

REVIEW ARTICLE

Implementation of Puskesmas Pregnancy and Complication Prevention Program (P4K) as Implementation of SDGs at Healthcare Facilities: a Systematic Literature Review

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ABSTRACT

Background: Maternal Mortality Rate (MMR) remains a global issue which is in line with the third SDGs, Indonesia having the third highest MMR in ASEAN at 189 per 100,000 live births. To reduce MMR, Indonesia implements the Childbirth Planning and Complication Prevention Program (P4K), but there are still many shortcomings that require further study on the factors affecting its implementation. **Methods:** The research method uses a Systematic Literature Review. Journal search terms are formulated using the PICO(S) framework. The literature search in this study used two databases, namely the National Library and Google Scholar. **Results:** The research results showed that 7 out of 10 articles explained that the successful implementation of the program was caused by the communication skills of midwives as health service providers, human resources, budget, dispositions and policies, bureaucracy and standard operational procedures, facilities and infrastructure. Meanwhile, the 3 articles explained stated that the success of the program was caused by the knowledge, attitudes and family support of pregnant women. **Conclusions:** The program's success is mainly attributed to factors like midwives' communication skills, resources, budget, policies, and infrastructure, while a smaller focus is placed on the knowledge, attitudes, and family support of pregnant women.

Keywords: Birth Planning and Complication Prevention, P4K, AKI, Community Health Center, SDGs

INTRODUCTION

Sustainable Development Goals (SDGs) are development that maintains the sustainable improvement of economic welfare, development that maintains the sustainability of people's social life, development that maintains the quality of the environment and development that ensures justice and the implementation of governance that maintain the improvement of the quality of life from one generation to the next. The third goal of the SDGs is to ensure healthy lives and support well-being for all ages. The goal sets several targets to support the well-being of mothers, children, adolescents and adults. The

first target is to reduce the maternal mortality ratio (MMR) to less than 70 per 100,000 births by 2030. (Ministry of National Development Planning/Bappenas, 2020).

MMR is used as a benchmark to assess the state of health services in a country. It shows that the country is less able to provide good obstetric and neonatal services (Mardiah & Hardiana, 2018). Maternal and infant mortality are still major problems faced by various countries in the world, especially developing countries. Maternal deaths have a major impact in the form of reduced quality of life for infants and children, causing shocks to families and further affecting the growth and development of children

(Rahmawati & Wulandari, 2019). The death of women at reproductive age will also result in significant economic losses and can cause a setback in the development of society, because women are the main pillars in the family who play an important role in educating children, providing health care in the family and helping the family economy (Rahmawati & Wulandari, 2019).

The World Health Organization (WHO) stated that the number of maternal deaths in the world in 2020 reached 287,000 (WHO, 2023). The maternal mortality rate (MMR) in ASEAN is 235 per 100,000 live births (ASEAN Secretariat, 2020). Indonesia as one of the developing countries has the third highest maternal mortality rate in ASEAN with a prevalence of 189 per 100,000 live births (Indonesian Ministry of Health, 2022). This is supported by an increase in the number of maternal deaths in 2020 of 4,627 which increased to 7,389 in 2021 (Indonesian Ministry of Health, 2022). The increase in the number of maternal deaths in Indonesia is largely due to COVID-19, bleeding, hypertension, heart disease, infection, metabolic disorders, circulatory system disorders, abortion, and eclampsia (MOH RI, 2022).

Efforts to accelerate the reduction of MMR are carried out by ensuring that every mother is able to access quality health services, such as maternal health services, delivery assistance by trained health workers at health service facilities, postpartum care for mothers and babies, special care and referral in case of complications, and family planning services (KB) including postpartum KB (Kemenkes RI, 2022). The Minister of Health launched the Childbirth Planning and Complication Prevention Program (P4K) as a breakthrough effort to accelerate the reduction of MMR and Newborn Mortality Rate through activities to improve access and quality of services, which at the same time is an activity that builds community potential, especially community awareness for preparation and action

in saving mothers and newborns (Patimah, Trianty, & Kurnia, 2021).

