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EMPOWERMENT OF PREGNANT WOMEN IN IMPROVING EARLY INITIATION OF BREASTFEEDING

Inke Malahayati [1]*, Tengku Sri Wahyuni [2] and Lenny Nainggolan [3]

[1, 2, 3] Jurusan Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Medan.
Email: [1]inkemala76@gmail.com (*Corresponding Author), [2]wahyuni@gmail.com, [3]lelen_1405@yahoo.co.id
ORCID ID: [1]0000-0003-0005-6453, [2]0000-0001-9376-6862, [3]0000-0001-9323-0881

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Abstract

Breastfeeding is essential for the health and well-being of newborns, and early initiation of breastfeeding (EIBF) is critical for the continuity of exclusive breastfeeding in the long term. However, only around 40% of babies worldwide receive EIBF, and Indonesia's prevalence is currently at 58.2%, according to WHO data. To achieve the WHO target of 70% EIBF by 2030, this study aimed to explore the influence of empowering pregnant women on EIBF. The research used a mixed method approach with a sample size of 56 pregnant women aged 18 to 49 years, in their third trimester, with normal pregnancies, and both primi and multigravida. The intervention group received health education, mentoring, EIBF pocketbooks, and videos, while the control group was given an EIBF pocketbook. Both groups were given a knowledge questionnaire about EIBF before and after the intervention. Qualitative data was collected by observation and in-depth interviews, and data were analyzed using the Chi-square test, Mann-Whitney U test, and thematic analysis. The research found that the prevalence of EIBF in the study was 57.1%, and the level of good knowledge was 53.6%. The intervention group had a longer duration of early breastfeeding, 27.19 ± 17.12 minutes, compared to 16.63 ± 16.64 minutes in the control group ($p < 0.05$). The study also found that there was an influence of empowerment on the level of EIBF knowledge ($p<0.05$), but there was no significant effect on the implementation of EIBF ($p>0.05$). Furthermore, the mode of delivery was related to EIBF ($p<0.001$), and prenatal counseling/education about EIBF during pregnancy and pre-delivery must continue to be promoted. Finally, EIBF support during the birthing process must be provided by birth attendants, especially for cesarean section deliveries.

Keywords: Early Initiation of Breastfeeding, Empowerment, Pregnant Women.

INTRODUCTION

Every child has the right to life and optimal growth and development. To achieve optimal growth and development, in the Global Strategy for Infant and Young Child Feeding, WHO/UNICEF recommends four crucial things in feeding babies and children; 1). Give breast milk to the baby immediately within 30 minutes after the baby is born; 2). Providing only breast milk or exclusive breast milk from birth until the baby is six months old; 3). Providing complementary foods for breast milk from babies aged six months to two years; and 4). Continuing breastfeeding until the child is two years old [1].

It is predicted that around 40% of babies have received early initiation of breastfeeding (EIBF) throughout the world. WHO targets that seventy percent of babies will have received early initiation of breastfeeding by 2030 [2]. According to WHO data, the prevalence of EIBF in 2018 in Indonesia was 58.2%. EIBF achievements in several other countries are quite varied, such as in Thailand at 34%, Pakistan at 19.6%, Iraq at 32.4%, and Turkey at 71.3%. Low and middle-income countries are the largest contributors to babies not receiving breast milk in the first hours of life. It is calculated that these poor babies reach 78 million babies, or three out of five babies born [2].

The implementation of EIBF is crucial for the continuity of exclusive breastfeeding in the long term. If breastfeeding is delayed after birth, the consequences can be life-threatening. The longer a newborn is left to wait for early breastfeeding, the greater the risk of death. Evidence-based breastfeeding support interventions can improve breastfeeding practices [3]. The study in Pekanbaru-Indonesia showed that the more positive support the husband gives to mothers who carry out EIBF, the more optimal the implementation of EIBF will be [4]. Aghoozi's research found that mothers who received support from their husbands in implementing EIBF had a significant effect on the success of EIBF compared to mothers who did not receive breastfeeding support [5].

