

Original Research Article

Knowledge, attitude, and prevention COVID-19 outbreak of parental children aged 1-6 years

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ABSTRACT

Background: Attitude, knowledge and prevention regarding coronavirus disease 2019 (COVID-19) of parents is rarely been found. Therefore, this study aimed to explore attitude, knowledge and prevention regarding COVID-19 of parents of children aged between 1-6 years.

Methods: A telephone-based cross-sectional survey was conducted in the northeast of Thailand during August 2021 to September 2021. The survey contained questions on knowledge, attitudes and prevention (KAP) regarding COVID-19. Participants' demographic characteristics were recorded and analyzed. Multiple linear regression was used to test factors related to attitude, knowledge, and practice towards COVID-19.

Results: The result from multiple linear regression analysis showed that females had higher scores of prevention than did males (difference: 3.21; 95% CI: 1.58, 4.83). In addition, parents who were more than 30 years old had lower scores for prevention of COVID-19 (difference: -0.78; 95% CI: -1.46, -0.10).

Conclusions: We found associations between parent's prevention and gender, prevention and age, attitude and occupation, and prevention and occupation towards COVID-19.

Keywords: COVID-19, Knowledge, Attitude, Prevention

INTRODUCTION

The rate of infection for coronavirus disease 2019 (COVID-19) has been high around the world, since the first case was discovered in China.^{1,2} Although vaccines have been distributed to both low-risk and high-risk populations, the rate of infection has remained high.³ There have been many policies implemented to prevent the spread of COVID-19 infections such as social distancing, work from home, and the closure of schools.⁴ However, new variants of the coronavirus have been discovered and identified, which means incidences of COVID-19 infection continue to rise.⁵ One report showed that COVID-19 infections in children are less severe when compared to adults, though the parents remain

concerned about COVID-19 infections.⁶⁻⁸ In Thailand, the cumulative rate of infection is 1.49 million, and accumulation of deaths is 15,469.

There have been several strategies targeting the prevention or decrease of the rate of infection, including promoting vaccinations.⁹ However, the rate of infection is quite low among children.

From reviews, we found that there is little information focused on the knowledge, attitudes, and prevention behaviors of children's parents. Therefore, this study explored the knowledge, attitudes and prevention of COVID-19 among parents in northeastern Thailand.

METHODS

A cross-sectional study was conducted from August, 2021 to September, 2021 in Kalasin Province and Roi Et Province. We invited participants (parent example: father, mother) using simple random sampling from the list of family contacts on the maternal and child health cards.

The inclusion criteria is a parent living with children aged 1-6 years and not smoker. The parents identified on the cards were interviewed via telephone by a trained research assistant. Ultimately, 183 participants were included and analyzed.

Variables measurement

A measurement of knowledge, attitude and prevention of COVID-19 were obtained from the studies.^{10,11} The 6 items for knowledge of the clinical presentation of COVID-19 were measured by scoring “Correct”, “Incorrect”, or “don’t know”.

If participants answered “True”, they were assigned 1 point, and the others were assigned 0 points. A total attitude score was summed and ranked from 0 to 6 (Cronbach alpha = 0.71). The 4 items for attitude about COVID-19 were scored by ranking them from 1 to 5 (“Strongly Disagree” was assigned 1 point; “Disagree” was assigned 2 points; “Uncertainty” was assigned 3 points; “Agree” was assigned 4 points; “Strongly agree” was assigned 5 points). Total attitude score was summed and ranked from 5 to 20 (Cronbach alpha = 0.70). In addition, 10 items for prevention of COVID-19 were also measured and ranked from 0 to 30 (Cronbach alpha = 0.74). Four choices were selected; “never” were scored 0; “rarely” were scored 1; “often” were scored 2; “always” were scored 3. Measurement had higher scores indicating better knowledge, attitude, or prevention of COVID-19.

Demographic data were also collected including age in years (<30, ≥30 years), gender (males, females), education levels (no formal education, primary school, secondary school, bachelor or higher education), occupation (no job, government officer, farmer, merchant, freelance), and monthly income (<15000 Thai Baht, ≥15000 Thai Baht).

Statistical methods

We described the knowledge, attitude and prevention scores according to the demographic data by using mean and standard deviation. Multiple linear regression was used to explore the related factors amongst knowledge, attitude and prevention scores. All analyses were conducted using R software version 4.1.0.12, $p < 0.05$ was considered statistically significant. The sample size was calculated using standard deviation of attitude score (0.1

13 with an alpha error of 5%, and precision of 0.01. In total, sample size was determined to be 96 participants.

Ethical approval

This study was approved by the Mahasarakham university Institutional Review Board (IRB) approved the study.

RESULTS

Table 1 shows that participants were mostly females (95.1%), less than 30 years (54.1%), primary school (18.0%), freelance (31.1%), and had monthly incomes of more than 15000 Thai baht per month (68.9%).

Mean scores for attitude, knowledge, and prevention were 17.6 (SD: 1.5), 5.9 (SD: 0.3), and 20.1 (SD: 2.6), respectively.

When comparing factors, we found that the score for prevention of COVID-19 was statistically significant among gender (p value: 0.013), age group (p-value: 0.015), and occupation (p value: 0.020). However, others factor were not found to have statistical significance, as shown in Table 2.

Table 3 shows the results from multiple linear regression analysis. Females had higher scores for prevention compared to males (difference: 3.21; 95% CI: 1.58, 4.83). In addition, parents who were more than 30 years old had lower scores for prevention of COVID-19 (difference: -0.78; 95% CI: -1.46, -0.10).

Table 1: Demographic data of parents (n=183).