The Childbirth Planning and Complication Prevention (P4K) program focuses on the totality of monitoring which is one of the efforts to detect early, avoid health risks in pregnant women and provide access and basic obstetric and newborn emergency services at the Puskesmas level and comprehensive obstetric and neonatal emergency services in hospitals (Yasril & Rahmadani, 2019). This program is implemented by health workers assisted by cadres and community leaders. by attaching stickers containing the name, estimated date of delivery, birth attendant, place of delivery, birth attendant, transportation and potential blood donors to the house in which there are pregnant women (Prajayanti, Maslikhah, & Baroroh, 2019). The implementation of the P4K program has various obstacles, causing P4K achievements to not be optimal (Himalaya & Maryani, 2020).

Several factors may contribute to suboptimal implementation of P4K (Himalaya & Maryani, 2020). The factors in question can come from within the puskesmas organisation, including resources, officer skills, infrastructure and puskesmas management (Khoeroh, 2019). Besides internal organizational factors, the implementation of P4K is also influenced by various external organizational factors including community knowledge and understanding, inter-sectoral collaboration and community economic capacity (Khoeroh, 2019). Based on this background, the researcher aims to determine the implementation of the puskesmas birth planning and prevention of complications (P4K) programme as an implementation of the SDGs in health facilities.

METHODS

Search procedure

This study used literature review. Articles selected were articles that discussed the

implementation of the HIV/AIDS program at the Puskesmas. The inclusion criteria for articles include using cross-sectional study designs , qualitative studies, and cohort studies in the form of free full-text and open access. The journals used used the Indonesian language published in 2019 to 2023 with the subject of research on delivery planning programs and complications of pregnant women at health centers.

Journal search terms are formulated using the PICO(S) framework. The use of the PICO(S) Framework in keyword formulation can be done by combining the PICO(S) components with the formulated research problem questions.

The stages in building a problem formulation based on the PICO(S) Framework are: 1) Population/Problem, namely the population or problem to be analyzed in accordance with the theme; 2) Intervention/Indicators, namely an action or indicator of the problem in accordance with the theme raised; 3) Comparison, which is an intervention that is used as a comparison if a control group cannot be used in the selected study. 4) Outcome, namely the results obtained in previous studies that are in accordance with the theme, and; 5) Study design, namely the research design used in the article to be reviewed. Based on the PICO(S) Framework, the keywords of the journal articles were obtained in an easy-to-understand language as follows: SDGs, Sustainable Development Goals, childbirth planning, complication prevention, pregnant women, and community health centers.

The literature search in this study used two databases, namely the National Library and Google Scholar . The search results used a combination of predetermined keywords, before further selection related to the suitability of the inclusion criteria, 10 scientific studies were obtained. These selected studies were then carefully analyzed to identify common themes, relevant patterns, and significant findings for the research focus. All studies met the required quality standards.