Various studies have proven that implementation of EIBF successfully requires efforts to empower mothers [6]. Women's empowerment is a principal global development goal (Sustainable Development Goal 5/SDGs 5) as well as a means to advance other SDGs, including those related to the survival of neonates, infants, and toddlers (SDGs 3). Based on the description above, it is necessary to carry out research to improve the behavior of mothers in carrying out EIBF through empowering pregnant women. The specific objectives of this research are to determine mothers' knowledge about EIBF, analyze the influence of empowering pregnant women on the implementation of EIBF, explore barriers to implementing EIBF, and explore mothers' experiences and satisfaction in the empowerment process.

METHOD

Participant Characteristics and Research Design

We used a mixed-method study in this research. Quantitative research used a quasi-experimental design with a pre-post control group design to compare the effect of empowering pregnant women on the implementation of early breastfeeding initiation. Qualitative research used the Rapid Assessment Procedure (RAP). It is a qualitative approach/assessment carried out quickly (1-2 months) regarding barriers, satisfaction, and behavior regarding early initiation of breastfeeding. We conducted our study in June – October 2023 in Pematangsiantar City. The population in this study were all pregnant women in the independent practice of midwives in Pematangsiantar City.

Sampling Procedures

The sample for this study was pregnant women who met the inclusion criteria, namely maternal age 18 - 49 years, third trimester of pregnancy, primi and multi-gravida, and able to read and speak Indonesian. The sampling method was consecutive sampling. Informants in qualitative research were pregnant women who are active and less active, have good and poor knowledge during the empowerment process, and mothers who do not carry out EIBF during childbirth. Before collecting data, the researcher provided an explanation to potential participants about the research plan. Next, offer participants the opportunity to be willing to become study respondents. Participants were allowed to withdraw during the study. Potential participants who agree to take part in the study sign informed consent.

Sample Size, Power, And Precision

The minimum sample size in this study was determined based on the Lemeshow formula (mean difference in two proportions), namely 27 samples each group [7]:

$$n1 = n2 = \frac{(Z\alpha\sqrt{2PQ} + Z\beta\sqrt{P_1Q_1} + \sqrt{P_2Q_2})^2}{(P_1 - P_2)^2}$$

Information: P1 = proportion EIBF (from literature) = 0.631 [8], P2 = proportion of effects studied (clinical judgment) = 0.29, Zα = level of significance (determined by the researcher) = 5% = 1.96, Zβ = power = 80% = 0.842, and P = ½ (P1+P2) = 0.46. Based on this formula, the minimum sample size for this study was 27 samples in each group

Measures And Covariates

Pregnant women's empowerment regarding Early Initiation of Breastfeeding (EIBF) involves health education and EIBF counseling, which is carried out three times at a two-week interval. Before and after the training, a questionnaire assessing knowledge about EIBF is given. Assistance through home visits is provided once after counseling, with a two-week gap.

The intervention group is given a pocketbook and a video on EIBF, while the control group receives only a pocketbook. Researchers prepared a maternal knowledge questionnaire about EIBF consisting of 13 questions that were tested for validity and reliability (Cronbach alpha 0.785).

Data Analysis

The research used quantitative data analysis techniques, such as univariate and bivariate analyses with Chi-square and Mann-Whitney U tests. Thematic analysis was employed to identify the obstacles to implementing EIBF. The data was processed and analyzed using the Statistical Package and Service Solution (SPSS) software, version 25.0 for Windows. The significance criterion used was the p-value, where a value of $p \leq 0.05$ indicates statistical significance with a 95% confidence interval ($\alpha = 0.05$).

RESULTS AND DISCUSSION

Result

According to table 1, the majority of the respondents were in the age group of 20-35 years (78.6%), and more than half of them were multipara (64.3%) and Muslim (55.4%).

Most of them worked as housewives (85.7%) and gave birth spontaneously (51.8%). About 57.1% of the women gave birth to a baby of female gender and implemented IMD, while 50% of them had insufficient knowledge before the intervention. However, after the intervention, the percentage of women with insufficient knowledge decreased to 46.4%.

