

# Perceptions of Service Recipients on the Roles of Community Health Nurses in Children's Primary Care During the COVID-19 Outbreak in Northeastern Thailand

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## Abstract

To understand the roles of community health nurses in providing services to children in primary health care units during the COVID-19 pandemic. Qualitative research was employed. Data was obtained from documents, observations, and in-depth interviews. Eighty-five key informants were recruited in the study from seven groups: public sector officers, Local Administrative Organization (LAO), community leaders, teachers in child development centers, community organizations, civil groups, and family caregivers. Data was analyzed using the content analysis method. Findings showed the roles of community health nurses in primary care units categorized into eight themes: health care provider, health educator, manager, health collaborator, health coordinator, advocator, consultant, and data collector and reporter. The research reflects the crucial roles of community health nurses in caring for children, skills, knowledge gained, and preparation and engagement of community networks during COVID-19.

## Keywords

Children services; community health nurse; COVID-19 pandemic; nurse roles; primary care units

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## Introduction

The coronavirus disease 2019 (COVID-19) outbreak was declared an international public health emergency, and the global pandemic affected the health of people of all sexes and ages, especially among vulnerable groups such as children, older persons, patients with chronic non-communicable diseases (World Health Organization, 2020b; Zehra & Gulendam, 2021). As of October 2021, the outbreaks were reported worldwide in 219 countries, with almost 236 million confirmed cases and over 4.8 million deaths (Pan American Health Organization & World Health Organization, 2021). For children, the number of cases was reported 1–5% (Tezer & Demirdag, 2020). In Thailand, there were more than 1.9 million confirmed cases, over 19,000 cumulative deaths, and nearly 1.8 million recovered patients (Ministry of Public Health, 2021).

The COVID-19 pandemic affected the health and mortality of children. The vast majority of children (90%) infected with COVID-19 did not show symptoms; only a few showed mild or moderate signs; and approximately 6.7% of pediatric cases reported having severe symptoms or dying (Panahi et al., 2020; Tezer & Demirdag, 2020; Yuki et al., 2020). The infection also affected children in other areas of life, including daily activities, obtaining and accessing health services, and school activities (Akaba et al., 2022; Radey et al., 2022). This resulted in social interaction among children not adequately promoted in both health and home learning. One of the main reasons was these children had to live with older persons who had limitations in technology, so they could not get help for e-learning at home, especially among those with special educational needs (Pan et al., 2020). During the COVID-19 outbreak, children's quality of life decreased by 23.5%, suffered at least one severe physical attack, and the rate of child abuse increased from 59.8% to 71.2% (Tso et al., 2022).

Children were physically and mentally affected and at risk of infection and death (Crawford et al., 2022). Children with chronic diseases and disabilities did not receive proper ongoing treatment and health follow-up. When children were hospitalized, there was a risk of infection; moreover, home quarantine led to decreased physical activity and increased obesity. Children with disabilities could not receive ongoing physical therapy, causing the development of musculoskeletal disorders (Peyton et al., 2022; Zehra & Gulendam, 2021). Caregivers obtained training information online; although they had skills to promote muscle strength, behavioral skill promotion was reduced (Allison & Levac, 2022). It was found that there was an increase in the number of complications of the disease. The demand for health services had significantly increased during the lockdown period (Abdullatif et al., 2022). The situations caused stress and other social problems affecting children and their families (Crawford et al., 2022).

To prevent the spread of COVID-19, the World Health Organization (2020b) developed guidelines for washing hands with soap, using alcohol gel, and wearing masks when staying outside the house. Moreover, do not unnecessarily touch your eyes, nose, or mouth with your hands, and do not share personal items with others. People should eat hot cooked meals and avoid crowded places. Nurses are regarded as health workers essential in preventing COVID-19 infection and promoting child health by caring for children among families and multidisciplinary teams (Zehra & Gulendam, 2021). It is imperative to develop innovations that create flexible learning for children; for instance, new communication through online channels such as chat rooms, virtual communities, and medical services via the Internet (Ridgway et al., 2022). Community surveillance, prevention, and disease control were done

through establishing a Center for Management of the COVID-19 pandemic to formulate policies and measures to prevent and control the disease. Screening people at risk of entering the community, quarantining, and monitoring to prevent the spread of infection to people were also done in the community (Kirdmanee et al., 2020). During the outbreaks, schools were closed at all levels; community activities were banned to prevent the risk of spreading COVID-19 (Ministry of Public Health, 2021).