Selection procedure

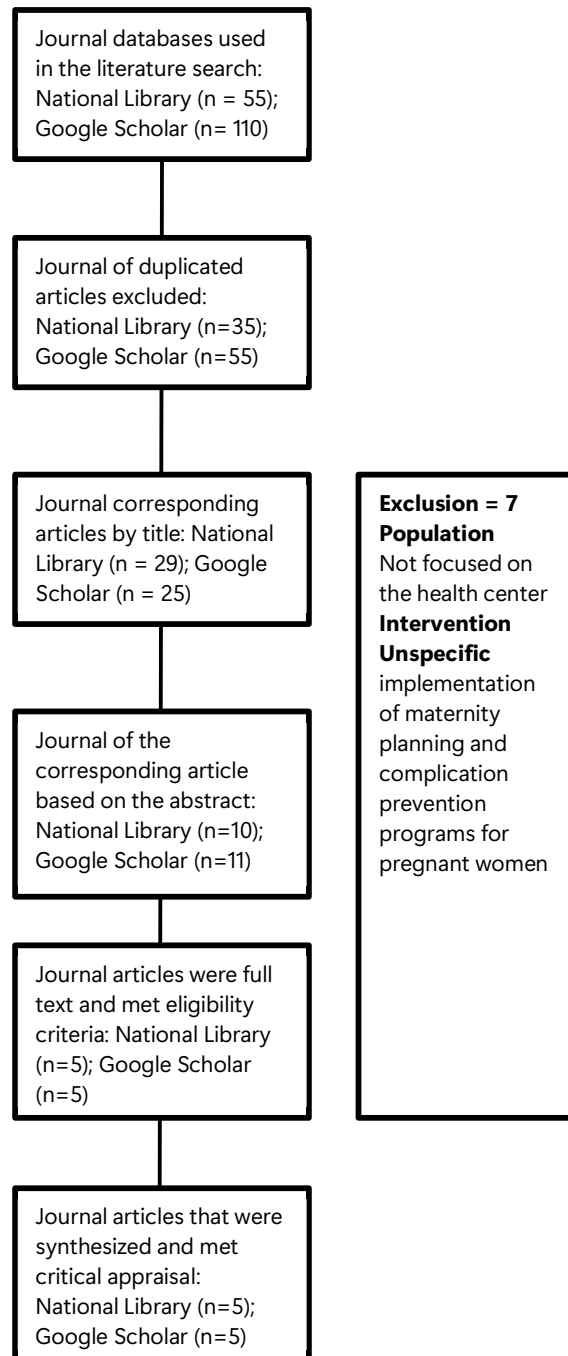


Figure 1. Article search process in database

Based on the components in the PICO(S) strategy, keywords become the guidelines in searching for articles that will then be selected.

The stages in the article selection process based on the search results of the three databases that will be included and eliminated in further analysis consist of: 1) identification of duplicate journal articles; 2) screening of suitable journal articles based on the title; 3) screening of suitable journal articles based on the abstract; 4) screening of full-text journal articles that meet the criteria, and; 5) screening of synthesized journal articles that meet critical appraisal. After screening the journal articles found, journal articles were obtained based on title (n = 54), abstract (n = 21), and full-text (n = 10). There were 10 national journal articles that met the critical appraisal checklist with a minimum score of 50%. The critical appraisal checklist calculation consists of four answer categories with a score of 1 for the answer "yes," and 0 for the answers "no," "unclear," and "not applicable." Then, a

percentage was calculated by summing the scores that met the inclusion criteria divided by the total number of questions.

In addition, other journal articles were eliminated because they did not meet the selection criteria: they did not focus on PHC, they were not relevant to the implementation of childbirth planning and prevention of complications programs for pregnant women, and they did not include a specific discussion.

RESULTS AND DISCUSSION

After searching for scientific articles through Google Scholar and National Library channels, 10 articles were found that met the inclusion criteria from the review of several research articles published between 2019 and 2021, as follows:

Table 1. The result literature review

No	Research Title	Researcher Name/Year	Method and Data Analysis	Results
1.	Penerapan Program Perencanaan Persalinan dan Pencegahan Komplikasi (P4K) oleh Bidan di Kabupaten Jember	Yuniasih Purwaningrum, Dian Aby Restanty/2020	Qualitative research method, data analysis using content analysis, sample of 50 midwives	<ul style="list-style-type: none"> a. Midwife communication as health care provider is important to increase the knowledge of pregnant women. b. Human resources involved, namely puskesmas midwives, need to collaborate across sectors, considering that midwives who fill managerial positions have less time to implement P4K (visiting pregnant women). c. Disposition is one of the factors that has important consequences for effective policy implementation d. The bureaucratic structure includes SOPs for the implementation of the P4K program in each Puskesmas, none of which have a SOP.
2.	Pengaruh Komunikasi dan Sumber Daya Terhadap Capaian Program Perencanaan Persalinan dan Pencegahan Komplikas	Siti Patimah, Tina TriantyHerni Kurnia/2021	Quantitative research with a cross-sectional design, data analysis using the chisquare test, the research sample was 14 midwives in the work area of the UPTD Mangunreja Health Center	<ul style="list-style-type: none"> a. There is no influence between communication on the achievement of the planning and prevention of complications program b. There is no influence between resources on the achievement of the planning and prevention of complications program