The results of the univariate analysis can be seen in table 1 below:

Table 1: Results of Univariate Analysis

Variable	F	%
Age of participant (year)		
- < 20 dan >35	12	21.4
- 20 – 35	44	78.6
Parity		
- Primiparity	20	35.7
- Multiparity	36	64.3
Religion		
- Islam	31	55.4
- Christian	25	44.6
Education		
- Primary school	2	3.6
- Elementary school	5	8.9
- High school	41	73.2
- College/university	8	14.3
Job status		
- Work	8	14.3
- Housewife	48	85.7
Method of labor		
- Cesarean section	27	48.2
- Vaginal delivery	29	51.8
Gender of baby		
- Male	24	42.9
- Female	32	57.1
Implementation of EIBF		
- Yes	32	57.1
- No	24	42.9
Level of knowledge about EIBF (baseline)		
- Good	28	50.0
- Not good	28	50.0
Level of knowledge about EIBF (after intervention)		
- Good	30	53.6
- Not good	26	46.4

EIBF = early initiation of breastfeeding

Table 2 shows that the mean age of participants in the intervention group was slightly higher than that of the control group, with 30.21 ± 5.77 years versus 29.21 ± 5.92 years. Both groups had a similar mean gestational age, with 30.43 ± 2.38 weeks for the intervention group and 30.54 ± 3.63 weeks for the control group. The highest level of education in the intervention group was high school-college/university, with 79.3%, while the control group had 89.3%. Most of the participants in both groups were housewives, with 89.7% in the intervention group and 85.7% in the control group. In terms of delivery methods, cesarean section was more common among the intervention group (53.6%) compared to the control group (57.1%), where spontaneous delivery was the norm. Regarding knowledge about early initiation of breastfeeding, 53.6% of the intervention group had good knowledge, while 46.4% of the control group had good knowledge. The statistical tests indicate that there were no significant differences in characteristics between the two research groups. The following table displays the characteristics of the participants in both research groups.

Table 2: Characteristics of the Participants in Both Study Groups

Variable	Intervention group (n=28) (mean ± SD)	Control group (n=28) (mean ± SD)	*p-value*
Age (year)	30.21 ± 5.77	29.21 ± 5.92	0.52#
Age of pregnancy (week)	30.43 ± 2.38	30.54 ± 3.63	0.62*
Parity	2.32 ± 1.19	2.29 ± 1.76	0.45*
Education: - primay – elementary school - high school – college/university	 6 (20.7%) 23 (79.3)	 3 (10.7%) 25 (89.3%)	0.47
Job status - Work - Housewife	 3 (10.3%) 26 (89.7%)	 4 (14.3%) 24 (85.7%)	0.71
Method of labor - Cesarean section - Vaginal delivery	 15 (53.6%) 13 (46.4%)	 12 (42.9%) 16 (57.1%)	0.42
Level of knowledge about EIBF (baseline) - Good - Not good	 15 (53.6%) 13 (46.4%)	 13 (46.4%) 15 (53.6%)	0.79
Level of knowledge about EIBF (after intervention) - Good - Not good	 19 (67.9%) 9 (32.1%)	 11 (39.3%) 17 (60.7%)	0.03

#t-independent test; *Mann-Whitney *U* test; SD= standard deviation; EIBF= early initiation of breastfeeding

According to table 3, the mean pretest score for EIBF knowledge was similar in both the intervention group (9.32 ± 1.63) and the control group (8.86 ± 2.15), with a p-value of 0.55. However, the posttest knowledge score in the intervention group (10.00 ± 1.74) was higher than that of the control group (8.79 ± 1.95). The statistical analysis revealed significant differences between the two groups (p=0.02) after the intervention.

Table 3: Differences in Knowledge Scores about Early İnitiation of Breastfeeding between the Two Groups Participants

Group	n	EIBF pretest score		EIBF posttest score	
		Mean ± SD	Median (min – max)	Mean ± SD	Median (min – max)
Intervention	29	9.32 ± 1.63	10.00 (6-12)	10.00 ± 1.74	10.00 (6 -13)
Control	28	8.86 ± 2.15	9.00 (5-12)	8.79 ± 1.95	9.00 (5-12)
*p**		0.51		0.02	

*Mann-Whitney *U* test; SD= standard deviation; EIBF= early initiation of breastfeeding

The study found that empowerment interventions positively influenced the knowledge level of early breastfeeding initiation (see table 4). In the intervention group, 67.9% of participants had good knowledge compared to 39.3% in the control group. Those who received empowerment interventions were 3.26 times more likely to have better knowledge than those who only received a pocketbook (p-value = 0.03). However, there was no significant difference in the implementation of early breastfeeding initiation between the two groups. 57.1% of respondents from both groups implemented early breastfeeding initiation. The statistical test results showed that there was no effect of empowerment on the implementation of early breastfeeding initiation ($p > 0.05$). Therefore, both intervention and control groups had equal opportunities to initiate early breastfeeding.

