Supporting Request and Medical Efficacy of COVID-19 Patients: A Cross-sectional Survey from the Help Society Network

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Abstract

This study employs a cross-sectional survey to assess the support needs of COVID-19 patients within the Help Society network, considering the outbreak's extensive social consequences. Assistance–including medication, food supplies, counseling, oxygen tanks, bed supplies, and patient transportation–is dynamically allocated to respond to the varying intensity of COVID-19 waves. Data were collected from March to May 2023 *via* Google Forms and Line Official Accounts within the Help Society and the Volunteer Club at Sirindhornrajavidhayalaya Campus (Bundit Asa) from 120 respondents (average age: 39.27 years, SD = 11.69), and analyzed using nonparametric test. The results reveal that the most frequently requested forms of assistance were medication, food supplies, and counseling. Medication usage is catagorized into three types: herbal remedies (79.17%), contemporary pharmaceuticals (61.67%), and COVID-19-specific antiviral drugs (25%). Notably, there is a significant discrepancy between the medicines dispensed and actual medication utilization by patients ($p < .001$). Specifically, 64% adhered to the prescribed dosage, while 23% exceeded it, and 13% underutilized it. Furthermore, after five days of medication, participants reported substantial relief from thirteen symptoms ($p < 0.05$). This research highlights the complex relationship between pandemic response strategies and individual treatment adherence within the Help Society network, providing valuable insights for optimizing assistance during public health crises.

Keywords: Assistance, COVID-19, Food, Medication, Volunteer

Introduction

The initial outbreak of COVID-19 occurred in China. In 2020, the COVID-19 mortality rate in China was determined to be 0.66%, with an increase reported among older age groups (Mahase, 2020). However, other research conducted in China found mortality rates ranging from 3% to 6% (Ioannidis, 2021). The World Health Organization estimated that global mortality due to COVID-19 from 2020 to 2021 was approximately 14.83 million. Additionally, the estimated COVID-19 mortality in China between December 2022 and February 2023 was 1.41 million, significantly higher than the official reported figures (Du et al, 2023). In Thailand, from 2020 to 2022, there were five waves of the COVID-19 epidemic. The fourth wave had the highest incidence rate, with 9,007 cases per 100,000 people, followed by the fifth wave (Sandar U et al., 2023). The post-COVID-19 era has witnessed substantial transformations in both individual lifestyles and corporate operations (Jattamart et al., 2023; Sukphan et al., 2023; Wang et al., 2023). The magnitude of each subsequent COVID-19 wave causes varied degrees of suffering for patients and the wider population, demanding different types of assistance (Mahikul et al., 2021; Rajatanavin et al., 2021; Pangsapa, 2022).

The COVID-19 pandemic has exposed significant shortcomings in healthcare systems worldwide, including in Thailand, where there has been inadequate allocation of essential resources such as hospital beds, medications, and oxygen tanks (Yingyong & Ragkhanto, 2022). Similarly, Canada confronted food insecurity during the initial wave of the pandemic, revealing inefficiencies in food distribution (Slater et al., 2022). In the United States, online food ordering became a crucial means of ensuring both immediate and long-term access to food support (Knearem & Carroll, 2021). The previous study in China that developed a microblogging platform for medical requests enhanced communication and access to healthcare resources (Yang et al., 2022). Meanwhile, volunteers in Nepal played a key role in providing COVID-19 patients with information about the availability of hospital services, including intensive care unit beds and ventilators (Adhikari & Shrestha, 2022). Previous studies conducted in India, Bangladesh, Pakistan, Sierra Leone, Kenya, and Ethiopia have demonstrated the importance of community health workers as a bridge between healthcare providers and the community. These studies emphasized the need for training, personal protective equipment, and financial incentives to empower these workers in their roles (Salve et al., 2023). Together, these examples highlight the various requests for assistance that emerged during the COVID-19 pandemic, underscoring the urgent need for improved resource allocation and greater community engagement in healthcare systems worldwide.

