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Extreme Adjustments to Telehealth Services among Rural Public Health Nurses during the Covid-19 Pandemic in Padang Indonesia

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A B S T R A C T

Objective: During the COVID 19 pandemic, rural community health nurses selected telehealth as a novel approach for providing health service. This research describes the interactions between public health nurses and the health service system concerning telehealth implementation. **Method:** Qualitative research was conducted on rural community nurses at Community Health Center of Padang, Indonesia. The sample was determined based on data saturation. The data was collected using in- depth interviews with open and semi-structured questions. The findings were analyzed utilizing thematic analysis as the primary focus. **Result:** An overview of telehealth implementation in rural communities is obtained in terms of device aspects, long-distance communication ethics, communication collaboration, and communication interactions in health services. **Conclusion**: The study's finding demonstrate that telehealth assisted extend the reach of rural community health service. Adjusting communication patterns using communication technologies and designing the most influential information for symptom detection.

INTRODUCTION

The global expansion of the pandemic, along with the escalating complexity of public health issues, has prompted the urgency of the necessity of a innovative alternative approach to medical care, particularly physical remote care (Arshad Ali, Baloch, Ahmed, Arshad Ali, & Iqbal, 2020). The increase in public health concerns caused by this virus has also significantly affected the predicted availability of medical personnel, health service provider facilities, and other resources (Mataxen & Denise Webb, 2019). (Anzai et al., 2020). As of May 28, 2020, 5,6 million individuals have confirmed positive for COVID-19, resulting in 350,000 deaths worldwide (Colbourn, 2020). Developed countries and superpowers are the countries with the highest incidence rates. Indonesia alone reports 25,000 confirmed positive cases and 1,520 fatalities (Gibson & Olivia, 2020). During the first global pandemic of COVID-19, rural and urban areas were required to adhere to activity restriction measures to prevent the spread of the virus (Armocida, Formenti, Ussai, Palestra, & Missoni, 2020). During the limited time, individuals must maintain a safe distance from one another, wear face masks, and often wash their hands under running water (Kandel, Chungong, Omaar, & Xing, 2020). The distance restriction rules apply to the community environment and healthcare providers, resulting in the concept of incorporating telehealth into a healthcare strategy (Terry & Buntoro, 2021).

For decades, healthcare providers, technology companies, and academics have campaigned to expand telehealth use (Barnett, Ray, Souza, & Mehrotra, 2018). With the development of information and communication technologies, society's technological proficiency is accelerating (May et al., 2021). The regulator responded quickly by issuing directives for a telehealth-oriented health service strategy (Kayyali, Hesso, Ejiko, & Nabhani Gebara, 2017). The two-year COVID-19 pandemic has prompted significant policy reforms (Gajarawala & Pelkowski, 2021) and has had a remarkable effect on the prevalence of telehealth use (van Houwelingen, Moerman, Ettema, Kort, & ten Cate, 2016). Telehealth introduces a new potential for sharing health information, which has consequences for privacy and security (Mataxen & Denise Webb, 2019). There may be some practical problems (Sakumoto et al., 2022). Nevertheless, telehealth permits a high degree of adherence to requirements for physical distance as multiple attempts to limit the transmission of COVID-19 (Jiang, Bills, & Poon, 2020). Patients in high-risk categories, such as the elderly, immunocompromised adults, and those with various comorbidities, are safeguarded from potential exposure to the virus when they use health services (Myers, 2019). Telehealth lessens the usage of personal protective equipment and decreases patient crowding at healthcare facilities (Bin, Andruetto, Susilo, & Pernestål, 2021). Access to health services is impeded by several challenges in rural areas (Agata, 2016). The intricate and lengthy voyage put him and his family under sufficient psychological strain (Muzammil, 2020). Accessing health services has become a significant burden for families with modest economic means (Muzammil, 2020). In addition, the limited quantity of medical workers prevents them from visiting patients'

homes (McElroy, Day, & Becevic, 2020). Socioeconomic barriers result in poor health outcomes for some people who require education and care (Barnett et al., 2018). Eventually, telehealth will become a vital option for improving rural community health services (Luciano, Mahmood, & Mansouri Rad, 2020). In response to the shortage of medical personnel, consultation services utilizing communication media as a standard practice can expand rural community services (Smith, McNeil, Mitchell, Boyle, & Ries, 2019).

