

Computer-Mediated Communication Perspectives on Telemedicine: Integrated Antenatal Care Program during the New Normal Era

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Abstract

Integrated Antenatal Care (ANC) Intervention Program at the North Purwokerto II Community Health Center (Puskesmas) was initiated not only because of the 13.58% increase in the stunting rate but also because of the pandemic situation that has changed the pattern of information communication and education activities between the Puskesmas and pregnant women in its working area. The problem is how midwives can reach pregnant women through the ANC telemedicine program. This study was intended to present a different discussion as the ANC telemedicine program was dissected using three Computer-Mediated Communication (CMC) perspectives: impersonal, interpersonal, and hyperpersonal, to analyse the success of the ANC program. This research also used literature studies from related books and journals. The data displayed from related ministries in Indonesia and other research are dissected as secondary data to strengthen the adoption of this theme. In addition, this paper used the qualitative-descriptive method to describe the situation, conditions, and events that occur in detail. Triangulation of data sources was used to explore the truth of the information: researchers conducted observations and in-depth interviews with the Head of the Kasih Jeruk Purut Program, Sub-districts (Sub-district) Midwives, Puskesmas Midwives, and pregnant women. The findings were multi-faceted, and research from other perspectives and fields of work is still needed.

Keywords: computer-mediated communication; information education communication; integrated antenatal care; stunting; village midwives; pregnant women.

INTRODUCTION

The Indonesian government targets a reduction of stunting to 14% by 2024, which currently only reaches 2.7%. Meanwhile, there will be 20 million new births by 2024, according to The National Population and Family Planning Agency (BKKBN). It means that there are 20 million children who must be prevented from stunting.

Stunting is a condition when a toddler grows below the average height. It can slow down brain development with long-term effects such as mental retardation, low learning abilities, and the risk of developing chronic diseases such as diabetes, hypertension, and obesity. According to the National Team for the Acceleration of Poverty Reduction

(TNP2K), stunting is caused by various factors, such as poor parenting, which includes feeding in the first two years after birth, lack of access to health services during pregnancy and after delivery, shortage of family access to nutritious food, and limited access to clean water and sanitation (Kemiskinan, 2017).

Antenatal Care (ANC) observation is a pregnancy examination aiming to optimally improve pregnant women's physical and mental health to support them during childbirth, postpartum, exclusive breastfeeding, and return to normal reproductive health. Pregnancy checkups are carried out at least 4 (four) times during pregnancy: once in the first and second trimesters and twice in the third trimester. If the Antenatal Care (ANC) observation is not structured and comprehensive, achieving a stunting prevalence rate of 14% in 2024 will be difficult. Furthermore, the pandemic complicates many other health programs, including stunting (Kementerian Desa & Indonesia, 2021).

The purposes of the ANC observation are monitoring the pregnancy process to ensure the mother's health and the fetus's growth in the womb, observing complications that may occur during pregnancy due to histories of disease and surgery, and improving and maintaining the health of the mother and baby. ANC prepares pregnant women for delivery to ensure safe childbirth and minimises trauma. It also reduces the number of child and mother morbidity rates and helps mothers adapt to their roles and the family to accept the birth of babies. That way, babies can grow properly. ANC also assists mothers in passing the puerperium well and may provide exclusive breastfeeding. Expectedly, the implementation of integrated Antenatal Care (ANC) according to the standards may reduce the Maternal Mortality Rate (AKI) and Neonatal Mortality Rate (AKN) because any pregnancy complications with risk factors for childbirth, if arises, can be detected earlier (RI, 2020).

In initiating the Integrated Antenatal Program intervention, the Puskesmas Purwokerto Utara II carried out baby weighings to detect the percentage of stunting in Baduta (toddlers under two years) aged 0-23 months in over four sub-districts: Sumampir, Grendeng, Karang Wangkal and Pabuwaran. The activities were performed in August 2020 and February 2021, resulting in the following data.

Table 1. Results of baby weighings and percentage of stunted Baduta in August 2020

Region	Number of Stunting	Number of Baduta	Percentage (%)
Sumampir	25	252	9,9
Grendeng	12	81	14,8
Karang Wangkal	3	67	4,4
Pabuwaran	2	123	1,6
Total	42	523	8,03

Source: Community Nutrition Data for Puskesmas Purwokerto Utara II (2020)

Table 1 shows that among 523 Baduta (0-23 months) in the working area of the Puskesmas Purwokerto Utara II, 42 or 8.03% were stunted.

Table 2. Results of baby weighings and percentage of stunted Baduta (0-23 months old) in February 2021

Region	Number of Stunting	Number of Baduta	Percentage (%)
Sumampir	30	236	12,71
Grendeng	10	162	6,17
Karang Wangkal	6	69	8,69
Pabuwaran	12	126	9,52
Total	58	593	9,78

Source: Community Nutrition Data for Puskesmas Purwokerto Utara II (2021)

Table 2 shows that among 523 Baduta (0-23 months) in the Puskesmas Purwokerto Utara II working area, 58 or 9.78% were stunted.