Variables	Frequency (%)
Gender	
Male	9 (4.9)
Female	174 (95.1)
Age (years)	
<30	99 (54.1)
≥30	84 (45.9)
Educational level	
Primary school	33 (18.0)
Secondary school	94 (51.4)
Bachelor or higher	56 (30.6)
Occupation	
No job	27 (14.8)
Government officer	10 (5.5)
Farmer	54 (29.5)
Merchant	35 (19.1)
Freelance	57 (31.1)
Monthly income (Thai Baht)	
<15000	57 (31.1)
≥15000	126 (68.9)

Table 2: The summary scores of attitude, knowledge and prevention towards COVID-19.

Variables	Attitude	Knowledge	Prevention
Overall	17.6 (1.5)	5.9 (0.3)	20.1 (2.6)
Gender			
Male	17.1 (1.2)	6 (0)	16.9 (1.7)*
Female	17.7 (1.5)	5.9 (0.3)	20.3 (2.5)
Age (years)			
<30	17.4 (1.5)	5.8 (0.4) *	20.6 (2.4) *
≥30	17.9 (1.4)	5.9 (0.2)	19.7 (2.7)
Educational level			
Primary school	17.7 (1.4)	5.9 (0.3)	19.7 (2.3) *
Secondary school	17.5 (1.6)	5.9 (0.4)	19.7 (2.4)
Bachelor or higher	17.8 (1.4)	5.9 (0.3)	21.2 (2.7)
Occupation			
No job	16.4 (1.9) *	5.7 (0.5)	19.7 (3.2) *
Government officer	17.9 (1.4)	5.8 (0.4)	21.1 (1.8)
Farmer	18.0 (1.1)	5.9 (0.3)	18.9 (2.1)
Merchant	17.2 (1.3)	5.9 (0.2)	21 (2.6)
Freelance	18.1 (1.4)	5.9 (0.3)	20.9 (2.3)
Monthly income (Thai Baht)			
<15000	17.7 (1.6)	5.9 (0.3)	20 (2.4)
≥15000	17.6 (1.5)	5.9 (0.4)	20 (2.4)

*there were statistical significance (p<0.05).

Table 3: The results from multiple linear regression.

Variables	Attitude	Knowledge	Prevention
Gender			
Male	Reference	Reference	Reference
Female	0.50 (-0.49, 1.49)	-0.10 (-0.33, 0.14)	3.21 (1.58, 4.83) *
Age (years)			
<30	Reference	Reference	Reference
≥30	0.35 (-0.06, 0.77)	0.09 (-0.01, 0.19)	-0.78 (-1.46, -0.10) *
Educational level			
Primary school	Reference	Reference	Reference
Secondary school	-0.15 (-0.73, 0.43)	-0.01 (-0.15, 0.13)	-0.68 (-1.64, 0.28)
Bachelor or higher	-0.18 (-0.83, 0.48)	0.07 (-0.08, 0.23)	0.59 (-0.49, 1.66)
Occupation			
No job	Reference	Reference	Reference
Government officer	1.50 (0.40, 2.60) *	0.01 (-0.26, 0.27)	0.09 (-1.72, 1.90)
Farmer	1.51 (0.86, 2.16) *	0.17 (0.02, 0.33) *	-0.99 (-2.06, 0.08)
Merchant	0.75 (0.04, 1.46) *	0.19 (0.02, 0.36) *	1.05 (-0.12, 2.21)
Freelance	1.54 (0.88, 2.20) *	0.12 (-0.03, 0.28)	0.83 (-0.25, 1.91)
Monthly income (Thai Baht)			
<15000	Reference	Reference	Reference
≥15000	-0.09 (-0.53, 0.35)	-0.02 (-0.13, 0.08)	0.23 (-0.49, 0.95)

*there were statistical significance (p<0.05).

DISCUSSION

Our evidence shows higher scores for prevention of COVID-19 among females and parents who were less than 30 years old. However, the scores for knowledge and attitude, among others factors (gender, age, educational level, monthly income) were not observed to be statistically significant.

The attitude, knowledge, and practice scores had high levels. This might have been because participants had a high education, and they were aware of the disease infection. A study of knowledge, attitudes, and practices related to COVID-19 in South Korea, found that belief was the most influential factor and the knowledge score varied by sociodemographic characteristics. This report was carried out after first COVID-19 case confirmed.

However, our study was carried out during peak epidemic of COVID-19. Previous studies have showed different scores of attitude, knowledge, and practice on age and gender patterns.¹⁴⁻¹⁶ In our study, gender difference in prevention of COVID-19 were found in this analysis. Females tended to protect against COVID-19 infection more than males. This finding might conform with the study of Abate et al, they reported that the prevalence of COVID-19 infection was found in males than females.¹⁷ So, females tended to have protection against COVID-19 infection more than did males. This is also consistent with a study in Bangladesh that reported that the female sex have more frequent prevention practice than males. In addition, there has been a report on the prevention of COVID-19 from Sawsan Abuhammad, the study showed that parents had a high prevention of COVID-19 that could protect their children from infection. There has been a study of knowledge, attitude, and practices of parents concerning immunization of infants which found that parents have a high good attitude scores.¹⁸

The strength of this study lies on this study might be that it is the first report in Thailand reporting KAP of parents toward COVID-19. However, the study has limitations; firstly, the KAP of this study might be an inadequate assessment of attitudes, knowledge, and practices towards COVID for parents. Secondly, we used telephone-base interviews and some participants might responded to a question rapidly or with a delay and this might have resulted in bias in our result. Finally, overestimated KAP scores might occur because this study collected the data during COVID-19 outbreak in Thailand and parents might have been frequently exposed to news or other health promotion. This effect might over estimated KAP scores.

CONCLUSION

Knowledge, attitude, and practice towards COVID-19 had high scores. This scores varied by demographic data especially for the practice scores that varied by age and gender.

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