

***Utilization of The Maternal Child Health Book to Maternal Knowledge during The COVID-19 Pandemic***Melly Damayanti<sup>1\*</sup>, Maysarah<sup>1</sup><sup>1</sup> Midwifery Department of Poltekkes Kemenkes Tanjungpinang, Indonesia**ABSTRACT**

In early 2020, there was a pandemic of COVID-19 infection that affect anyone. This pandemic affects the health status of mothers and children. To prevent the spread of COVID-19, almost all routine services, including maternal and newborn health services. The contribution of health workers is very important during this pandemic, especially the independence of mothers in maintaining their health. One solution is to increase the use of Maternal and Child Health Books (MCH) by mothers. The MCH handbook is one of the most useful recording, educational and communication media during this pandemic. Mothers and families are expected to independently use the MCH Handbook to increase knowledge and health status. The objective of this research was to analyze the relationship between the function of the MCH Handbook and the mother's knowledge about MCH. This research was carried out in May-July 2021 in Tanjungpinang City. This research used a cross-sectional design. The population of this research was all pregnant women in the third trimester. Samples were taken from 40 people carried out by purposive sampling technique. Univariate analysis of the data for the frequency distribution test, and bivariate chi-squared test. The results of the research indicated relationships between the function of recording the MCH Handbook and the function of communicating the MCH Handbook with knowledge of pregnant women. There was no relationship between the education function of the MCH Handbook with knowledge of pregnant women.

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Email: [apriyandimelly@gmail.com](mailto:apriyandimelly@gmail.com)**1. INTRODUCTION**

Corona Virus Disease (COVID-19) has been stated as a world pandemic by the WHO and the Indonesian government has also declared COVID-19 as a national disaster. During the COVID- 19 pandemic, the Government has made various efforts to break the spread of this virus. The implementation of social distancing as well as the Large-Scale Social Restriction (PSBB) policy which limits the mobility of the population, has an impact on the accessibility of health services. This can lead to a risk of disruption to service continuity health, including pregnant women, which has the potential to increase morbidity and mortality [1].

It is estimated that in the next few months there will be an increase in millions of women who are unable to access family planning services, experience unwanted pregnancies, experience gender-based violence, and other harmful practices. Some women will also choose to skip important medical checkups, because of the fear of contracting the coronavirus that is currently endemic. In addition, the closure of health facilities or the limited availability of services to women has resulted in the lack of health services for pregnant women. The Indonesian Ministry of Health expects pregnant women to be able to independently monitor their pregnancies. If the mother finds a risk/danger sign listed in the MCH handbook, it is recommended to check with a health

worker. If there are no danger signs, the pregnancy test can be postponed[2].

The MCH handbook is a tool for early detection of disorders or problems with maternal and child health, a communication and counseling tool with important information for mothers, families, and the community regarding maternal and child health services including referrals and packages (standards) of MCH services, nutrition, immunization, and infant development. Appropriate application of the MCH Handbook will have an impact on increasing knowledge of mothers and families on maternal and child health, mobilizing and empowering communities to live healthy lives, increasing public access to quality health services, and improving surveillance, monitoring, and health information systems[3].

The results of the analysis carried out in Basic Health Research in 2018, showed that 75.1% had MCH Handbooks, but only 66.2% could show. This shows that ownership of MCH Handbooks is still below the service standard target of 100%. Riau Islands Province is in the 3<sup>rd</sup> rank of the province that does not have the largest MCH Handbook, which is 44.1%[3].

## **2. MATERIAL AND METHOD**

This research used a cross-sectional design to analyze the cause and effect variables that occur in the research object that is collected at the same time. This research was conducted in May-July 2020. The population was third-trimester pregnant women in Tanjungpinang City.

Based on the calculation of the minimum sample size obtained a sample of 35 respondents. To anticipate the number of drop out, disappear, or resign sample, the sample was added by 10%, which was 40 respondents. Sampling was carried out by proportional random sampling technique. Inclusion criteria were mothers who live in Tanjungpinang City and have an MCH handbook.