Table 3. Results of baby weighings and percentage of stunted Baduta (0-23 months old) in September 2021

Region	Number of Stunting	Number of Baduta	Percentage (%)
Sumampir	24	218	11,01
Grendeng	20	145	13,79
Karang Wangkal	9	54	16,67
Pabuwaran	18	106	16,98
Total	71	523	13,58

Source: Community Nutrition Data for Puskesmas Purwokerto Utara II (2021)

Table 3 shows that among 523 Baduta (0-23 months) in the Puskesmas Purwokerto Utara II working area, 71 or 13.58% were stunted.

Based on the data above, suppressing the increase in stunting rate in this region becomes a challenge for Puskesmas Purwokerto Utara II. This situation is compounded by the pandemic, which has changed the pattern of IEC (Communication, Information and Education) activities between the Puskesmas and pregnant women. A midwife at Puskesmas Purwokerto Utara II, AB, said that during the pandemic, there had been restrictions on services for pregnant women. It was performed only on Mondays and Wednesdays, and the number of patients was limited to 10 pregnant women each time. The Puskesmas was also unable to meet the need to provide vitamins and supplements due to the limited supply, whereas there were 142 pregnant women in the work area.

Table 4. Number of pregnant women in the working area of Puskesmas Purwokerto Utara II per June 2021

Region	Number of Pregnant Women
Sumampir	64
Grendeng	44
Karang Wangkal	14
Pabuwaran	25
Total	147

Source: MCH data for Puskesmas Purwokerto Utara (2021)

Table 5. Number of pregnant women in the working area of Puskesmas Purwokerto Utara II per December 2021

Region	Number of Pregnant Women
Sumampir	124
Grendeng	90
Karang Wangkal	32
Pabuwaran	50
Total	296

Source: MCH data for the Puskesmas Purwokerto Utara II (2021)

According to Handbook for Antenatal, Childbirth, Postpartum, and Newborn Services in the Era of New Normal Adaptation published by the Indonesian Ministry of Health in 2020, verbal autopsies are carried out by visiting the family. The assessment can be done in person (complying with health protocols) or through online communication media (video conference) for green zone areas. For the yellow, orange, and red zones, verbal autopsies can be done by visiting the family or via telephone. Meanwhile, the assessment can be done through online communication media or video conferences (RI, 2020).

Based on the description above, a problem arose: how midwives can reach pregnant women through the ANC telemedicine program to continue accomplishing and maintaining the authenticity of data in the field and serve the needs of health care and nutrition IEC (Communication, Information and Education) during the pandemic. The Team of ANC Program used a safer communication channel, namely Telemedicine through WhatsApp, telephone, and SMS. Instagram is not too popular among pregnant women in the Puskesmas Purwokerto Utara II work area.

This study intends to present multiple discussions. The ANC telemedicine program will be dissected using three CMC perspectives, namely impersonal communication, interpersonal communication, and hyperpersonal communication, so it will be revealed how these three perspectives produce and present implications for the success of the ANC program.

Today, the term 'New Normal' may not sound foreign worldwide. It is based on the context of dealing with the Coronavirus Disease 2019, or Covid-19 pandemic. Previously, the Indonesian government used the term 'New Life Order.' It was then changed to 'New Normal' to make it easier for the public to understand. Adapting New Normal has created the need for new public policies, especially in public services. In this case, the government must adopt the existing public services to the current conditions (Mulaningsih, 2020).

A study on antenatal examinations was conducted with the following background: Antenatal care (ANC) attempts to prevent the causes of morbidity and mortality in pregnant women and children. The purpose of ANC is to physically and mentally prepare mothers and save mothers and children during pregnancy, childbirth and postpartum. Therefore, the mother and child are physically and mentally healthy and normal. Based on the reality in the Puskesmas Bandar Jaya working area, KI coverage was 87.6%, and K4

coverage was 86.1%; thus, the percentages were still below the Lahat Regency target of 95%.

The purpose of this study was to analyse the factors influencing antenatal care for pregnant women. The results showed that there was a relationship between education ($p = 0.000$; OR 2.625), parity ($p = 0.002$; OR 0.153), maternal age ($p = 0.003$; OR 0.119) and knowledge ($p = 0.000$; OR 13.2) with visits Antenatal Care at the Puskesmas Bandar Jaya, Lahat Regency in 2021. The multiple logistic regression test results identified that the most dominant variable was Knowledge ($p = 0.001$; OR 16.906). Health Centre is recommended to improve health promotion so that antenatal care activities in maternal and child health services can run optimally (Zuchro, 2022).

Antenatal care is a health service provided by professional health workers to improve the health status of pregnant women and the fetus they are carrying. Antenatal services conducted regularly and comprehensively can detect early abnormalities and risks that may arise during pregnancy so that these abnormalities and risks can be addressed quickly and appropriately (Hardianti et al., 2013). A study was carried out to analyse the quality of antenatal care at the Sako, Social, Sei Baung and Sei Selincah Health Centers in Palembang City. The analysis showed that not all midwives had received training or socialisation in antenatal services. Some midwives know the goals and benefits of providing antenatal services according to standards, and others comply with predetermined antenatal service standards. There are still inadequate facilities and infrastructure to provide antenatal services according to standards, and some midwives already have sufficient knowledge about risk detection and can detect risks in pregnant women (Marniyati, 2016).

