Human Behavior, Development and Society
E-ISSN 2651-1762, Vol 23 No 3, December 2022

Perception of Stressors and Health Status of Families Encountering the COVID-19 Pandemic in the Muak Lek District, Saraburi Province

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Date Received: 29 June 2022 Revised: 21 September 2022 Accepted: 27 September 2022

Abstract

In this descriptive study, the aim was to determine stressor perception and the health status of families encountering the COVID-19 pandemic. The subjects were 349 families in the Muak Lek Sub-district, Muak Lek District, Saraburi Province. Data were collected from family members aged 15 to 59 years old using a questionnaire based on the Neuman System Model. The data were analyzed using frequencies, percentages, means, standard deviations, an independent *t*-test, Pearson product-moment correlation, and one-way ANOVA. The results indicated that the mean scores for total, intra-personal, inter-family, and extra-family stressors were at a moderate level. The health status of most families encountering the COVID-19 pandemic was also at a moderate level. The findings from this study may be used as baseline data to provide better family health services for families encountering the COVID-19 pandemic.

Keywords: *Stressors, perception, family, health, COVID-19*

Introduction

The COVID-19 outbreak has caused damage to many areas. By late 2022, the confirmed cases of COVID-19 reported by the World Health Organization (WHO) had reached more than 623 million and, even after one year, it was found that the worldwide death toll had exceeded 6. 55 million (Worldometers, 2022). The WHO declared the outbreak an international public health emergency on 30 January 2020 and announced it as a global pandemic on 11 March 2020. The WHO's declaration of COVID-19 as a pandemic and an international public health emergency resulted in a global public health response, including travel restrictions, quarantines, prohibition of leaving residences at night, cancellation of events, closure of schools, screening at airports and train stations, and issuance of travel recommendations to infected regions at the community level (Tantipatwasin, 2020)

In the Asian continent, more than 190 million people have been infected, with the top four countries in Southeast Asia being Vietnam, Indonesia, Malaysia, and Thailand (Worldometers, 2022). The COVID-19 pandemic in Thailand began with the identification of the first case in the country, which was announced by the Ministry of Public Health on 31st January 2020, and it has been ongoing ever since. Up to 94.12% confirmed cases showed no symptoms, with the remainder showing symptoms. Of the confirmed cases, 58.82% of infections were found from the first sample testing, while the remainder was found after the second testing. It has been observed that the largest number of infected people were middle-aged workers who had been in contact with infected individuals who were not their family members. This was necessary because of the need to work at a job where there was the possibility of disease transmission.

After a person was infected, and most of the first cases were among the working-age population in good physical health with no initial symptoms, the virus spread quickly without them being aware of their condition. The COVID-19 pandemic caused a wide range of public health, economic, and social stability issues, as well as affecting peoples' livelihoods. The Ministry of Public Health announced that COVID-19 was a dangerous communicable disease under the Communicable Disease Act of 2015. The Prime Minister, with the approval of the Cabinet, declared a state of emergency in all localities throughout the kingdom from March 26, 2020, imposing measures to ease business and economic activities to prevent the spread of COVID-19 (Chan-o-cha, 2020), which caused the country's economy

to slow down. The employment rate declined and the rate of unemployment rose. Employment survey data from the National Statistical Office showed that more than 550,000 people were unemployed, and the unemployment rate was 2.17% (Office of the National Economic and Social Development Council, 2022)

Saraburi was classified as a province in the highest disease control area (red area) during the pandemic. The promulgation of integrated disease control measures affected various activities by reducing operations, increased work absences, and suspension of cross-provincial travel. Surveillance by the Saraburi Provincial Labor Office found that the cumulative number of confirmed cases was 112,420, with the highest incidence rates in the Nong Khae, Kaeng Khoi, Phra Phutthabat, and Mueang Saraburi Districts, with confirmed cases of 21,663, 16,437, 14,192 and 13,303, respectively (Saraburi Provincial Labor Office, 2022). Saraburi Province has a population of 597,021 people, 408,239 of whom were of working age. Of this number, 394,647 (96.67%) were employed, and 13,153 (3.22%) were unemployed during the pandemic.