Surveillance operation to prevent and control COVID-19 in community areas relies on the collaboration of four prominent organizations, namely the Local Administrative Organization and Child Development Center; government sectors including sub-district health promoting hospitals, hospitals, schools, etc.; local community key people including village headmen, village committees, community leader, etc.; and people sectors, including people in the community, social groups, community organizations, etc. (Nuntaboot, 2008). Community health nurses working in primary health care units collaborate with four leading organizations in the area to prevent and mitigate the impacts of the pandemic by organizing infectious disease surveillance system preparation courses such as a guide to assessment, surveillance, prevention, and care in the time of severe pandemics, home health care for high-risk groups, care and assistance for vulnerable groups, and recovery center. There are channels to present surveillance information, follow up in the area, etc. The International Council of Nurses (ICN) aims to advocate health in all policies, for instance, promoting leadership to advance the profession globally in response to current and future health and welfare needs. The ICN strategic plan 2019–2023 set the values and goals in response to the current global health emergency (Gallagher, 2020).

This research was part of a project entitled “Surveillance, Prevention, and Control of Coronavirus Disease 2019,” which was done at a community level. Qualitative analysis was used to reflect the guidelines for surveillance, prevention, and control of COVID-19 and the roles of community health nurses who provided care for children in the primary care units to decrease the impacts on children in the community and respond to the needs as part of their health care services. To promote and restore health in the community, the contexts of culture, community backgrounds, and people in the area should be studied and understood, and by understanding the nature of phenomena, explore ideas, feelings, worldviews, meanings, and interpretations of people’s perspectives (emic perspective) helps to gain insightful information in a qualitative study (Holloway & Wheeler, 2016). The researcher must have a comprehensive perspective to understand the whole picture related to meanings and interpretations. Therefore, this study aimed to understand the roles and duties of community health nurses in collaborating with the four leading organizations in the community, providing care services for children during the pandemic, and understanding ideas, knowledge, explanations, meanings, experiences, and culture that corresponds to the context of the studied socio-cultural.

## **Methods**

### **Study design**

This study was qualitative research to understand the role of community nurses in primary care settings in providing health care services for children during the COVID-19 pandemic. Data was obtained from documents, observations, and in-depth interviews. The researcher

interacted directly with key informants to gain insightful information. The researcher would be responsible for revealing the knowledge and explaining both the perspectives of the insider (emic perspective) and the role of the researcher (etic perspective) in understanding the meaning, human action, or behavior through symbols from the point of view of direct experience (Holloway & Wheeler, 2016). The researcher gains access to knowledge through field note-taking and performs data collection and analysis, focusing on the study settings' cultural context (Streubert & Carpenter, 2011).

## Setting

This research focused on one specific sub-district in the northeastern of Thailand. This sub-district was a model area for outstanding practice and was selected from community management for COVID-19. The characteristic of the study area is suburban (i.e., semi-rural and semi-urban); the main occupation of people was agriculture, and divided into 14 villages. There was a total of 2,471 households comprised of 11,620 populations. Key people were in the areas for managing COVID-19, including 149 trained health volunteers, 16 trained caregivers, and three trained care managers. There are two hospitals, seven child development centers, and six schools.

## Research instrument and reliability verification

In terms of research tools, the researcher was an essential tool in a qualitative study. The researcher was aware of the roles and responsibilities during the research process. The researcher also had to prepare and develop herself in qualitative research theories and human research practice regarding skills and design for data collection, tools used in in-depth interviews and group discussion, data recording, and analysis. The researcher had to practice sophisticatedly writing a report summarizing the lessons learned from community work development. A semi-structured interview questionnaire was developed for data collection to obtain information from seven groups of key informants regarding the situation of children care services and assistance during the COVID-19 pandemic and collaboration with community organizations, families, and community health nurse roles for health promotion and prevention of COVID-19 in the community (Pattarateeranon et al., 2021). The roles included health educator, health care provider, advocator, manager, coordinator, health promoter for individual and community empowerment, etc.

Experts in nursing, community health, and child health reviewed the questionnaire. The examples of questions are as follows: 1) What kind of work or activities did community health nurses involve in caring for children during the COVID-19 pandemic? 2) What were the results of activities done by community health nurses? 3) What was the knowledge and understanding of preventing COVID-19 infection toward caregivers, children, teachers, and community members? 4) How were health and rehabilitation services organized for chronically ill children in the community? 5) Who were the beneficiaries of community health nurses' work? 6) What were your opinions on the work or activities of community health towards community management for the care of children during the COVID-19 pandemic? and 7) What conditions positively influence the results of work or activities?

Subsequently, more questions relevant to the objectives of this study were added to gain insight and understanding, and multiple data sources were used together for the analysis. There were meetings among researchers and key persons for data triangulation. The data was

re-checked with the original informants to validate the obtained data quality. Confirmation of the results was done by reviewing experts who have worked in caring for children during the pandemic.