A narrative review was conducted to examine the use of Telemedicine during the current COVID-19 pandemic and evaluate the benefits of continuing to use Telemedicine in the future through literature reviews of articles related to Telemedicine. Databases included PubMed, Google Scholar, Cochrane Library, and Ovid MEDLINE and three reviewers independently selected articles based on their relevance to the topic of study. Researchers included all articles about telemedicine published between 1990 and 2020 by using the following keywords: 'telemedicine', 'telehealth', 'policy', 'COVID-19', 'regulation', 'rural', 'physical examination', and 'future'. A total of 60 articles were identified, and 42 were selected based on their suitability to the topic. The study revealed that Telemedicine had developed rapidly over the last few decades. In fact, problems with regulation and reimbursement have prevented full involvement in the health care system. During the pandemic, the Centers for Medicare and Medicaid services have expanded access to telemedicine services. The advantages of Telemedicine going forward are its cost-effectiveness, ability to expand access to specialised services, and its potential to help reduce the growing shortage of doctors. The disadvantages are limited technological resources available in certain parts of the country, problems with patient data security, and challenges in conducting the traditional patient observation. Changes are critical to fully involve telemedicine services in the healthcare landscape and prepare for pandemics, and to gain the benefits of future healthcare (Kichloo et al., 2020).

An inquiry had been made to assess the effect of Automated telephone communication systems (ATCS) in preventing disease and managing long-term conditions on behavioural, clinical, process, cognitive, and patient-centred changes and whether the adverse outcomes appeared. ATCS interventions can change patient health behaviour, improve clinical outcomes and increase health services utilisation with positive effects in several important areas, including immunisation, screening, appointment attendance, and adherence to medication or testing. Integrating ATCS interventions into routine health care delivery should reflect variations in the certainty of available evidence and effect sizes across conditions, along with the varied nature of the ATCS interventions assessed. The research suggested that future research should investigate the content of ATCS interventions and their delivery and user experience, especially regarding reception, and clarify the most effective and cost-effective types of ATCS (P. et al., 2016).

Studies related to doctor-patient computer-mediated communication (CMC) are relatively rare, so the evidence of the use of this mode of communication is also scarce. Although experts had used a number of methods to study CMC in this relational context, few had investigated how CMC functions to fulfil relational functions; it seems that task-oriented communication comprises the majority of the mediated discourse. However, CMC exchanges between physicians and patients often include relationship-oriented communication, although they are not studied frequently. The findings revealed many barriers that prevent the widespread use of CMC in doctor-patient communication, such as legal issues, concerns over provider workload and reimbursement, and privacy/trust concerns. Consistent with media richness theory, doctor-patient CMC appears effective for immediate and relatively simple tasks (Lee, 2017).

The widespread use of mobile technology has the potential to expand telemedicine approaches to facilitate communication between healthcare providers. This may improve access to specialist advice and patient health outcomes. The study was conducted to assess the effect of mobile technology versus traditional care to support communication and consultation between health care provider performance, acceptance and satisfaction, health service use, patient health outcomes, acceptance and satisfaction, cost, and technical difficulties. The results showed that intervening cellular technology components to support communication between health care providers and health care recipients and care management could reduce the time between presentation and management of health conditions when primary care providers or emergency physicians use them to consult specialists. In addition, the intervention can also increase the likelihood of receiving clinical examinations in participants with diabetes and those who require ultrasound. Furthermore, interventions can decrease the number of people attending primary care and being referred to secondary or tertiary care for some conditions, such as skin and CKD. There is little evidence of an intervention effect on participants' health and well-being status, satisfaction, or costs (GonçalvesBradley et al., 2020).

Given the challenges of patient non-adherence, lack of training in healthcare provider communication, and bedside etiquette, a study offered an innovative approach for

clinicians to apply a seven-step sales process from the marketing literature. The study explored ways to implement the sales process to healthcare provider interactions with patients. The approach viewed healthcare interactions with patients as a sales scenario by linking the marketing literature that describes a particular sales tactic with examples in the healthcare setting. Several practical examples were provided through the framework for easy implementation (Rippé & Dubinsky, 2018).

A study examining the implications of accepting shallow self-expression from a friend involved 199 adults. The study reported that a friend-initiated communication episode over the previous seven days via communication technology and measures of liking, relationship satisfaction, and willingness provided their friends with social support. The results revealed a significant interaction between the total volume of self-disclosure received and the proportion of shallow disclosures for liking and relationship satisfaction. Among respondents who received a relatively larger self-disclosure, the proportion of self-disclosure received was inversely related to relationship satisfaction and liking. The perceived cost mediated the previous relationship (Rains et al., 2016).

