

PREGNANT MOTHER'S ASSESSMENT ON HEALTH PROTOCOLS IMPLEMENTATION DURING COVID-19 PANDEMIC

Sri Sugiharti¹, Evalina Franciska Hutasoit^{1*},Urip Tri Wijayanti¹, Darojad Nurjono Agung Nugroho², Muhammad Ancha Sitorus³

 ¹ Research Center for Population, National Research and Innovation Agency
 ² Directorate of Measurement and Indicators for Research, Technology, and Innovation, National Research and Innovation Agency
 ³National Population and Family Planning Board, BKKBN Representative of North Sumatera

*Corresponding author : eval001@brin.go.id

ABSTRACT

Implementing health protocols during the COVID-19 pandemic is crucial for pregnant women and midwives to protect mothers and their fetuses from the risk of COVID-19 infection. However, several studies showed a low proportion of people who implemented adequate preventive behavior. The study aimed to determine pregnant women's implementation of health protocols and assess midwives' health protocols. The methodology used is quantitative research with descriptive analysis. Primary data were collected through interviews using a questionnaire of 156 respondents selected by a simple random sampling method. Data collection was carried out in November 2020 in Sunggal Subdistrict and Hamparan Perak Subdistrict, Deli Serdang Regency, North Sumatra Province. The study results show that most pregnant women were 21-35 years were pregnant in the third trimester. The pregnant women were also educated in secondary school, had health insurance, and were not working. The implementation of Health protocols for pregnant women during health checks was 85.5 percent categorized as poor in terms of making no appointment before accessing ANC services and not conducting online consultations. The health protocol assessment performed by midwives is categorized as good (81.4 percent) which can be seen in the use of masks, using hand sanitizers, maintaining distance during services, not shaking hands, available hand washing facilities with soap (CTPS), and using PPE. Recommendations for Midwives are always expected to provide Information Communication and Education (counseling) to pregnant women regarding the importance of complying with the COVID-19 health protocol to break the transmission of the COVID-19 virus.

Keywords: Antenatal care, COVID-19, Health Protocol, Pregnancy

1. INTRODUCTION

Among the ASEAN countries, Indonesia shows the highest confirmed cases of COVID-19 infection [1]. During the COVID-19 pandemic, there were many restrictions on almost all routine services, including maternal and neonatal health services. For example, pregnant women are reluctant to go to primary health care (*Puskesmas*) or other health service facilities for fear of infection. Moreover, there are recommendations for postponing pregnancy check-ups and classes for pregnant women, followed by insufficient resources in terms of personnel and health infrastructure, including personal protective equipment [2].

Pregnancy is a moment that all mothers-to-be eagerly await. However, a literature review indicated that during the COVID-19 pandemic, pregnant women experienced concerns about the health of mothers and their children, including concerns about whether prenatal care was being met and feelings of isolation due to restrictions on activities outside the home [3]. As a part of health worker providing care for mothers and children, A midwife must be able to provide appropriate assistance, counseling, and even education so that expectant mothers can pass their pregnancy in peace. Education is given to prospective mothers and fathers, so they are always alert when accompanying their wives. Especially during the COVID-19 pandemic at that time, the health of pregnant women must be adequately maintained, so education related to preventing COVID-19 transmission needs to be given appropriately by competent health workers [4].



Furthermore, midwives must also be capable of informing pregnant women of reduced visits during a pandemic as long as there are no symptoms of an emergency. Exposure to COVID-19 during pregnancy can affect the growth and development of the fetus, although direct transmission from mother to fetus has not been proven by [5]. Furthermore, contracting disease or infection during pregnancy places pregnant women at an increased risk of abortion; this is due to decreased levels of oxygen that are transmitted through the placenta by the mother to the fetus, in addition to pregnant women who have comorbidities such as asthma, diabetes and hypertension are more at risk of having a premature birth in their fetus [5].

UNFPA, as an international organization in the field of reproductive health, emphasizes the use of personal protective equipment (PPE) by midwives as the frontline of services in the community. Health services for pregnant women, maternity, postpartum mothers & their babies, and even contraception services must be completed. Home visits are also one of the strategies for approaching services to women or mothers. Even though the service can be done online, in-visit service must be performed with a standardized PPE protection [5].

