without people infected with COVID-19 times ($p=0.05$). People with good knowledge and a positive attitude have an excellent practice rate 2.7 times higher than the other group, $p<0.05$. **Conclusions:** more attention should be paid to the role of COVID-19 epidemic prevention in the new normal period.

Keywords: COVID-19, knowledge, attitudes and practices, new period.

I. INTRODUCTION

Coronavirus disease 19 (COVID-19) originated in Wuhan, China, in early December 2019, has rapidly become widespread, has confirmed cases in almost every country worldwide, and has become a new global public health crisis [1], [2]. More than 500 million confirmed cases have been reported worldwide since May 2022, and more than 6 million people have died in 228 nations and territories [2], [3].

Previous research has shown that practice to stop the spread of SARS and MERS strongly correlates with knowledge and attitudes [4], [5]. Latest studies also show that low

education and health literacy are more vulnerable to COVID-19 [6], [7]. Additionally, a new World Health Organization (WHO) analysis demonstrates that more than 70% of cases may be avoided using excellent hand hygiene and other basic, inexpensive preventative techniques for COVID-19 infection [8]. Personal hygiene practices, vaccinations, avoiding crowding, and wearing masks outside for illness management and prevention are still advised [9].

Although Vietnam has a high vaccine coverage rate [10], new Covid cases are still high, and there are many deaths. When the Government lifts strict regulations on social deviance to restore the economy and gradually move towards 'normalization', it may lead people to misunderstand, leading to subjective and negligent decisions in COVID-19 prevention [11].

Due to the nature of the coronavirus, which is constantly changing, new variants are constantly appearing once the appearance of more contagious variants (such as Delta or Omicron variants, etc.) can lead to an outbreak again if we neglect prevention [11]. In order to cope with the above situation, people must equip themselves with accurate knowledge, objective attitudes, scientific practices about the Covid-19 epidemic, and ways to prevent the disease. Our research provides data for health policymakers and local leaders and a form of communication that provides timely information to the community as it enters the new normal. We conducted the study: "Knowledge, Attitude, and Practice regarding COVID-19 among Residents of Phong Dien District Can Tho City, Vietnam in the "new normal period" with objectives:

1. Assess the current status of people's knowledge, attitude, and practice in Phong Dien District, Can Tho City in the new period.
2. Determine some factors related to people's disease prevention practice.

II. MATERIALS AND METHODS

2.1. Materials

The selection criteria of subjects are: individuals who are at least 18 years old, living in Phong Dien district and have agreed to participate in the study.

Study Design and Setting: a cross-sectional study was conducted between May 2022 and July 2022 in Phong Dien District, Can Tho City, Vietnam.

2.2. Methods

Sampling method: multi-stage sampling, we randomly selected district → hamlets → households, with one person over 18 years old for each household to be interviewed.

Before investigating the community, in a pilot study, 30 anonymous samples were collected to determine the reliability of the questionnaire.

Exclusion criteria: subjects who were not present in the study area at the time, people who were unable to communicate, mental diseases, deaf-mute...

Sample size:

The sample size was set by formula to calculate a ratio $n = Z_{(1-\alpha/2)}^2 \frac{p(1-p)}{d^2}$

The sample size was determined by the assumption that the probability of the participant's good practice of COVID-19 was 76.1% [12]. Using a 95% confidence interval and a 3% limit of precision, the adjustment for Clustering with Design Effect was 2; the sample size was 1553 participants. At the end of the survey, the number of participants was 1632.

Research questionnaires: These questions were based on WHO guidelines, the British Red Cross's Covid-19 Perception Survey Questionnaire, and references to previous studies [6], [10], [12], [13], [20], including two parts:

Part 1: Baseline Characteristics of Study Participants:

- Demographic - social characteristics of research subjects: full name, age, gender, ethnicity, religion, education level, occupation, economy.
- History of COVID-19 infection of subject and family, comorbidities, vaccination information of study subjects.

Part 2: KAP regarding COVID-19:

The survey comprised four sections: respondent background, knowledge assessment (5 items), attitude assessment (5 items), and practice assessment (3 items). For the knowledge section, a score of 1 was assigned to correct responses, while incorrect responses received a score of 0. Good knowledge when correct responses $\geq 80\%$, Medium (60%-79%), and Poor ($\leq 60\%$). Attitude responses were evaluated using a Likert scale consisting of five options: agree (scored 1), disagree (scored 2), and neutral (scored 3). Positive attitude when agreeing $\geq 80\%$, Negative attitude ($<80\%$) In the practice section, respondents were assigned a score of 1 for demonstrating good practices and a score of 0 for responses indicating bad practices. Good practice ($\geq 80\%$) Poor ($<80\%$).

Statistical Analysis

All statistical analyses were conducted using SPSS 20.0. Frequencies and proportions were first calculated to describe the demographic - social characteristics, good knowledge, positive attitude, and good practice in COVID-19 prevention. Chi-square tests were used to calculate significance levels for categorical data. The odds ratio OR (Odds ratio) at 95% confidence interval (CI) calculated the association level.

