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Challenges of implementing the prevention of mother to child transmission (PMTCT) program

Wulan Rahmadhani

Faculty of Health, Universitas Muhammadiyah Gombong
Corresponding author email: wulannnnn02@gmail.com

Hardianti Aprina

Akademi Kebidanan Muhammadiyah Kotim

Abstract--Background: HIV/AIDS is still a global health problem that needs to be addressed including prevention of hiv/AIDS transmission from mother to baby. Prevention of transmission is carried out by implementing the Prevention of Mother to Child Transmission program or PMTCT program. The PMTCT program is considered successful in reducing the risk of transmission from mother to baby, but it has not been implemented properly and thoroughly, various challenges occur in the implementation of the PMTCT program. The purpose of this literature review is to analyze the results of previous research on the challenges of implementing the *Prevention of Mother to Child Transmission* (PMTCT) Program. Method: The method used is literature review. In the first stage begins by doing article alignment using pubmed *search engines* and Google scholar. The keywords used in article searches are PMTCT, HIV. Results: Challenges in the implementation of the PMTCT program include lack of information about ARV treatment, lack of family support, the severity of the workload experienced by health workers and the limited hiv testing equipment and drug stocks. Conclusion: The success of preventing the transmission of HIV / AIDS from mother to baby is very dependent on the involvement of various parties, the active role of health workers in providing education and information about HIV / AIDS disease to mothers and families is not enough but must be coupled with the active role and family support to HIV mothers who will act as motivators in implementing the prevention of HIV / AIDS transmission from mother to baby.

Keywords--PMTCT, HIV, AIDS, global health problem.

Introduction

HIV disease (*Human Immunodeficiency Virus*) is a disease caused by a virus that attacks white blood cells causing a decrease in the immune system, while AIDS (*Acquired Deficiency Syndrome*) is a collection of signs or symptoms that will arise due to a decrease in the immune system due to infection by the virus (Indriani, 2017). HIV/AIDS continues to be a major health problem for the global community and requires serious attention because every year the number increases (WHO, 2022). According to UNAIDS (Joint United Nations Programme On HIV and AIDS) said that at the end of 2017 there were more than 36.9 million people living with HIV (35.1 million adults and 1.8 million children), 1.8 million new cases of HIV, and 940,000 people worldwide died of HIV/AIDS (Depkes RI, 2016). In 2017, there were 630,000 people living with HIV with 49,000 new cases and 39,000 people dying from AIDS. HIV/AIDS is the leading cause of reproductive age mortality in some developing countries (Asmauryanah, 2014). Pregnant women with HIV can transmit the virus to their babies during pregnancy, childbirth or while breastfeeding, if during the process there is no intervention the rate of transmission from mother to baby can be as much as 15-14% (Kamila, N., Siwiedrayanti, 2014). In Indonesia alone, the number of women aged ≥ 15 years living with HIV is 220,000 and the number of children living with HIV is 13,000 (Kementerian Kesehatan RI, 2018). This number will continue to increase (Kamila, N., Siwiedrayanti, 2014) increasing, as the prevalence of women aged 15-49 years who have HIV is at risk of increasing the number of children with HIV / AIDS (Rahmadhani, 2021b). Therefore, the government implements a program to prevent the transmission of HIV from mother to child (PPIA) as one of the solutions to reduce the transmission of HIV virus from mother to baby (Kementerian Kesehatan RI, 2018).

Vertical transmission of HIV (*Mother to Child Transmission*) is the transmission of HIV from an HIV-positive mother to her child during pregnancy (5%-10%), childbirth (10%-20), breastfeeding (10%-15%) (Depkes RI, 2016). PMTCT accounts for the majority of new infections in children (Lu R, 2020). If the intervention is not carried out, it can increase transmission by 15-45% (Lestari, 2016) Transmission from mother to baby can be prevented by giving the mother ARV in pregnancy and lactation (World Health Organization, 2019). Based on data in the world in 2017, it was found that 59% of all people living with HIV access treatment with details; 59% of adults aged ≥ 15 years living with HIV have access to treatment, and 52% of children aged 0-14 years (Asefa, A., Mitike, 2014). In addition, 65% of adult women aged ≥ 15 years have access to care, only 53% of adult men aged 15 years and older have access (Asmauryanah, 2014). In 2017 it was also found that, 80% of pregnant women living with HIV had access to antiretroviral drugs to prevent transmission of HIV to their babies (Romdiyah, 2017).