Several studies have demonstrated that using telehealth to provide health services to rural regions is a reasonably reliable regarding quality, coordination, and health service agencies (Owens, 2019). This solution efficiently avoids superfluous services that can be performed at home individually (Moeckli, Gutierrez, & Kaboli, 2021). Another survey found that 94% of patients were pleased with their telehealth service access (Polinski et al., 2016). A study explored the challenges of delivering telehealth nursing care in remote settings (James et al., 2021). Four topics serve as study material: service accessibility, nurse preparation, experience caring for rural populations, and the effect of telehealth services on the role of rural community nurses. In this study, eight nurses participated as interview respondents. As a result, some nurses adapt to telehealth rapidly, while others require more time to be prepared to utilize telehealth services. This study indicates that patient participation in telehealth services depends on the patient's convenience, technological proficiency, and confidence in each service session.

Specifically, this study aims to investigate the variety of experiences community health nurses encountered while providing telehealth services during the COVID-19 pandemic. According to the subject's perspective, the results of this study are intended to interpret the narrative situation of the foundation of telehealth services, including the originality and tangible depiction of the situation of access to telehealth services in the health system. It is anticipated to explain the nature of the interaction between community health nurses and telehealth service-related healthcare systems.

METHODOLOGY

Study Design

This grounded theory study (Foley & Timonen, 2015) employs a qualitative design and phenomenological methodology. During the COVID-19 pandemic, the research was conducted at 18 active Community Health Centers in Padang, Indonesia. There are records of two Community Health Centers actively enrolling in this trial.

Participant

Community nurses under the auspices of the public health center who provided telehealth services and were willing and committed to participating in this study provided the data for this study. A willingness to give narrative data about telehealth services during the COVID-19 pandemic constitutes participation. This study examines four facets: the technologies utilized, the ethics of long-distance communication, communication collaboration, and communication interaction in health service.

Data Collection

Simultaneously, qualitative data were gathered through in-depth interviews using open and semi-structured questions. Separate data collection was conducted for each individual. A tape recorder was used for speech data, while field notes were taken for non-verbal expressions. The recorded information is subsequently transferred to a computer file and saved in a secure area. The data were then re-listened to and transformed into verbatim transcripts. Transcripts and field notes were integrated to enhance the usefulness of the obtained data.

Data Analysis

The transcripts were then sorted to identify relevant participant statements. Significant statements are categorized into groups. The categories are subdivided into themes and subthemes. To enhance comprehension of the experience, these concepts are conveyed in the form of an innovative and representative narrative. This study analyses four critical topics. The analysis and results are organized to validate the qualitative data by assuring their veracity, transferability, reliability, and applicability. This study adheres to ethical principles and concerns in all of its research rule. They are assuring that nobody is hurt or badly impacted. This study rigorously adheres to autonomy, beneficence, nonmaleficence, secrecy, and equity principles. This research is also dedicated to protecting the participants.

RESULTS

The participants' mean age was 27 years (range 24-37years), and 88% were female. The chat lasted 30-45 minutes for each participant in a relaxed setting, with an open attitude and acceptable tone of voice, and 30-45 minutes. The questions begin with "trigger" inquiries regarding how nurses provide care amid the Covid19 pandemic. The interview concluded when the data reached the level of detail that the researcher deemed appropriate for the instrument. The conversation concluded by determining the participants' physical and mental health.

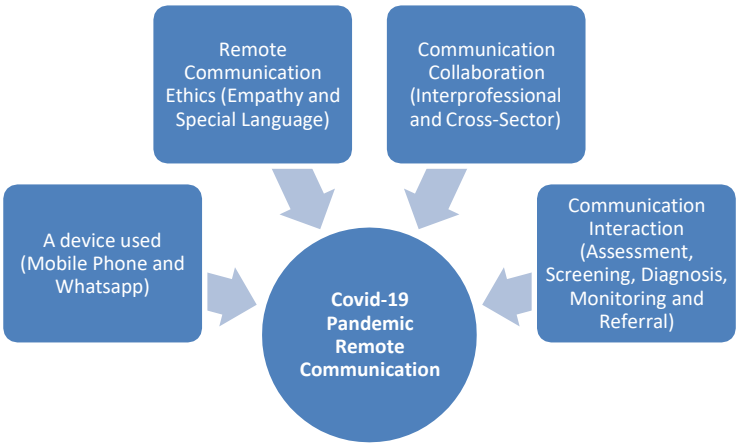

Figure 1. Grounded Theory Variable Model of Community Nurse Long Distance Communication During the Covid-19 Pandemic

Cell Phones / WhatsApp as Technology of Choice

Participants described WhatsApp as the most prevalent form of communication. Despite the general complexity of technology, there are only two fundamental forms of technology utilized for long-distance communication: cell phones and the WhatsApp messaging programs. Through delivering messages, audio messages, voice recordings, real-time video conferencing, and store-and-forward technology, WhatsApp's technology can facilitate long-distance communication interactions when dealing with distant patients. Far. The simultaneous transmission of video and voice links over a single channel, made possible by technological advancements, enables live video conferencing, which is also applicable to health education. Using cell phones and cameras, video conferencing enables patients and carers to view and communicate with one another in real-time. Currently, WhatsApp enables the communication between two or more parties for consultation and treatment, patient care and monitoring, and health education.