Studies indicated that anxiety about COVID-19 does not reflect on implementing health protocols [6,7]. A Study in Yogyakarta showed that the effort of COVID-19 prevention reflected low compliance with health protocols, with only 43% of people studied performing COVID-19 prevention in a suitable category [8]. Previous research in the Deli Serdang Regency area also showed that only 21- 41% of respondents had good knowledge of the COVID-19 prevention [9]. Furthermore, based on the data on the monitoring report on compliance with health protocols in Deli Serdang Regency from August 5 - August 11th of, 2020, shows that there are still 29% of people who do not use masks and 33.6% of people who do not keep their distance (remain in crowds] [10]. Data of the COVID-19 Handling Task Force updated by 25th October 2020, among 62,649 confirmed COVID-19 cases in Indonesia, 12,562 was found in North Sumatera Province, and 3,828 cases were found in Deli Serdang Regency [11]. Given the importance of implementing health protocols to prevent disease transmission during a pandemic, it is necessary to study the implementation of health protocols during ANC visits conducted by pregnant mothers and health providers and to study mothers' assessment of provider behavior of health protocols.

2. METHODS

This study implemented a cross-sectional design using primary source data. Data collection was performed in November 2020 using a questionnaire in Sub-district Sunggal and Sub-District Hamparan Perak, Deli Serdang Regency. The number of respondents was 156 pregnant women, taken using a simple random sampling method. All the pregnant women who participated in the study gave their consent before the interviews, and the health protocol [using a face mask, 2-meter distance, and no physical contact] was applied during the interview.

The variable analyzed in this study is the behavior of implementing health protocols by DECREE OF THE MINISTER OF HEALTH OF THE REPUBLIC OF INDONESIA NUMBER HK.01.07/MENKES.382/2020 CONCERNING HEALTH PROTOCOL FOR THE COMMUNITY IN PLACE AND PUBLIC FACILITIES IN THE FRAMEWORK OF CORONAVIRUS DISEASE PREVENTION AND CONTROL OF CORONA VIRUS DISEASE 2019 (COVID-19) [12]. The behavior of implementing health protocols by pregnant women studied consisted of implementing health protocols during antenatal care (ANC), online ANC counseling, and making appointments before the ANC visit. Meanwhile, the assessment of health protocols carried out by antenatal care providers was measured based on the assessment of pregnant women on the question of whether, during the ANC examination, the provider staff wore masks, the officers used alcohol-based antiseptic liquid/hand sanitizer; there are hand washing facilities with soap at ANC locations, officers maintain physical distance, officers maintain minimal physical contact (by not shaking hands) and do officers use PPE during ANC checks.

The demographic variables in this study were the age of pregnant women, education, employment status, family income, health insurance, and the implementation of health protocols by the mother during ANC. Age was grouped as ideal age (21-35 years) and not ideal (age < 20 years or 36 years or older). Education is



grouped into upper secondary education (senior high school/equivalent and academy/college) and lower secondary education (not attending school, primary school, and junior high school/equivalent). Family income is grouped based on the UMR of Deli Serdang Regency in 2020. The implementation of health protocols is categorized as good (\geq 76% of the total score) and less (<76% of the total score).

3. RESULTS AND DISCUSSION

Table 1. Characteristics of the participants

Variable	Frequenc	Percentage
	y (f)	(%)
Age		
21 - 35	126	80.8
$\leq 20 \text{ or} \geq 36$	30	19.2
Term of		
Pregnancy		
trimester 1	17	10.9
trimester 2	61	39.1
trimester 3	78	50.0
Education		
Lower education	59	37.8
Secondary	97	62.2
education		
Employment		
Working	32	20.5
Housewife	124	79.5
Health Insurance		
Yes	106	67.9
No	50	32.1
Place of ANC		
Obstetrician	6	3.8
Midwives	130	83.3
Primary health care	13	8.3
Hospital	7	4.5
Household Income		
≤ 3.000.000	124	79.5
> 3.000.000	32	20.5
Mode of		
Transportation		
Public Transport	0	0
Personal vehicle	156	100

The study found that as many as 80.8 percent of respondents who are pregnant women are aged 21-35 years, which means that they are included in the ideal age for women to get pregnant. Only 19.2 percent of respondents are pregnant at the age younger than 21 years and 36 years and over. Half of the respondents were pregnant in the third term; 39.1 percent were pregnant in the second trimester, and 19.9 percent in the first term. More than half of the pregnant women (62.2 percent) were educated secondary, namely, high school and university or vocational education, while around are 38.2 percent educated primary or not attending school. Education contributes to a person's essential ability to think for decisionmaking, including prenatal care. Because knowledge will be obtained through formal education, it also changes the behavior for checking pregnancy even during the COVID-19 pandemic. Most respondents claim to be housewives (79.5 %) with a family income of less than or equal to three million rupiahs (79.5%). When checking their pregnancy, all respondents used their transportation, and 67.9 percent of respondents had health care insurance. 83% of respondents performed ANC visits at a midwife service; this is in line with the result of a previous study which found that the provision of antenatal care to pregnant women performed by midwives (85%) is much higher compared to other health service providers (15%) [13].