The PMTCT program is a program planned and run by the government to prevent the transmission of HIV / AIDS from mother to baby (Badriah, 2018). The PMTCT program prevents HIV/AIDS transmission in women of productive age with HIV-positive pregnancies (Putri, 2016). The PMTCT program is implemented on women of productive age by involving adolescents in disseminating information about HIV/AIDS, in addition to raising women's awareness of how to avoid transmission

of HIV viruses and STIs (Sexually Transmitted Infections) and explaining the benefits of counseling and voluntary HIV testing to at-risk groups, cadres and health workers (Kementerian Kesehatan RI, 2018).

The PMTCT program policy began to be implemented in 2015 in several regions in Indonesia (Rahmadhani et al., 2022). The target to be achieved is 100% of mothers who have their wombs checked to receive information about *Safe Motherhood*, how to have safe sex, prevention and handling of Sexually Transmitted Infections (STIs), PMTCT programs, post-test counseling and follow-up services (Romdiyah, 2017). In Indonesia, the number of women aged ≥ 15 years living with HIV is 220,000 and the number of children living with HIV is 13 000 (Etoori, D, Kerschberger, B, 2018) . It found 12% of people who accessed ARVs with details; 12% of adults ≥ 15 years of age are living with HIV and 23% of children aged 0-14 years (Wahyuni, 2014). While pregnant women who access ARVs as much as 10%. Of the 12,000 pregnant women who need ARVs, 1,239 are able to access ARVs (Maria, 2019)

In recent years, various HIV control services in Indonesia have progressed and the number of people who use it has also increased so that the goal of HIV control can be implemented. However, there are still some sub-sections of the program that have not met the target (Badriah, 2018). This can be seen from the number of pregnant women who access ARVs as much as 10%. Of the 12,000 pregnant women who need ARVs, only 1,239 are able to access ARVs (Susanti & Suhartanti, 2016). Based on the background above, the authors are interested in analyzing the results of previous research on the challenges of implementing the prevention of mother to child transmission (PMTCT) program.

Method

The method used is *literature review*. In the first stage begins by doing article alignment using pubmed *search engines* and Google scholar. The keywords used in article searches are PMTCT, HIV. The article obtained will be reviewed to get the article that matches the predetermined criteria. Journals that have been found are then determined according to inclusion criteria and exclusion criteria, namely IC1: published journals, IC2: journals published in 2015-2021, IC3: qualitative research types, IC4: non-duplicate journals published in Google scholar and Pubmed. Once in accordance with IC1-IC4, there are only 13 articles left. Then IC5 was selected based on the compatibility of article titles and abstracts with the purpose of this literature review, which had the main content analyzing the challenges of implementing the PMTCT program and only 8 journals selected for analysis. Strategies in searching for literature can be seen in the following figures:

Figure 1

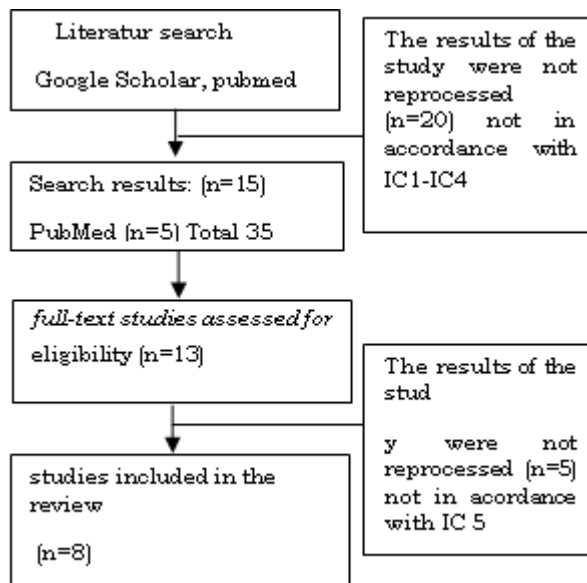


Figure 1. Flow of literature review

Results

The author explores the journal through a journal database based on the conformity of established criteria and established keywords, namely PMTCT, HIV.