The utilization of various medications during the first wave of the COVID-19 outbreak showed significant differences across the world. In Germany, there was a notable increase in pneumococcal vaccine utilization by 373% and paracetamol by 111% (Enners et al., 2021). In contrast, New York hospitals reported increased use of hydroxychloroquine, chloroquine, midazolam, propofol, ketamine, cisatracurium, and fentanyl (Dabestani et al., 2020). A study examining drug use in four countries—China, Spain, South Korea, and the USA—revealed distinct patterns, with high utilization of hydroxychloroquine in Spain and umifenovir in China (Prats-Uribe et al., 2020). In Pakistan, corticosteroids, particularly dexamethasone, were used in over 90% of cases (Mustafa et al., 2022). Similarly, a national dataset from the United States indicated that corticosteroids were the most frequently utilized medications during the pandemic (Stroever et al., 2021). These variations in drug utilization reflect differing national strategies and responses to the challenges posed by COVID-19.

Initially, hydroxychloroquine was widely used for outpatient treatment of COVID-19; however, subsequent studies found no evidence that it reduced symptom duration or prevented severe outcomes (Schwartz et al., 2021). In contrast, traditional Chinese medicine, when

combined with conventional Western treatments, has shown promise in improving clinical symptoms of COVID-19—such as fever, cough, chest tightness, shortness of breath, and fatigue—as well as in reducing hospitalization and mortality rates in China (Adhikari & Shrestha, 2022). The standardized formulation of Andrographis paniculata for COVID-19 treatment has a high safety profile and can reduce the severity of the disease (Shanker et al., 2023). This formulation is a commonly selected option for self-treatment in Thailand. However, in cases of mild COVID-19, the use of favipiravir did not lead to improved recovery times (Bosaeed et al., 2022).

Throughout the COVID-19 pandemic, there was a discernible surge in the demand for emotional support, yet accessibility to such aid was often impeded. To be specific, approximately 51% of individuals acknowledged experiencing a high or severe level of vulnerability in managing and articulating their emotions, while a significant 74% of this demographic lacked access to formal bereavement services or mental health support (Harrop et al., 2021). A study conducted in Bangkok revealed that both families and society at large experienced moderate economic impacts alongside heightened levels of anxiety due to social factors (Phuangprayong, 2021). Consequently, a variety of physical, mental, and social interventions were implemented to enhance the effectiveness of treatment during the COVID-19 outbreak. These interventions involved telehealth exercise programs specifically designed for older adults (Sangprapai et al., 2023). Initiatives included discussions on coping strategies, the provision of fresh and dry food supplies, "happiness boxes," the distribution of goods from local almshouses, and financial support (Sutdhivajano et al., 2022; Promsriya & E-sor, 2021). Moreover, there has been a concerted effort to leverage herbal medicine to alleviate COVID-19 symptoms (Itharat et al., 2021).

Diverse sectors within the Thai public sphere collaborated to alleviate the burden on healthcare professionals and support fellow citizens in navigating the crisis. In the wake of the COVID-19 epidemic, a multitude of informal organizations and community initiatives emerged in Thailand (Thongthep & Lukarang, 2021). The Help Society network represents a collaborative endeavor involving nearly 40 organizations committed to assisting COVID-19 patients. This network was established in response to the disaster caused by COVID-19 in Thailand, with immediate actions taken to provide relief to the Thai people. The initiative originated with the Volunteer Club at Sirindhornrajavidhayalaya Campus (Bundit Asa) (Khanthong et al., 2024). This support was provided through two channels: the LINE Official Account of the Bundit Asa and the Help Society. Individuals affected by COVID-19 experienced various sorts of assistance, including patient transportation, oxygen tanks, and the distribution of needed food and drugs.

