



The Influence of COVID-19 Perceptions and COVID-19 Worries on Individuals' Intentions to Postpone Dental Visits

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Abstract

This study examines the influence of COVID-19 perceptions and COVID-19 worries on individuals' intentions to postpone dental visits among dental patients in Thailand. The self-administered online questionnaire was developed based on reliable and valid sources. The quantitative approach employed convenience sampling to collect data from respondents (n=308) in Thailand. PLS-SEM results show the significant influence of COVID-19 perceptions and COVID-19 worries on individuals' intentions to postpone dental visits among Thai dental patients both in the private and public sectors. Dental healthcare providers and strategic planners should consider appropriate strategic management due to changing consumer behavior during the COVID-19 pandemic. The recommendation is to do further research expanding sampling in other countries. Also, qualitative research could give more insight to explain the psychological factors and consumer behavioral changes among dental patients. The results could apply in both public and private sectors to encourage the knowledge, perceptions, and attitude among patients in any country. The hard work of healthcare providers regarding COVID-19 pandemic severity could be decreased. The cost-saving and healthy population worldwide will incur soon.

Keywords: COVID-19; Perceptions; Worries; Intention to Postpone; Dental Visits

Abbreviations: WHO: World Health Organization; COVID-19: Coronavirus Disease 2019; PLS-SEM: Partial Least Square Structural Equation Model; SD: Standard Deviation; AVE: Average Variance Extracted.

Introduction

The rapid spread of the COVID-19 has been declared a global public health emergency by the WHO. It is a contagious disease spreading worldwide, posing a significant public health threat with far-reaching consequences [1,2]. Fear and worries of becoming infected have spread and grown in tandem with the COVID-19 pandemic, as the disease

is human-to-human transmissible, associated with high morbidity, and potentially fatal, heightening the perception of personal danger [3]. The COVID-19 prevention protocols, such as handwashing, social distancing, and mask-wearing, are critical for preventing the spread of the disease [4]. Furthermore, during the COVID-19 pandemic, people with a higher perception of personal and social responsibility were more compliant with health protocols than those with a lower perception [5]. The COVID-19 pandemic is also an ongoing public health challenge for dentistry. The healthcare-related to COVID-19 in the dental community is critical to research [6]. Therefore, the influence of COVID-19 perceptions and COVID-19 worries among dental patients on individuals'

intentions to postpone dental visits are essential in studying the psychological factors and the outcome of individuals' intentions to postpone dental visits in the dental healthcare sector. The findings could be practical strategies for dental practitioners and healthcare providers in Thailand and other countries worldwide.

COVID-19 Perceptions

The perception was defined as the process of becoming aware of something through the senses. COVID-19 perceptions are used to assess the individuals' perceptions of their response to the COVID-19 disease [7,8]. Besides, several studies investigated individuals' perceptions of COVID-19, including perceived severity of catching COVID-19 and perceived trust in government [9], and perceived risk and perceived fear [10]. Thus, COVID-19 perceptions were used to assess the individuals' perceptions of their response to the COVID-19 disease among dental patients.

COVID-19 Worries

An increased worry of contracting COVID-19 was related to a higher perceived risk of contracting the virus [11]. COVID-19 worries reflect the extent to which participants were concerned about the impact of COVID-19, such as contracting the disease, dying because of the disease, lifestyle disruptions, the economy entering a recession, and family income declining [8]. Therefore, COVID-19 worries were the worries of dental patients related to COVID-19.

Intention to Postpone Dental Visits

The COVID-19 pandemic has had an impact on medical service utilization [12]. During the COVID-19 pandemic, how people perceive COVID-19 or illness presentations may influence their decision to visit hospitals for follow-up consultations [13]. Therefore, the intention to postpone dental visits could be related to COVID-19 perceptions and COVID-19 worries among dental patients.

Research Question, Objective, and Hypotheses

Do COVID-19 perceptions and COVID-19 worries influence individuals' intentions to postpone dental visits among dental patients in Thailand?

Thus, this study examines the influence of COVID-19 perceptions and COVID-19 worries on individuals' intentions to postpone dental visits. The research hypotheses are as follows.

- H1: COVID-19 perceptions significantly influence individuals' intentions to postpone dental visits.
- H2: COVID-19 worries significantly influence individuals' intentions to postpone dental visits.

Research Methodology

The population was dental patients in Thailand both from the private and public sectors. The sample was from convenience sampling of Thai dental patients over 18 years old (online survey using five Likert's scale). The sample size determination for an infinite population was over a minimum of 100 as required for inferential statistics following the recommendation of Kock & Hadaya [14]. The questionnaire items in COVID-19 perceptions, COVID-19 worries, and the intention to postpone dental visits were based on Barber & Kim [7]. The hypotheses were tested using PLS-SEM from 308 completed data (n=308).

Results

The respondents represented Thai dental patients from five regions of Thailand who were students (38.6%) and private company employees (38%). Most respondents were female (51.3%), single (76%), held a bachelor's degree (67.2%) and earned a monthly income of 10,001 - 20,000 THB (40.6%). The age was between 18 - 25 years old (40.6%) and 25-30 years old (41.2%). The demographic profile corresponds to the dental patients for orthodontic treatment in Thailand Tables 1-5 & Figure 1.