COVID-19 resulted in physical and psychological difficulties, and the latter led to tremendous fear and anxiety among the general population, infected groups, family members of infected patients, and healthcare professionals. These reactions occurred due to insufficient knowledge and understanding regarding COVID-19, incorrect actions, inability to adjust to changing problems, and inadequate knowledge and understanding of personal psychological management approaches. As health care professionals, nurses play a pivotal role in providing care to patients to serve both their physical and psychological needs (Klinkhajon et al., 2020). The reaction to stressors of infected clients and their family members differ. Nurses and health personnel should have adequate knowledge about COVID-19 stressors and reactions to them in order to provide better care for their clients and family members.

Considering the importance of this problem, the research team applied Neuman's System Model (Neuman & Fawcett, 2011) as a conceptual framework for the study. The emphasis was to recognize family stressors and family health status encountered by families with working-age members in the Muak Lek Subdistrict, Muak Lek District, Saraburi Province who were affected by the COVID-19 pandemic. The expected outcome was to devise guidelines for health officials to use as information in planning for the care and assistance of families facing this situation. Systematic surveillance of the pandemic may also uncover ways to reduce the likelihood of exposure to family stressors and increase the efficiency of adapting or responding to them. As a result, families facing the COVID-19 pandemic will enjoy a better health status and see an improvement in the quality of local health services.

Research Objectives

1. To study the perception of stressors and health status of families encountering the COVID-19 pandemic in the Muak Lek Sub-district, Muak Lek District, Saraburi Province.

2. To study the relationship between age, socioeconomic status, perception of stressors, and health status of the families encountering COVID-19 pandemic in the Muak Lek Sub-district.

3. To compare the perception of stressors and health status of respondent families as affected by educational level, occupation, gender, and presence/absence of a member with COVID-19.

Research Hypotheses

1. Age, socioeconomic status, perceptions of stressors, and health status of families encountering the COVID-19 pandemic in the Muak Lek Sub-district are related.

2. Perception of stressors and health status of families encountering COVID-19 pandemic in the Muak Lek Sub-district differ by educational level, occupation, gender, and the presence or absence of a member infected with the virus.

Operational Definitions Adopted

The operational definitions of terms adopted in this study are shown in Table 1.

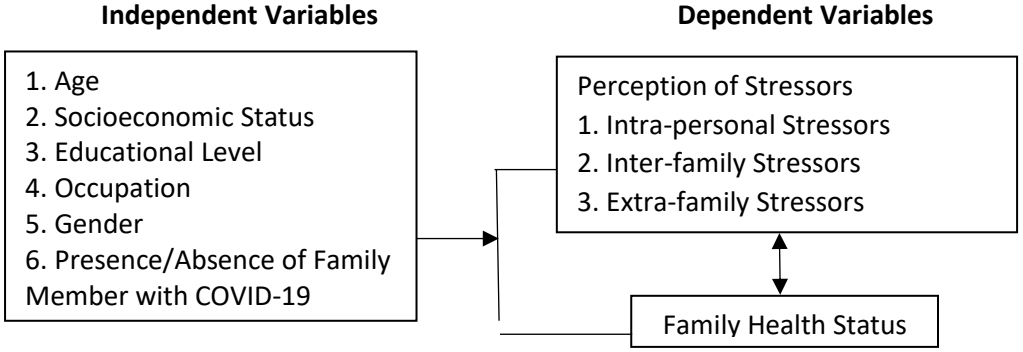
Table 1 *Operational Definitions of Terms*

