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Android–Based "EDUGARLIN" Application in Increasing Knowledge and Attitudes of Postpartum Mother about Postpartum Fitness

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ABSTRACT
Knowledge of postpartum fitness includes recognising the danger signs of childbirth, fulfilling nutrition, the physical adaptation of postpartum and breastfeeding mothers, the process of achieving the role of motherhood, adaptation to becoming parents, health promotion for healthy living behaviour, prevention of diseases and complications of puerperium, family planning and the success of exclusive breastfeeding are critical things that postpartum mothers should know. Information technology from smartphones using Android-based applications can be used to increase mothers' knowledge about postpartum fitness. This study aims to analyse the differences in knowledge and attitudes of postpartum mothers to improve postpartum fitness before and after being given the "Edugarlin" application. The research design used a quasi-experimental method with a pre-posttest and control group design. The subjects of this study were postpartum mothers who came to visit the Depok Jaya Inpatient Clinic and PMB IIS Suliystiowati Ciracas East Jakarta for postpartum visits from August to November 2022. Sampling used a purposive sampling technique with a sample counting formula, obtaining as many as 96 respondents, 48 in the treatment group (given the Edugarlin application) and 48 in the control group (paper-based). Data analysis using Wilcoxon Sign Rank Test and Maan Whitney U Test. The study found that knowledge and attitudes about postpartum fitness increased after being given the "Edugarlin" application with a significance value of <0.05. Postpartum fitness knowledge must be continuously improved using various media, one of which is the Edugarlin application.
Keywords: "Edugarlin" application, Postpartum fitness; Education; Postpartum Mother

ABSTRAK
Pengetahuan kebugaran pasca persalinan meliputi pengenalan tanda bahaya nifas, pemenuhan nutrisi, adaptasi fisik ibu nifas dan menyusui, proses pencapaian peran keibuan, adaptasi menjadi orang tua, promosi kesehatan untuk perilaku hidup sehat, pencegahan penyakit dan komplikasi nifas, perencanaan keluarga dan keberhasilan asi ekslusif merupakan hal yang sangat penting yang harus diketahui ibu post partum. Teknologi informasi dari smartphone dengan

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menggunakan aplikasi berbasis android dapat dimanfaatkan untuk meningkatkan pengetahuan ibu tentang kebugaran pasca persalinan . Penelitian ini bertujuan untuk menganalisis perbedaan pengetahuan dan sikap ibu nifas untuk peningkatan kebugaran pasca persalinan sebelum dan sesudah diberikan aplikasi "Edugarlin". Desain penelitian menggunakan rancangan quasi experiment dengan pre-posttest with control group desaign. Subyek penelitian ini adalah adalah ibu nifas yang datang berkunjung ke Klinik Rawat Inap Depok Jaya dan PMB IIS Suliystiowati Ciracas Jakarta Timur untuk kunjungan nifas sejak bulan Agustus sampai dengan November 2022. Pengambilan sampel menggunakan tehnik purposive sampling dengan rumus penghitungan sampel Raosoft didapatkan sebanyak 96 responden, yaitu 48 responden kelompok perlakuan (diberikan aplikasi edugarlin) dan 48 kelompok kontrol (paper based). Analisis data dengan menggunakan Wilcoxon Sign Rank Test dan Mann Whitney U Test. Hasil penelitian mendapatkan bahwa pengetahuan dan sikap tentang kebugaran pasca persalinan meningkat setelah diberikan aplikasi "Edugarlin" dengan nilai signifikansi < 0,05. Pengetahuan kebugaran pasca persalinan harus terus ditingkatkan dengan menggunakan berbagai media salah satunya dengan aplikasi Edugarlin

Kata Kunci: Aplikasi "*Edugarlin", Kebugaran pasca persalinan ; Edukasi; Ibu Nifas*

INTRODUCTION

The postpartum period is a critical transition period known as the recovery period. It begins when the placenta is born and ends when the reproductive organs return to pre-pregnancy. The postpartum period lasts around 6-8 weeks after giving birth. Apart from the physical condition, the mother's psychological condition after childbirth must also be monitored and offered support. Not a few mental disorders that are underestimated can be one of the declines in the mother's disease, which can result in death. Complications that occur during the postpartum period are one of the factors causing maternal death in Indonesia. Bleeding and infection are the most common complications during the postpartum period (Putri, Hilmanto and Zulvayanti, 2021).