Ethical considerations

After receiving the certificate from the Ethics Committee of Can Tho University of Medicine and Pharmacy, we connected to the director of the People's Committee of the District and the head of commune health stations for permission and support to investigate.

The investigators are well-trained medical students of the University. The guide is an officer of the commune health station in the study area.

The people carefully explained the survey contents and signed an agreement to participate in the study. All investigation information is for research purposes only; the subject's private information is confidential.

III. RESULTS

3.1. Baseline characteristics of study participants

Our research showed that the male gender was 50.2%, 71.3% were under 60 years old, and the majority of education levels were primary and lower secondary schools 30.1% and 29.1%, respectively. Farming and hired labor (32.9%) accounted for the majority, and the family economy was middle-level (47.0%).

3.2. COVID-19 Infected Situation of Study Participants

There were 20.3% of the subjects with a history of COVID-19, 10.9% of the subjects had a family member who also had a history of COVID-19. The proportion of people with comorbidities accounts for 16.5%. Regarding vaccine information, the majority of subjects were vaccinated with 3 or more doses of vaccine (78.1%).

3.3. Knowledge, attitude and practice on prevention of COVID-19

Table 1. General knowledge, attitude, and practice regarding COVID-19 among study participants (n=1632)

Characteristics	Level	n	%
Knowledge	Good ($\geq 80\%$)	156	9.6
	Medium (60%-79%)	597	36.5
	Poor ($\leq 60\%$)	879	53.9
Attitude	Positive ($\geq 80\%$)	1467	89.9
	Negative ($<80\%$)	165	10.1
Practice	Good ($\geq 80\%$)	530	32.5
	Poor ($<80\%$)	1102	67.5

Regarding general knowledge, attitude, and practice, 9.6%, 89.9%, and 32.5% of people have good knowledge, positive attitude, and good practice, respectively.

Table 2. Some main characteristics of the subject's knowledge, attitude, and practice toward COVID-19 prevention (n=1632)

Items	n	%
Knowledge		
Knowledge about the causes of COVID-19 disease (yes)	1617	99.1
Know the main symptoms of COVID-19 (count > 3 symptoms)	1325	81.2
Covid is transmitted through the patient's secretions	1346	82.5
Covid is transmitted by contact with a surface that has the virus on it	353	21.6
Covid is transmitted through direct contact with sick people/animals	677	41.5
Covid is transmitted through droplets	1036	63.5
Washing hands often with 70% alcohol-based hand sanitizer or soap can prevent illness	1375	84.3
Cover your mouth and nose when coughing, do not touch your eyes, nose, mouth	842	51.6
Follow government recommendations	691	42.3
Knowledge		
Mask needed to be worn correctly and replaced often	1319	80.8
Eating healthy can fight against Covid-19	181	11.1
Attitudes		
Willing to take safety measures to prevent COVID-19 (agree)	1572	96.3
Desire to receive and share accurate information with relatives and the community about COVID-19 (agree)	1439	88.2
Regularly updated information about COVID-19 (agree)	1392	85.3
Practices		
Practice proper hand washing with soap or alcohol (>20s)	848	52.0
Practice hand sanitizer with soap or alcohol regularly (90% when touching public surfaces, door locks, elevator buttons, etc.)	708	43.4

Items	n	%
Practice wearing a mask when going out (>90% of the time)	724	44.4
Practice keeping a safe distance of 2m when interacting with others (>90% of the time)	757	46.4
Injecting at least 2 doses of vaccine	1506	92.3

Most people know the cause of Covid-19 (99.1%); the lowest knowledge is that eating a healthy diet can fight Covid-19 11.1%, 52.0% of patients had a hand washing time of ≥ 20 seconds and many people have a positive attitude in preventing Covid-19, accounted from 85.3% to 96.4%.

3.4. Factors related to people’s COVID-19 prevention practice

Table 3. Relationship between COVID-19 infection status and COVID-19 prevention practices (n=1632)

Characteristics	Practices		OR (CI 95%)	p
	Good n (%)	Poor n (%)		
History of COVID-19 infection of subject				
Yes	131 (39.5)	201 (60.5)	1.472 (1.147-1.889)	0.002
No	399 (30.7)	901 (69.3)		
History of COVID-19 infection of family				
Yes	120 (37.0)	204 (63.0)	1.288 (0.999-1.661)	0.05
No	410 (31.3)	898 (68.7)		

People who have been infected with COVID-19 have a good practice rate that is 1.5 times higher than people who have never been infected with COVID-19 ($p < 0.05$). Families with any member infected with Covid have better practices than those not infected (OR=1.3, $p = 0.05$).

Table 4: Relationship between knowledge, attitude, and practice of COVID-19 prevention (n=1632)

Characteristics	Practice		OR (CI 95%)	p
	Good n (%)	Poor n (%)		
Knowledge				
Good	77 (49.4)	79 (50.6)	2.671 (1.887-3.781)	<0.000
Medium	218 (36.5)	379 (63.5)		
Poor	235 (26.7)	644 (73.3)	1	
Attitude				
Positive	503 (34.3)	964 (65.7)	2.667 (1.741-4.085)	<0.000
Negative	27 (16.4)	138 (83.6)		

Besides, we also found a statistically significant association between knowledge, attitude, and practice of measures to prevent COVID-19. Most subjects with good knowledge had a good practice rate nearly 2.7 times higher than those with poor knowledge ($p < 0.05$). The group with a positive attitude towards covid prevention has a good practice rate 2.7 times higher than the group with a negative attitude ($p < 0.05$).