Terms	Operational Definition
1. Families Encountering the COVID-19 Pandemic	Families with working age members (ages 15–59) who lived for more than six months in one of 13 villages overseen by the Lang Khao, Sao Noi, and Hin Lub Sub-district Health Promotion Hospital, Muak Lek Sub-district, Muak Lek District, Saraburi Province.
2. Stressors	"Tension-producing stimuli or forces occurring within both the internal and external environment boundaries of the client/client system" (Neuman & Fawcett, 2011). In this study, stressors were classified as Intra-personal, Inter-family and Extra-family.
3. Intra-personal Stressors	Stressors occurring within the client system boundary and correlated with the internal environment. For example, inability to have a career, decreased income, increased expenses or debt, new normal protocols such as frequent hand washing, carrying alcohol gel, social single dish dining, inconveniences like being detained/quarantined, social distancing, and being dismissed/suspended from work.
4. Inter-family Stressors	Stressors occurring outside the client system boundary that are proximal to and impact the system. For example, death of a close relative due to COVID-19, changing careers of family members, family members losing their jobs, deteriorating family economic conditions, fear of contracting COVID-19 from family members, changes in family leisure time, and different opinions concerning COVID-19 self-care behaviors among family members.
5. Extra-family Stressors	Stressors occurring outside the client system boundary at a greater distance than inter-family stressors. For example, community environment changes, social problems that impact children's educational systems, decreased participation in social activities, deteriorating relationships within communities, close contact with a COVID-19 infected person, relocation due to the pandemic, lack of confidence among community members, and distrust between government officials and community residents.
6. Family Health Status	Reactions to stressors by families encountering COVID-19 pandemic such as absence of a member with COVID-19, inability to live normal lives or work in same job; spending leisure time together under new normal protocols, family understanding of spread of COVID-19, and abnormal physiological reactions from stress such as constipation, loss of appetite, insomnia, etc.

Research Conceptual Framework and Methodology

In this research study, the researchers applied Neuman's System Model (Neuman & Fawcett, 2011) as the conceptual framework as shown in Figure 1; a descriptive research approach was taken.

Figure 1 *Conceptual Framework in Research*



Population and Sample

The study's population consisted of 2,724 families who encountered the COVID-19 pandemic and lived in the Muak Lek Sub-district. The sample size was determined using Yamane's (1973) formula. The sample group (349) was selected using purposive sampling, with the following inclusion criteria:

1. Families with working-age members in the age bracket from 15 to 59. The reason for this was because COVID-19 widely affected the working age group, the most vulnerable group.
2. Families needed to have lived more than six months in one of 13 villages overseen by the Lang Khao, Sao Noi, and Hin Lub Sub-district Health Promotion Hospital, Muak Lek Sub-district.
3. Families were able to communicate in and understand the Thai language.
4. Families may or may not have had a member who contracted COVID-19.

Survey Instrument and Data Collection Process

The tool used to collect data was a questionnaire that measured perceptions of stressors and health status in families encountering the COVID-19 pandemic. The instrument was created based on the Neuman System Model (Neuman & Fawcett, 2011) and consisted of three sections:

Section 1: General information including gender, age, educational level, occupation, socio-economic status, religion, and the presence or absence of a member infected with COVID-19.

Section 2: Perceptions of family stressors; responses were scored on a scale of 1 to 5.

Section 3: The health status of families; responses were scored on a scale of 1 to 5.

Surveys were distributed through village health workers to the 349 families from August to December 2021. Distribution was proportionate according to the number of families in all 13 villages located in the Muak Lek Subdistrict.

Criteria Used and Interpretation

The criteria for evaluating perceptions of stressors and health status of families were divided into five levels as follows: *Highest Level* (score range 4.51–5.00), *High Level* (score range 3.51–4.50), *Moderate Level* (score range 2.51–3.50), *Low Level* (score range 1.51–2.50), and *Lowest Level* (score range 1.00–1.50)

Psychometric Evaluation of the Questionnaire

The questionnaire, which was composed of items regarding perceptions of stressors and health status of families encountering the pandemic, was tested for reliability on 30 families using research criteria similar to those adopted in the study. The instrument was validated and a reliability coefficient was calculated using the Cronbach's Alpha method. The reliability of perceptions of stressors and the health status of families encountering the pandemic were .945 and .936, respectively.

