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Effects of Educational Media Applications of the Asian Parent on the Implementation of Birth Preparedness and Complication Readiness For Third Trimester Pregnant Women

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ABSTRACT

Background: Maternal mortality rate (MMR) is one indicator to see the success of maternal health efforts which is one of the main problems in Indonesia. The Birth preparedness and complication readiness (BPCR) is a program that focuses on childbirth planning and prevention of complications in pregnant, maternity, and postpartum women. BPCR is a government breakthrough as a form of effort made to prevent pregnancy complications to reduce MMR. This study aims to determine the effect of using (Rismawati, et al., 2021) The Asian Parent educational media on the implementation of childbirth planning programs and prevention of complications in third trimester pregnant women in the Working Area of UPTD Ubud I Health Center. **Method:** Design This study is pre-experimental with a one group pretest posttest design, on 50 respondents with total sampling techniques in the Ubud I Health Center Work Area. Data collection is carried out by conducting pretests and posttests using questionnaires. **Result:** The results of this study showed an increase in pretest and posttest 76.12 ± 8.618 to 88.28 ± 4.899 . The p-value on the Wilcoxon test is 0.000 which means Ha is accepted so that there is a significant influence on the use of The Asian Parent application towards the implementation of childbirth preparation programs and prevention of complications in third trimester pregnant women in the Ubud I Health Center Working Area in 2023. It is recommended to add educational media during the class for pregnant women by utilizing smartphone media, namely implementing the Asian parent application to be accessed by pregnant women.

Keywords: BPCR, Pregnant Women, The Asian Parent

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INTRODUCTION

Maternal and child health (MCH) is one target in the 3rd 2030 SDGs (*Sustainable Development Goals*) agenda, namely targeting a maternal mortality rate (MMR) of 70 per 100,000 live births (Bappenas, 2020). In 2021, Indonesia itself will experience an increasing number of maternal deaths from year previously. In 2020, the maternal mortality rate was 4,627 deaths, an increase per year 2021 show 7,389 death in Indonesia (Kemenkes, 2022). The increase in MMR occurred in Gianyar Regency in 2021, the maternal mortality rate was 198.7 per 100,000 live births (Dinkes Gianyar, 2022) while in 2020 the maternal mortality rate was 61.7 per 100,000 live births (Dinkes Gianyar, 2021).

Reason main death Mother in Indonesia caused by reason obstetrics that is bleeding 28%, preeclampsia/eclampsia 24%, infection 11% (Indonesian Ministry of Health, 2014). Bleeding and Hypertension, which is globally termed the *triad of mortality*, is the cause of maternal mortality the most in 2021, namely 1,330 case bleeding, And 1,077 case hypertension in pregnancy (Kemenkes, 2022). Complications experienced by women during pregnancy based on Riskesdas results In 2018, data was obtained that pregnant women were in the age range 15-54 years for the region Province Bali obtained data as much 2.39% average Mother pregnant experience disturbance hypertension (Tim Riskesdas, 2018).

Based on data from annual reports from the Ubud I Community Health Center to the Gianyar District Health Service, it was found that the accumulated data for pregnant women with rest/complications was 142 out of 709 pregnant women in 2022. Complications and

high-risk pregnancies can be life-threatening, but most complications can be prevented and treated (Sari, 2014). Pregnant women need to be given assistance so they are ready to respond to signs and dangers during pregnancy, childbirth and postpartum.