IV. DISCUSSION

The majority of subjects had poor general knowledge (53.9%). Participants with sound knowledge only accounted for 9.6%, higher than the study of Nguyen Ngoc Nhu Khue, with the percentage of subjects with good knowledge accounted for 6.5% [13] but much lower than the study of other authors [14], [15], [16], [17], [18], [19], [20], [21]. This difference may be due to our research and Nguyen Ngoc Nhu Khue's similarity in assessment criteria; people must correctly answer >80% of the questions to be considered good knowledge. Most other studies consider each factor separately. We believe COVID-19 is a severe and highly contagious pandemic requiring highly accurate knowledge. Remarkably, only 11% of people know that healthy nutrition and diet can fight COVID-19. At the same time, studies have demonstrated that meal quality is related to the incidence and severity of the disease in COVID-19 patients [22].

People's attitude toward COVID-19 prevention is excellent; up to 89.9% of subjects have a positive attitude. Our results are similar to the study of author Nguyen Ngoc Nhu Khue, with a positive general attitude accounting for 90.6% [23], and China with 92.9% [13], [19], but higher than Thailand, 60% of participants had more positive attitude [17]. Although general knowledge is not high, Vietnamese people have an excellent attitude toward accepting COVID-19 prevention methods.

Regarding COVID-19 prevention practices, only 32.5% of subjects have good practiced COVID-19 prevention. Our rate is much lower than the study of authors: Duong Minh Cuong (76.5%) [6], and Huynh Giao (76.1%) [12]. Our research was conducted when we were gradually transitioning to the new normal, and the number of cases gradually decreased, making people somewhat more subjectively negligent in being active in complying with COVID-19 prevention measures than during an intense outbreak. This point is worth paying attention to public health policymakers and managers in the coming time.

Our study also explored some associations with good COVID-19 prevention practices. People infected with COVID-19 have an excellent practice rate of 1.5 times higher than those who have never been infected with COVID-19 ($p < 0.05$). Families with people infected with COVID have a high rate of good practices (OR = 1.3, $p = 0.05$). This shows that some people still have not yet contracted the disease and are still subjective, which is quite dangerous because they may have COVID-19 asymptomatic. Research shows that approximately 40% to 45% of those infected with SARS-CoV-2 will remain asymptomatic, suggesting that the virus might have more significant potential than previously estimated to spread silently and deeply through human populations [24]. We suggest public health authorities attempt a 'person-centered' rather than a 'disease-centered' approach to investigate vulnerable subpopulations and prioritize policies and communication efforts to accommodate the underserved's needs.

Good knowledge and a positive attitude are also related to good practice in COVID-19 prevention; this relationship is statistically significant with $p < 0.05$. Most subjects with good knowledge had an excellent practice rate nearly 2.7 times higher than those with poor knowledge. This result is similar to the research results of other authors who think that the indirect effects of knowledge on preventive behaviors mediated by attitudes (efficacy) were significant [12], [25], [26]. Moreover, Bao-Liang Zhong said that knowledge and attitudes influence COVID-19 pandemic prevention practices [27]. People are more likely to engage in preventive behaviors after gaining knowledge and have confidence that those practices

will be effective. Therefore, similar to knowledge, the group with a positive attitude towards covid prevention has a reasonable practice rate 2.7 times higher than the group with a negative attitude. This result may demonstrate that attitudes have a significant and powerful impact on behavioral practices, meaning that promoting preventive behaviors for Covid-19 will require promoting trust and practical attitudes in the community.

We did not find a statistically significant correlation between KAP and the educational, marital status, or economic level of the study subjects as in other studies [17]. Perhaps because the population we studied does not have a profound gap between rich and poor, and COVID-19 is a relatively new disease, everyone has access to almost the same knowledge and attitudes.

V. CONCLUSION

Knowledge, attitude, and practice regarding COVID-19: The percentage of people with good general knowledge is 9.6%, positive attitude is 89.9%, and good general practice is 32.5%.

Most people know the cause of COVID-19 (99.1%); the lowest knowledge is using folk herbal remedies, accounting for 11.1%. Regarding COVID-19 prevention practices, 52.0% of people have time to wash their hands ≥ 20 seconds, and most of them wash their hands more than 90% of the time after touching surfaces such as door locks, elevator buttons when coughing, sneezing, etc. The content about good attitudes accounted for 85.3% to 96.4%.

Some factors related to people's recorded COVID-19 prevention practices are:

Subjects who have been infected with COVID-19 good practice is 1.5 times higher than those who have never been infected with COVID-19 ($p=0.02$), families with ever infected COVID-19 people have to practice good practice 1.3 times higher than families without people infected with COVID-19 times ($p=0.05$).

People with good knowledge and a positive attitude have an excellent practice rate 2.7 times higher than the other group, $p<0.05$.

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