Protection of Participants' Rights

The research study was reviewed and approved by the Research Committee of Asia-Pacific International University, which deemed that participants' rights were adequately protected given the research design in action No. 2021-98. The researchers introduced themselves and asked the sample group for their consent to participate in the study. The researchers also clarified their right to accept or decline participation in the study, and that they could terminate their participation in this study at any time. An overview of the data obtained is presented.

Data Analysis

1. Statistical analysis of respondents' answers for Objective 1 consisted of frequencies, percentages, means, and standard deviation derivations.
2. Statistical analysis for Objective 2 was undertaken by calculating Pearson's Product-moment Correlation Coefficient.
3. Statistical analysis for Objective 3 was done using an independent *t*-test and one-way ANOVA.

Results

Demographics of Questionnaire Respondents

Among the 349 respondents surveyed who had encountered the COVID-19 pandemic situation, 67.3% were female. Some 31.8% were between the ages of 41 and 50 years old (the mean age was

42.76 years), 34.4% were elementary school graduates, 43.6% were hired employees, 44.4% had average monthly family incomes ranging from 5,001–10,000 Baht (the average income was 12,741 Baht), 97.7% were Buddhists, and 95.4% had no family members infected with COVID-19 (Table 2).

Table 2 *Demographic Information of Research Respondents* (*N* = 349)

Variables	Number	Percentage
1. Gender		
Male	114	32.7
Female	235	67.3
2. Age (Years)		
15–20	10	2.9
21–30	49	14.0
31–40	73	20.9
41–50	111	31.8
51–59	106	30.4
3. Educational Level		
Primary School	120	34.4
Junior High School	82	23.5
Senior High School	87	24.9
Diploma/High Vocational Certificate	21	6.0
Bachelor Degree or Higher	39	11.2
4. Occupation		
Agriculture	60	17.2
Government Service/State Enterprise Employee	22	6.3
Hired Employee	152	43.6
No Job	9	2.6
Private Business/Trading	62	17.7
Private Sector Employee	24	6.9
Student	20	5.7
5. Average Monthly Income (Thai Baht)		
1,000–5,000	56	16.0
5,001–10,000	155	44.4
10,001–15,000	55	15.8
15,001–20,000	40	11.5
20,001 and higher	43	12.3
6. Religion		
Buddhist	341	97.7
Christian	8	2.3
7. Presence/Absence of Family Member Who Contracted COVID-19		
Presence	16	4.6
Absence	333	95.4

Perception of Stressors

The respondents' level of perception of intra-personal, inter-family, extra-family stressors, and total stressors were at a moderate level as shown in Table 3.

Table 3 *Mean, Standard Deviation, and Level of Stressors* (*N* = 349)

Stressors	Mean ($\bar{x}$)	Standard Deviation (*SD*)	Interpretation
Intra-personal Stressors	3.38	0.87	Moderate
Inter-family Stressors	2.86	0.95	Moderate
Extra-family Stressors	2.98	0.96	Moderate
Total Stressors	3.11	0.81	Moderate

The results also showed that the overall health status of families was at a moderate level (Mean = 3.16, *SD* = 0.992).

Relationship between Age, Socioeconomic Status and Stressors to the Health Status of Families

The results showed that age was negatively correlated with socioeconomic status (r = - .154), with statistical significance at the .01 level. The socioeconomic status was positively correlated with intra-personal stressors and total stressors (r = .113 and r = .111, respectively), with statistical significance at the .05 level. Inter-family stressors had a positive correlation with intra-personal stressors, extra-family stressors, and total stressors, and family health status (r = .615, .707, .898, and .597, respectively), with statistical significance at the .01 level. Inter-family stressors were positively correlated with extra-family stressors, total stressors, and health status of families (r = .699, .867, and .541, respectively), with statistical significance at the .01 level. Extra-family stressors were positively correlated with total stressors and family health status (r = .883 and .727, respectively), with statistical significance at the .01 level, and the category of overall family stressors was positively correlated with family health status (r = .692) at the .01 level (Table 4).