While the current outbreak and effects of COVID-19 may not be as severe as in the past, a discernible trend of mutation and rapid spread is evident. This includes an escalation in the severity of symptoms among certain groups of infected individuals. According to data acquired by the Help Society Network from previous support activities, 363 individuals formally registered for assistance through the authorized LINE Official Accounts. Therefore, the research team sought to investigate the specific needs of COVID-19 patients, enlisting the support of the Help Society Network to provide guidance in managing similar crises in the future.

Research objectives

The primary aim is to investigate the necessity for support for COVID-19 patients through the Help Society network. The secondary objectives are as follows:

1. To investigate the types of support provided by the Help Society network.
2. To investigate the distribution of medication types among COVID-19 patients.

Methodology

A cross-sectional survey was conducted with 363 individuals affected by COVID-19 who formally sought assistance from the Help Society network. The sample size was determined using Yamane's formula with a margin of error of 0.0949, resulting in a required sample size of 85 respondents out of a total population of 363 registered individuals. To account for an anticipated 40% rate of incomplete data, the sample size was adjusted to 119 participants. Therefore, data collection was planned to conclude upon receiving responses from 120 participants. Inclusion criteria included individuals aged 18 years or older who sought aid through the Line Official Account of either Bundit Asa or Help Society during the COVID-19 pandemic in 2021 and 2022 and subsequently received support. In March 2024, the LINE official account of the Bundit Asa group was transferred to Wat Phraram 9 to serve as the principal platform for online engagement and activities at Wat Phraram 9, Kanchanapisek, in Bangkok. Individuals seeking assistance can access various platforms within the main organizational network, as illustrated in Figure 1. Exclusion criteria encompassed participants who were involuntarily enrolled as well as surveys administered beyond the specified period.



Figure 1 Accessing support from the Help Society network

The questionnaire was distributed via Google Forms between March and May 2023, yielding responses from 120 volunteers. The Google Forms survey instrument comprised four sections: baseline characteristics of participants, types of assistance received, medication usage, and COVID-19 symptoms. Respondents could choose from a variety of predetermined answers in the sections on types of assistance and medication usage. The COVID-19 symptoms section employed a 5-point Likert scale to assess the severity of each symptom (1 = absence, 2 = mild, 3 = moderate, 4 = severe, and 5 = very severe). Content validity was assessed by a panel of five experts, followed by the calculation of item-objective congruence (IOC). Internal consistency reliability was measured using Cronbach's alpha coefficient, while test-retest reliability was evaluated using Pearson's correlation coefficient. The results indicated strong content validity (IOC = 0.91), good internal consistency (Cronbach's alpha = 0.85), and high test-retest reliability (Pearson's correlation = 0.92). This dataset facilitated a comprehensive analysis of both the support provided and the utilization of medications. Subsequently, 85 individuals completed the COVID-19 symptom questionnaire, as shown in the study flow in Figure 2.

