LEMBAPIN Flipchart Media for Midwives to Improve Knowledge, Attitudes, and Skills about Pregnancy Dental Care

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Abstrak:- Pregnant women are vulnerable to dental problems, as during pregnancy, the occurrence of nausea and vomiting increases often. Besides, the habit of pregnant women is also a contributing factor. The high prevalence of dental problems in pregnant women has become a challenge. Pregnant women rarely come to the dentist during pregnancy. In consequence, the dental health status of pregnant women becomes worse. However, poor dental care knowledge, attitude, and skills have become the problem. The problem worsens with low dental health promotion means. This study aims to evaluate the use of flipcharts LEMBAPIN as low-cost dental promotion media towards midwives on the knowledge, attitude, and skills about dental care during pregnancy. The USG (Urgency, Seriousness, and Growth) and Cost Analysis were performed to determine the root problem and priority problemsolving alternatives. The sample for this study was 6 midwives in Mlonggo Public Health Service, Jepara Regency. The respondents were evaluated with pre-test and post-tests about knowledge, attitude, and skills related to dental health care for pregnant women. The instrument employed questionnaires. The results use of flipchart media named LEMBAPIN containing dental health materials and implemented to midwives resulted in the increase of knowledge from fair level (16.7%) to excellent level (66.7%), attitude from fair level (16.7%) to excellent level (50%), and skills from fair (16.7%) to excellent (83.3%). In conclusion, flipchart media has managed to increase the level of knowledge, attitude, and skills of midwives about dental care to pregnant women patients.

Keywords: - Dental Promotion Media, Flipchart, Midwives, Pregnant Dental Care.

I. INTRODUCTION

Dental health affects the quality of life of the community. The consequence of broken hard, soft tissue and elements in the oral cavity creates difficulty in the eating process, talking, and putting together to dysfunction, aesthetic disorders, and discomfort due to disease. However, few people consider their dental and oral health important. In consequence, there is an increase in the number of dental and oral diseases which becomes a challenge to the country. Some groups are indicated vulnerable to oral diseases i.e. preschoolers, adolescents, the elderly, children with disabilities, and pregnant women[1].

Based on Riskesdas (National Primary Health Research) data, shows that there has been an increase in the number of dental and oral health problems by 57%. This is in line with the high prevalence of dental caries reaching 88.8% and the prevalence of periodontal disease reaching 74.1%[2].

Pregnant women have a high risk of experiencing dental and oral diseases such as periodontitis, gingivitis, and dental caries caused by repeated vomiting during pregnancy [3]. Pregnancy is a process that causes changes in a woman's body, both psychologically and physiologically, such as weight gain, and swelling of the feet and gums (gingiva) caused by increased estrogen and progesterone hormones. Increased hormone production during pregnancy causes increased vascularization and changes in the gingival blood vessel walls turning it more permeable and increasing the inflammation process. Several studies have stated that the effects of hormonal changes will affect the dental and oral health of pregnant women by 30-100% [4].

Pregnancy with dental diseases will stimulate the release of prostaglandin hormones which stimulate contractions in the uterus. If the uterus continues to contract, premature birth or even miscarriage can occur and the body's resistance decreases systemically[3]. Besides, it can also lead to Low Birth Weight (LBW) [5]. ISSN No:-2456-2165

Dental diseases in pregnancy have the root problem of low knowledge of dental health care. Even worse, Yuniastusi, 2018 reveals that pregnant women who suffer from dental and oral diseases said they do not understand oral hygiene and knowledge about how to brush their teeth properly[6]. One effort to increase the knowledge is by dental health promotion to promote healthy lifestyles among people. Dental health promotion is often performed through the media. Printed media such as leaflets and posters have been used as a means of dental health promotion[7]–[9]. Besides, there is also the utilization of flipcharts.

Haryani & Sulastri said that for long-term changes in dental health maintenance behavior, flipcharts are more effective because the presentation of information with flipchart media contains attractive images, as well as concise and clear sentences that are adjusted to the comprehension of the educational targets[10]. IT-based promotion media has also been used to promote dental health such as audio-visual media, animation, 3D-printed media, and smart toothbrushes to promote how to do toothbrushing properly[11]-[15]. Both media either printed or IT-based have contributed to increasing the knowledge of respondents in toothbrushing for instance[16]. However, the cost to produce IT-based media is way more costly. It is because the IT-based media includes the electrical requirements and more resources[17]. Therefore, paperbased media is still relevant.

The report said that even though dentists are aware of the poor health and advanced pregnancy outcomes, pregnant women tend to never come to dentists for dental care during pregnancy, moreover with the financial and other barriers to seeking dental routine care[18]. Therefore, midwives as antenatal and post-natal providers, should take part in providing pregnant patients with health education for interprofessional collaboration to increase patient outcomes[19].

This study aims to evaluate the use of flipcharts as dental promotion media towards midwives on the knowledge, attitude, and skills about dental care during pregnancy.