The postpartum service policy is implemented three times, namely, the first postpartum service (Postpartum Visit or KF1) is carried out by the midwife while the postpartum mother is still in the health facility, the second (KF2) and the third (KF3) postpartum service is carried out with a repeat visit or home visit according to schedule. However, this has not been done optimally (Pamungkas, Suryawati and Kartini, 2019). Riskesdas 2018 data reports the average coverage of first postpartum services KF1 (93.3%), KF 2 (66.9%) and KF 3 (45.2%). It shows that postpartum services in Indonesia are still far from the national target. Various policies and interventions in the KIA

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program are still running unsteadily. Maternal and infant mortality rates are still problems in the health sector. According to WHO data, the cause of maternal death is due to obstetric complications that are not treated correctly and on time. About 75% of these obstetric complications are due to postpartum bleeding and infection, hypertension during pregnancy, prolonged labour and unsafe abortion. DKI Jakarta Province has the highest complete postpartum visits (KF3) achievement, followed by West Java. The maternal mortality rate (MMR) in Indonesia is relatively high, namely 359 per 100,000 live births (Kementrian Kesehatan RI, 2019). MMR indicates maternal health, especially the risk of death for mothers during pregnancy and childbirth. Most maternal deaths occur in the first two days after delivery, and postnatal care is needed to treat complications after delivery (Pamungkas, Suryawati and Kartini, 2019).

Every woman or prospective mother wants the process after childbirth to run smoothly and generally the condition of the mother's body experiences various changes during pregnancy until delivery. Mothers' desire to return to an active lifestyle, having a balanced diet, and losing weight are common challenges after giving birth. In some women, the challenges of new motherhood are manifested by the appearance of various physical and mental symptoms. Common complaints in postpartum mothers include birth canal wound pain. Nearly half (48%) of mothers with vaginal births (68% of those with instrumental births, 63% with episiotomy, and 43% of spontaneous vaginal births without episiotomy) reported experiencing perineal pain, with 2% reporting pain persisting for at least six months, vaginal bleeding, difficulty breastfeeding, postpartum weight retention disorders(Salman, Obeid and Jaafar, 2020). 75% of women do not lose pregnancy weight within one year postpartum. Apart from that, other complaints also arise, such as breast swelling, urination problems and obstipation, and decreased sexual libido, apart from the fatigue experienced, which is often exacerbated by sleep disturbances, adaptation to the breastfeeding process and balancing family duties and the double burden of being a mother makes it overwhelming

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and harms mother's desire to exercise regularly. Generally, feelings of fatigue slow down and delay postpartum recovery. Postpartum unfitness and maternal health that has not yet recovered prevent mothers from providing optimal care for their babies and increase the incidence of postnatal depression (Zakiyyah *et al.*, 2018).

The research conducted on naval women showed that post-natal fitness and weight loss had difficulty returning to pre-pregnancy fitness and were less fit and fatter than non-pregnant women. A BMI with obesity before pregnancy is at risk of having difficulty getting back in shape after giving birth, and a normal BMI due to lack of exercise after giving birth due to taking care of children and fatigue from the double burden of being a mother. Post-partum fitness can be achieved by breastfeeding, adjustment modifications, and appropriate weight management during pregnancy. Additional interventions are needed to help women return to pre-pregnancy fitness up to 1 year post-partum and improve maternity leave policies.

The birth of a child is a life transition that can provide an opportunity to promote health and self-care. Midwives and other health care providers can encourage post-partum women to exercise to improve physical and mental health and speed up weight loss after giving birth. However, incorporating an exercise routine is challenging for mothers who have just given birth. Three broad categories were identified as influencing exercise patterns post-partum: Time, Maternal Responsibilities, and Physical Status. Recommendations from research results on efforts to increase post-partum fitness include increasing exercise, including physical activity, joining a community of post-partum mothers, and social support from the family so that mothers can comply with practice (DeGroot *et al.*, 2021).