"We are accustomed to using the telephone; our contact number is the unique number used for Covid-19; we are compelled to provide this service and must answer to patients. In addition to being able to make phone calls, the WhatsApp service must be accessible since it is simple to use, it can make video calls, and it is simple to forward information; therefore, monitoring is conducted through it. (P1)

"We inform the population that if they have symptoms and a danger of Covid-19 transmission, they must notify us and then be served; the flow is identical." We are simply carrying out orders. Therefore, cell phones must be on standby; if they are not, they can also use WhatsApp, but WhatsApp is typically used." (P4)

Despite the general complexity of technology, there are only two fundamental forms of technology utilized for long-distance communication: cell phones and the WhatsApp messaging programs. Through delivering texts, audio messages, voice recording, real-time video conferencing, and store-and-forward technology, WhatsApp's technology is capable of facilitating long-distance communication when conducting business with faraway patients. Far. Technological developments permit the simultaneous transmission of video and speech links over a single channel, enabling live video conferencing and making it suited for health teaching. Using cell phones, cameras, TVs, microphones, software, and networks, video conferencing permits patients and carers to view and communicate in real time. In healthcare, video conferencing permits two or more individuals to connect for consultation and care, patient management and monitoring, and health education.

Remote monitoring, a storage and forwarding technology, allows for more frequent monitoring of the patient and physiological data patterns, which holds tremendous promise for enhancing the management of Covid-19 illness. Remote monitoring systems can monitor patients at home, transmit symptom monitoring data and information to nurses, and evaluate and provide follow-up care recommendations.

"We communicate by WhatsApp; if we do not respond, we are contacted by phone." People are familiar with the number, and they report while we monitor and evaluate as well. If it is inevitable, then action will be taken." (P3).

Ethics of Communicating Remotely with Clients

An essential part of long-distance communication is communication etiquette. During a pandemic, long-distance communication etiquette covers the particular activities required to create long-distance communication partnerships. This conduct is comparable to the ethics of communicating with casual acquaintances. However, specific communication skills must also be modified to the form of communication that is highly fitted to this disease's identical characteristics. With attention, empathy can be communicated. Prioritize the selection of motivational terms that are simple to comprehend; thus, as not to frighten the consumer. Empathy is demonstrated through the selection of culturally and socially acceptable phrases.

"This system is unfamiliar to us, but we must adapt. Sometimes confused, we are also unfamiliar with this term. We are obliged to be able to describe this condition to patients. Since many people panic, we must use intelligence to calm them down. Suppose they cannot do so, they will cause us panic." (P3)

"At times, I feel sad for them since we are also exhausted. They continued to inquire. Occasionally, we must be deft with them in order for them to comprehend and know what to do. Yes, people must be anxious; thus, we must also explain thoroughly." (P4)

Remote Communication Collaboration

Community nurses must be proficient in interprofessional and cross-sector collaboration, especially when addressing crises such as the Covid-19 outbreak. Promoting communication between professionals and other sectors is a fundamental responsibility of nurses. Most organizations representing health-related professions have primary and distinct tasks in preparing for the Covid-1 crisis. A specific hierarchical model was also created to adapt the health system to the pandemic. For efficient interprofessional and sector collaboration, hierarchies must be minimized.

"In a circumstance such as this, we must also comprehend the system, as many professions are involved, and occasionally our medical coworkers contact one another. Everyone should participate and assist. We also establish communication with hospitals that provide referrals. The dialogue was pretty passionate." (P1)

"If I receive a report, I must continue communicating with others; we are all implicated in the public health center." Therefore, the public health center has its own wa group, so it may be controlled. Additionally, the communication with the referring hospital must be robust; thus, there is time to act. (P2)

Patient-Nurse Medical Interaction

Patients are believed to require interaction with the health service system; however, physical separation must be preserved. Healthcare professionals that serve Covid19 patients attempt to establish a system with virtual/remote monitoring and consulting (SMS, WhatsApp and telephone). Screening is conducted under the agreed-upon standards and procedures, and the referral flow is modified to conform to the Covid-19 Hospital referral method. All

healthcare professionals at Initially Level Health Facilities (FKTP) utilize are advised to attend online meetings and consultations first, and there are no hurdles to this recommendation. It is hoped that access information can be systematically distributed to the public via the Public health center network to online communication groups at the sub-district level and the target area RTs. Healthcare facilities must collect, maintain, and track the contact information of individuals under surveillance (ODP). For FKTP (First Level Health Facility) to effectively manage Covid-19, strict communication with ODP is required. Importantly, the FKTP Covid-19 Team must educate the general public via distance.