Table 4 *Relationship of Age, Socioeconomic Status, and Stressors to Family Health Status* (N = 349)

Variables	Age	Socio-economic Status	Intra-personal Stressors	Inter-family Stressors	Extra-family Stressors	Total Stressors	Family Health Status
Age	–						
Socioeconomic Status	– .154**	–					
Intra-personal Stressors	– .062	.113*	–				
Inter-family Stressors	– .071	.088	.615**	–			
Extra-family Stressors	– .038	.090	.707**	.699**	–		
Total Stressors	– .066	.111*	.898**	.867**	.883**	–	
Family Health Status	.005	.099	.597**	.541**	.727**	.692**	-

**p < .01, *p < .05

Impact of Educational Differences on Stressors and Family Health Status

When different levels of education were analyzed, the results revealed that extra-family stressors, total stressors, and family health status were significantly different at the .05 level. No other significant differences were noted (Table 5).

Table 5 *Impact of Educational Status on Stressors and Family Health Status* (N = 349)

Variables	Educational Level	*SS*	*df*	*MS*	*F*	Sig.
	Between Groups	8.00	5	1.600	2.142	.060
Intra-personal Stressors	Within Groups	256.236	343	0.747		
	Total	264.236	348			
	Between Groups	5.988	5	1.198	1.325	.253
Inter-family Stressors	Within Groups	309.980	343	0.904		
	Total	315.967	348			
	Between Groups	11.212	5	2.242	2.495*	.031
Extra-family Stressors	Within Groups	308.212	343	0.899		
	Total	319.423	348			
	Between Groups	7.424	5	1.485	2.289*	.046
Total Stressors	Within Groups	222.466	343	0.649		
	Total	229.890	348			
	Between Groups	14.224	5	2.845	2.969*	.012
Family Health Status	Within Groups	328.643	343	0.958		
	Total	342.866	348			

*p < .05

However, when considering individual pairs, using Scheffe's method, it was found that the level of education and the perception of extra-family stressors of the respondents did not differ significantly

at the .05 level. It was also found that there was no statistically significantly difference between the respondents' educational level and total stressors at the .05 level.

Comparative Analysis of Influence of Occupational Differences on the Impact of Total Stressors and Family Health Status during the COVID-19 Pandemic

The results showed that respondents with different occupations had different perceptions of intra-personal stressors (p = .05). However, no other significant differences were noted (Table 6).

Table 6 *Impact of Occupation on Stressors and Family Health Status* (N = 349)

Variables	Occupations	*SS*	*df*	*MS*	*F*	*Sig.*
Intra-personal Stressors	Between Groups	14.00	6	2.334	3.191*	.005
	Within Groups	250.229		0.732		
	Total	264.236	348			
Inter-family Stressors	Between Groups	8.369	6	1.395	1.551	.161
	Within Groups	307.598	342	0.899		
	Total	315.967	348			
Extra-family Stressors	Between Groups	4.912	6	0.819	.890	.502
	Within Groups	314.511	342	0.920		
	Total	319.423	348			
Total Stressors	Between Groups	8.202	6	1.367	2.109	.052
	Within Groups	221.689	342	0.648		
	Total	229.890	348			
Family Health Status	Between Groups	10.385	6	2.845	1.780	.102
	Within Groups	332.481	342	0.958		
	Total	342.866	348			

*p < .05

When considering individual pairs, it was found that those operating in self-employed businesses differed significantly (.05% level) from those who were hired employees in response to intra-personal stressors (Table 7).