The birth of a child is a happy moment. However, it can also be confusing, accompanied by new behaviours and challenges such as breastfeeding, taking care of the baby, and post-natal fatigue. Post-partum mothers have various obstacles, including perceptions that are not in line with health recommendations, physical complaints and physical changes that cause a decline in the mother's physical and

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emotional health (Triana & Nuryani, 2018).

Post-partum care is needed during this period because a mother will experience many physical and psychological changes to restore the health and fitness of the post-partum mother. The principles in the current practice of post-partum and breastfeeding midwifery care emphasize that post-partum mothers are healthy mothers and are physiological events, so service delivery activities carried out by midwives in the form of midwifery care are mother-centred. It means considering mother and baby care from a holistic perspective, including physical, emotional, psychological, spiritual, social and cultural contexts, and respecting women's rights or choices, ensuring women are aware of the care provided. Post-natal services are a continuation of the Continuous Midwifery Care (CoMc) model of care after pregnancy and delivery (El *et al.*, 2022).

The post-partum period is a great time to utilize health education. Various obstacles experienced by mothers after giving birth should be communicated to midwives as providers of care or services to women. This service should be accessible easily and quickly to resolve maternal confusion immediately (Widyastutik *et al.*, 2021). Smartphone applications make it possible for mothers to access the health services they need, provide first aid, contact health workers and help users answer complaints about pregnancy and post-partum care (Dianti *et al.*, 2021)

Research results from (Putri *et al.*, 2021) eported an effect of increasing skills and the percentage of mothers' knowledge after using the Mommy Post-partum application. The research results stated most mothers that after giving birth, they looked for information about breastfeeding techniques and baby development through smartphone applications. It shows that respondents will also access other post-partum care information via smartphone. The same thing was shown in research conducted by Oktalia, 2020, which emphasises that digital diaries can help pregnant women increase their knowledge, attitudes and behaviour

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regarding preparation for childbirth and preparation for becoming parents.

There are several post-partum applications, but only a few for improving post-partum fitness. Based on this situation, to develop a strategy for providing post-partum fitness educational media, the research team created a media application called the "Edugarlin Application". This application utilizes Android-based smartphone technology as a more practical guide that post-partum mothers can use to improve post-partum fitness. This study aims to determine differences in the knowledge and attitudes of post-partum mothers to improve post-partum fitness before and after being given education on the Android-based "Edugarlin" application.

METHOD

This research began by involving two stages, namely the creation and application testing stages, under the broad umbrella of Research and Development (R&D). After the application was created, the research continued with quantitative research to determine the significance of the results of providing the "Edugarlin" application on knowledge and attitudes about fitness in the experimental group/intervention group. This type of research reveals a cause and effect relationship involving an experimental group/intervention group and a control group. Where one group is given intervention according to the desired method, the other group is carried out as usual. However, the selection of these two groups was not random. The experimental group was given treatment, namely the "Edugarlin" application, while the control group was only given the printed version (module). In these two groups, it began with giving a pre-test, and after giving treatment, both groups were given a post-test.

In the "Edugarlin" application and the printed version, there is information including recognition of dangerous signs during childbirth, nutritional requirements, the physical adaptation of postpartum and breastfeeding mothers, the process of achieving the maternal role, adaptation to parenthood, health promotion for healthy living behaviour, prevention of postpartum diseases and complications, planning family and the success of exclusive breastfeeding. In the application, some videos increase the mother's capacity after childbirth, such as postnatal yoga, adaptation to being a parent,

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baby massage and breast milk, which are important and can be enjoyed after completing the knowledge and attitude questionnaire.

This research used a quasi-experimental design with a pre-post-test and control group design. The population in this study were all postpartum mothers who had postpartum visits at the two midwife practices. The research subjects were postpartum mothers who had postpartum visits or examinations at Klinik Rawat Inap Depok Jaya and PMB Iis Sulistyowati Ciracas in the East Jakarta area from August to November 2022. Research subjects were determined based on inclusion and exclusion criteria. Respondents were recruited because they had no history of complications in postpartum mothers, had an Android-based cellphone that could install the "Edugarlin" application and were willing to be research subjects.