The assessment of the MCH Handbook recording function was carried out by observing the completeness of filling out the MCH Handbook owned by the mother. Meanwhile, the education and the communication function were assessed from closed questions in the questionnaire. The questions were designed in such a way as to assess the mother's perception of the education and communication function of the MCH Handbook. The answer to the mother's perception using a Likert scale. The mother's MCH knowledge data was obtained through interviews using a questionnaire containing 20 closed questions. All questions in the questionnaire have been tested for validity and reliability.

The data were analyzed using univariate analysis including the completeness of the recording of the MCH Handbook, the mother's perception of the education and communication function as well as the mother's knowledge about MCH. Bivariate analysis using the statistical test with chi-square test.

## **3. RESULTS AND DISCUSSION**

This research was carried out in May–July 2020 in Tanjungpinang City, Riau Islands Province. Respondents in this research were pregnant women in the third trimester consisted of 40 people. After processing and analyzing the data, the following results were obtained:

**Table 1. Frequency Distribution of Research Variables**

<b>Variable</b>	<b>Category</b>	<b>n</b>	<b>%</b>
Recording Function	Incomplete	26	63
	Complete	14	35
Educational Function	Poor	22	55
	Good	18	45
Communication Function	Poor	17	42.5
	Good	23	57.5
Mother's Knowledge	Poor	22	55
	Good	18	45

Based on table 1, most of the MCH Handbooks owned by respondents were not filled out completely (63.0%). In the educational function, it was found that most of the mothers had a poor perception of the educational function of the MCH Handbook (55.0%). However, in contrast to the communication function, most of the mothers have good communication functions (57.5%). In the knowledge variable, 55.0% of mothers have poor knowledge about maternal and child health.

Completing the MCH Handbook can provide mothers with an understanding of their health status. The use of MCH Handbooks by mothers is one of the interventions to increase information. Complete records will support increased knowledge of mothers about their health and the health of their children in the future. The main cause of incomplete filling of the MCH Handbook was when the research occurred during the COVID-19 pandemic. This caused many pregnant women who did not come to check with health workers. In addition, there was also no implementation of mother class activities.

Mother's perception of the educational function of the MCH Handbook was mostly in the poor category. This happened because, during the COVID-19 pandemic, mothers did not regularly make pregnancy visits to health facilities, so mothers did not feel the benefits of education from the MCH Handbook. In providing pregnancy services, every health worker was required to use the MCH Handbook as a medium for counseling mothers.

One of the benefits of the MCH handbook is as a communication medium. The MCH handbook is a medium of communication between mothers and health workers and also communication between health workers. If the mother carries out a pregnancy check at a different health facility, the data, and history of the mother have been written in the MCH Handbook, so the mother's health can still be observed at every visit. In this research, most of the respondents had a good perception of the communication function. This means respondents had the perception that the MCH Handbook can be used as a communication medium.

Mother's knowledge was mostly in the low category. This means that many pregnant women did not understand maternal and child health. Many factors caused low knowledge of pregnant women, including lack of health information, maternal age, mother's education level, mother's occupation, and others.

**Table 2. Relationship of Functional Variables with Mother's Knowledge**

Functional Variables	Categories	Mother's Knowledge				p Value
		Not Enough		Good		
		n	%	n	%	
Recording	Incomplete	18	69,2	8	30,8	0,033
	Complete	4	28,6	10	71,4	
Education	Not enough	10	45,5	12	54,5	0,307
	Good	12	66,7	6	33,3	
Communication	Not enough	14	82,4	3	17,6	0,008
	Good	8	34,8	15	65,2	

The results of this research found a relationship between the recording function of the MCH Handbook and the communication function of the MCH Handbook with the mother's knowledge, with a p value = 0.033 and p = 0.008 ( $p < 0.05$ ). However, there was no relationship between the educational function of the MCH Handbook and knowledge of the MCH Handbook. The difference was not statistically significant with a value of  $p = 0.008$  ( $p > 0.05$ ).

The MCH handbook is a tool for early detection of disorders or problems with maternal and child health, a communication and counseling tool with important information for mothers, families, and the community regarding maternal and child health services including referrals and packages (standards) of MCH services, nutrition, immunization. and infant development. (Ministry of Health RI, 2016).