Table 2. Pregnant women's implementation of Health Protocols during ANC visit

Variable	Frequen	Percentag
	cy (f)	e (%)
Comply with health		
procedures during an		
ANC examination		
Always	132	84.6
Sometimes	17	10.9
Never	7	4.5
Make an appointment		
before an ANC visit		
Always	13	8.3
Sometimes	5	3.2
Never	138	88.5
Accessing online		
consultation		
Always	6	3.8
Sometimes	4	2.6
Never	146	93.6
Implementation of		
health protocols		
Good	22	14.1
Poor	134	85.9

During the COVID-19 pandemic, most pregnant women (84.6 %) claim to implement health protocols following the promoted behavior consistently; around 10.9 percent of pregnant women admit to sometimes practicing the health protocol, and 4.1 percent say they never practice



health protocol. The sanitation facilities provided at the ANC provider are vital in supporting pregnant women's behavior in practicing health protocol. Moreover, a safe and standardized practice, especially during the COVID-19 pandemic, enhance the safety of women, the healthcare provider, and another patient around the healthcare. Provision of supporting facilities under standardized procedure enhances the provider to improve the quality of ANC services for pregnant women, contributing to a quality service [2].

Most of the respondents (88.5 %) stated that they never made an appointment with the healthcare provider before the pregnancy checkup, meaning that pregnant women immediately came to the service center. Only 8.3 percent and 3.2 percent have followed the procedure for a pregnancy check following the recommendations for maternal services during the COVID-19 Remote registration pandemic. is via communication media (phone call/message) to register an appointment/remote registration. In contrast, research on ANC found that during the COVID-19 pandemic, most of the time, pregnant women are required to make online registration before the appointment.

Furthermore, the study indicated that online registration via communication media/ phone also plays a role in anamnesis screening to look for risk factors and symptoms of COVID-19. Online screening also helps health care providers to administer referral for a swab or advance test if the result of the online screening indicates a suspected infection [14]. The government also encourages in-patients consultation and examination with the preceded healthcare workers' agreement [15].

The study also shows a tiny percentage of pregnant women who had an online pregnancy consultation, with 93.6 percent of women claiming never to have had an online pregnancy consultation. This means that while performing individual health protocols, such as wearing masks and practicing adequate handwashing, pregnant women lack media utilization regarding telemedicine service. Meanwhile, the government recommended that pregnant women's pregnancy consultations and class education are encouraged to be accessed using telemedicine applications (e.g., *Sehati tele-CTG, Halodoc, Alodoc, Teman bumil*, etc.) and continuing education through

SMS Bunda [15]. The class for pregnant women is carried out by utilizing telemedicine (including education about COVID-19 for pregnant women and the risks of low birth weight, breast care for successful breastfeeding, etc.) and applying the principles of hand hygiene and physical distancing [16]

Overall, around 86% of pregnant women practicing lack health protocols in the ANC setting; therefore, promoting mobile platforms of online registration and online consultation is further needed. In contrast, the study of the application of health protocols in preventing the transmission of COVID-19 to pregnant women found that most pregnant women performed an excellent health protocol [17]. As ANC providers, midwives, and other healthcare workers play a vital role in health protocol implementation [18]. Midwives are expected to consistently counsel the public regarding the importance of complying with the health protocol to break the COVID-19 transmission [19].

The proportion of ANC providers' behavior in implementing health protocols during the COVID-19 pandemic is shown on Table.3. Based on pregnant women's assessment, 81% of ANC providers practice an excellent health protocol. Furthermore, it is found that wearing masks is the health protocol that is most often carried out, with 93.6 percent of respondents stating that ANC providers always wear masks when performing ANC. Meanwhile, using PPE is the most often neglected protocol, with only 37% of respondents claiming that ANC providers always wear PPE. In comparison, almost 47% of respondents stated that the ANC provider never wears PPE. The study also finds that a small number of ANC providers never wear masks during ANC visits. Referring to the guidelines provided by the COVID-19 task force, healthcare workers were required to be able to use personal protective equipment correctly and obediently according to the place; and to have the ability to provide health education to the client's family in the community [15].