From the inclusion and exclusion criteria, the sample size for members of the population included in the research criteria was calculated using the Raosoft formula application, taking into account a margin of error of 5% and a confidence level of 95% so that from a total population of 154 postpartum mothers, a sample of 96 samples consisting of 48 groups was obtained. Intervention/treatment and 48 control groups. The main inpatient clinic in Depok Jaya was chosen to be the intervention group because all respondents had Android cell phones. Independent Practice Midwife Iis Sulistyowati was the control group. The sampling technique for this research uses nonprobability sampling with a purposive sampling technique, namely the sampling technique desired by the researcher so that the sample can represent the characteristics of the population.

Data collection on postpartum fitness uses primary data. The data collection instrument is in the form of a questionnaire. This questionnaire was given during the pre-test and post-test, which contained 20 items about knowledge and 20 items about the attitude about postpartum fitness which researchers prepared to measure knowledge and attitudes about postpartum fitness, including recognition of postpartum danger signs, compliance with nutrition, the physical adaptation of postpartum and breastfeeding mothers, the process of achieving the maternal role, adaptation to becoming a parent, health promotion for healthy living behaviour, prevention of disease and postpartum complications,

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family planning and the success of exclusive breastfeeding. After carrying out a validity test on the knowledge and attitude instruments, the results were obtained with a calculated r value > r table to declare both knowledge instruments valid. The Cronbach alpha value was 0.80, meaning reliable. After obtaining research permission, preliminary study, and sampling process, the researcher explained the objectives, procedures, advantages and disadvantages and agreed with the respondents through informed consent for further pre-testing.

Data collection begins by explaining the research procedures to respondents, and respondents who are willing to participate in the research sign a consent form. Researchers gave a pre-test to both groups using a questionnaire. Next, in the treatment group, researchers provided intervention in the form of using the "Edugarlin" application by first providing information about postpartum care and encouraging respondents to open the link or download the "Edugarlin" application (postpartum fitness). Using the application by treatment group respondents for two weeks, respondents were asked to open the "Edugarlin" application daily and explore and study a series of information and educational videos to improve postpartum fitness for a minimum of 15-30 minutes per day when the mother was resting. Meanwhile, in the print version control group, respondents were given a post-copy fitness module and asked to read the print version without time limits. Respondents were asked to read the print version when mothers had free time. The researcher gave a post-test again in the form of a questionnaire to both groups after two weeks of treatment. As justification, the control group, after being given the post-test, was also given the Edugarlin application.

Researchers conduct editing, coding, scoring, and statistical analysis in analysing data. The data was processed and tested using SPSS to determine knowledge and attitude changes between the control and treatment groups. The Wilcoxon Signe Rank Test statistical test was used to determine the comparative correlation between the two samples in ordinal data for each dependent variable with a significant value of $p = 0.05$. Then, the Mann Whitney U Test statistical test was carried out to determine the comparison test with two independent samples, which was used to compare two independent samples from different populations. If the research results obtained

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a p-value <0.05, then Ho was rejected, and H1 was accepted, meaning there was a difference in respondents' knowledge and attitudes between control and treatment groups.

RESULTS AND DISCUSSION

Below is a table of characteristics of respondents in two groups of respondents, both those using the Edugarlin application and those using the printed version.

A. Respondent Characteristics

The samples used in this study were 96 postpartum mothers who had postpartum visits at Klinik Rawat Inap Depok Jaya and PMB Iis Sulystio Ciracas. Explanations of the characteristics of postpartum mother respondents include parity, pregnancy planning, maternal education, maternal occupation and sources of information about postpartum fitness.

Table 1. Distribution of Respondents Based on Characteristics of Postpartum Mothers with Number of Respondents 96 people

Variable	Criteria	Control Group		Intervention Group	
		Frequency	%	Frequency	%
Parity	Primi para	24	50	24	50
	Multi Para	24	50	24	50
Pregnancy Planning	Yes, Planned	20	41.6	17	35.4
	Unplanned Pregnancy	28	58.3	31	64.6
Level Education	No school	0	0	1	1.6
	Elementary school	4	9.7	4	9.7
	Junior High School	8	16.1	9	17.7
	Senior High School	28	58.1	28	58.1
	College	8	16.1	6	12.9
Work	Housewife	1	3.23	1	1.6
	Government Employees	11	24.19	7	14.5
	Private Employees	9	17.74	11	22.6
	Self Employed	24	50	26	54.8
	Other	3	4.84	3	6.5
Exposure to information obout postpartum fittness	Health Workers	19	40.5	22	46.5
	Internet	20	41.8	14	29.6
	Magazines/Newspapers/Books	3	6.3	3	5.6
	Parents/inlaws/Friends	6	11.4	9	18.3