## **Participants**

The researcher approached key informants through gatekeepers by employing a purposive sampling method. A total of 85 key informants were recruited for the study, categorized into seven groups: Public sector officers, including a director of sub-district health promoting hospital, along with five community health nurses and public health staff; five Local Administrative Organization (LAO) officers; fourteen community leaders; five teachers in child development center; five individuals from community organization; eighteen individuals from civil groups; and thirty family caregivers. Therefore, they were selected to be the representatives of children who gained benefits from the work and activities of community health nurses during the COVID-19 pandemic in the community.

## **Ethical consideration**

This research project was approved by the Mahidol University Human Research Ethics Committee No. 2022/014.0202 on February 2, 2022. The researcher focused on ethical issues at every stage of the study. The information is kept confidential, and references to the information provider are prevented. The overall research results were presented as an overview. Key contributors were allowed to withdraw from research without any repercussions. The rights of the informants were protected. The results of this study and the moral principles were also considered as follows: respect for a person, beneficence or non-maleficence, and justice.

## **Data collection and analysis**

The data collection started from February 2022 to August 2022. The researcher obtained information from all mentioned key informants at the prepared location, which was convenient for them, such as at a workplace or a child's home. An appointment was made with the informants in advance, and permission for tape recording during the interviews was requested from the informants. The information gained from data collection would be kept confidential, in which every informant could not be traced back or identified. The results were presented as an overview of information. Interviews lasted approximately 45 to 60 minutes for each key informant, with 85 key informants including seven groups: public sector officers, LAO officers, community leaders, teachers in child development centers, community organization people, civil groups, and family caregivers. The researcher performed note-taking during the interviews and observed informants; the study focused on the issue of procedures and activities related to the roles of community health nurses in providing services for children at their workplaces and at children's homes. Approximately 5 to 8 key informants participated in a 2-hour-long focus group discussion. Information obtained from the conversations was scripted and tape-recorded using an audio recorder; then, the data were transcribed. The researcher asked for consent before recording the discussion and interviews with the informants.

For the analysis of qualitative descriptive research, the researcher applied the following three steps (Aspers & Corte, 2019; Polit & Beck, 2017; Streubert & Carpenter, 2011).

- 1) The researcher verified data by examining the data collection methods, building relationships, interviewing, listening attentively, and continually asking questions on issues to gain insights and information. The researcher also observed the interactions of children and caregivers, the environment and context of the children's home, collected data from field recordings, and transcribed the interview recordings.
- 2) The researcher organized the information system and classified the data such as general child health care according to the developmental stage, care for the prevention of COVID-19, care during the pandemic and for infected persons with COVID-19, etc.
- 3) In terms of the analysis and classification of the data, content analysis was employed for the study and conclusion regarding the role of nurses in providing health care services for children in health care settings, child development centers, schools, home visits, community health service arrangement, children's health care in quarantine (local quarantine), etc.

The researcher summarized the findings by using a typological analysis to categorize similar data and showed the specificity of the data; then organized them into themes so that people can understand the essence or sub-elements of each scenario on the nurses' roles working in primary health care units in caring for children in the COVID-19 pandemic.

The researcher analyzed along with data collection and reviewed all the data with the informants afterward for triangulation. To determine the trustworthiness of the study according to Lincoln and Guba's (1985) criteria, the four steps included Credibility, the researcher rereads the interviews to see the similarity of the data checked and data consistency and interpretation; Dependability, the researcher analyzed the study objectives appropriateness of selection of informants, method of data collection, duration of interview, data analysis, interpreting and report of the results; Transferability; the researcher explained in detail about the characteristics of key informants and socio-cultural characteristics in the community in which each area may have different findings; and Conformability, this reflects the accuracy of the data in which the researcher did not invent the information that the informants provided and interpretations of those data.

## Results

Based on qualitative data obtained from 85 key informants using data collection techniques including in-depth interviews, secondary data, observations, and focus group discussions, the findings of the study showed the roles of community health nurses in providing health services to children in the situation of the COVID-19 pandemic in primary health care units which categorized into eight themes including health care provider, health educator, manager, health collaborator, health coordinator, advocator, consultant, and data collector and reporter. The operations were carried out according to the following roles:

## Healthcare provider

The roles of health care providers were to provide health services and respond to problems and needs of the children, school-aged children, adolescents, and family caregivers in the community. The services were provided at home, in primary care units, child development centers, and in the community for healthy, high-risk, and infectious groups. Healthcare providers performed surveillance activities, assessed the severity and symptoms of the COVID-19 disease, educated knowledge for prevention and control, and considered forwarding to local quarantine at home or in an area provided in the community. Some of the interesting, relevant quotes in this regard are as follows:

*"... The children's healthcare services during the COVID-19 pandemic provided different types of care for each age group; for example, in young children who received vaccinations by appointment, distancing services were provided to reduce congestion. In early childhood, teachers and caregivers in the family were advised to take care of children to prevent the spread of COVID-19, such as washing hands, wearing masks, working proactively with the school, and educating through the voices in the village. For school-age children, schools were closed at all levels; however, educating students about infection prevention and reducing aggregation was done, and the emphasis was placed on wearing masks, washing hands, and keeping distance. Adolescents were educated to increase their knowledge of drugs and teenage pregnancy. In addition, health care providers would work with teachers to collect the names of children for the COVID-19 vaccination and educate family caregivers to bring their children for vaccination by appointment..."*

(Community health nurse at Tambon Health Promoting Hospital 1)

*"...For the infectious groups, the caregiver in the family would contact a health volunteer and community health nurse for screening and confirm infection. If the result was positive, we had a home medicine delivery service by health volunteer to pick them up for patients and monitor signs and symptoms during self-quarantine for 14 days..."*

(Community health nurse at Tambon Health Promoting Hospital 2)

*"... The community health nurse plays a role in the provision of child health promotion services, such as vaccination services, by arranging a place that is not crowded, keeping distance, giving advice to caregivers in continually promoting the development of children at home, providing advice on oral and dental health care, and child development screening. In case of developmental disproportionate problems, treatment would be referred to provincial hospitals..."*

(Health volunteer,1)

*"In providing health services for children in the Child Development Center, teachers were advised on preventing infection, monitoring, evaluating, and promoting child development using the Developmental Surveillance and Promotion Manual (DSPM). Health care providers also educated caregivers and children on how to prevent COVID-19 infection and ensure children wear masks, hand wash with soap and water, and maintain a distance of at least 1–2 meters..."*

(Teacher 1)

## Health Educator

Community health nurses played a role as an educator in the community. The main actions as an educator were to promote prevention and control of the COVID-19 disease and to provide training on surveillance and skills needed during the pandemic.

- 1) They provided knowledge and advice on how to care for children, school-aged children, adolescents, and family caregivers through communication campaigns and public relations to prevent the infection. The operations are described as follows: (a) Health communication, in which the health educator communicated with the team regarding surveillance of risk groups, health screening of people who traveled into the community, provided knowledge on infectious disease and health care prevention and control measures such as wearing a mask, washing hands, and the importance of receiving vaccinations; (b) Communicating with key persons in the community such as with the teachers in child development centers and schools; and (c) Working actively in developing communication channels for the COVID-19 prevention and control operations with the collaborative teams in the community.
- 2) Training for COVID-19 prevention and control measures was provided to the Infectious Disease Control Committee, health volunteers, community caregivers, and key persons in the community.
- 3) Establishing guidelines for disease prevention and control in the community, working with the agency and community organization, and communicating guidelines to those involved for operational implementation. Some of the interesting, relevant quotes in this regard are as follows:

*"... The communication of COVID-19 prevention team in the community had a Line group for the implementation committee; for example, in the case of information about at-risk groups traveling into the area, nurses at the sub-district health promotion hospitals would advise on quarantine, symptom monitoring, and how to behave with the operations team, etc. ..."*

(Department of Public Health and Environment)

*"... Community health nurses educated family caregivers, health volunteers, infectious disease committee and teachers for COVID-19 prevention, health promotion for children, nutritional support, promotional of child development, intelligence quotient, emotional quotient, and executive function..."*

(Teacher 1)

*"... Operations during the COVID-19 pandemic adhered to the provincial announcement. A guideline was used for the operations; for instance, community guidelines were created to find and screen for groups at risk of spreading COVID-19 who traveled into the community. Home and community quarantine were provided for 14 days, with symptom monitoring and 100% coverage for all cases. Public relations were done to educate the community and communicate guidelines for people when going outside, such as wearing masks, washing hands, and keeping*



*distance. Guidelines for organizing activities that required gathering in the COVID-19 pandemic, such as funerals, weddings, ordination, and traditional merit-making, were provided in the community, which would have a similar approach in all 14 villages ..."*

(Community Health Nurse at Tambon Health Promoting Hospital, 2)

*"... In the early days of the COVID-19 pandemic, we admitted that we had little knowledge of the disease and its practices. However, we gained knowledge and potential development from the staff of the Sub-District Promoting Hospital over time. There were training courses to educate about COVID-19 practices to prevent and control the disease, wearing protective equipment, and giving advice to people in the community when visiting homes. When we obtained more knowledge and confidence, it made our work easier. Because we live in the village, we know every house, it was easy for us to take care of people in each household, and proactively tracked the risk groups traveling into the area and the people at risk groups, such as the sick, the older persons, and children..."*