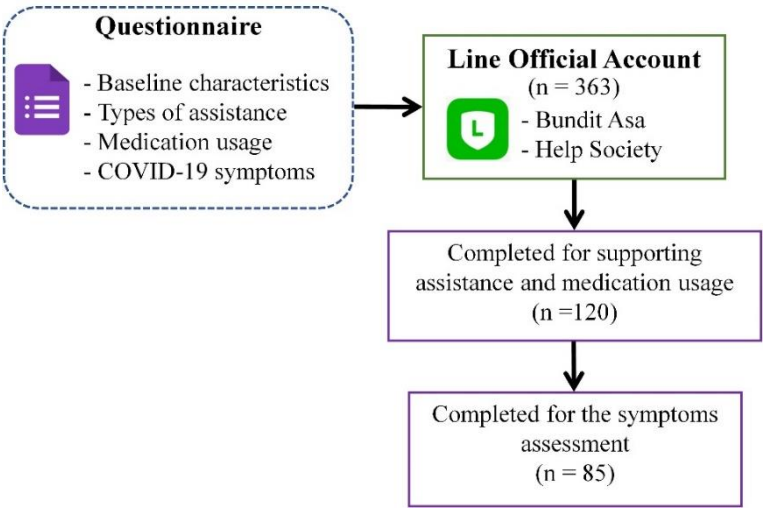


Figure 2 Study flow

Research Procedure

1. Three experts reviewed the questionnaire, which consists of four components, using the Index of Item- Objective Congruence. Part 1 collected baseline characteristics of the participants, while the second part addressed the type of assistance sought. The third section focused on medication received and its usage. Lastly, part 4 examined symptoms experienced before and after receiving self-care medicine for COVID-19. The questions covered symptoms that manifested both initially and five days after the use of medication, in accordance with the Ministry of Health's guidelines for returning to work after contracting COVID- 19. These guidelines also align with a prescribed five- day treatment regimen (Bureau of Information Office of the Permanent Secretary of MOPH, 2022).

2. The administrator broadcast the questionnaire to participants via the Line Official Account in two groups (Bundit Asa and Help Society) once a month between March and May 2023.

3. Participants were given a three-month period in which to complete the questionnaire. Following that, the data obtained was processed.

Data Analysis

The data from the study were analyzed using Jamovi Desktop (2023). Descriptive statistics, including frequency, percentage, mean, and standard deviation, were calculated. The Shapiro-Wilk test was performed to assess the distribution of the data. Due to the non-normal distribution, nonparametric tests, including the Chi- square test and the Wilcoxon signed- rank test, were employed. A significance level of < 0.05 was used for all statistical analyses.

Ethical Considerations

This research has undergone ethical review by Walailak University's Human Research Ethics Committee and has been granted certificate number WUEC- 23- 077- 01 on March 17, 2023.

Results

In this study, a total of 120 participants completed and returned the questionnaire, representing various regions of Thailand, with a particular concentration in Bangkok and its surrounding provinces. Table 1 provides an overview of the participants' baseline characteristics (n = 120), indicating an average age of 39.27 ± 11.69 years. Among the participants, 90 were female and 30 were male, with 29% reporting a congenital disease. They sought support from both the Help Society network and other sources. Notably, 78% of participants exclusively sought assistance from the Help Society network, while the remaining participants sought support from two or more networks.

Table 1 Baseline characteristic of participants (n = 120)

Variebles		Frequency	%
Age (year), Mean ± SD		39.27±11.69	
Gender	Female	90	75
	male	10	25
Congenital diseases	Yes	35	29
Numbers Supporting network	1	94	78
	≥2	26	22

Figure 3 represented the supporting assistance during the COVID-19 pandemic, the majority primarily request is medication, followed by survival food, mental health counseling, oxygen tank, bed supply and transportation of patients, respectively.