METHOD

This study used a qualitative descriptive method, describing in detail and depth how the situation, conditions, and events occurred in the field. Meanwhile, triangulation of data sources is used to explore the truth of information, which is obtained through various methods and sources of data acquisition (Afrizal, 2019). Observations and in-depth interviews are carried out by the researchers with the Head of Kasih Jeruk Purut Program (Hebat ASI Cadre, Health Network for North Purwokerto), four (4) Sub-district Midwives, two (2) Puskesmas Midwives, eight (8) pregnant women as the implementation of triangulation of data sources. The other data are obtained from written documents or archives owned by Basic Health Research, Government Regulations from the Ministry of Health of the Republic of Indonesia, Presidential Instructions, Puskesmas Purwokerto Utara II, and other supporting documents.

This research also used literature studies from related previous books and journals. The data displayed, such as from the Ministry of Health of the Republic of Indonesia and other research, are also considered secondary data sufficient to strengthen this theme's adoption.

Table 6. Data of Informant

Informant	Amount
Head of the <i>Kasih Jeruk Purut Program</i>	1
Village/<i>Sub-district</i> Midwives	4
Public Health Center Midwives	2
Pregnant women	8

RESULTS AND DISCUSSION

Puskesmas Purwokerto Utara II tried to synchronise the 2020 Indonesian Nutritional Status Study (SSGI) work program for stunting with the Integrated Antenatal Care (ANC) program, which has been running since 2018. The ANC program is promoted by the Ministry of Health of the Republic of Indonesia. Each activity is executed well and comprehensively early from conception to the start of the delivery process and targets all pregnant women. This activity aims to ensure pregnant women undergo their pregnancies and childbirths with positive experiences and give birth to healthy and quality babies.

Expectedly, the implementation of integrated Antenatal Care (ANC) according to these standards may reduce the Maternal Mortality Rate (AKI) and Neonatal Mortality Rate (AKN) because any pregnancy complications with risk factors for childbirth, if arises, can be detected earlier (RI, 2020). In addition to reducing the risk of AKN, ANC can also abate the incidence of low birth weight (LBW), which is feared to be at risk for malnutrition and stunting at the age of under two years.

One of the forms of Antenatal Care (ANC) service is an interview or counselling. Information conveyed during counselling includes at least the results of observations, care on gestational age and maternal age, nutrition of pregnant women, mental readiness, recognition of danger signs of pregnancy, childbirth and postpartum, preparation for delivery, postpartum contraception, newborn care, early initiation of breastfeeding, and exclusive breastfeeding. Integrated antenatal care is provided when health workers contact pregnant women. Contact occurs when health workers and pregnant women are in health care facilities or a community/environment. Contact should be made at a health care facility so pregnant women can attain quality and comprehensive services.

The pandemic conditions have changed the communication pattern between midwives and pregnant women. According to Handbook for Antenatal, Childbirth, Postpartum, and Newborn Services in the Era of New Normal Adaptation published by the Indonesian Ministry of Health in 2020, verbal autopsies are carried out by visiting the family. The assessment can be executed faceto-face (following health protocols) or through online communication media (video conference) for green zone areas. Verbal autopsies for the yellow, orange and red zones are achieved by visiting the family or via telephone. The assessment can be done through online communication media or video conferences (RI, 2020). A Puskesmas midwife, AB, stated, "The village midwife plays a very important role in communication or consultation with pregnant women. The Integrated ANC examination during the pandemic has changed to every Monday and Wednesday and a maximum of only ten patients each. So, the pregnant women who do not have the opportunity to get a checkup must contact their sub-district sub-district midwife via telephone or WhatsApp."

Therefore, it can be identified that there has been a significant shift in the term 'contact interview.' It was originally performed in the area of physical health care facilities and has

now shifted to the area of long-distance services or Telemedicine. Meanwhile, the World Health Organization (World Health Organization) defines Telemedicine as health services provided by health workers using information and communication technology to diagnose, treat, prevent, and evaluate the health condition of someone living far from health facilities (klikdokter, 2020).

Another sub-district midwife, CD, added, "Considering that the number of vitamin/supplements for pregnant women at the Puskesmas is currently limited. When we run out, I usually recommend certain brands to be bought at pharmacies outside. In the meantime, when an emergency happens, pregnant women will be referred to the Puskesmas by the village midwife. All of them are now using telemedicine facilities." This statement signifies that change in communication patterns certainly changes the culture that has been previously built. "Cogitating that we are not allowed to meet directly with pregnant women, it becomes challenging to continue performing the interview and counselling program. Many aspects are lost when we can only do so through the media. We cannot see their expressions, and it is often harder to find empathy than when we meet face-to-face," added the Head of the Kasih Jeruk Purut Program.

Three perspectives are studied in Computer-Mediated Communication (CMC): impersonal communication, interpersonal, and the hypersonal one. In their application to the subject of this research, CMC dissects the Integrated Antenatal Care (ANC) telemedicine program at the Purwokerto Utara II Puskesmas in terms of these three perspectives.