One of the breakthroughs in reducing MMR in Indonesia is the birth planning and complications prevention (P4K) program through activity enhancement access and quality service (Kemenkes, 2022). Program planning labor And prevention of complications is program Which focus on planning labor and prevention complications on Mother pregnant, maternity, And postpartum. The program focuses on the concern and role of families and communities in carrying out early detection efforts, avoiding health risks to pregnant women (Mukharrim dan Abidin, 2021). Classes for pregnant women can be used as a means in implementing the P4K program, which uses flip sheets as a health education medium (Ministry of Health, 2014). The results of the study Husnida, 2016 showed that there was a significant relationship between the use of P4K in pregnant women and the incidence of birth complications . The majority of pregnant women have not practiced P4K well with a percentage reaching 50.7%. In this research, it can be seen that the preparation of pregnant women in preparing for childbirth according to P4K points is still not fully carried out (Ratnasari, dkk., 2014). Based on research Puspita dan Susanti (2017) in Bengkulu, the title of research is counseling classes for pregnant women about P4K. The research results showed that 85% of pregnant women in the mother's class did not know what P4K was and the benefits of P4K stickers.

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Quality communication, information and education (KIE) in service ANC too influential to quality service. Several studies state that *smartphones* have high effectiveness as a medium for health education because they are able to convey information via multimedia, have high portability and have applications that support improving the quality of health services (Elok Mardliyana dan Maya Puspita, 2022). Based on data from the Ministry Communication And Information In 2015, there were 315 cell phone users million user, average public Indonesia own 1-2 cell phone active. Application of health information technology especially in service Antenatal, yes facilitate giving service in accordance with standard, encourage more coordinated care, improve adherence to guidelines and reduce the likelihood procedural errors, thereby pushing health services quality(McNabb et al., 2015).

According to Elok Mardliyana dan Maya Puspita tahun 2022 entitled the influence of smartphone-based educational media on preparation for childbirth during the COVID-19 pandemic in the city of Surabaya, there is a significant influence between smartphone-based educational media on childbirth preparation during the COVID-19 pandemic in Surabaya with a p value of 0.001 . Pregnant women can use *smartphones* to access pregnancy-related applications, one of which is *The Asian Parent application*. This application has features to guide pregnant women through their pregnancy and there are features for healthy baby development. *The Asian Parent application* makes it easier to reach information and can be a reminder of what needs to be done every week the fetus ages. This application provides a *checklist feature* as

a reminder for users regarding things that need to be done (Trisna, 2022).

Based on the background above, researchers are interested in conducting research with the aim of finding out the effect of using *The Asian Parent application* on program implementation planning birth and preventing complications for Third Trimester Pregnant Women at Ubud I public Health Center I in 2023 . This research will be carried out at Ubud I public health center on April 18 - May 2 2023

METHOD

The type of research carried out was *pre-experimental* with a *one group pretest posttest design*. The sample in this study was 50 pregnant women in the third trimester using a *total sampling technique*. This research aims to determine the effect of using *The Asian Parent educational media* on implementation, carrying out a pretest at the beginning and a posttest after the intervention. The effect of the intervention can be observed by comparing the pretest and posttest scores of respondents regarding the implementation of P4K. The instrument used was the P4K application questionnaire which refers to the 2017 SDKI questionnaire for women of childbearing age, part 4 regarding pregnancy and postnatal examination, adapted by the researcher. The validity test of the instrument was carried out with a *p-value smaller than 0.05*, with a *significance p-value of 0.000-0.001*, and the results of the reliability test obtained a Cronbach's alpha value of $0.908 > 0.6$, so the total items were declared reliable.

The data that has been collected is analyzed univariately, namely the application of P4K is analyzed using descriptive statistics in the form of *mean* , standard deviation, maximum value,

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minimum value and the results of the normality test with the Shapiro Wilk test obtained a p-value of pretest score of 0.004 (<0.05) and posttest is 0.000 (< 0.05) indicates the data is not normally distributed. Bivariate analysis in this study used the Wilcoxon Test

RESULTS

Table 1. Frequency Distribution of Implementing P4K Before Using The Asian Parent Educational Media for Pregnant Women in the Third Trimester in the Working Area of Ubud I Community Health Center