"When a patient reports, we screen for symptoms, then conclude and decide whether to collect a specimen or conduct a rapid/swab examination. After determining his condition, we will monitor him and, if necessary, refer him." (P1)

"The patient contacted us; we subsequently evaluated and confirmed his condition. If it is determined to be suspicious, we will come and examine it. If the symptoms are not severe, they will be monitored; if they are serious, the patient will be referred to a referral hospital. Monitoring is essential since it prevents disease transmission." (P2)

DISCUSSION

The nurses in this study viewed WhatsApp as beneficial for telehealth services due to its familiarity and simplicity. During a pandemic, WhatsApp phones and applications are useful for helping patients, as they provide a variety of capabilities that satisfy their communication demands (Barayev et al., 2021). According to a separate study, WhatsApp consultations removed almost fifty per cent of in-person patient visits (Gulacti & Lok, 2017). Consistent with prior studies, Johnston et al. (2015) asserted that WhatsApp offers advantages in terms of the effectiveness and efficiency of direct communication due to its numerous user-friendly features. Initially, the WhatsApp program was solely utilized as a "backdoor" conduit for communication amongst hospital paramedics. However, a sound effect was observed while conducting brief chats about patient care, therefore WhatsApp has become the norm for nurse contact (Benedictis et al., 2019). In South Africa, orthopedic physicians utilize WhatsApp to mentor non-orthopedic physicians managing fracture cases in health clinics (Kauta et al., 2020). This demonstrates that WhatsApp is the best option for medical professionals to communicate the best outcomes for all patients.

Patients and participants acknowledge that telehealth is still somewhat novel; therefore, both are continuously adjusting. Nurses and patients are required to simultaneously master word selection and written communication comprehension. Similarly, when speaking on the phone, they must respect one another and allow many opportunities to speak and listen in order to comprehend vital health information. According to research (Gajarawala & Pelkowski, 2021), telehealth is hindered when recognizing physical complaints and providing instruction necessitates using visual expressions and representations. According to another study, respondents admitted that

telehealth facilitates access to health consultation services. However, interference with freedom of communication and the require to mutually limit contact for the purpose of ethics can cause patients to question the completeness of the facts required to establish a diagnosis and determine subsequent treatment (Gordon, Solanki, Bokhour, & Gopal, 2020).

The speed of information is the most notable aspect of the era of telehealth, and it takes only a few seconds to transmit comprehensive patient data. However, this does not imply that the work of health professionals is accomplished rapidly, and this facilitates their work objectives. Continuous remote communication is maintained between professionals and work units, requiring attentiveness and practical communication abilities. This circumstance prompted consideration of the significance of a training program for rural community nurses to provide higher-quality care (Owens, 2019). In his study, Moeckli et al (2021) discovered that medical workers in rural health institutions viewed telehealth as highly beneficial for accelerating the treatment of patients who require referrals to more comprehensive urban health facilities. This indicates that telehealth is intended for rural and urban health facilities (Muzammil, 2020).

The participants articulated the utility of telehealth in treating COVID-19 with clarity and consideration. During a pandemic, all judgements regarding public concerns are based on identification results via agreed-upon communication channels: telephone and WhatsApp. The interaction between nurse and patient is productive, and both parties appreciate one another. Patients are aware of their responsibility to offer precise data delivery. Nurses' abilities to be attentive, comprehensive, and aware of all patient signs that lead to COVID-19 are consistently improved. Due to the enormous workload of telehealth nurses, a clear separation of responsibilities is urgently required (Smith et al., 2019). To minimize the time of tele-education services, it is also necessary to design information material for repeated enquiries from the audience.

CONCLUSIONS AND RECOMMENDATIONS

The COVID-19 pandemic has expedited the emergence of telehealth as a new age. Positive changes have taken place in rural nurses' provision of public health services. Society values data and information more; on the other hand, nurses experience improved communication, technology, administrative abilities, critical thinking, and empathy. It is necessary to develop a standard operating procedure that is clear and reliable in implementing telehealth in all lines of health services.

FURTHER STUDY

This study only uses nurses as participants, so that the description of the telehealth implementation situation is incomplete from the patient's point of view. For future researchers, it is suggested to involve patient contributions as research subjects in order to obtain more complete telehealth facts.

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