Impersonal communication

When communicating, people tend to use verbal and non-verbal language. Consciously or not, the use of non-verbal language serves to strengthen verbal languages, such as expression, haptic, and paralanguage. Health communication emphasises this in therapeutic communication to achieve awareness and comfort to change the patient's behaviour in treatment or care. Midwives, doctors or nurses often use touch to calm their patients who look panicked when they find out their health condition is not good. Further, a significant interaction emerges between the total volume of self-disclosure received and the proportion of shallow disclosures for liking and relationship satisfaction. Among respondents who received a relatively larger self-disclosure, the proportion of self-disclosure received was inversely related to relationship satisfaction and liking. The perceived cost mediated the previous relationship (Rains et al., 2016).

The pandemic creates significant fear, and this is one of the roles of the midwife to calm and continue motivating pregnant women to be introspective about conditions that threaten their health. The ANC program at the Puskesmas Purwokerto Utara II tried to reach them by maximising CMC communication media, such as WhatsApp video calls and chats, SMS, telephone, and even Instagram as a telemedicine channel. Telemedicine is the use of telecommunications systems to deliver health care remotely.

Sub-district midwives are at the forefront when pregnant women cannot come to the Puskesmas to check their pregnancy or if they get sick. However, impersonal

communication in Telemedicine can be considered less successful because it is very difficult to see the non-verbal aspect of language. A Sub-district midwife, ER, conveyed, “It is quite difficult to reach pregnant women, so the opportunity to encourage and motivate them is very limited. We need reports from pregnant women, especially about the problems they face or myths that endanger the mother and fetus. However, since the pandemic began, many obstacles have appeared.” Another Sub-district midwife, DA, added: “Before the pandemic, we easily communicated with pregnant women. Although sometimes they hide the real condition of their pregnancy, we can still detect their expressions and behaviour. Changes in facial or leg swelling during pregnancy would be immediately identified.”

Telemedicine is closely related to the Social Presence Theory, which emphasises the ability of the media to accommodate an individual’s social presence. Social presence is not only physical but also various emotional expressions that can display the required cues to make communication more meaningful. Good communication media can provide opportunities for communicators to engage in conversation. MRT focuses on the media’s ability to cater for feedback and non-verbal cues, maintain message integrity, and provide emotional expression. This perspective gives rise to nonverbal cues, such as emoticons and avatars. Emoticons can show how someone feels (Littlejohn et al., 2017).

Telemedicine can potentially improve patient health outcomes, access to healthcare, and decrease healthcare costs. As Telemedicine applications continue to evolve, it is important to understand their impact on patients, healthcare professionals, and care organisations. In addition, Telemedicine is also used to assess interactive Telemedicine’s effectiveness, acceptability and cost as an alternative to conventional care (i.e. face-to-face treatment or telephone consultation).

A study entitled “Interactive telemedicine: effects on professional practice and health care outcomes” showed that the use of Telemedicine in managing heart failure appears to lead to the same health outcomes as face-to-face or telephone care services. Telemedicine can also improve blood glucose control in people with diabetes. Ultimately, the effectiveness of Telemedicine may depend on several factors, including those related to the study population, such as the severity of the condition and the participant’s medical history (Flodgren et al., 2015). This is in line with the pandemic conditions that have forced many systems to change rapidly, including communication technology and its application in various fields, especially in the health sector. The community has not been ready to adopt new technology, which causes stuttering and nervousness, so Telemedicine cannot work perfectly.

Interpersonal communication

An inquiry entitled “Computer-Mediated Communication and Interpersonal Communication in Social Media Twitter among Adolescents” discussed that computer-mediated communication could form interpersonal relationships between users. Based on Twitter data, 83% of Indonesian millennial users consider Twitter a trusted source to access product information. The study aimed to determine the meaning of computer-

mediated communication in creating interpersonal relationships among teenage Twitter users. The research method was a qualitative approach through participant observation, in-depth interviews, and literature review. The subjects were ten Twitter users with high school education backgrounds determined based on purposive sampling. The study revealed that on Twitter, interactions are generally persisted by teenagers who comment on each other's tweets about personal problems or life complaints. If there is a frequency match, a familiar feeling will emerge. The intense process through direct message channels makes communication feel more intimate and made the relationship between users more intense (Laksana & Fadhilah, 2021).

A study entitled "The Antecedents of Poor Doctor-Patient Relationship in Mobile Consultation: A Perspective from Computer-Mediated Communication" differs from the research above. The study aimed to understand the underlying reasons for the poor doctor-patient relationship. Several studies in the realm of antecedents of the doctor-patient relationship in face-to-face or offline communication focused on the patient's perspective. Meanwhile, the existing studies on relationship antecedents are inadequate, especially those focusing on offline contexts and often adopting a patient perspective. The study focused on the mobile context and considered the doctorpatient perspective of mobile consulting. A theoretical framework based on the Computer-Mediated Communication (CMC) literature was constructed, and 592 physician-user communication records were coded to validate and elaborate the proposed theoretical model. The study uncovered that the characteristics of mobile technology pose potential challenges to providing physician and patient information, create challenges for informative interpretation, generate ten relationship-keeping behaviours and six types of inappropriate doctor-patient behaviour, and trigger negative doctorpatient relationships in a cellular context. The findings enrich similar research and contribute insights for improvements in the mobile context (Yan et al., 2020).