	Me	Medi	Mod	Min	Ma	SD
	an	an	e	x		
Prete	76,1	76	86	59	90	8,6
st	2				18	

Based on table 1, of the 50 research subjects, the highest pretest score for implementing P4K in third trimester pregnant women was 90 and the lowest score was 59. with The average pretest score was 76.12 (standard deviation 8.618). Based on the pretest scores carried out by 26 respondents, the P4K application score was smaller than the average score of 50 respondents. This indicates that not all pregnant women have maximized the application of P4K. Based on research conducted by researchers previously The attitudes and behavior of pregnant women are still lacking and they do not know the goals and components of preparation for childbirth

Table 2. Frequency Distribution of Implementing P4K Before Using The Asian Parent Educational Media among Pregnant Women in the Third Trimester in the Working Area of the Ubud I Community Health Center

	Mea	Media	Mod	Mi	Max	SD
	n	n	e	n		
Postte	88,2	90	90	72	93	4,89
st	8					9

Based on table 2, of the 50 research subjects, the highest posttest score for implementing P4K in third trimester pregnant women was 93 and the lowest score was 72. with The average posttest score for implementing P4K for pregnant women in the third trimester is 88.28, with a standard deviation of 4.899. There is a significant influence between smartphone-based educational media on childbirth preparation during the pandemic (Elok Mardliyana and Maya Puspita, (2022).

Table 3 Bivariate Analysis of the Effect of Using the Asian Parent Application on the Implementation of Childbirth Preparation and Complication Prevention Programs in Third Trimester Pregnant Women

Pre-Post Test	N	Z	P-Value
Negative Ranks	0 ^a	-6.162 ^b	0,000
Positive Ranks	50 ^b		
Ties	0 ^c		
Total	50		

Wilcoxon statistical test show a *p*-value of 0.000 (*sig. 2 tailed* <0.05), which means that *Ha* is accepted so that there is an influence of *the Asian Parent* application educational media on program implementation. birth planning and prevention of complications in pregnant women trimesters III in the UPTD Working Area of Ubud Community Health Center I. The positive ranks value in the statistical table shows 50^b, which states that as many as 50 respondents obtained a posttest score greater than the pretest score.

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DISCUSSION

Implementation of P4K Before Using The Asian Parent Educational Media for Pregnant Women in the Third Trimester in the Working Area of the Ubud I Community Health Center

Based on table 1, of the 50 research subjects, the highest pretest score for implementing P4K in third trimester pregnant women was 90 and the lowest score was 59. with The average pretest score was 76.12 (standard deviation 8.618). Preparation for childbirth and prevention of complications that are implemented optimally means that pregnant women have knowledge and preparedness for childbirth. In its implementation, P4K is divided into birth planning, childbirth preparation and knowledge of the danger signs of pregnancy as promotive and preventive efforts against maternal and newborn deaths (Pangesti, 2019). The knowledge, attitudes and behavior of the mother during pregnancy and the family determine decision making in an effort to save the pregnant woman from giving birth and her postpartum period. This can be done by increasing knowledge through P4K so that it can increase the role of husbands, families and communities in dealing with childbirth and complications that may occur, by implementing the P4K program (Maryunani dan Puspita, 2013).

Optimizing the implementation of P4K can increase knowledge and preparedness for childbirth among pregnant women as a form of preventive and promotive effort against the incidence of AKI. Optimally implementing P4K can be implemented by using smartphone-based applications, one of which is *The Asian Parent application* so that pregnant women can obtain additional information and maximize the

implementation of childbirth preparation programs and prevent complications.

Implementation of P4K Before Using The Asian Parent Educational Media for Pregnant Women in the Third Trimester in the Working Area of the Ubud I Community Health Center

Based on table 2, of the 50 research subjects, the highest posttest score for implementing P4K in third trimester pregnant women was 93 and the lowest score was 72. with The average posttest score for implementing P4K for pregnant women in the third trimester is 88.28, with a standard deviation of 4.899 .