(Focus group discussion of health volunteer)

## Manager

Community health nurses needed good management skills to help children in care operations during COVID-19. Management skills included planning, organizing, budgeting, preparing medical equipment and supplies needed, and coordinating with relevant departments through public relations campaigns. They also helped children and family caregivers access health services and managed operational resources and environment to prevent the spread of infection. There was a joint follow-up and evaluation process for operating results. Some of the interesting, relevant quotes in this regard are as follows:

*"...There was a material shortage problem in the first pandemic situation. We lack the equipment to prevent infection, including cloth masks, alcohol, alcohol gel, gloves, and face shield thermometer. Nurses ran operations in resource management to prevent and control COVID-19, such as preparation of equipment to prevent and control the spread of COVID-19, such as face shields, hand soap, clear plastic partitions at service points, etc. Health-trained speakers were invited to educate the operation team and volunteers in building cooperation with community resources and budget allocation to support operations, such as the budget for purchasing a scan thermometer for village health volunteers for use in screening at-risk groups traveling into the area community; and screening people in the community before participating in activities such as before entering the market, participating in a funeral or merit-making activities, etc. There was fundraising and assistance from the public and private sectors in the area to support equipment to prevent infection, including disinfectant alcohol, alcohol gel, face shields, PPE set, etc. These materials were also used in the operations of the sub-district working group team and donated to vulnerable families in the community. There was funding from government agencies, the public, and the private sectors in the area to support food and drinking water for people in community isolation..."*

(Focus group, Health volunteer)

*“... In the early stages of the COVID-19 pandemic, equipment was scarce to prevent infection. Therefore, the budget of the local health security fund was used to purchase cloth to make cloth masks for community infection prevention and control teams, people in the community, especially vulnerable groups that were at risk of infection, such as patients with chronic diseases, the older persons, children, and for buying alcohol gel and scan thermometer to detect high-risk groups entering the area...”*  
(Community health nurse at Tambon Health Promoting Hospital 1)

*“...Environmental management to prevent the spread of infection shown as follows: Community nurses assessed the home environment in isolation quarantine to check the number of people living in the same household; and in the case of a group at risk of contracting COVID-19, such as young children, children with chronic illnesses, children with disabilities, and the older persons, etc., they would provide information on community isolation; There was a separate detention facility for high-risk groups traveling into the community. There were two types of quarantine: home isolation and community isolation. Environmental management in healthcare settings was done by screening people before entering the service, providing a one-way entrance to the provision service zones, isolating people with respiratory problems from other health services, and providing services for children, such as immunizations that were separate from other services...”*

(Department of Public Health and Environment)

## Health collaborator

Community health nurses needed to collaborate with many individuals and departments. Health care for children requires teamwork with relevant agencies and networks at the provincial, district, sub-district, and village levels. These people organizations comprised four leading organizations in the area, namely Local Administrative Organization (LAO) officials; community leaders including village headmen, community committees, and community leaders; volunteer groups such as village health volunteers and civil defense volunteers; and community organization groups such as occupational groups, fundraising groups, or community financial institutions, etc.

Work collaboration is shown as follows: To develop operational mechanisms at the village level under the provincial policy such as Blue Flag Village, which covers 100% in the prevention and control of COVID-19; Procurement of budgets to support operations; To prepare guidelines for the prevention and control of COVID-19 in the community; To provide information to those who are at risk of incoming COVID-19 transmission in the community; and A home visit and follow-up to assess the risk of spreading the infection, and provide advice on health care such as social distancing and hand washing with soap and water or alcohol gel. Some of the interesting, relevant quotes in this regard are as follows:

*“... Local government organizations worked on preventing and controlling COVID-19 in the community in cooperation with the authorities. Organizations in the community included Tambon Health Promoting Hospital staff, community leaders, village headmen, and village health volunteers. Civil Defense Volunteer in consultation on operations in community detention centers with the nurses of this sub-*

*district health-promoting hospital to help screen people infected with COVID-19, who were at high risk, and people who traveled from areas where the disease was spreading. Knowledge on disease prevention and control was provided to the community operation team..."*

(Department of Public Health and Environment officials)

## Health coordinator

Community health nurses worked as health coordinators with individuals and health networks to provide children with health care during the pandemic. This work required teamwork with relevant agencies and network partners such as teachers, village headmen, health volunteers, and local government organizations. The work and activities of community health nurses included health screening for vulnerable groups, preparing a quarantine facility in the community, and managing the prevention and control of COVID-19. Some of the interesting, relevant quotes in this regard are as follows:

*"...The community health nurses provided health services for school-aged children. Nurses coordinated with teachers to communicate healthcare information to prevent COVID-19 infection, allowing teachers to communicate knowledge to children and caregivers in families through line classes. More actions also included communicating with community leaders to disseminate information through public relations media for children in the community and the village news tower..."*