Implementing the ANC telemedicine program from the interpersonal communication standpoint creates a new challenge because many obstacles, such as self-disclosure, do not reach an in-depth stage. The other constraints are the media's limited character and midwives' skills in digging up information and serving the needs of IEC through the media, which have implications for the authenticity of the data collected in the field. This case is coupled with the background and character of pregnant women and patterns of media use which are quite diverse. One midwife, DA, confirmed: "Before the pandemic, there were dental and oral examinations during consultation activities or interviews. However, now only consultations are carried out and no dental and oral examinations. The ANC consultation services for pregnant women are somewhat limited, only an interview, and there is no internal checkup anymore. It is difficult to gather information since some pregnant women only answered 'good' or 'no problem'." This is because they are afraid to answer honestly as a consequence of having to come to the Puskesmas for further observation. The pandemic has changed everything."

In certain conditions, such as epidemics and pandemics, a new finding is added that a person prefers to remain silent and not reveal the true condition for fear of the

repercussions that could be caused. Related to this finding, the assumption of the SIDE model (social identity model of deindividuation effects) seems to answer that interpersonal attractiveness and individual acceptance in online communication are based on identifying group norms. This model also takes for granted that people tend to ignore personal identity and adopt appropriate social identities to be accepted and recognised by online users (Masur, 2019). The Sub-district midwives often post information related to pregnancy on the Whatsapp Group of their respective regions so that the ANC program chain is not broken while asking about the condition of pregnant women. "On average, their answers tend to be uniform, namely 'good' and only a few are active, and quite a few are silent readers. Feeling that someone has answered well, there is no need to answer in the WhatsApp group anymore," said EL, a midwife.

According to Altman and Taylor, self-disclosure is included in the social penetration theory, which includes three stages: orientation stage, exploratory affective exchange, and exploratory exchange stage. Orientation is the earliest stage of an interaction that occurs at the public level, and only a small amount of self-information is disclosed. At this first stage, people only provide superficial information or the outermost layer about themselves (Faidlatul Habibah et al., 2021).

In the end, Telemedicine or telehealth is understood as a means of communication and its actions as a communication process. An article entitled "Matter of Communication: A new classification to compare and evaluate telehealth and telemedicine interventions and understand their effectiveness as a communication process" attempted to define the functions and applications of Telemedicine and telehealth to achieve a simplified and comprehensive taxonomy as a tool for evaluating and covering health policy from the information centrality perspective in health care. The output is communication-related to health outcomes. Meanwhile, three functions (telemetry, telephysis, and telepraxis) and nine applications are identified. Understanding the mechanics of Telemedicine and the effectiveness of telehealth is critical to a value-based healthcare system. The new classification, which focuses on the ultimate effects of Telemedicine and telehealth and the types of interactions between the actors involved, moves towards a new and simplified methodology for comparing different studies and practices, designing future research, classifying new technologies and guiding their development, and finally discussing health policy and health service provision (Colucci et al., 2019). This research also uses literature studies from related books and journals. The data displayed from the Ministry of Health of the Republic of Indonesia and other research are also considered secondary data, sufficient to strengthen this theme's adoption.

Viewing the findings of the studies and the results of this discussion above, it is identified that the outcomes of each study have the potential to be different. Of course, this is closely related to the individual characteristics of the community, social background, media consumption patterns, and unique lifestyles. In addition, communication patterns of health service providers, skills and capacities of health workers in implementing interpersonal communication to national policies must be adapted into a series of unique elements.

Hyperpersonal communication

Different from the two previous perspectives, hyperpersonal communication is considered more comfortable for a group of individuals who do not like to communicate face-to-face. This communication type is considered more comfortable to express oneself because the message conveyed can be more planned. This is where the asynchronous aspect allows a person to be more self-actualised through more conceptualised writing to create a feeling of confidence in a relationship. The hyperpersonal theory aims to explain how human-to-human interactions can become (or make people believe they have become) close or intimate in a very short time if communication takes place with the help of computers or other electronic devices (Ruppel et al., 2017).

The telemedicine channel in the ANC Program allows pregnant women to feel more comfortable using social media facilitated. They may read IEC messages at any time in the WhatsApp Group and are allowed not to respond immediately. A pregnant woman, RH, said, "I am one of the people who do not immediately answer the messages in the group. I usually digest the meaning of the message first. I replied in the afternoon or the next day and not in the group, but contacted the midwife immediately." Another pregnant woman, MI, added, "It is more convenient to consult a midwife directly, not in the group. Sometimes I am shy and do not have the confidence to respond or ask something about pregnancy in the group. I often send messages to the midwife at night, though I read the answer the following day. The most important thing is what I thought that night had been conveyed. For me, it is no problem if the response will be delivered tomorrow."