3. Implementasi Program Perencanaan Persalinan dan Pencegahan Komplikasi (P4K) di Puskesmas PONE D Kabupaten Pekalongan	Hilda Prajayanti, Maslikhah, Ida Baroroh/2019	Descriptive qualitative research method, the study sample was 9 executive midwives at the PONE D health center in the working area of the Pekalongan District Health Office	<ul style="list-style-type: none"> a. Human resources are optimized by Puskesmas midwives in collaboration with community health workers. b. Budgetary resources cause obstacles to empowerment activities in the P4K program c. Inadequate facilities cause obstacles to empowerment activities in the P4K program d. There are no clear rules regarding community empowerment activities contained in the basic measures and policy objectives in mobilizing tabulin. e. Communication in the form of a special meeting forum on the implementation of P4K to increase the capacity of midwives, community health workers and the people
4. Hubungan Kualitas KIE Bidan saat P4K (Program Perencanaan Persalinan dan Pencegahan Komplikasi) dengan Peresiapan Ibu Hamil dalam Perencanaan Persalinan di Puskesmas Masbagik	Baiq Disnalia Siswari, Nur Annisa Fitria Aprianti/2020	Observational Correlational Research Method with a sample size of 88 pregnant women, data analysis using spearmanrank test	There is a significant relationship between the quality of information communication and education provided by midwives during P4K and the preparation of pregnant women in planning for childbirth
5. Evaluasi Perencanaan Persalinan dan Pencegahan Komplikasi (P4K) Sebagai Upaya Menurunkan Angka Kematian Ibu di Puskesmas Paguyangan Kab. Brebes Tahun 2018	Himatul Khoeroh/2019	Qualitative research method with a sample size of 4 informants, data analysis techniques with reduction, display and drawing conclusions	<ul style="list-style-type: none"> a. The input element of the number of human resources, including cadres and regional midwives, has been fulfilled. b. The budget input element has been used in accordance with applicable regulations, and there are no special funds for the implementation of P4K. c. The input element of facilities has been fulfilled including MCH books, village ambulances and P4K stickers d. SOP input elements are not fully implemented in the field. e. Process elements include data collection of pregnant women, examination and screening of pregnant women, education of pregnant women have been implemented well
6. Faktor yang Berhubungan tentang P4K dengan Kesiapan Persalinan di Kelurahan Parupuk Tabing	Abdi Iswahyudi Yasril, Widya Rahmadani/ 2019	Analytic research method with crosssectional design, data analysis technique using chi- square test with a sample size of 41 pregnant women.	<ul style="list-style-type: none"> a. There is a relationship between knowledge about P4K and labor readiness of pregnant women b. There is a relationship between mother's attitude about P4K with labor readiness c. There is a relationship between husband's support about P4K with labor readiness
7. Peran Bidan terhadap Pelaksanaan Program Perencanaan Persalinan dan Pencegahan Komplikasi (P4K) dalam	Siskha Maya Herlina, Yesvi Zulviana, Yadul Ulya /2021	Qualitative research method with phenomenological design, research	<ul style="list-style-type: none"> a. The input component of midwife services is based on indicators of P4K activities. b. Cooperation between midwives and related parties has been carried out, but has