Tabel 3. Assessment of Pregnant Women on the Implementation of Health Protocols by ANC worker



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ency tage ANC worker wore mask (%) Always 146 93.6 Sometimes 7 4.5 Never 3 1.9 ANC worker used	Variable	frequ	percen
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	Lacking	29	18.6

Personal protective equipment (PPE) is one of the effective methods of preventing transmission if its use is rational. Based on the assessment of pregnant women, only 37% of ANC workers use PPE. Still, this low percentage was likely influenced by respondents' perception of PPE because more than 90 percent of respondents stated that ANC providers always wear a mask. PPE components include gloves, face masks, protective goggles or face shields, and longsleeved non-sterile gowns. Personal protective equipment will be effective if it is supported by administrative controls and environmental and technical controls [20] In providing health services, efforts to provide COVID-19 health protocol facilities include wearing masks, hand washing, social distancing, hand sanitizer, and identifying rooms/objects around the environment [19). Previous studies have shown that using masks during the pandemic is a practical step in preventing the transmission of infectious diseases, including preventing the transmission of coronavirus infections [21]. However, it is essential to remember that using masks to prevent COVID-19 must be supported by other health protocols, including maintaining distance, avoiding crowds, and maintaining hand hygiene [22].

The government encouraged healthy living behavior before the COVID-19 pandemic hit Indonesia through the CPTS program (adequate handwashing using soap under running water). During the COVID-19 pandemic, Hand sanitizer is very effective when there is no facility for handwashing, when it is difficult to find clean water, and when traveling [23]. Under the Ministry of Health's direction, a hand washing facility must be provided, including a sink with running water and liquid soap so that every visitor/patient washes their hands with soap (CTPS) when coming and going home from the health center [24]. COVID-19 affects all aspects of life, including the provision of health services and community and individual behavior. 72% of mothers considered that the midwife had made a habit of not shaking hands. This is done to minimize physical contact. When the covid-19 pandemic occurred, the habit of shaking hands and kissing the cheek started to be avoided to minimize the spread of the virus. Therefore, instead, people will show the movement of clasping both hands on the chest as a sign of greeting [25].

Minimal physical contact was also performed by maintaining a safe distance between the health worker and the pregnant woman. 81.4 percent of pregnant mothers perceive that ANC providers must maintain a safe distance during ANC services. Midwives maintaining a safe distance is believed to be effective in suppressing the spread of COVID-19. Doing physical distancing means not gathering in crowds, not having direct physical contact, and keeping a distance when meeting other people [25].

The implementation of Health protocols carried out by midwives according to the assessment of pregnant women was categorized as good at 81.4 percent. Midwives have carried out



several health protocols in services for pregnant women. Trained health workers carry out optimal and integrated antenatal care to minimize complications during the COVID-19 pandemic. Increase awareness of pregnant women to carry out regular and integrated pregnancy checks in health services and pay attention to health protocols [26]. Prevention and mitigation are crucial to health and community services implementation. Some of the most effective preventive measures in the community include practicing hand sanitizer with hand sanitizer when hands don't look dirty, washing hands with soap when hands look dirty and avoiding eye, nose, and mouth contact. Wear a medical mask for respiratory problems and practice hand hygiene after removing the mask. Keep a distance (at least 1 m) from people with respiratory problems [15].

4. CONCLUSION

The study found that among pregnant women during the COVID-19 pandemic, most women are 21-35 years, pregnant in the third trimester, have had secondary education, and are not working. While most pregnant women comply with individual health protocols at the time of antenatal checks, 85.5 percent of the pregnant women were categorized as lacking in implementing ANC protocols, particularly in terms of not making an appointment at the time of service and not conducting online consultations. Meanwhile, based on pregnant women's assessment, 81.4% of ANC workers can be categorized as good. However, a small percentage of mother perceives the inadequate practice of a comprehensive health protocol. This is implemented using masks, hand sanitizers, maintaining distance during services, not shaking hands, handwashing facilities, and using PPE. Recommendations for Midwives are always expected to provide Information Communication and Education (counseling) to pregnant women regarding the importance of complying with the COVID-19 health protocol to break the transmission of the COVID-19 virus.

5. AUTHORS' CONTRIBUTIONS

SS and EFH wrote the original draft; MAS conceptualized the study and created the methodology; EFH wrote, reviewed, and edited the manuscript. MAS, DNAN, UTW, EFH, and SS wrote the final manuscript.

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