Childbirth preparation aims to prepare all physical, psychological and financial needs during pregnancy and the birth process. Childbirth preparation is everything that is prepared to welcome the birth of a child by a pregnant woman. Postpartum mothers who prepare for childbirth can be seen from the mother's ability to prepare all her physical, psychological and financial needs during pregnancy and the birth process.(Saputri, 2018) *smartphone* media and digital applications such as *The Asian Parent* for pregnant women can help mothers obtain information about preparing for childbirth and preventing complications. Childbirth preparation is aimed at preparing pregnant women physically, psychologically and financially during pregnancy and childbirth.

The Influence of Using The Asian Parent Application on the Implementation of Childbirth Preparation Programs and Complication Prevention in Third Trimester Pregnant Women

Wilcoxon statistical test show a *p-value* of 0.000 (*sig. 2 tailed* <0.05), which means that *Ha* is accepted so that there is an influence of *the Asian Parent application educational media* on

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program implementation. birth planning and prevention of complications in pregnant women trimesters III in the UPTD Working Area of Ubud Community Health Center I.

women who use the application better understand the danger signs during labor as well as Android service applications can be used as a means to facilitate access to health service information, especially those related to pregnancy (Pambudi et al., 2020; Santoso et al., 2017) online antenatal care and education for pregnant women who are in vulnerable groups to make it more efficient in terms of time, costs and energy (Wu et al., 2020) .

The use of the internet and smartphones has long been researched and proven to be effective in improving people's health status (Laranjo et al., 2014) . The use of information technology in health is known as digital health or often also called telehealth *which* brings many benefits such as the exchange of medical information between patients and health workers, health services in the context of differential diagnosis, more efficient and *cost effective access to health*. (Sunjaya, 2019). According to data from the Ministry of Communication and Information's HR Research and Development Agency, the high proportion of flexibility and accessibility supports the importance of using cellular telephones in improving public health, especially for pregnant women. The opportunity to use mobile technology (mHealth) as a health promotion strategy is expected to be able to facilitate closer information, reaching healthy individuals but who do not have regular contact with health services.

The current development of the digital era is closely related to *mobile-based media* encouraging the application of *mobile health (mHealth) information technology* in improving

health services for pregnant women. This is an alternative solution that can help in providing health information and education for pregnant women without being limited by space and time and without having to meet face to face with health workers, especially midwives as the service providers most visited by pregnant women (Ghany Ismaeel and Khadhm Jabar, 2013). *The Asian Parent* is a useful application for pregnant women with several useful features related to pregnancy(Astasia Utari dan Dwi Astuti Zebua, 2019).

The use of technology to improve public health status through the use of *smartphones* to disseminate information provides ease and speed of access. Applications on *smartphones* can make it easier to access health information services, especially for pregnant women, and can be more efficient in terms of time and energy. Apart from that, the use of applications can facilitate users to obtain complete information at one time without having to interact directly with many people, its application is effective in improving the health status of the community, especially pregnant women. Through the use of telehealth, access to information for pregnant women is made easier because it has a high proportion of flexibility and *accessibility* . *The Asian Parent* is a *mobile application* that pregnant women can use to obtain information about pregnancy, childbirth preparation and complication preparedness effectively and flexibly.

CONCLUSION(S)

There is enhancement implementation of the BPCR program after use *The Asian Parent* application . The average pretest score for implementing BPCR in pregnant women before using *The Asian Parent application* was 76.12 ±

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8.618 with the highest score being 90. become 88.28 ± 4.899 , with the highest score of 93. In the research carried out There is a significant influence of using *The Asian Parent application* on the use of *The Asian Parent application* in third trimester pregnant women with a *p-value* in the Wilcoxon test of 0.000 (<0.05).

Conflict of Interest

The authors stated the research with the title *Effects Of Educational Media Applications Of The Asian Parent On The Implementation Of Birth Preparedness And Complication Readiness For Third Trimester Pregnant Women* have no conflict of interest

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