Table 4: Effect of Empowerment on the Level of Knowledge and Implementation of Early Initiation of Breastfeeding (EIBF)

Variable	Intervention group		Control group		Total		OR (95% CI)	*p-value*
	N	%	n	%	n	%		
Level of knowledge about EIBF (after intervention)								
- Good	19	67.9	11	39.3	30	53.6	3,26	
- Not good	9	32.1	17	60.7	26	46.4	(1.09 – 9.77)	0.03
Total	28	100	28	100	56	100		
Implementation of EIBF								
- Yes	16	57.1	16	57.1	32	57.1	1.0	
- No	12	42.9	12	42.9	24	42.9	(0.34 – 2.88)	1.00
Total	28	100	28	100	58	100		

Based on the findings presented in table 5, it is evident that mothers in the intervention group breastfed their babies for a longer duration in comparison to those in the control group. Specifically, the mean duration of early breastfeeding initiation in the intervention group was 27.19 ± 17.12 minutes, which was longer than that of the control group at 16.63 ± 16.64 minutes. The results of the statistical tests indicate that there were significant differences between the two groups ($p < 0.05$).

Table 5: Duration of Early Initiation of Breastfeeding between the Two Groups

Group	Duration of early initiation of breastfeeding (minute)				
	Mean	SD	Median	Min – maks	*p**
Intervention (n=16)	27,19	17,12	20	5 – 60	0,02
Control (n=16)	16,63	16,64	12,5	1 – 60	

*Mann-Whitney *U* test

Qualitative Analysis

In-depth interviews were conducted with intervention and control group respondents who did not initiate early breastfeeding, respondents who were active and less active in the empowerment process, and respondents who had good and poor knowledge.

Reasons for not doing EIBF

Some of the reasons respondents expressed for not carrying out EIBF were as follows:

Mrs PAY, 24 years old, G3P3, cesarean delivery

> *"I've already told the nurse, ma'am, when I want to go into the operating room so I can do EIBF, but they said later when you're already in the obstetrics room."*

Mrs. A, 37 years old, G4P4, cesarean delivery

> *"I can't EIBF, ma'am. Because of surgery. When I wanted to go into the operating room, I told the nurses to get EIBF, but they said, later when I'm already in the treatment room."*

Mrs. F, 28 years old, G1P1, cesarean delivery

> *"When I was about to give birth, my blood pressure rose, ma'am. Then the midwife referred me to the hospital. "By the time I got to the hospital, I had just given up, I didn't have time to ask for an EIBF anymore because I was immediately preparing for surgery."*

Mrs. LH, 31 years old, G1P1, normal delivery

> *“At that time I was bleeding, ma'am. So the offer focuses on treating bleeding, there is no time for EIBF anymore."*

Based on this expression, it can be concluded that the reason for not carrying out EIBF is that some hospitals do not facilitate EIBF in the operating room and complications during normal delivery.

Obstacles when implementing EIBF

Mrs A, 32 years old, G4P4, normal delivery

> *"EIBF, ma'am, about 20 minutes. The obstacle is... that... the baby hasn't reached the nipple yet. You were in pain when you got the stitches, ma'am. So, the baby was transferred.”*

Mrs. J, 41 years old, G3P3, normal delivery

> *“The baby was only placed on the chest for a short time, ma'am, at most about 5 minutes. "You're in pain because of the stitches (perineum)"*

Mrs. HT, 37 years old, G3P3, cesarean section delivery

> *"EIBF's time constraints... that's not it... the time isn't long enough (to put the baby on the chest), because of the operation, so the baby hasn't had time to move yet it's taken straight away"*

Mrs. RS, 33 years old, G2P2, cesarean section delivery

> *“I can EIBF, ma'am. but only for a moment, about 10 minutes at most. After that, they (nurses) said they wanted to sew up the wound, so the baby wouldn't get to the nipple."*

Based on the interview results, it was concluded that the obstacles to EIBF were the perineal suturing process and the caesarean section suturing process.