Table 1 above shows that the control and intervention groups with primiparous parity on average were the same as those with multipara parity, namely 24 respondents

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(50%). In contrast, based on pregnancy planning in the control group and intervention group in terms of planning this pregnancy, the majority of pregnancies were not planned. Based on the mother's educational history, some of the control group had a history of high school education. The same thing was found in the intervention respondents, most of whom had a history of high school education, and only some had low education (junior high school, elementary school and no school). According to the mother's occupation, most respondents had self-employed work, both the control group and the intervention group, followed by work as ASN, private work was 22.6%. Only a small portion have housewife jobs. In the control group, based on the source of information that respondents got about postpartum fitness, 41.8% of respondents got information from the Internet, followed by health workers such as midwives/doctors at 40.5%. Meanwhile, in the intervention group, the most sources of information came from health workers at 46.5%; a small portion of information sources came from the Internet at 29.6%, parents at 18.3%, and magazines at 5.6%.

B. Postpartum mothers' knowledge about postpartum fitness

Table 2. Frequency distribution of respondents based on postpartum mothers' knowledge about postpartum fitness in midwife practice in 2022

Responden Knowledge	Control Group				Intervention Group			
	Pre-test		***Post-test***		***Pre-test***		***Post-test***	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Good	16	32.26	12	25.81	12	25.81	34	70.97
Enough	19	40.32	22	45.16	31	62.90	14	29.03
Not enough	13	27.42	14	29.03	5	11.29	0	0
amount	**48**	**100**	**48**	**100**	**48**	**100**	**48**	**100**
Mean	66.45		65.81		68.87		82.77	
Std.Deviasi	16.36		13.19		13.98		7. 95	
	Wilcoxon Sign Rank Test p= 0.195				*Wilcoxon Sign Rank Test p= 0.000*			
	Mann Whitney U Test p = 0.000							

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Table 2 shows that in the pre-test control group, the majority had sufficient knowledge, namely 19 respondents (40.32%), while in the pre-test intervention group, the majority had sufficient knowledge, namely 31 respondents (62.90%). In the control group, after the post-test, an average of 22 respondents (45.16%) had sufficient knowledge. In the intervention group, in the form of education using the Edugarlin application, knowledge increased by 34 respondents (70.97%). The results of statistical tests using the Wilcoxon Sign Rank Test in the intervention group showed increased knowledge with a significance value of p= 0.000, namely p<0.05. Thus, H-1 was accepted. In the control group, the significance value was found to be p=0.195, namely p>0.05. The results of the Mann-Whitney U-Test statistical test show a significance of p = 0.000, meaning there is a difference between the control and intervention groups.

C. Attitudes of postpartum mothers regarding postpartum fitness

Table 3. Frequency Distribution of Respondents based on Postpartum Mothers' Attitudes regarding Postpartum Fitness in PMB in 2022

Attitudes	Control Group				Intervention Group			
	Pre-test		*Post-test*		*Pre -test*		*Post-test*	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Positive	18	37.1	27	56.45	22	45.16	46	96.77
Negative	30	62.9	21	43.55	26	54.84	2	3.23
amount	**48**	**100**	**48**	**100**	**48**	**100**	**48**	**100**
Mean	33.52		34.5		31.03		36.06	
	Wilcoxon Sign Rank Test P = 0.195				*Wilcoxon Sign Rank Test P = 0.000*			
	Mann Whitney U Test p = 0.000							

Table 3 shows that the majority of the pre-test control group had a negative attitude, namely 30 respondents (62.9%). At the same time, in the pre-test intervention group, the majority also had a negative attitude, namely 26 respondents (54.84%). In the control group, after the post-test, the average positive attitude was found to be 27 respondents (56.45%), and in the intervention group, in the form of education using the Edugarlin

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application, the attitude of respondents increased by 46 respondents (96.77%). The results of statistical tests using the Wilcoxon Sign Rank Test in the intervention group showed an increase in attitudes with a significance value of p= 0.000, namely p<0.05. Thus H1 was accepted. In the control group, the significance value was found to be p=0.195, namely p>0.05. The results of the Mann Whitney U Test statistical test show a significance of p = 0.000, meaning there is a difference in attitudes between the control and intervention groups.