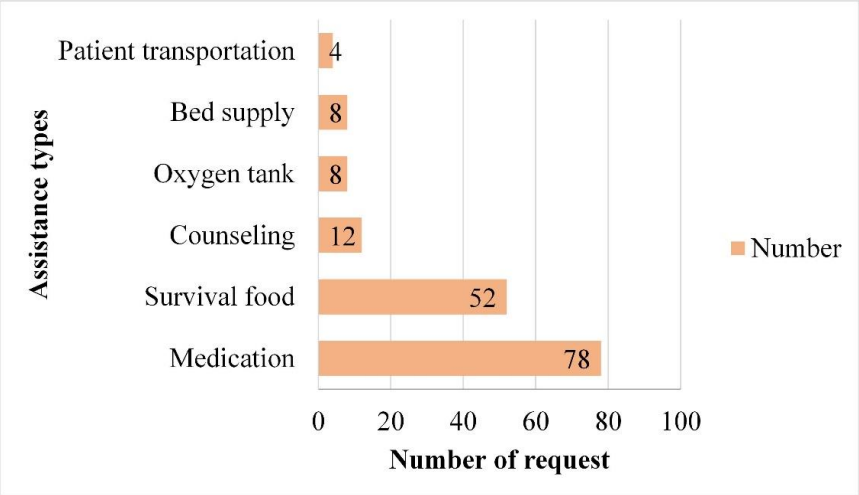


Figure 3 Types of assistance requests during COVID-19

In this study, medications administered to COVID-19 patients were categorized into three groups. The first group comprises herbal medicines, including Andrographis paniculata capsules and the Wat Khiriwong drug formula. The second group encompasses conventional medications, such as paracetamol, cough medicines, sore throat remedies, and vitamins. The final group consists of COVID-19-specific antiviral pharmaceuticals, notably favipiravir and molnupiravir. Table 2 illustrates the prevalence of each medication category among the COVID-19 patients in the Help Society network.

Table 2 The distribution of medication types administered to COVID-19 patients within the Help Society network (n = 120)

Medication type	Frequency	Percentage
Herbal medicines	95	79.17%
Conventional medications	74	61.67%
Covid-19 Antiviral Pharmaceuticals	30	25.00%

The results indicate that each patient received a variety of medications tailored to their symptoms, severity levels, and the availability of medications at that time. Table 3 summarizes the data related to the number of medications received and utilized by the patients, with a range of 0 to 5 types. Notably, none of the patients received zero medications; the majority received one, two, or three types, with frequencies of 36, 25, and 24, respectively. However, there were different between number of medications received and used. The data indicated a significant discrepancy between the medications received and utilized, with a p-value <.001 based on Chi-square testing.

Table 3 Comparative analysis of medicine receipt and utilization in COVID-19 patients (n = 120)

Received	Used						Total	P-value*
	0	1	2	3	4	5		
0	0	0	1	4	1	1	7	
1	1	30	6	1	1	0	39	
2	0	3	15	3	3	0	24	
3	0	2	3	12	4	2	23	< .001
4	0	1	0	2	13	1	17	
5	1	0	0	2	1	6	10	
Total	2	36	25	24	23	10	120	

*Test the relationship using the Chi-square test, significance level at .05

According to the data shown in Table 3, 64% of patients utilized medications as prescribed, whereas 23% exceeded the amount received and 13% underused, as demonstrated in Figure 4.

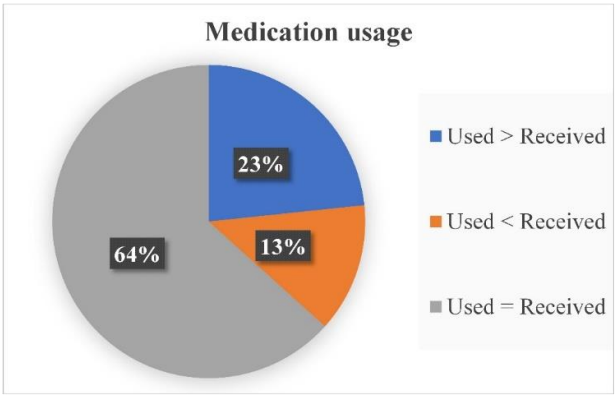


Figure 4 Using medicine

Table 4 compares pre- and post-medication symptom levels in COVID-19 patients (n = 85) who received medications at home over a 5-day period. The findings reveal significant improvements across various symptoms. Specifically, all symptoms demonstrated substantial improvement after five days of medication use. Notable reductions were observed in both mean scores and median values for symptoms including fever, cough, weakness, myalgia, sore throat, diarrhea, headache, taste or smell disturbances, difficulty breathing, chest pain, and fatigue. These changes were statistically significant, indicating the treatment's effectiveness. However, conjunctivitis did not show a significant change. Additionally, while the rash of fingers or toes showed a slight improvement, this change was statistically significant.