II. MATERIALS AND METHODS

This study used a quasi-experimental pre and post-test design conducted. To decide the most urgent problem in the research location, some interviews were performed with four dentists and dental therapists, one midwife, and pregnant women patients in Mlonggo Public Health Center. The interviewee of pregnant women has resulted from the visit data of pregnant women to Poli KIA/KB (Mother and Kid/Family Planning Room) in the first two weeks of October 2023. There were 183 pregnant women patients during that time. The method to decide the priority used the USG method. The USG method is one way to determine the priority order of problems using the scoring method. It is decided from the point of Urgency, Seriousness, and Growth using the Likert Scale (0 - 5) where 5 is the biggest score. The parameters in the USG are (1) There is no

educational promotion media, (2) Pregnant women's lack of dental care knowledge, and (3) Lack of dental health human resources.

This study resulted in the USG where the priority is there is no educational promotion media. Therefore, after the result of USG was obtained, subsequently, the Cost Analysis was used to calculate the effectiveness and efficiency of the method. There were 3 choices (1) Dental health promotion media provision for pregnant women, (2) Midwives conduct dental health education, (3) Formation of dental and oral health workers to form and manage training for health cadres. The scoring is according to the following formula.

$$Priority(P) = \frac{M x I x V}{C}$$

Where M is Magnitude indicates the magnitude of the problem faced, I stands for the Importance of problemsolving. V is Vulnerability showing the accuracy of the solution and C is Cost expense.

The media used for this study was named LEMBAPIN (Lembar Balik Pintar), a printed flipchart containing dental health care for midwives to perform advocations towards pregnant women. The parameters evaluated in this study are the knowledge, attitude, and skills of the midwives related to performing dental health education. The instrument employed questionnaires to measure the parameters in pre and post-tests.

The measurement of knowledge, attitude, and skills of the midwives was identified and performed with samples of 6 midwives in Mlonggo Public Health Center. The first step comprised pre-test questionnaires that had to be filled in by the midwives before the intervention. Afterward, the intervention using LEMBAPIN was held. The intervention was performed by the researchers to educate the midwives regarding dental health care for pregnant women and handed the flipchart to the midwives. The post-test activity was held on the same day of the intervention. It was performed by the midwives to fill in the same questionnaires in the pre-test to bring about the knowledge, attitude, and skills after the intervention was carried out.

The data analysis was presented by percentage distribution of the respondents (midwives) comprising the parameters of knowledge, attitude, and skills of dental health care before intervention and afterward.

III. RESULTS

Promotional media created by the study for midwives about the dental and oral health of pregnant women is named the Lembar Balik Pintar (LEMBAPIN) which includes the material of proper toothbrushing steps. This flipchart is completed with a QR barcode. This media is calendar-shape 15cm x 21cm which will later be placed on the midwife's desk so that after the routine examination of pregnant women, education about dental and oral health can be provided using this flipchart media by midwives. The front cover of the flipchart is given a QR code which can also be scanned via ISSN No:-2456-2165

their mobile phones so that this media can also be read by midwives and pregnant women anytime and anywhere.

The preliminary data collection about pregnant women patients in Mlonggo Public Health Center shows that most of the pregnant women suffer from dental diseases such as dental caries, gingivitis, and tartar. Among 183 pregnant women, 80% of them suffer from dental caries, 60% suffer from gingivitis and 67% have tartar. This indicates that more than half of the number are vulnerable to dental health problems during pregnancy.

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The identification problems related to priority problem solving based on the USG method are revealed as shown in Table 1.

Table 1 050 beoring of the 110blem Causes						
No	Problem	U	S	G	Total	Rank
1.	There is no educational promotion media	4	4	4	12	Ι
2.	Pregnant women's lack of dental care knowledge	5	3	3	11	Π
3.	Lack of dental health human resources	5	2	3	10	III

Table 1 USG Scoring of the Problem Causes

Table 1 shows that the highest score was obtained by the problem of there being no educational promotion media. This subsequently became the determination of the cost analysis shown in Table 2.

No		Effectivity		Efficiency		Saara	Dui ouiter
INO	Alternavites	M I	Ι	V	С	Score	Priority
1.	Dental health promotion media provision for pregnant women	5	5	4	3	33.3	Ι
2.	Midwives conduct dental health education	5	5	4	4	25	II
3.	Formation of dental and oral health workers to form and manage training for health cadres	4	4	3	4	12	III

Table 2 Priority Alternative to Cope with the Problem

According to Table 2, the highest priority number (I) with a score of 33.3 is the provision of dental health promotion media in the form of LEMBAPIN media for material on maintaining the dental health of pregnant women. Priority (2) resulted in a score of 25 and priority (3) is the lowest. It means that to cope with the problem of there being no educational promotion media, the priority alternative is to provide dental health promotion media. The existence of supporting media in the form of flipcharts can help in the implementation of dental disease examinations in pregnant women which can be used by midwives, dentists, and dental nurses. Besides, it can also be an alternative solution in increasing the motivation of pregnant women to carry out dental care.

After the solution was found, then the research began with the midwives. The results regarding the knowledge of the midwives before and after the intervention is shown in figure 1 below.