Discussion

The post-partum period is the period immediately after giving birth, which can pose significant health risks to the mother and newborn. However, the post-partum and post-natal periods receive less attention from health service providers during pregnancy and childbirth (WHO, 2015). The 2012 SDKI records trends in post-natal care in Indonesia. As many as 80% of women receive post-natal care after their delivery until the first two days of the critical period after delivery. Specifically, 56% of women received post-natal care less than four hours after delivery, 13% received post-natal care within 4-23 hours, and 11% received care 1-2 days after delivery. One in nine women does not receive a post-natal check-up (Dianti *et al.*, 2021).

Regarding knowledge before being given health education using the "Edugarlin" application, respondents who fell into the lack of knowledge category stated that they had never received information about post-partum fitness at a post-partum examination. Before being given education using the "edugarlin" application, in the intervention group, the knowledge of post-partum mothers was dominated by the sufficient category with 31 respondents (62.90%). It is because the intervention group was given intervention in the form of the "Edugarlin" application, and the evaluation period after the intervention was two weeks. Most of the respondents in the control and intervention groups during the pre-test did not understand aspects of post-partum fitness, physical and psychological changes during the

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post-partum period and danger signs during the post-partum period. The sufficient category dominated this knowledge because most respondents got information from the mass media but needed help understanding it. The information they get from the health check-up service during the post-partum period explains more about breastfeeding and family planning.

Using the Edugarlin application encourages post-partum mothers to choose appropriate fitness information, including physical and mental health, so they can adapt to physical and psychological changes during the post-partum period and can care for their babies and breastfeed exclusively. Several factors that influence a person's knowledge include: 1. The higher a person's level of education, the easier it will be for someone to accept new things. 2. Information: Someone with more information sources will provide explicit knowledge. 3. Culture, 4. Experience Experience is a way to obtain the truth of knowledge by repeating the knowledge gained in solving problems encountered in the history of previous prenatal births.

After receiving education through the "Edugarlin" application, post-partum mothers' knowledge increased to good, namely 70.97%. At the same time, in the control group, some respondents experienced a decrease from the sufficient category to the poor category, namely 29.03%. It can show that the respondents are in excellent and sufficient criteria after being given health education using the "Edugarlin" application. It shows a significant effect of health education using the Edugarlin application on increasing post-partum mothers' knowledge about post-partum fitness with a significant test value. Wilcoxon Sign Rank test p= 0.000. The results of statistical tests using the Mann-Whitney U-Test = 0.000 showed differences between the control and intervention groups. It shows that the edugarlin application can effectively increase post-partum mothers' knowledge about post-partum fitness. Applications that include various educational/health education matters are a form of intervention or effort to ensure that behaviour is conducive to health.

The same thing applies to the attitude aspect before being given the

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"Edugarlin" application. Respondents who fell into the harmful attitude category stated that they had never received information about post-partum fitness. In the pre-test control, the majority had a negative attitude, namely 30 respondents (62.9%), while in the pre-test intervention group, the majority also had a negative attitude, namely 26 respondents (54.84%). In the control group, after the post-test, the average positive attitude was found to be 27 respondents (56.45%), and in the intervention group in the form of education using the Edugarlin application, the attitude of respondents increased by 46 respondents (96.77%). It is because the control group was only given the printed version and had to read it. At the same time, the intervention group was treated to exciting features, including picture media and short videos, which stimulated post-partum mothers to pay attention to the material in the features supported by videos so that they could see, hear and repeat it. At any time, it is hoped that it will be easier to receive information, and the ability to understand and remember post-partum mothers will increase, which can ultimately affect post-partum fitness.

It is in line with the research results (Putri *et al.*, 2021) reported that there was an effect of increasing skills and increasing the percentage of mothers' knowledge after using the Mommy Post-partum application. The research results stated that after giving birth, most mothers looked for information about breastfeeding techniques and baby development through smartphone applications. It shows that respondents will also access other post-partum care information via smartphone. Digital diaries can help pregnant women increase their knowledge, attitudes and behaviour regarding preparation for childbirth and becoming parents. Currently, there are several post-partum applications, but there is no specific application for improving post-partum fitness.