Table 7 *Occupational Differences and Perception of Intra-Personal Stressors by Individual Family Members Using Scheffe's Method* (N = 349)

Occupation	Mean	Farmer	Hired Employee	Student	Self-employed Person	Private Company Employee	Government/ State Enterprise Employee	Others
Farmer	3.424	–						
Hired Employee	3.218	.205	–					
Student	3.458	– .034	– .240	–				
Self-employed Person	3.769	– .344	– .550*	– .310	–			
Private Company Employee	3.468	– .043	– .249	– .009	.301	–		
Government/ State Enterprise Employee	3.310	.114	– .091	.148	.459	.157	–	
Others	3.254	.169	– .036	.023	.514	.213	.055	
Total	3.389							

*p < .05

Comparative Analysis of Gender Differences on Overall Family Stressor Responses and Family Health Status

The results revealed that intra-personal stressors differed between men and women, and was significant at the .05 level. No other significant differences were noted (Table 8).

Table 8 *Comparison by Gender of Perceptions of Overall Family Stressors and Family Health Status* (*N* = 349)

Variables	Gender	*N*	*Mean (x̄)*	*SD*	*t*	*df*	Sig
Intra-personal Stressors	Male	114	3.23	.88	-2.365*	347	.019
	Female	235	3.46	.88			
Inter-family Stressors	Male	114	2.76	.91	-1.495	347	.136
	Female	235	2.92	.97			
Extra-personal Stressors	Male	114	2.91	.92	-1.025	347	.306
	Female	235	3.02	.98			
Overall family Stressors	Male	114	2.99	.78	-1.949	347	.052
	Female	235	3.18	.82			
Family Health Status	Male	114	3.05	.95	-1.395	347	.164
	Female	235	3.21	1.01			

*$p < .05$

Comparative Analysis of Family Differences on Personal and Family Stressor Responses and Health Status of Families with COVID-19 Infected and Uninfected Members

The results of the study showed that there was a statistically significant difference in intra-personal stressors at the .05 level. It was found that the inter-family stressors, extra-family stressors, and total stressors were significantly different at the .01 level. However, there was no statistically significant difference in family health status at the .05 level (Table 9).

Table 9 *Comparison of Infected and Uninfected COVID-19 Family Member Responses to Stressors and Family Health Status* (*N* = 349)

Variables	Infected Family Member	*n*	*Mean (x̄)*	*SD*	*t*	*df*	Sig
Intra-personal Stressors	Present	16	3.81	0.69	1.996*	347	.047
	Absent	333	3.37	0.87			
Inter-family Stressors	Present	16	3.53	0.85	2.870**	347	.004
	Absent	333	2.84	0.95			
Extra-family Stressors	Present	16	3.64	0.94	2.848**	347	.005
	Absent	333	2.95	0.95			
Total Stressors	Present	16	3.68	0.71	2.848**	347	.005
	Absent	333	3.09	0.81			
Family Health Status	Present	16	3.51	1.11	1.434	347	.363
	Absent	333	3.14	0.98			

**$p < .01$, *$p < .05$

The results obtained in this study showed that the presence or absence of a member infected with COVID-19 made a difference in perception of intra-personal stressors ($p = .05$). It also showed that perceptions of inter-family stressors, extra-family stressors, and total stressors differed statistically at the .01 level. When looking at perception of intra-personal stressors, the majority of family members were afraid of contracting COVID-19 (*M* = 3.58, *SD* = 1.36), which was at a high level. This was followed by deterioration of the family economy (*M* = 3.44, *SD* = 1.32) and the lack of family income (*M* = 3.21, *SD* = 1.37), which were considered moderate. The least feared stressor was the death of a close relative from COVID-19 ((*M* = 2.09, *SD* = 1.43), which was classified as being at a low level.