Fig 1 Knowledge Level of the Midwives about Dental Health Care

Figure 1 shows that the knowledge level of the midwives about dental health care in pregnancy increases from the highest level of fair (50%) to excellent (66.7%). Meanwhile, before the intervention, there are 33.3% of those who have poor knowledge, then after the intervention, there is no one who has poor knowledge.



Fig 2 Attitude Level of Midwives Regarding Dental Care

Figure 2 shows that the level of attitude of the midwives before the intervention was mostly poor (50%). Meanwhile, after the intervention was held, the results got better with the highest attitude level being excellent and fair each 50%.



Fig 3 Skills Level of Midwives in Dental Care

Figure 3 reveals the skills of midwives are in excellent category after the intervention was held (83.30%). Meanwhile, before the intervention, it was found that the highest was at a fair level of 50%. These results show that the implementation of LEMBAPIN can increase the knowledge, attitude, and skills of midwives.

Table 3	Frequency	Distribution	n of Knov	vledge,
Attitudes.	and Skills	of Dental H	ealth in N	Aidwives

Attitudes, and Skins of Dental Health in Midwives						
Variabel	Pretest	Posttest				
Knowledge	16.70%	66.70%				
Attitude	16.70%	50.00%				
Skills	16.70%	83.00%				

Tabel 3 indicates that the average value of all the parameters increases. In detail, the knowledge increased from 16.7% to 66.7% at the excellent level. The attitude also increases from 16.7% to 50% and skills increase from 16.7% to 83.3% at an excellent level.

The knowledge and awareness of pregnant women during pregnancy about dental health are still lacking. This condition is due to the high number of pregnant women's unawareness to obtain dental care. During pregnancy, it is necessary to carry out dental care to maintain dental hygiene and avoid dental and oral diseases in pregnant women. The attitude of indolent to dental care such as tooth brushing comes due to the condition of pregnant women who always feel nauseous and vomit. Dental and oral diseases are factors related to the risk of adverse pregnancy outcomes such as LBW and premature so dental health during pregnancy needs to be carried out.

The priority of problems in the dental and oral health program at the Mlonggo Health Center is the absence of dental and oral health media (Table 1). This is following the identification of problems obtained through the collection of information and data at the Mlonggo Health Center which states that there is no media about dental and oral health in the KIA polyclinic. Regarding the result of alternative solutions, it is suggested to create media to improve the knowledge, attitudes, and skills of midwives about the dental and oral health of pregnant women.

The midwife pre-test stage was carried out with the preevaluation of knowledge, attitudes, and skills. The pre-test results showed that the midwife's knowledge before being given counseling was at a fair level (50%). The cadres in the Mlonggo Public Health Center have not received dental health counseling for a long time. This also causes the knowledge possessed by midwives to still be at a fair level. According to [16], dental health counseling can increase information resources in the community so that health midwives play a role in increasing access to information about dental health. Counseling can increase midwives' knowledge about dental and oral health, midwives can provide information to the community and have an impact on community knowledge, especially among pregnant women.

The results regarding attitudes towards dental health care before intervention were at a fair level (33.3%), and skills had a fair level of 50%. Practices is the realization of knowledge into real action, respondents with good knowledge will tend to be better at taking preventive measures for dental and oral diseases. Respondent skills determine respondent habits in maintaining daily dental and oral hygiene[20], [21].

At the intervention stage, midwives were given courses on the material on maintaining the dental and oral health of pregnant women and trained to do simple identification of dental and oral diseases. The counseling activities included knowledge of the dental and oral health of pregnant women and were carried out directly in the KIA polyclinic using LEMBAPIN media. For practical training in brushing teeth, it was carried out directly using a dental phantom. At the same time, a question and answer session was carried out related to the material on dental health. For simple examination training and identification comprising gingivitis, swollen gums, and tooth decay was performed through images in the media. At the evaluation stage, the results of the post-test regarding knowledge, attitudes, and skills toward maintaining the dental health of pregnant women increased to an excellent level. There is also the skill category of tooth brushing to teach proper steps of routing toothbrushing in pregnant women. It is intended to go hand Volume 9, Issue 11, November – 2024

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in hand in providing community to prevent dental and oral diseases, especially pregnant women. It is expected that the outcome of the education can motivate the midwives to remind pregnant women how to maintain dental and oral health, and the pregnant women to perform dental health care routinely which can turn it into a habit.

IV. CONCLUSION

The problem of dental health in Mlonggo Public Health Care was caused by the absence of dental health promotion media. This study has managed to provide dental promotion media in the form of a flipchart called LEMBAPIN. Midwives are one part of having a big role in making pregnant women educated about dental health, as bad dental health brings bad impacts as consequences. This study found that the implementation of flipchart LEMBAPIN has had an effect on the knowledge, attitude, and skills of midwives regarding dental health care during pregnancy. The knowledge increased from fair level (50%) to excellent (66.7). The attitude turns from fair (33.3%) to excellent (50%) and skills from fair (50%) to excellent (83.3%). In conclusion, the flipchart has successfully increased the knowledge, attitude, and skills of midwives of dental care towards pregnant women.

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