Empowerment benefits and EIBF pocketbook

The benefits expressed by respondents can be seen in the following expressions:

Mrs. EG, 36 years old, G5P5, intervention group

> *“Uh... I'm glad, Mom, there's this book, it's explained again. If only I had received an explanation like this earlier, I would have prepared myself from the start of pregnancy to initiate early breastfeeding. Anyway, it's different, my child can EIBF for 1 hour, apparently he can breastfeed, even though he was just born. "From this book, I know how to care for my breasts. At the meeting yesterday there was also an explanation of nutritious foods to prepare for breastfeeding. Luckily, every pregnancy is like this."*

Mrs. A, 37 years old, G4P4, intervention group

> *“The counseling and books that you convey are useful, ma'am. I learned about breast care and initiation. "I can express my wishes for EIBF even though I can't communicate with hospital people."*

Mrs. RAH, 24 years old, G1P1, control group

> *"Luckily, there's this book. Increase knowledge about early initiation of breastfeeding and breast care. "I also tried it when I was going to have surgery yesterday, asking for EIBF but the nurse said later when I'm in the obstetrics room."*

Mrs. HT, 37 years old, G3P3, control group

> *"So you know more about EIBF, right? My knowledge increases, especially since my children are 11 years old, so many people forget. By reading this book, I remember again."*

Mrs. NH, 32 years old, G1P1, intervention group

> *"Before entering the operating room, I said to the nurse, ma'am, I want EIBF. They allowed it but only for a short time, about 15 minutes. He said he wanted to prepare the next process of action."*

Mrs. RS, 33 years old, G2P2, intervention group

> *If it were me, ma'am, I could ask for an EIBF, but only for a moment, at most about 10 minutes. "After that, they (nurses) said they wanted to sew up the wound, so the baby wouldn't reach the nipple."*

Based on the description above, it can be concluded that the intervention and control groups felt the benefits of this research. Respondents from both groups expressed the benefits of the EIBF pocketbook given to them. Apart from that, they were also able to express their desire to initiate early breastfeeding at the time of caesarean section even though it was not facilitated according to EIBF procedures.

DISCUSSION

The WHO and UNICEF Global Strategy for Infant and Young Child Feeding have recommended three (3) breastfeeding practices; early initiation of breastfeeding, placing newborns skin-to-skin contact with their mothers immediately after birth, and supporting mothers to initiate breastfeeding within the first hour of the baby's life [1]. The prevalence of early initiation of breastfeeding in this study was 57.1%. This achievement is slightly lower than the 2018 Riskesdas results, namely 58.2% [9]. The results of this research are also lower than those researched by Debataraja et al., (2021) in Pagaran District, North Tapanuli, Indonesia (66.7%) and Gebremeskel et al., a study in rural areas (61,8%) of Tigray, Ethiopia [10], [11]. The results of this research are higher than the previous study in Uttar Pradesh, India (48.1%), the 2004 – 2018 health survey in Bangladesh (51%), and 53.6% in independent midwife practice in Pringsewu Lampung, and [12]–[14].

Factors related to EIBF in this study were the mode of delivery. Vaginal delivery is 17.88 times more likely to perform EIBF than cesarean section. Our study was in line with other previous studies [13], [15], [16]. Masitoh et al study (2021) found that cesarean section deliveries were 7.16 times more likely to not have EIBF [17]. Our interviews with respondents found that not all hospitals facilitate EIBF during cesarean sections. Early initiation of breastfeeding can be achieved through the involvement of all parties (stakeholders and teams) as well as commitment from management staff to improve quality [18]. Cesarean section has a smaller chance of EIBF due to the effects

of anesthesia, maternal fatigue, respiratory problems in the baby, time spent suturing the uterus, and post-cesarean pain [13].

Our study didn't find a relationship between age, parity, religion, education, employment, baby's gender, and knowledge about EIBF with the implementation of early breastfeeding initiation. Our study is different from Debataraja's study which reported a relationship between the level of knowledge and the implementation of EIBF [10]. Our study is also different from those of Woldeamanuel in Ethiopia which found a relationship between EIBF and place of residence (29% of respondents in urban areas were more likely to have EIBF), religion (orthodox Copts were 1.89 times more likely to delay EIBF compared to other religions), gender of the baby (male babies have a 1.18 times chance of late EIBF), a baby with a birth weight of 2.5 – 4 kg has a 0.8 times chance of EIBF compared to a baby with a birth weight of 2.5 kg, and a birth order of 1-2 has a chance of 0 .69 times for EIBF compared to seventh birth and beyond [16]. The research results of Ahmed et. al (2019) also found a relationship between EIBF and informal working mothers, frequency of antenatal visits, births in healthcare facilities, and residence in metropolitan areas [15]. Different research results were also reported by Gebremeskel et. al (2019) that there is a relationship between EIBF and education level [11]. The results of research by Bolarinwa (2022) in Togo, Africa also found a relationship between EIBF and the sex of the baby, delivery by unskilled personnel, uneducated partners, living in urban areas, and maternal age (15-24 years) [19].