Table 4 The pre- and post-symptom levels of COVID-19 patients after a 5-day medication regimen (n = 85)

Symptoms	Mean ± SD		Median (range)		P-value
	Pre	Post	Pre	Post	
Fever	2.72±1.14	1.54±0.76	3 (1, 5)	1 (1, 4)	< .001
Cough	2.61±1.14	1.88±0.83	3 (1, 5)	2 (1, 4)	< .001
Weakness	2.85±1.21	1.95±0.96	3 (1, 5)	2 (1, 5)	< .001
Myalgia	3.01±1.2	1.82±0.84	3 (1, 5)	2 (1, 5)	< .001
Sore throat	2.89±1.15	1.82±0.96	3 (1, 5)	2 (1, 5)	< .001
Diarrhea	1.4±0.80	1.09±0.39	1 (1, 4)	1 (1, 3)	< .001
Conjunctivitis	1.25±0.67	1.14±0.51	1 (1, 4)	1 (1, 3)	0.308
Headache	2.38±1.20	1.52±0.78	2 (1, 5)	1 (1, 5)	< .001
Taste or smell disturbance	2.18±1.37	1.44±0.76	2 (1, 5)	1 (1, 4)	< .001
Rash of fingers or toes	1.32±0.80	1.09±0.36	1 (1, 4)	1 (1, 3)	0.009
Difficulty breathing	1.87±1.07	1.35±0.64	1 (1, 5)	1 (1, 3)	< .001
Chest pain	1.66±0.93	1.2±0.48	1 (1, 5)	1 (1, 3)	< .001
Fatigue	1.45±0.88	1.15±0.47	1 (1, 4)	1 (1, 4)	< .001

*Test the statistics using the Wilcoxon signed-rank test, significance level at .05

Discussions

The survey focused on assessing the support needs of COVID-19 patients within the Help Society network, drawing upon 120 respondents representing diverse regions across Thailand. Notably, with an average age of 39.27 years, most respondents were female, and 29% indicated underlying health issues. These demographic characteristics are consistent with prior study undertaken during the April 2021 COVID-19 epidemic in Phang Nga Province, which found a varied range of demographic profiles (Chaturabundit, 2022).

In these challenging times, the support required by COVID-19 patients is diverse and can vary based on the specific needs of each individual. Figure 2 highlights that the most common requests are for medication and survival food, respectively. Medication emerges as the foremost essential requirement, closely followed by consumer goods. Within the Help Society network, advisors, who are monks, draw guidance from the Lord Buddha to develop innovative Buddhist approaches (Pariyattikitworawat, 2022). The Help Society network also encompasses medical professionals and practitioners of traditional Thai medicine who provide advice and assistance in medication usage. This aligns with the global shortage of drugs during the COVID-19 pandemic (Badreldin & Atallah, 2021; Salahuddin et al., 2022) and corresponds to the issue of food insecurity within the country (Walsh & Lovichakorntikul, 2023). Therefore, both medication and survival food were the most highly requested from the Help Society network.

Significant variations were observed in the distribution of medication usage across each group. Table 2 offers a detailed breakdown of the administered medications, highlighting a notable preference for herbal medicines, followed by conventional medicines. A smaller portion was COVID-19 antiviral pharmaceuticals. It is worth noting that the use of antiviral drugs intended for combating the COVID-19 virus is less widespread compared to other types of medication. This discrepancy can be attributed, in part, to challenges associated with drug availability and the necessity to explore alternative remedies for managing various symptoms. This practice aligns with trends observed in foreign countries, where herbal remedies have been employed for self-care during the COVID-19 outbreak (Ang et al., 2020; Fan et al., 2020; Liana & Phanumartwiwath, 2022). Additionally, the introduction of home drug delivery services has garnered high levels of satisfaction (Chaomuang et al., 2022).

After analyzing both the medicines received and those actually consumed by the COVID-19 patients, we observed statistically significant discrepancies, as outlined in Table 3. Moreover, Figure 3 illustrates variations in medication usage. It is worth noting that some volunteers sought assistance from multiple agencies, potentially resulting in an excess of medication received (Iloanusiet al., 2021; Ghasemi et al., 2022). Polypharmacy, especially in the elderly, can lead to hospitalization and even death (Sirois et al., 2022).