Demographics		Frequency	Percentage
Gender	Male	150	48.70%
	Female	158	51.30%
Region	Northern	39	12.70%
	Eastern	56	18.20%
	Northeastern	64	20.80%
	Central	71	23.10%
	Southern-Western	78	25.30%

Age	18 - 25 years old	125	40.60%
	25 - 30 years old	127	41.20%
	31 - 35 years old	20	6.50%
	36 - 40 years old	8	2.60%
	41 - 45 years old	9	2.90%
	46 - 50 years old	12	3.90%
	51 years old or over	7	2.30%
Status	Single	234	76.00%
	Married	74	24.00%
Education	Associated Degree	51	16.60%
	Bachelor's Degree	207	67.20%
	Master's Degree	42	13.60%
	Doctorate Degree or Higher	8	2.60%
Occupation	Student	119	38.60%
	Civil Servant	34	11.10%
	Private Company Employee	117	38.00%
	Personal Business	26	8.40%
	Househusband or Housewife	5	1.60%
	Unemployed	3	1.00%
	Others	4	1.30%
Monthly Income	Less than 10,000 THB	102	33.10%
	10,001 - 20,000 THB	125	40.60%
	20,001 - 30,000 THB	32	10.40%
	30,001 - 40,000 THB	9	2.90%
	40,001 - 50,000 THB	13	4.20%
	More than 50,000 THB	27	8.80%
Total		308	100%

Table 1: Demographic Characteristics of the Respondents (n=308).

Items	Mean	SD.	Factor Loadings
COVID-19 Perceptions (COP)			
Cronbach's Alpha = 0.827, AVE = 0.663			
COP1: I follow the updated news about COVID-19 every day.	4.851	0.14	0.923
COP2: COVID-19 preventive protocols are necessary for everyone.	4.831	0.16	0.738
COP3: COVID-19 is more dangerous than flu.	4.792	0.224	0.861
COP4: Everyone needs the COVID-19 vaccination.	4.799	0.226	0.716
COVID-19 Worries (COW)			
Cronbach's Alpha = 0.885, AVE = 0.637			
COW1: I am afraid to have COVID-19 if I go outside.	4.682	0.413	0.869

COW2: I worry that my family could have COVID-19 from outside.	4.753	0.297	0.811
COW3: COVID-19 has disrupted my life and activities.	4.834	0.23	0.781
COW4: COVID-19 situation declines my family's income.	4.714	0.524	0.678
COW5: I worry about food safety outside my house.	4.666	0.484	0.815
COW6: I worry about the COVID-19 vaccination's side effects.	4.692	0.449	0.825
Intention to Postpone Dental Visits (INP)			
Cronbach's Alpha = 0.856, AVE = 0.778			
INP1: I will postpone my dental visit due to the perception of the situation of the COVID-19 outbreak	4.75	0.266	0.915
INP2: I will postpone my dental visit due to the worries about the situation of the COVID-19 outbreak	4.744	0.296	0.895
INP3: During the COVID-19 pandemic, I will go to the dental clinic or hospital as necessary.	4.802	0.257	0.833

Table 2: Mean, SD., Factor Loadings, Cronbach's Alpha, and Average Variance Extracted (n=308).

The goodness of Model Fit	SRMR Value
Saturated Model	0.0865
Estimated Model	0.0865

Table 3: The Goodness of Model Fit (n=308).

Effect	Original Coefficient	Standard Bootstrap Results					Percentile Bootstrap Quantiles		
		Mean Value	Standard Error	T-Value	P-Value (2-Sided)	P-Value (1-Sided)	0.50%	2.50%	97.50%
COP → INP	0.18	0.1733	0.0909	1.981	0.0479	0.0239	-0.0632	-0.0163	0.3321
COW → INP	0.6091	0.6212	0.0769	7.9255	0	0	0.4337	0.4846	0.7886

COP: COVID-19 Perceptions; COW: COVID-19 Worries; INP: Intention to Postpone Dental Visits

COP: COVID-19 Perceptions; COW: COVID-19 Worries; INP: Intention to Postpone Dental Visits