(Teacher 3)

## Advocator

Community health nurses also significantly protected children's rights following the Ten Declaration of Patient's Rights. Nurses ensured that if children were required to undergo screening for COVID-19 or needed to be hospitalized, the actions would be taken immediately. Patients would be explained and given information about the guidelines for further hospitalization according to their treatment and voluntary rights to ensure that the patient receives appropriate health promotion and care. Some of the interesting, relevant quotes in this regard are as follows:

*"...When my son was infected with COVID-19, community health nurses came to confirm the infection at my home and advised on treatment guidelines and patient rights to receive health care service. I was happy for all the support from community health nurse..."*

(Caregiver in family 1)

*"...The community health nurse provided advice and service about vaccination among school-aged children, teachers and caregivers in family..."*

(Teacher 2)

## Consultant

Community health nurses played a role in advising the children and family caregivers in the community. COVID-19 has had a significant impact on children in many aspects, including social, economic, and health, causing children to be unable to go to school, creating financial problems in their families, having fewer social interactions with friends and relatives, and causing mental health problems among children. Moreover, these children had to adapt to the new typical situations in the community. Therefore, community health nurses provided consultations through phone, line groups, and follow-up home visits at children's homes and schools. Some of the interesting, relevant quotes in this regard are as follows:

*"...The community health nurse provided communication channels for counseling on health problems, treatment plans, and follow-up treatment practices to prevent infection with COVID-19, etc., through telephone communication and line applications. People could access easily and quickly, which reduced commuting time to health care facilities and reduced the risk of infection..."*

(Health volunteer, 4)

*"...When my baby had complex symptoms. I called to consult with a community health nurse on the 24-hour crisis line and suggestions for symptom management such as fever, cough, and hyperventilation. So, I felt relieved, which helped reduce my anxiety..."*

(Caregiver in family 1)

## Data collector and reporter

Community health nurses were significant in data collection during the COVID-19 pandemic. Data obtained during the pandemic was necessary for health operations and management. By collecting and analyzing data on children's health, patients, medical history, and treatment outcomes, community health nurses could identify patterns and trends that help develop more effective treatments and care plans. Moreover, it was vital to have accurate and up-to-date information. It was very challenging for community health nurses to summarize quality data and report it promptly to facilitate the execution of the healthcare process. Community health nurses needed to collect health data and report it for quality care of the children in the community. Some of the interesting, relevant quotes in this regard are as follows:

*"... The risk group screening was conducted by nurses of sub-district health-promoting hospitals and village health volunteers. When people at risk of spreading COVID-19 traveling to the area, a list of names and places of arrival would be registered and notified. Nurses assessed the risk groups, advised on how to quarantine, and followed up quarantine until 14 days period ..."*

(Community health nurse at Tambon Health Promoting Hospital 1)

## Discussion

The results of this study reflect the role of community health nurses regarding healthcare practices in primary healthcare facilities in providing services and operations related to children's health during the COVID-19 pandemic. The results were categorized into eight themes: health care provider, health educator, manager, health collaborator, health coordinator, advocator, consultant, and data collector and reporter. The discussion is shown as follows:

### **Healthcare provider for children during the COVID-19 pandemic**

Community health nurses provide health care services and respond to problems and needs of children, school-aged children, adolescents, and family caregivers. The work of community health nurses was consistent with past research, which found that nurses played a significant role in caring for children in the community, providing care for both the healthy and the sick. The care was focused on delivering proactive services, follow-up, and home visits for pediatric patients with chronic illnesses. Moreover, nurses provided communication channels for advising on health problems, the provision child health promotion services, health services for children in the Child Development Center, health services for school-age children and adolescents, and giving the COVID-19 vaccination to children aged 5–11 years which in accordance to the study of child and family care guidelines in the situation of the COVID-19 pandemic. Community health nurses play essential roles in taking care of children in many areas, such as physical health, mental health, nutrition, and social aspects; for instance, giving advice on health care and ensuring that the child receives complete nutrition, promoting physical activity, managing and caring chronic illness children cases, maintaining medication adherence and observing health complications as well as managing and reducing stress and anxiety among children and their families (Zehra & Gulendam, 2021). This was also consistent with previous studies reporting that nurses performed comprehensive care that determined health conditions among children and vaccinated children against COVID-19 and other vaccines according to the Child Age-Based Immunization Plan (Crawford et al., 2022; Yodsuban et al., 2023).