Family members felt safe from COVID-19 (*M* = 3.55, *SD* = 1.30), which was ranked as good, followed by the family being in harmony with each other (*M* = 3.35, *SD* = 1.39), and family being able to spend free time together regularly according to the new lifestyle (*M* = 3.32, *SD* = 1.31), which were considered moderate. The lowest score was that the family had no physical symptoms of stress such as insomnia, constipation, or loss of appetite, etc. (*M* = 2.77, *SD* = 1.44), which was classified as low. However, family health status was not significantly different at the .05 level.

Discussion of Perception of Stressors

The results showed that the respondents' level of total stressors (*M* = 3.11, *SD* = 0.81), intra-personal stressors (*M* = 3.38, *SD* = 0.87), inter-family stressors (*M* = 2.86, *SD* = 0.95), and extra-family stressors (*M* = 2.98, SD = 0.96) were at the moderate level, possibly because:

1. Most of them had no family members with COVID-19 (95.4%), while the remainder had a family member who had contracted COVID-19.

2. The duration of the COVID-19 pandemic has been continuous. Hence, the family may have become accustomed to learning and adapting to live normally under such a situation. This finding was consistent with the study of Wangthanakorn (2007), who researched family stressors, families' levels of reaction to stressors, and health status in families encountering the unrest due to terrorism in the southern border provinces of Thailand. It was found that the mean scores of perceptions of stressors as a whole was moderate (*M* = 2.68, *SD* = 0.75), intra-personal stressors and extra-family stressors were at a moderate level (*M* = 2.59, *SD* = 0.92 and *M* = 3. 03, *SD* = 0.85), but the mean score of inter-family stressors was at a low level (*M* = 2.05, *SD* = 0.86). This was also consistent with Neuman's notion (Neuman & Fawcett, 2011) that a person's learning and past experiences represent one factor that influences an individual's perception and level of response to stressors. Families with direct and indirect experiences of coping with stressful situations are more likely to be able to deal with, address problems, or accept a potential crisis than families who have never faced or addressed or accepted a crisis, or families who have never encountered such an event before (Nawachinda & Lusanun, 2000).

3. Receiving assistance from the government and private sector, and the promulgation of martial law may have had a moderate influence on the perception of total stressors among families facing the COVID-19 pandemic. Families living in the area received treatment assistance from the government and private agencies on a regular basis, such as assistance with educational and occupational issues, along with compensation for sickness or contracting COVID-19.

Health Status of Families Encountering the COVID-19 Pandemic

The results obtained showed that the health status of families encountering the COVID-19 pandemic was at a moderate level (*M* = 3.16, *SD* = 0.99), which is consistent with the research results of Wangthanakorn (2007). He researched family stressors, families' degree of reaction to stressors, and health status of families encountering the situation of unrest due to terrorism in the southern border provinces of Thailand. There it was shown that the level of response to family disturbance was at a moderate level, and mostly involved the health status of families facing unrest from terrorism who were at risk (57.6%). This is in accordance with Neuman's study (Neuman & Fawcett, 2011), which indicated that the usual response to family disturbances is to maintain the family balance. Success may depend on many factors. First, if there is a strong family infrastructure and complete responsibility, then life's disturbances can be handled well, resulting in a low level of response to family disturbances. When considering individual family health conditions, it was found that most family members felt safe from COVID-19, with a mean of 3.55 and a standard deviation of 1.299, which was rated as good. The significant factor was family harmony; in the present study, (*M* = 3.35, *SD* = 1.39). Families were also able to spend regular free time together under the new lifestyle arrangements (*M* = 3.32, *SD* = 1.31), which can be considered moderate. Lastly, the factor showing the lowest value was the absence of physical symptoms from stress, such as insomnia, constipation, loss of appetite, etc. (*M* = 2.77, *SD* = 1.44), which was also classified as moderate.