The MCH handbook was used as evidence for recording comprehensive and continuous maternal and child health services held by the mother or family. Therefore, all maternal and child health services including immunization, and SDIDTK as well as records of diseases and problems of mother-child development must be recorded completely and correctly. Recording in the MCH Handbook was used as evidence for monitoring maternal and child health, including early detection of maternal and child health problems. In addition, records in the MCH Handbook were used to ensure the fulfillment of the right to complete and sustainable maternal and child health services[4].

Based on the results of the research, mothers who had incomplete MCH Handbook records tended to have low knowledge about the health of MCH Handbooks. The incomplete filling of the MCH handbook occurred due to the mother did not come to check with the health worker, so the mother did not get information related to her health and pregnancy. During every pregnancy visit, health workers must explained about pregnancy to the mother. This information can be found in the MCH Handbook[5].

According to Kalsum U's research, 2019, the role of health workers is very important in using the MCH Handbook. Respondents would consider the MCH handbook to be unimportant if they did not get information from health workers, so mothers would not use MCH Handbooks. Health workers must explain the importance of using MCH Handbooks so respondents used MCH Handbooks. The role of health workers was to give the MCH handbook to the mother for the first time doing antenatal care, to complete the MCH handbook regarding the identity of the mother and child, and to fill in the results of the maternal and child health examination[6].

Antenatal care (ANC) visits to health workers are carried out from the conception time until before the start of a comprehensive and quality delivery process. Pregnant women were considered to be regular in ANC visits if they came to check their pregnancy at health facilities according to a predetermined schedule and were willing to carry out what was recommended by the officer. Based on the Guidelines for Integrated Antenatal Services, the third edition of 2020, examination services for pregnant women were carried out at least six times during their pregnancy with a time distribution, twice in the first trimester (0-12 weeks), once in the second trimester (more than 12 weeks to 24 weeks) and three times in the third trimester (more than 24 weeks until delivery) where at least two pregnant women must be contacted a doctor (once in the first trimester and once in the third trimester). Antenatal visits could be more than six times as needed and if there were complaints, illnesses, or pregnancy disorders[7].

Most of the respondents in this research, many did not make ANC visits to health facilities. This can be seen from the notes in the MCH Handbook. In general, pregnancy visits were only carried out in the third trimester of pregnancy. This happened as a result of mothers' concerns about visiting health facilities during the COVID-19 pandemic as well as restrictions on health services. Mothers who did not make regular visits during pregnancy had incomplete MCH Handbook records[8].

This is in accordance with research conducted by Purnama (2021). Third trimester pregnant women who used maternal and child health books (KIA) were 83.3%. This showed that the use of the MCH Handbook by pregnant women tended to be good, thereby increasing the understanding of pregnant women about the contents and benefits of the MCH Handbook[9].

Based on the research results, the educational function of the MCH Handbook has no relationship with the mother's knowledge. Most of the respondents with good educational functions have low knowledge. The MCH handbook served as an educational medium and a means of health information for mothers and their families. In the MCH Handbook, there was a lot of health information on pregnancy, childbirth, postpartum breastfeeding, and newborns to children aged 6 years. The material was arranged in a language that was easily understood by the mother. The material contained in the MCH Handbook was in accordance with the needs of mothers and children. So, it is expected that this MCH Handbook would make a positive contribution to the knowledge of mothers and families. According to research by Maharani, et al in 2019, the use of the MCH Handbook was very important and could increase the knowledge of pregnant women and families about maternal and child health. Mothers and families could read the information in the MCH Handbook to increase their knowledge.

However, the respondents in this research had a poor perception of the educational function of the MCH Handbook. This could happen because respondents thought that they often get health information from other sources, not from the MCH Handbook. Respondents rarely used the MCH handbook to add information about health in pregnancy. Based on the interviews result with several respondents, they said that the design of the MCH Handbook was interesting but they didn't have time to read the MCH Handbook, they preferred to get information directly from health workers, other people, or other social media. Some respondents even admitted that they did not understand some of the things contained in the MCH Handbook and did not receive an explanation from health workers or cadres. Especially now that there is a COVID-19 pandemic, which causes reduced interaction between health workers or cadres and pregnant women.

This research was also similar to the research conducted by Sistiarani, et al (2014), that the educational function of the MCH Handbook had no relationship with the mother's knowledge. Many mothers who had MCH Handbooks have never read MCH Handbooks or only read a small part of MCH Handbooks[10].