### **Providing health education and training to empower people in the community**

Findings showed community health nurses have played a role as health educators. Their main actions as an educator were to promote prevention and control of the COVID-19 disease and to provide training surveillance skills, namely knowledge and advice on how to care for children, school-aged children, adolescents, and family caregivers. They provided campaign communication through public relations to prevent the infection; training programs for community caregivers during the COVID-19 pandemic were delivered to the Infectious Disease Control Committee, health volunteers, community caregivers, etc.; and established guidelines for disease prevention and control in the community. These work and programs were consistent with previous research regarding healthcare education to prevent COVID-19 infection by developing a flexible approach to educate and evaluate the outcomes and the development of online communication channels and technology (Ridgway et al., 2022; Yodsuban et al., 2023).

## **Community management for health and social well-being during the pandemic**

Findings showed community health nurses acted as community managers during the pandemic. These nurses must have good management skills to assist and care for children during the outbreaks. Management included planning, organizing, budgeting, preparing medical equipment and supplies needed, and coordinating with relevant departments through public relations campaigns. Similar to the study of Tulcharoen et al. (2020), which found that community health nurses had to manage and solve problems such as dealing with a shortage of equipment from a widespread pandemic throughout the country, making cloth masks, face shields, hand soap plastic partitions used in health services, and managing budget and fundraising. In this research, the local health security fund also supported the budget used in community activities. Community health nurses also raised funds and received assistance from the public and private sectors in the area to support equipment such as PPE kits, 70% alcohol gel, drinking water, food, etc., which was consistent with the synthesis of the role of professional nurses in providing health services in the community, such as providing adequate cleaning and disinfection equipment, and alcohol gel, mask, etc.

As part of environmental management to prevent the spread of COVID-19, management was done by evaluating appropriate home environment for home isolation, working with network partners from the community to establish community detention councils (community isolation), and setting up a background in a healthcare facility to prevent the infection by isolating those who had been confirmed to be infected with COVID-19 or those who were at risk or had close contact with the patient with a distance of less than 1 meter for 14 days in a government-provided facility or at their home (World Health Organization, 2020a). Moreover, nursing care facility was set up to prevent the spread of infection in the community (Devrim & Bayram, 2020; Yodsuban et al., 2023)

## **Health collaborator working with leading organizations in the community**

Community health nurses worked with four leading organizations in the area, including Local Administrative Organization officers, community leaders, volunteer groups, and financial institution groups. Consistent with past studies, it was found that community health nurses in primary care settings have been essential players in arranging events, organizing training, and developing and empowering the potential of village health volunteers to prevent and control COVID-19 infection. The roles of community nurses in this research were to organize training for community people to develop and increase their skills in health, such as knowledge regarding prevention and control of the disease, skills in making equipment to prevent infection, such as cloth masks or face shields, giving health consultation for people in the community, collaborating with people from public and private sectors in the community, establishing sub-district disease surveillance center to fight against the COVID-19, and to support prevention measures and received orders from the government. This is consistent with the previous study that performed potential development of the operation team at the sub-district level by educating knowledge about the COVID-19 outbreaks by keeping a distance of 1.5 to 2 meters, refraining from social gatherings, and providing accurate information to community operation teams, etc. (Tulcharoen et al., 2020; Yodsuban et al., 2023).

## **Health coordinator working with the community**

Community health nurses worked with many individuals and departments in providing healthcare services for children, and their work required them to cooperate with relevant agencies and network partners such as school teachers, village headmen, health volunteers, officers from local government organizations, and related key persons in the community. The work and activities of community health nurses included screening vulnerable groups, preparing a quarantine facility in the community, and managing the prevention and control of COVID-19, which was consistent with a previous study reporting that community health nurses coordinated with community networks and several levels of departments namely provincial, district, sub-district, and village levels. The participation of network partners in the community included village health volunteers, community leaders, and people in the community (Panyathorn et al., 2021; Tulcharoen et al., 2020). These key persons were important in operation, working per the context of the area and contributing positive impacts on the health service system (Yodsuban et al., 2023).

## **Representing and supporting children in the community**

According to the Ten Declarations of Patient's Rights, community health nurses are crucial in informing and protecting patients' rights. The findings in this study showed that community nurses ensured that whichever steps were necessary, the patients would be advised to take action immediately, such as hospitalization or COVID-19 screening for children. To ensure that the patient receives the proper health promotion and care, patients would be informed about the guidelines for further hospitalization per their treatments and voluntary rights. Community health nurses also had a separate role in ensuring and defending the right of all citizens to obtain primary medical care, safeguarding the needs of patients and their families, and assisting families and patients in realizing their value. Additionally, nurses had a duty to treat all patients and families equally, which included screening those who may be at risk of COVID-19 infection, offering practice-related guidance and details on their rights to treatment, etc. (Pattarateeranon et al., 2021; Yodsuban et al., 2023).