We didn't find the effect of empowerment on the implementation of EIBF. Empowerment is the process of increasing an individual's or group's capacity to make choices and converting those choices into desired actions and outcomes. The empowerment provided can be in the form of health counseling or education, mentoring, reading materials, counseling, etc. which can increase the mother's knowledge about early initiation of breastfeeding. Ideally, information about EIBF steps should be provided at the antenatal visit. This information is given to pregnant women and husbands so that they understand the baby's behavior during EIBF and the EIBF process that will be carried out. This will help parents monitor the newborn's position, breathing, and safety during EIBF. EIBF information during antenatal visits will motivate mothers to carry out EIBF [20]. The results of our research are in line with research by Mituki-Mungiria (2020) in Kiandutu which found no difference in the implementation of EIBF between the group given the intervention and the control group [21]. Gebremeskel et al., also reported that antenatal counseling was not associated with EIBF [11]. Bolarinwa (2022) also found no relationship between media exposure and EIBF [19].

Different study found mothers who received counseling and support were 2.67 times more likely to carry out EIBF compared to mothers who received only one intervention (counseling or support) [14], [22]–[25]. Health interventions in the form of health education and counseling by professional health workers improve the implementation of EIBF. The health interventions provided vary, including m-health, behavior change communications (BCC), health education, policy interventions, and health systems. Health education and support improve EIBF implementation [24]. Breastfeeding support and education interventions increased EIBF implementation by 25.9% [23]. EIBF intervention by providing modules increased EIBF implementation by 86.6% [25].

Although the empowerment carried out did not show a relationship with EIBF practices, the duration of EIBF in the two groups of respondents showed significant differences. Respondents in the intervention group perform EIBF longer than those in the group who did not receive the intervention. Our study are almost the same as Karim et al., (2018) study which reported a median duration of EIBF of 38 minutes [26]. The empowerment results obtained qualitatively were that respondents in the intervention and control groups were able to express their desire for EIBF before undergoing a cesarean section even though it was not facilitated.

In general, empowerment is advantageous for all groups both intervention and control. In general, intervention group respondents were very satisfied with the empowerment process through counseling, providing pocketbooks, and mentoring. Intervention group respondents expect that health education will be carried out routinely by health workers.

LIMITATION OF THE STUDY

This research has limitations. We cannot control the type of delivery so the type of delivery will influence the implementation of early breastfeeding initiation. We found the prevalence of caesarean section in this study was 48.2%.

CONCLUSIONS AND SUGGESTIONS

The prevalence of EIBF in this study is lower than the prevalence of EIBF nationally. Empowerment increases mothers' knowledge about early initiation of breastfeeding and enables mothers to have the courage to ask for early initiation of breastfeeding before the cesarean section process begins. Barriers to implementing EIBF are complications for the mother or baby during the birth process and hospitals/officers who do not facilitate the EIBF process. Cesarean delivery has a high chance of not carrying out EIBF. In this study, there was no effect of empowering pregnant women on the implementation of EIBF. However, the duration of EIBF was longer in the intervention group than in the control group. For this reason, we recommend that prenatal counseling/education about EIBF during pregnancy and pre-delivery must continue to be promoted. EIBF support during the birthing process must be provided by a birth attendant. The management team and health workers at the hospital must implement EIBF according to Standard Operating Procedures for cesarean section deliveries.

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Ethical Considerations

This study has passed the research ethics review by the Health Research Ethics Committee of the Medan Health Polytechnic of Ministry of Health (No: 01.2529/KEPK/POLTEKKES KEMENKES MEDAN 2023).

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Conflict of Interest Statement

Authors declare there is no conflict of interest in this study.

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