Relationships among Age, Socioeconomic Status, Perceptions of Stressors, and Family Health Status

The results showed that age was negatively correlated with socioeconomic status ($r = -.154$), with statistical significance at the .01 level. Socioeconomic status was positively correlated with intra-personal stressors and total stressors ($r = .113$ and $r = .111$, respectively), with statistical significance at the .05 level. Inter-family stressors had a positive correlation with intra-personal stressors, extra-family stressors, and total stressors, and family health status ($r = .615$, .707, .898, and .597, respectively), with statistical significance at the .01 level. Inter-family stressors were positively correlated with extra-family stressors, total stressors, and health status of families ($r = .699$, .867, and .541, respectively), with statistical significance at the .01 level. Extra-family stressors were positively correlated with total stressors and health status family ($r = .883$ and .727, respectively), with statistical significance at the .01 level.

Overall family stressors were positively correlated with family health status ($r = .692$) at the .01 level (Table 2). This may be due to the majority of the respondents, being aged between 41–50 years, representing 31.8% of the sample population. The mean age was 42.76 years. However, this is inconsistent with the research conducted by Supaporn (2009) into perceptions of well-being of people in the Bang Phai community. That study showed that the people aged 61 years and above were most aware of the stressors, followed by the age range of below 30 years. Individuals in the age range 41–50 years displayed the least perception of stressors. The socioeconomic status of the sample included the majority working as irregularly hired employees (43.6%). The average family income of 44.4% was between 5,001 and 10,000 Baht (average 2,741 Baht). It was found that people with an average income of 40,001 Baht or more perceived their well-being at the highest level.

Comparison of Perception of Family Stressors and Health Status with Educational Level, Occupation, Gender, and the Presence or Absence of a Member Infected with COVID-19

When different levels of education were analyzed, the results revealed that extra-family stressors, total stressors, and health status of families were significantly different at the .05 level. No other significant differences were noted. However, when considering individual pairs using Scheffe's method, it was found that the level of education, perception of extra-family stressors, total stressors, and health status of the respondents did not differ significantly. This may be due to 34.4% having completed primary school education or less, which is consistent with the results of a study by Supaporn (2009). This study considered perceptions of well-being of people in the Bang Phai community. There it was found that people with postgraduate educations were most aware of the stressors, followed by those holding a bachelor's degree. Those with less education showed the least perception of stressors.

The results showed that respondents with different occupations had different perceptions of intra-personal stressors ($p = .05$). No other significant differences were noted. When considering individual pairs using Scheffe's method, it was found that the self-employed differed from hired employees at the .05 level. This may have been because 43.6% were hired employees. This is consistent with data obtained by Supaporn (2009), which showed that those with a postgraduate education perceived stressors the most, followed by the self-employed, and then farmers who perceived stressors the least.

The results revealed a gender difference in intra-personal stressors ($p = .05$), with females being the most perceptive. No other significant differences were noted. This may have been because a majority of respondents (67.3%) was female. This finding differs from that of Supaporn (2009), who showed that in the Bang Phai community, males perceived more stressors than females.

Suggestions for Applying the Research Results

The following suggestions are made for applying the research results:

1. Nursing Practice: The results of this study on perceptions of stressors and family health status can be used as a basis for planning health services to reduce stressors, while providing support and

care for families. This will enable them to respond appropriately to family stressors, to maintain factors that favor family health, and to meet the true needs of families.

2. Nursing Administration: The results of this study can be used as a basis for planning to develop persons with knowledge and ability to assist with family health assessment and providing care for families facing the COVID-19 pandemic. This would allow families to deal with problems or stressors that might arise. It would also provide support, encouragement, and more effective care that would help families in respond appropriately to these stressors.

3. This information could also be used as a guideline for public health personnel to enable them to apply the study results in ways that would provide better care for families. This could enable the realization of better health status and balance in family lifestyles to combat the COVID-19 pandemic more effectively.

Suggestions for Future Studies

1. In future studies a different method or family care model might be chosen that is more suitable for the health status of families facing the COVID-19 pandemic in other communities.

2. Future research efforts might be directed to a study of families who were directly affected by the COVID-19 pandemic to enable a more comprehensive assessment of family health.

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