The post-partum period (puerperium) is the period that begins after the placenta is born and ends when the uterine organs return to their pre-pregnancy state. Lasts for approximately six weeks or 42 days, but overall will recover within three months. The birth of a child is a happy moment. However, it can also be confusing, accompanied by new

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behaviours and challenges such as breastfeeding, caring for the baby, and post-natal fatigue. Post-partum mothers during the post-partum period have various obstacles, including perceptions that are not in line with health recommendations, physical complaints and physical changes that cause a decline in the mother's physical and emotional health. The post-partum period is a great time to utilize health education. Various obstacles experienced by mothers after giving birth should be communicated to midwives as providers of care or services to women. This service should be accessible easily and quickly to resolve maternal confusion immediately. During post-partum visits in busy post-natal clinics, midwives sometimes neglect aspects of health education while providing the post-partum midwifery care that clients require, even though this is very important for new mothers in undergoing the next phase of life, namely parenthood (Widyastutik *et al.*, 2021).

Post-partum care is needed during this period because a mother will experience many physical and psychological changes to restore the health and fitness of the post-partum mother. The principles in the current practice of post-partum and breastfeeding midwifery care emphasize that post-partum mothers are healthy mothers and are physiological events, so service delivery activities carried out by midwives in the form of midwifery care are mother-centred. It means considering mother and baby care from a holistic perspective, including physical, emotional, psychological, spiritual, social and cultural contexts, and respecting women's rights or choices, ensuring women are aware of the care provided. Post-natal services continue the Continuous Midwifery Care (CoMc) model of care after pregnancy and delivery. Professional and individualized care is emphasized to promote long-term happiness and a good life. ‘With women’ and ‘in partnership with women’ are associated with good clinical outcomes and higher satisfaction levels. The emphasis is on a relationship of mutual trust between the midwife and the woman based on a phenomenological approach highlighting women's experiences (Bradfield *et al.*, 2018).

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Post-partum mothers need more knowledge so that the problems of post-partum mothers can be addressed and prevented as early as possible. Post-partum mothers' knowledge includes post-partum changes, self-care for post-partum mothers, breastfeeding, baby development and baby care. With good knowledge, post-partum mothers can increasingly adapt and perform their proper roles and duties. It contributes to the post-partum mother's health and her baby's development. The mother is free from physical and psychological problems, and the baby grows according to his age.

The use and implementation of Decision Support Systems in the health sector still needs to be improved. The intelligence possessed by mobile computers and easily accessible by anyone, anytime, anywhere, will help people who use this media if it can be optimized. The design and creation of Android applications in the health sector have developed a lot. The health sector in Indonesia and internationally is a program that is given great attention, and technology development related to public health is always carried out (Feroz *et al.*, 2017).

During the Covid-19 pandemic, information regarding post-partum fitness is vital. Even though this information is not conveyed directly to post-partum mothers, they can still use digital media for health education through the Edugarlin application, which can be downloaded on Android phones. Even though this Android application was not yet available in the Play Store at the time of research, the link to download this application was distributed via WhatsApp so that pregnant women could still download and use the "Edugarlin" application. M-Health can provide opportunities to influence behaviour change and ensure that women and children in low-income countries can access services, including antenatal care, post-natal care, and immunization and has been implemented in other countries. Low- and middle-income countries worldwide (Watterson *et al.*, 2015).

Despite the advantages of this application on Smartphones, it is still too early to be implemented in all levels of Indonesian society and developing countries due to lack of resources. The broad economic level in society means

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that this application can only be used by people who have smartphones. Therefore, the use of this application can be utilized optimally for pregnant women who already have a smart phone, while for pregnant women with low economic conditions, conventional education from health workers is still very necessary to reduce mortality and morbidity rates in pregnant women, postpartum babies, and newborns.

CONCLUSION

Knowledge and attitudes about postpartum fitness increased after being given the "Edugarlin" application with a significance value of <0.05. The Edugarlin application can be used as an additional medium by health workers, especially midwives, in providing education so that they can improve knowledge, attitudes and postpartum fitness

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