	Menurunkan Angka Kematian Ibu		informants 1 midwife as the main informant in health center	constraints on the lack of proactivity of the community in the implementation of P4K. c. The input element of facilities and infrastructure is sufficient, but there is no SOP that clearly regulates the implementation of the P4K program. d. The process component includes the role of midwives is less than optimal due to lack of counseling, meetings to discuss program implementation, program strategies and others are still difficult to coordinate, both constraints on time, place, funds and personnel
8.	Program Perencanaan Persalinan dan Pencegahan Komplikasi di Puskesmas	Nita Safaatul Insiyah, Fitri Indrawati/2021	Qualitative research method with descriptive design, 7 main informants and 9 triangulation informants	a. Implementation of the P4K program s in accordance with service standards b. Communication is an important factor in conveying information to the ommunity regarding the P4K program c. The available resources must be fulfilled in terms of quantity and quality to support the successful implementation of the P4K program. d. Disposition (regulation and bureaucracy) is not specifically formed so that the lack of intensive for P4K organizing partners e. The structure and bureaucracy of services in the form of service SOPs do not yet exist, causing less than optimal program implementation
9.	Gambaran Pelaksanaan Program Perencanaan Persalinan Dan Pencegahan Komplikasi (P4k) Pada Ibu Hamil Di Masa Pandemi Covid-19 Di Puskesmas Namorambe Kabupaten Deli Serdang Tahun 2021	Risky Aulia Marpaung, Kumalasari/2021	Descriptive research with a sample size of 113 pregnant women	Most pregnant women are ready to face the process of childbirth according to the P4K program which includes Antenatal Care (ANC) visits, implementation of pregnant women's classes, installation of stickers in the homes of pregnant women, blood donors, transportation, maternity savings and signing of the mandate for childbirth.
10.	Implementasi Program Perencanaan Persalinan dan Pencegahan Komplikasi P4K	Fayakun Nur Rohmah, Eka Tiara Febriani/2021	Descriptive research method, the number of research samples amounted to 50 pregnant women	a. All respondents were 20-35 years old and most had secondary education (58%). b. The majority of respondents were not working (72%) c. Most of the respondents chose to be assisted by midwives (68%) and delivered at the health center (58%) d. Most respondents did not put up P4K stickers (62%) e. Most respondents had planned for transportation during delivery (88%) and planned to pay for delivery using health insurance (78%)

Internal Organizational Factors in the Implementation of the Childbirth Planning and Complication Prevention Program (P4K) Puskesmas

According to research conducted by Herlina et al (2021), the implementation of the Childbirth Planning and Complication Prevention Program (P4K) Puskesmas is based on a system consisting of inputs, processes, and outputs. From the 10 journals analyzed, the results of the factors that influence the implementation of the childbirth planning and prevention of complications (P4K) program are as shown in Figure 2:

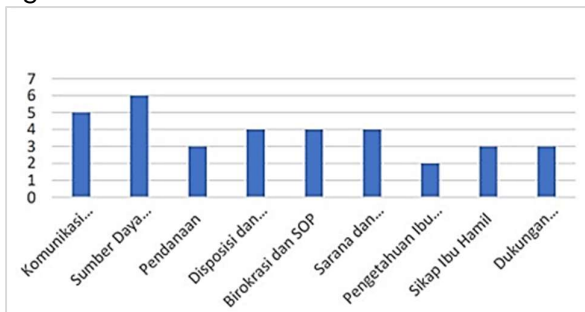


Figure 2. Chart of management elements in the implementation of HIV/AIDS services

Based on the 10 journals analyzed, it was found that 7 of them stated that the successful implementation of the P4K program was influenced by internal organizational factors including communication of midwives as service providers, human resources, funding and budget, disposition and policies, bureaucracy and SOPs, facilities and infrastructure. While the other 3 journals state that the successful implementation of the P4K program is closely related to the knowledge, attitudes, and family support of pregnant women. These two factors are related to each other so that they influence the successful implementation of the P4K program.

Based on research conducted by Purwaningrum et al (2020) Information Education and Communication carried out by midwives can provide public education, especially pregnant

women related to P4K. This is in line with research conducted by Siswari et al (2020), midwives are tasked with being facilitators in increasing the participation of families and communities around where pregnant women live so that they are more caring and ready to help pregnant women during childbirth and emergency conditions, when carrying out these actions midwives provide a lot of IEC so that good communication and counseling skills are needed to support the duties of midwives. The more often pregnant women get information about P4K material during ANC both at the posyandu and at the health service center, the more it will affect the knowledge and understanding of pregnant women about labor preparation and emergencies (Siswari & Aprianti, 2020). Pregnant women and families who have good knowledge as a result of good education can increase the success of P4K implementation (Patimah, Trianty, & Kurnia, 2021).