The COVID-19 pandemic has had a very significant impact on the health of mothers and children. Every health worker was expected to increase socialization in the community, especially among pregnant women to maintain health protocols and increase independence in maintaining their health. Guidelines for pregnant women were also published by the American College of Obstetricians and Gynecologists (ACOG) (ACOG, 2020). This was also supported by the information disseminated by the Indonesian Ministry of Health regarding guidelines for pregnant women during social distancing[11].

An important point in these guidelines was that every pregnant woman who is going for a pregnancy check-up was encouraged to make an appointment in advance and always took precautions to prevent the spread of COVID-19 during her trip to health care facilities. In addition, in filling out the Maternity Planning and Complications Prevention Program (P4K) stickers, pregnant women were filled in independently by pregnant women with the guidance of midwives/nurses/doctors through communication media, and pregnant women were required to study the MCH handbook and apply it in daily life so the pregnant women can check the condition of themselves and the movement of the fetus. The mother must be able to ensure that fetal movement began at 20 weeks of gestation and after 28 weeks of gestation, with a minimum of 10 movements per 2 hours. Pregnant women were also expected to always maintain their health by continuing to take blood-added tablets according to the doses given by health workers and consuming balanced nutritious foods, maintaining personal hygiene, and continuing to practice physical activities in the form of exercise for pregnant women/yoga/pilates/aerobic/stretching independently at home so the pregnant women stayed fit and healthy[12][13].

Based on these guidelines, the Indonesian Ministry of Health expected pregnant women to be able to independently monitor their pregnancy. If the mother finds the risks/danger signs listed in the MCH handbook, it was recommended that she checked with a health worker. If there were no danger signs, the pregnancy test could be postponed in advance[14].

For this reason, the use of the MCH Handbook as an educational medium for pregnant women was very important, especially during this pandemic. However, the lack of socialization and interaction between pregnant women and health workers or cadres caused the use of the MCH Handbook to be not optimal[12].

In this research, most of the respondents had a good perception of the communication function of the MCH Handbook. And there was also a relationship between the communication function of the MCH Handbook and the mother's knowledge. Mothers who had a good perception of communication function had good knowledge about maternal and child health.

The MCH handbook served as a medium of communication between health workers and patients and between health workers. This was expected to increase community participation in controlling maternal health. The use of the MCH Handbook was one of the strategies for community empowerment, especially for families, to maintain health and obtain quality health services. The MCH handbook was called a communication tool because health workers could remind important notes that other health workers, mothers, or families could read. These included maternal complaints,



results of physical examinations, delivery records, services provided to mothers/infants/children, results of additional examinations, and referrals. This was in accordance with research conducted by Purnami in 2021, the results showed that 83.3% of pregnant women in the third trimester used maternal and child health books (KIA) and had good knowledge[9].

Communication, information, and health education through the use of MCH handbooks could be used as communication by health workers to mothers, even though mothers could read MCH messages/information on their own in the MCH handbook, not every mother had the time/opportunity to read the messages/information. Notes on complaints or disease problems were not yet fully understood and can be interpreted well by mothers, so communication efforts from health workers were needed to be able to explain them properly[15].

The use of the MCH handbook by health workers needed to be modified, especially in combining information/messages to make it more interesting and easy to understand as a way to convey the message. This was an effort to increase the effectiveness of community-based activities in promoting maternal knowledge and behavior regarding maternal and child health. The use of MCH handbooks in health education sessions would encourage effective communication between mothers and health workers. Support from health workers could be provided when mothers used health care facilities, health workers could explain important points because mothers did not understand maternal and child health information[16].

However, this must be adapted to the current situation. The use of technology also played an important role in the COVID-19 pandemic situation. Communication, which was mostly done in cyberspace, must be done by adjusting to the mother's circumstances and needs.

#### 4. CONCLUSION

There is a relationship between the recording function and the communication function of the MCH Handbook with knowledge of pregnant women on maternal and child health, and there is no relationship between the educational function of the MCH Handbook and the knowledge of pregnant women. It is expected that health workers can increase awareness of pregnant women in the use of the MCH Handbook, especially during the COVID-19 pandemic.

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