## **Giving consultation to children and family caregivers**

One of the critical roles of community health nurses during COVID-19 was a consultant. Consulting work consisted of providing health information for people in the community, communicating information on the prevention and control of the disease, and reporting and giving information to operation teams. Nurses shared with agencies, including schools, child development centers, and healthcare units, regarding child health, preparation, prevention, and control of the disease, chronically ill children, things to do, and their rights to treatment. Nurses worked with the operation teams in the community to speed up the development of communication channels during the pandemic. The results of this study suggested that nurses should have rapid health communication with people in the community, health networks, and involved agencies through multiple channels to provide care services for children. Moreover, telehealth service, which is medical service via the internet, played an essential part in providing continuous care and support to children and their family caregivers in caring child's health, which worked efficiently during the outbreaks (Crawford et al., 2022; Yodsuban et al., 2023; Zehra & Gulendam, 2021).

## Collecting and reporting quality data

Nurses had to perform many tasks, including searching and screening people from risk groups, such as those traveling into the community area. Nurses had to obtain health information such as health history, treatment, and medications to provide health care services to those infected with COVID-19, children, chronically ill persons with non-communicable diseases, health follow-up, etc. Data collection was done by community nurses so that they could have the necessary information for health operations and management during the COVID-19 pandemic. This is consistent with nurses working in primary care units; they perform health assessments, follow-up, set up quarantine facilities, and share health information (Tulcharoen et al., 2020). Nurses coordinated with people monitoring high-risk groups in home detention and community detention facilities (Farsalinos et al., 2021; Yodsuban et al., 2023). Data collected by nurses were summarized and reported for quality care in children's health care services.

## Limitations of the study

During the collection of research data in the community, there was a second wave of the COVID-19 pandemic; therefore, prevention and control measures were taken, such as social distancing, home quarantine, and working from home; hence, the precaution measures suspended the research for 1–2 months to control the spread of the disease. However, the researcher continuously monitored the situation of the COVID-19 pandemic in the community through online communication channels with nurses and staff from all sectors of the community to ensure continuity in the research study.

## Conclusion and implications for the practice of community health nurses

Community nurses and health workers are essential in providing healthcare services for children during the COVID-19 pandemic. Problems were found among children at risk of contracting COVID-19, having difficulty accessing health services and not receiving enough healthcare information and advice from health workers, and children with chronic illnesses who had barriers in accessing health services and treatment. However, community health nurses have played many roles in providing healthcare services for children, both the healthy and the ill, who need medical treatment. The results of the study revealed knowledge that reflects the roles nurses play in adjusting health care practices in times of pandemic; for instance, creating engagement with network partners in the community, preparing operational guidelines, providing advice and support to teams and children and their family caregivers, and referring those who required medical treatment to a provincial hospital right on time. These are essential roles of nurses in children's health services. There are many suggestions for the development of community nurses' roles in providing health services for children shown as follows:



## **Nursing practice**

Community health nurses should pay attention to the situations of all children, including school children in the responsible area, children in the community, and children with health problems, to serve as a database for planning health services per the needs of the situation during pandemic; support the preparation of data and use the population data in action plans to prevent and control the spread of the infectious disease; encouraging social capital groups or agencies to participate in the implementation of health services for children; and developing and capacity building health volunteers to increase their potential regarding knowledge and caring to children proactively through home visits, online communication channels, and enabling them to disseminate knowledge in prevention and control of the COVID-19 to children and their families.

## **Education**

Educational institutions should develop curricula to be up-to-date with the situation of emerging disease outbreaks, especially COVID-19, which is a global pandemic that affects a large number of people. Lessons learned from the recent outbreaks should be taught to nursing students so that they can learn about past operations and prepare for healthcare practice in the community. The roles of community health nurses in community healthcare practices should be studied holistically and summarized as guidelines for current nursing students, health volunteers, and the general population to use as a reference for the prevention and control of infectious disease and preparation for oneself and one's family members. There should be training programs and drills regularly to prepare for future emerging infectious diseases for children's health and care services. The role of community health nurses in operating child health care should cover all the areas of children's health in the community, such as health promotion, growth and development promotion, health service, and rehabilitation for chronically ill children.

## **Research**

Educational institutions or agencies that supervise and monitor the provision of health services, such as the Provincial Public Health Office, should summarize the lessons learned regarding the roles of community health nurses in providing health services for children during the COVID-19 pandemic as a guideline to develop the capacity of community nurses in providing health care services for children.

## **Policies**

The Nursing Council of Thailand should support knowledge management and data dissemination on the role of community health nurses in working with network partners in the community to provide health services to children during the COVID-19 pandemic and use the data to develop training courses to develop community health nurses' potential in delivering health services for children.

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