Human resources in program implementation are very influential on the implementation of P4K. Resources including midwives and regional cadres need to be considered in terms of quantity and quality. This is closely related to the midwife's visit schedule to conduct checks on pregnant women (Purwaningrum & Restanty, 2020). This is in line with the research by Patimah et al (2021), which states that organizational goals are achieved is largely determined by the presence of reliable resources. In addition to the adequacy of the number and quality of human resources, cross-sectoral cooperation is needed to help each other. So that there are backup personnel who support the success of the program to improve the health status of pregnant women (Herlina, Zulviana, & Ulya, 2021).

Adequate human resources must be supported by adequate funding sources. Without funds, activities will not be able to run well. The size of existing funds affects how much success a program has (Prajayanti, Maslikhah, &

Baroroh, 2019). Program support funds are also expected to meet and fulfill everything needed for the effectiveness of a program whose expectations and goals are achieved (Herlina, Zulviana, & Ulya, 2021). This is in line with Khoeroh's research (2019) that budget sources must be sufficient to support program success. Reviewing the use of the budget in activities also needs to be done as a form of budget monitoring and evaluation (Herlina, Zulviana, & Ulya, 2021).

Other input elements that play a role in P4K implementation are disposition and policy. Disposition and policy function as input elements that organize and assess existing resources. According to Purwaningrum et al (2020) disposition in the form of policy is closely related to the implementation of a program. implementation policy is a policy that requires that implementers know what to do, what are the goals and objectives of the policy must be transmitted to the target group so that it will reduce implementation distortion (Purwaningrum & Restanty, 2020). This is in line with the research of Insiyah et al (2021) that bureaucratic formation is carried out in the implementation of P4K activities considering that P4K is part of the program.

Another obstacle that occurred in the implementation of P4K was the sticking of stickers at the homes of pregnant women. The problem is that some houses do not attach stickers and some are attached inside the house so that it is not known by puskesmas officers. This is closely related to the bureaucratic structure, especially related to standard operating procedures (SOPs). SOPs need to be made and carried out in practice in the field, both by bida, cadres, and other partners (Purwaningrum & Restanty, 2020). In line with research by Herlina et al (2021) that the non-existent SOP is an obstacle to implementation in the field because there is no reference to create concrete performance standards in providing optimal and sustainable services (Herlina, Zulviana, & Ulya, 2021).

Facilities (facilities and infrastructure) are also a determining factor in the success of a policy implementation. Facilities and infrastructure are very important in supporting the success of a program, in this case health workers, especially midwives, must also be adequate in a puskesmas or health agency (Herlina, Zulviana, & Ulya, 2021). To obtain effective behavior change, supporting factors are needed in the form of adequate resources and facilities that are explored and developed from the community. The community must be able to organize their community to play a role in providing facilities (Prajayanti, Maslikhah, & Baroroh, 2019). In line with Khoeroh's research, the availability of facilities plays an important role in the successful implementation of P4K. Empowered communities can condition the procurement of rental cars to support the lack of village ambulances provided by the puskesmas (Khoeroh, 2019).

At the stage of the implementation process of P4K implementation, supervision is needed which aims to monitor management regarding the implementation that supports the success of a program (Prajayanti, Maslikhah, & Baroroh, 2019). In addition to supervision, coordination between parties is also needed to avoid misinformation between parties. The existence of equal information about coordination in community empowerment in P4K activities, namely from cadres to midwives, midwives to cross-sectors, puskesmas and health offices will form an organizational support and increase the success of implementing the P4K program. This is in line with research by Herlina et al (2021) that coordination from various parties and partners needs to be carried out to discuss obstacles and find solutions in program implementation (Herlina, Zulviana, & Ulya, 2021).