The midwife, DA, supported the answers of the two pregnant women, "On WhatsApp, some pregnant women are active, and some others are listening or just being silent readers. To the silent readers, midwives often conduct personal chats to obtain the answers more quickly. Many expectant mothers prefer private chats to inquire about their pregnancy progress rather than group chats because they may be shy with the other group members they do not know." Hence, there is a sufficient psychological space for pregnant women to capture information or messages as a stimulus, provide perceptions, process the right message, convey it through the media, and give an impression to the midwife. This space is considered safe and comfortable for pregnant women to communicate.

In line with the results of the interview, an article entitled "Examining the impact of an asynchronous communication platform versus existing communication methods: an observational study" stated that asynchronous platforms improve clinical communication more than synchronous methods, contribute more to workflow efficiency and can positively influence patient care (Jhala & Menon, 2021).

Related to the discussion above, four factors that move in hyperpersonal communication are the sender, receiver, channel, and feedback. The sending factor controls how to present oneself in front of others. A person can choose what to show others about him/herself. The sender can "censor" what he/she wants to convey. In the meantime, the receiving factor can measure a person's quality in hyperpersonal communication. For

example, eagerness to know what other people want can be seen from his/her uploads on social media or listening to a series of subjects he/she often tells. On the channel factor, messages transmitted via the internet do penetrate not only space but also time. The CMC communication between two people runs simultaneously (in real-time) or synchronously, and the message will be informal, like everyday conversation. Meanwhile, feedback leads to 'intensive rotation,' namely confirmation of messages from each communication behaviour, which can strengthen each other's behaviour (Husnita, 2019).

CONCLUSION

In several studies, Computer-Mediated Communication (CMC) was considered adequate for establishing quality communication and not much different from face-to-face communication. However, in several other studies, CMC only succeeded in technical matters but did not accommodate more intimate communication, so medical treatment was considered incomplete. Likewise, this study reports that CMC in the ANC telemedicine program viewed from the perspectives of impersonal, interpersonal, and hyperpersonal communication has different results in Puskesmas Purwokerto Utara II.

The perspective of impersonal communication reveals dishonesty or lack of openness of pregnant women in the Purwokerto Utara II Puskesmas. The possible reasons are the limited nature of the media features that do not fully express verbal language, the insufficiency of skills of medical and paramedical personnel in utilising social media, or even the shortage of comprehension of pregnant women in understanding the characteristics of media used by the ANC program.

At the same time, the interpersonal communication perspective creates a new challenge in the Purwokerto Utara II Puskesmas. It is due to many obstacles, such as self-disclosure that does not reach a deep stage due to discomfort when using Telemedicine. The hyperpersonal communication perspective identifies a comfort when pregnant women are allowed not to always respond to messages directly and may use more personal channels with midwives. This is because of the shame when communicating publicly and not knowing other pregnant women in the group.

The results of the ANC Program in the Puskesmas Purwokerto Utara II are still in the process of sustainable examination. Based on the Baby weighing outcomes of the three periods mentioned above, comprehensive and continuous improvement in various work fields is needed. The conclusion of the discussion of this study is not the key to the program's success. Research from various perspectives to achieve the expected goals of the ANC Program is still required.

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REFERENCES

- Afrizal. (2019). Metode penelitian kualitatif sebuah upaya mendukung penelitian kualitatif dalam berbagai disiplin ilmu. Cetakan ke empat. Depok. Raja Grafindo persada.
- Colucci, M., Baldo, V., Baldovin, T., & Bertoncetto, C. (2019). A “matter of communication”: A new classification to compare and evaluate telehealth and telemedicine interventions and understand their effectiveness as a communication process. *Health Informatics Journal*, 25(2), 446–460. <https://doi.org/10.1177/1460458217747109>.
- Faidlatul Habibah, A., Shabira, F., & Irwansyah, I. (2021). Pengaplikasian Teori Penetrasi Sosial pada Aplikasi Online Dating. *Jurnal Teknologi Dan Sistem Informasi Bisnis*, 3(1), 44–53. <https://doi.org/10.47233/jteksis.v3i1.183>.
- Flodgren, G., Rachas, A., Farmer, A. J., Inzitari, M., & Shepperd, S. (2015). Interactive Telemedicine: Effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews*, 2015(9). <https://doi.org/10.1002/14651858.CD002098.pub2>.
- Gonçalves-Bradley, D. C., J Maria, A. R., Ricci-Cabello, I., Villanueva, G., Fønhus, M. S., Glenton, C., Lewin, S., Henschke, N., Buckley, B. S., Mehl, G. L., Tamrat, T., & Shepperd, S. (2020). Mobile technologies to support healthcare provider to healthcare provider communication and management of care. In *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD012927.pub2>.
- Husnita. (2019). Humanoid communication: transformasi komunikasi. Simbiosis Rekatama Media.
- Jhala, M., & Menon, R. (2021). Examining the impact of an asynchronous communication platform versus existing communication methods: An observational study. *BMJ Innovations*, 7(1), 68–74. <https://doi.org/10.1136/bmjinnov-2019-000409>.
- Kementerian Desa, P. D. T., & Indonesia, D. T. R. (2021). WAMENDES OPTIMIS ANGKA STUNTING DI INDONESIA MENCAPAI TARGET 14 PERSEN DI 2024. <https://www.kemendes.go.id/berita/view/detil/3602/wamendes-optimis-angka-stunting-diindonesia-mencapai-target-14-persen-di-2024>.
- Kemiskinan, T. P. P. (2017). 100 KabuPaten/Kota Prioritas untuK intervensi anaK Kerdil (Stunting). http://www.tnp2k.go.id/images/uploads/downloads/Binder_Volume1.pdf.
- Kichloo, A., Albosta, M., Dettloff, K., Wani, F., El-Amir, Z., Singh, J., Aljadah, M., Chakinala, R. C., Kanugula, A. K., Solanki, S., & Chugh, S. (2020). Telemedicine, the current COVID-19 pandemic and the future: a narrative review and perspectives moving forward in the USA. In *Family medicine and community health*. <https://doi.org/10.1136/fmch-2020-000530>.
- klikdokter. (2020). Kenali Telemedicine, Teknologi untuk Layanan Kesehatan. <https://www.klikdokter.com/info-sehat/read/2667905/kenali-telemedicine-teknologi-untuklayanan-kesehatan>.
- Laksana, N. Y., & Fadhilah, A. (2021). Computer-mediated communication and interpersonal communication in social media Twitter among adolescents. *Journal of Social Studies (JSS)*, 17(1), 65–78. <https://doi.org/10.21831/jss.v17i1.39015>.