The final topic addressed the symptoms experienced before and after receiving medication from the volunteers. It was observed that, five days after medication administration, there was a statistically significant improvement in all 13 symptoms reported by COVID-19 patients (Table 4). This positive outcome was consistent with previous studies that utilized Thai herbal medicine in treatment (Yingyong & Ragkhanto, 2022). Despite the majority of medications received from the Help Society network being herbal and conventional medicines, they demonstrated significant efficacy.

The study results suggest that the Help Society network is a collaborative effort of volunteers who united in response to the COVID-19 crisis, providing assistance to numerous individuals across the country. Some patients experienced severe symptoms following the delivery of the oxygen tank, which the Help Society network supported. Nevertheless, a majority of the volunteers who participated in the questionnaire reported experiencing mild to moderate symptoms and were able to manage their treatment at home. Recent global studies have yielded several valuable insights, including the significant progress volunteers have made in adopting technology (Miao et al., 2021). Specifically, these volunteers utilize the LINE Official Account and other online channels to coordinate requests for assistance. This finding parallels observations from Denmark, where support during the COVID-19 outbreak was facilitated through existing social networks, underscoring their role in mobilizing individuals (Carlsen et al., 2021). In the UK, research indicates that the most common activities were purchasing food and providing emotional support (Mao et al., 2021). This aligns with the present study, which identified food and medicine as the primary support needs. Suggestions of further management-related crises in Thailand comprise using technology to leverage volunteer work, identify the actual needs of those requiring assistance, and provide support that effectively addresses those needs while minimizing redundant efforts from the government or other organizations.

However, this study presents several limitations. Firstly, only one-third of the distributed questionnaires were returned by those who had registered to seek assistance. Secondly, the questionnaire requested information about past experiences, potentially introducing recall bias and resulting in deviations from actual occurrences of help, medication use, and symptomatology. Lastly, the survey exclusively examines the assistance provided by a single group, potentially limiting its ability to offer a comprehensive overview of the broader context.

Conclusion and suggestions

In conclusion, this study emphasizes the critical support needs of COVID-19 patients within the Help Society network. The analysis of 120 participants from various regions of Thailand revealed distinct patterns of assistance, with medication requests being identified as the most urgent need during the COVID-19 crisis. Notably, herbal medicines emerged as the most used for self-treatment, reflecting a significant interest in traditional remedies. These findings underscore the importance of addressing diverse patient needs and integrating alternative treatments into healthcare strategies to improve outcomes for COVID-19 patients.

Suggestions for Future Research

Future study might focus on the long-term impacts of the given assistance, including post-recovery well-being and mental health outcomes. Furthermore, a thorough knowledge of pandemic dynamics might be achieved by investigating how socioeconomic variables impact support-seeking behavior and resource availability. Furthermore, learning about the experiences of healthcare practitioners and support networks in providing treatment to COVID-19 patients will provide a full view of the obstacles and overcomes in this critical undertaking.

New knowledge and the effects on society and communities

This study underscores the critical necessity of essential supplies, particularly survival food and medications, in the context of COVID-19 pandemic incidents due to their substantial demand. To enable individuals to effectively navigate the myriad challenges posed by the pandemic, response strategies must entail coordinated efforts that integrate both public and commercial entities, along with volunteer activities. This study distinguishes itself from previous research by focusing on the specific needs for assistance among individuals seeking help. Additionally, it identifies a significant difference between the prescribed medication and the medication actually used for COVID-19. The sustained involvement of the Help Society network, a group dedicated to supporting the Thai community during periods of crisis, stands out within this collaborative framework. This network serves as an exemplary instance of purposeful teamwork, mobilizing resources and expertise to alleviate the hardships faced by individuals and communities. It transcends immediate relief efforts, significantly contributing to the broader societal fabric by fostering solidarity and communal support.

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