The expected output element, with the alignment of each input and process element, is the successful implementation of the P4K program (Khoeroh, 2019). The indicators of

successful P4K implementation can be seen through the percentage of villages implementing P4K with stickers; the percentage of pregnant women receiving stickers; the percentage of stickered pregnant women receiving antenatal care according to standards; the percentage of stickered pregnant women giving birth with healthcare professionals; the percentage of pregnant, postpartum, and postnatal women with complications being managed; the percentage of postpartum contraceptive method usage; and the percentage of postpartum women receiving postnatal care from healthcare professionals (Kemenkes RI, 2009). Meanwhile, the outcome of the P4K implementation is a decrease in the maternal mortality rate (MMR) (Herlina, Zulviana, & Ulya, 2021).

External Organizational Factors in the Implementation of the Delivery Planning and Complication Prevention Program (P4K) at Community Health Centers

Other factors that influence the success of program implementation can come from outside the organization. According to Patimah et al. (2021), the success of P4K implementation is influenced by the level of mothers' knowledge about P4K and their childbirth preparedness. This is in line with Yasril's (2019) research that there is a relationship between pregnant women's knowledge of P4K and childbirth preparedness. Knowledge is closely related to a person's experience in acquiring that knowledge. A person with high knowledge tends to act well in maintaining their health, and vice versa (Yasril & Rahmadani, 2019). Notoatmodjo (2010) states that the experiences one gains, whether personal or from others, can determine that person's health status.

The knowledge of pregnant women can be improved by providing counseling to mothers and families about the importance of P4K, so that mothers can better prepare for childbirth and

maintain their health independently, thus avoiding complications (Yasril & Rahmadani, 2019). Providers, in this case midwives and community health workers, play a role in facilitating, motivating, and transferring knowledge, skills, and technology to the community (Prajayanti, Maslikhah, & Baroroh, 2019). Thus, adequate communication skills are required for midwives and cadres in carrying out these tasks (Siswari & Aprianti, 2020).

The knowledge of pregnant women and their families will later shape the attitude of pregnant women in their readiness to face childbirth. This is in line with the research by Yasril et al. (2019) which found a relationship between maternal attitudes towards P4K and childbirth preparedness, and a relationship between spousal support for P4K and childbirth preparedness (Yasril & Rahmadani, 2019). Herlina et al. (2021) state that a good attitude can later shape good behavior, especially in the implementation of P4K. Communication and education are the initial steps to improve knowledge and attitudes in the community. Communities that have good knowledge and attitudes will make better use of P4K and be more prepared to undergo the childbirth process (Marapung & Kumalasari, 2020).

In addition to pregnant women, family support is also needed in childbirth planning and complication prevention. This is in line with the research by Yasril et al. (2019) which found a relationship between spousal support as a family member regarding P4K and the readiness of pregnant women for childbirth. Family support can be enhanced through communication provided by midwives in the form of counseling and education related to birth planning and preparation for facing complications in pregnant women (Purwaningrum & Restanty, 2020). Husband's support shows the husband's involvement in his partner's pregnancy and preparations related to their child (Yasril & Rahmadani, 2019).

CONCLUSIONS

The implementation of the Labor Planning and Complication Prevention (P4K) program at the community health center is carried out with success indicators including the percentage of villages implementing P4K with stickers; the percentage of pregnant women receiving stickers; the percentage of stickered pregnant women receiving antenatal care according to standards; the percentage of stickered pregnant women giving birth with healthcare providers; the percentage of pregnant women, childbirth, and postpartum women with complications being managed; the percentage of postpartum contraceptive method usage; the percentage of mothers giving birth in healthcare facilities receiving postpartum care.

The success of program implementation is influenced by factors both within and outside the organization. Factors within the organization include input, process, and output elements. The input elements referred to consist of man (human resources, communication skills), money (funding), materials (infrastructure, facilities and infrastructure), and method (methods or procedures and policies). The process elements referred to consist of coordination and supervision as well as cross-sector collaboration. Meanwhile, the expected output is that pregnant women can access quality healthcare services. Thus, the outcome of P4K is a reduction in maternal mortality rates (AKI). In addition to internal organizational factors, there are also external organizational factors including the knowledge of pregnant mothers, the attitudes of pregnant mothers, and the support from the families of pregnant mothers.

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