- Lee, S. A. and R. J. Z. (2017). (2017). A current review of doctor-patient computer-mediated communication. *JOURNAL OF COMMUNICATION IN HEALTHCARE*, 22–30.
- Littlejohn, Stephen W., Karen A. Foss, and J. G. O. (2017). *Theories of Human Communication: Eleventh Edition*. Long Grove: Waveland Press Inc.
- Masur, Philip K. (2019). *Situational Privacy and Self-Disclosure (Communication Processes in Online Environments)*. New York: Springer International Publishing AG.
- Marniyati, Lisa. (2016). Pelayanan Antenatal Berkualitas dalam Meningkatkan Deteksi Risiko Tinggi pada Ibu Hamil oleh Tenaga Kesehatan di Puskesmas Sako. *Sosial. Sei Baung dan Sei Selincah di Kota Palembang. Jurnal Kedokteran dan Kesehatan*. Volume 3. No. 1. Januari 2016:355-362.
- Mulianingsih, S. (2020). Public Service Management in the New Habit Adaptation Era in Indonesia. *D E G R E S*, 19(2), 105–115. <https://doi.org/10.1877/degres.vi2.3>.
- P., P., N., M., R., R., LH, G., LM, F., Y., P., M.-P., G., SA, J., L., X., & B., O. (2016). Automated telephone communication systems for preventive healthcare and management of long-term conditions. In *Cochrane Database of Systematic Reviews*.
- RI, K. K. (2020). *Buku Pedoman Pelayanan Antenatal, Persalinan, Nifas, dan Bayi Baru Lahir di Era Adaptasi Kebiasaan Baru*. [https://covid19.go.id/storage/app/media/Materi Edukasi/2020/Oktober/revisi-2-a5-pedoman-pelayanan-antenatal-persalinan-nifas-dan-bbl-diera-adaptasi-kebiasaan-baru.pdf](https://covid19.go.id/storage/app/media/Materi_Edukasi/2020/Oktober/revisi-2-a5-pedoman-pelayanan-antenatal-persalinan-nifas-dan-bbl-diera-adaptasi-kebiasaan-baru.pdf).
- Rippé, C. B., & Dubinsky, A. J. (2018). Trust me; I'm a physician using sales skills: Enhancing physicianpatient communication through personal selling. *Health Marketing Quarterly*, 35(4), 245–265. <https://doi.org/10.1080/07359683.2018.1524594>.
- Ruppel, E. K., Gross, C., Stoll, A., Peck, B. S., Allen, M., & Kim, S. Y. (2017). Reflecting on Connecting: Meta-Analysis of Differences Between Computer-Mediated and Face-to-Face Self-Disclosure. *Journal of Computer-Mediated Communication*, 22(1), 18–34. <https://doi.org/10.1111/jcc4.12179>.
- Yan, M., Tan, H., Jia, L., & Akram, U. (2020). The antecedents of the poor doctor-patient relationship in mobile consultation: A perspective from computer-mediated communication. *International Journal of Environmental Research and Public Health*, 17(7). <https://doi.org/10.3390/ijerph17072579>.
- Zuchro, F., Zaman, C., Suryanti, D., Sartika, T., & Astuti, P. (2022). ANALISIS ANTENATAL CARE (ANC) PADA IBU HAMIL. *Jurnal'Aisyiyah Medika*, 7(1).