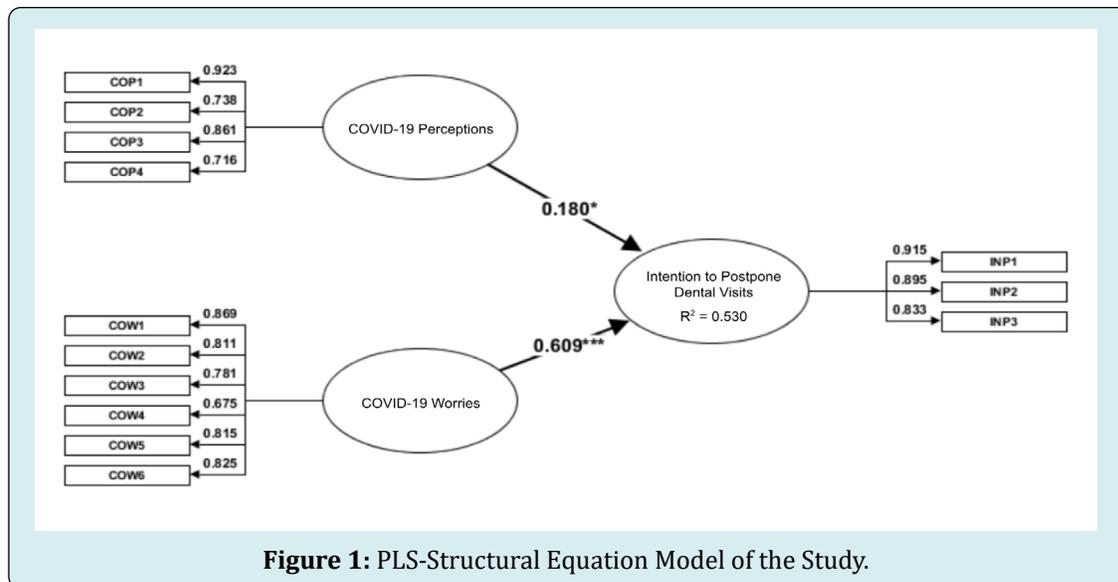
Table 4: Total Effects Inference (n=308).

According to Ahmad, et al. [15], SRMR was set at 0.087, Loading was set at 0.6, AVE was set at 0.5, Cronbach's Alpha was set at 0.7 and Factor

Hypotheses	Results	Actions
H1: COVID-19 perceptions significantly influence individuals' intentions to postpone dental visits.	$\beta=0.180, p<0.05$	Supported
H2: COVID-19 worries significantly influence individuals' intentions to postpone dental visits.	$\beta=0.609, p<0.001$	Supported

Table 5: Summary of Hypothesis Testing.

The individuals' intention to postpone dental visits can be explained by COVID-19 perceptions and COVID-19 worries by about 53% ($R^2=0.530$).



Discussion

The current global situation is preoccupied with the fight against the new coronavirus concerns about physical health care and psychological suffering among the general population and health professionals [16]. This study confirmed the theoretical framework based on the study of Barber & Kim [7] and Limna, et al. [17]. It reveals that COVID-19 perceptions and COVID worries influence individuals' intention to postpone dental visits among dental patients in Thailand during the COVID-19 pandemic. However, the demographics were not included in this study. According to Barber & Kim [7], men are more likely than women to die from coronavirus disease 2019 (COVID-19), with a higher case fatality rate in older adults. Older persons and men are less likely than younger adults and women to experience concern, which is a primary motivator of behavioral health improvements. Further, the older persons (especially men) would report the slightest COVID-19 worries and fewer COVID-19 behavior changes. Therefore, the demographics could be the determinants of behavioral changes among dental patients in Thailand and it is an interesting topic in further study [18].

Conclusion

COVID-19 perceptions and COVID-19 worries are the main antecedents of individuals' intention to postpone dental visits in this study. Moreover, COVID-19 worries can explain behavioral changes among dental patients better than COVID-19 perceptions. However, this study could be explained by other factors such as individual economic factors. Dental patients perceived the COVID-19 pandemic by following the updated news about COVID-19 every day. Most of them know that COVID-19 preventive protocols are

necessary for everyone. It is more dangerous than the flu. Thus, everyone needs COVID-19 vaccination. Dental patients worry about COVID-19 because it has disrupted their life and activities. Moreover, COVID-19 declines their family's income. They worry and fear that their family could have COVID-19 from outside. They also worry about food safety outside. Somebody worries about the COVID-19 vaccination's side effects and may hard in decisions to get the vaccination. Consequently, the perceptions about COVID-19 and their worries influence individuals' intention to postpone dental visits. Finally, they will go to hospitals and dental clinics as necessary.

Research Implication

The study's findings may assist the strategic planners of hospitals and dental clinics in developing and implementing a strategy to respond to the behavioral changes of individuals' intention to postpone dental visits. Also, it could be applied the results to explain in other sectors. According to Katewongsa, et al. [18], it is crucial to note that the COVID-19 pandemic is one of many public health threats, and it takes an unpredictable path. Although the current trend is toward a continuous decline in new cases in Thailand, there is always the possibility of subsequent transmission waves, especially as the country enters the annual flu season in October. The pandemic has also placed the population at a double risk because physical inactivity and lifestyles may worsen the impact of future epidemics or exacerbate non-communicable disease threats (e.g., obesity, hypertension, and diabetes), which are also risk factors for complications of COVID-19 infection. Thus, the decreasing prevalence among Thai adults should concern the government and policymakers as they consider strategies for protecting the population's health in the months and years ahead.

Limitations and Recommendations

Self-administered questionnaires were used in this study. To gain a better understanding of what needs to be studied, qualitative methods like interviews, observations, and focus groups may be used. Participants from Thailand were only included in the study. It may not explain the relationship in other countries. Therefore, the researcher recommended expanding more sampling in other countries.

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