Table 1. Literature review results

Author's name	Heading	Method	Sampling techniques	Research results
Leila Katirayi, Caspian Chouraya, Kwashie Kudiabor, Mohammed Ali Mahdi, Mary Pat Ki (2016)	Lessons learned from the PMTCT program in Swaziland: challenges with accepting lifelong ART for pregnant and lactating women – a qualitative study	Qualitative	Pengambilan sampel secara purposive sampling	The challenge faced by HIV-positive women who run the PMTCT program is the commitment to carry out ART deumur life even though they feel healthy, another challenge in the form of the need for more in-depth information about ART ranging from benefits, side effects and health facilities that can be reached.
David Etoori , Bernhard Kerschberger1, Nelly	Challenges and successes in the implementation of option B+ to prevent	Qualitative	purposive sampling 665 responden	The PMTCT program is considered successful in suppressing the decline of the virus in the mother and

Staderini ² , Mpumelelo Ndlangamandla (2018) (Etoori, D, Kerschberger, B, 2018)	mother-to-child transmission of HIV in southern Swaziland			lowering the incidence of transmission to the baby, the challenges of the PMTCT program include disruption of the effects of high treatment, lack of participation from the baby's mother's partner in checking the number of VL
Roseanne C. Schuster, Octávio de Sousa, Jacqueline Rivera, Rebecca Olson ⁵ , Delphine Pinault ⁶ and	Performance-based incentives may be appropriate to address challenges to delivery of prevention of vertical transmission of HIV services in rural Mozambique: a qualitative investigation	Qualitative	purposive sampling	All health workers (nurses, health cadres, etc.) work with the motivation of queuing with heavy workloads, poor reporting systems and low wages.
Nishi Suryavanshi, Vidya Mave, Abhay Kadam, Savita Kanade, Srilatha Sivalenka, V. Sampath Kumar Pauline (Suryavanshi, N, Mave, V, 2018)	Challenges and opportunities for outreach workers in the Prevention of Mother to Child Transmission of HIV (PMTCT) program in India	Qualitative	Purposive sampling	The personal challenge of the officer ensures the right PMTCT service for his patients. Personalization challenge: the patient's reluctance to disclose HIV status to a partner or family. This has an impact on compliance with ART, irregularity of visits and failure of ART Social challenges: stigma and fear of revealing HIV status so that they refuse to do treatment Structural challenges: frequent shortages or running out of drug supplies, especially HIV testing kits. This leads to a loss of confidence in the program.
Eny Widiyasari Zahroh Shaluhayah Ani Margawati	Implementation of Integration between Prevention of Mother to Child HIV Transmission (PMTCT) and	Qualitative	Total sampling	Availability of facilities,

(2016)	Antenatal Services at Primary Healthcare Centers of Surabaya	Qualitative	Purposive sampling	infrastructure And the funds are still lacking. The availability of health workers is still lacking. Leadership support is still less, there is no SOP and regulatory socialization. Monitoring and evaluation is based solely on reports KIA monthly and no supervision from the leadership
Susanti Suhartati, Istiqamah, Rizqy Amelia (2018)	Implementasi Program Prevention Mother to Child Transmission (PMTCT) Di Puskesmas Kota Banjarmasin	Qualitative	Purposive sampling	PMTCT program since 2013 but its implementation is only in 6 health centers The implementation of the PMTCT Program is carried out in an integrated manner with KIA services, namely at the EXAMINATION of ANC and KB Services and also reproductive health services. Services are provided in the form of HIV / AIDS Counseling and HIV testing in all pregnant women and also in noisy groups.
Maria Karolina Selano (2019)	Phenomenology Study Implementation program Prevention Of Mother To Child Transmission Of Hiv / Aids (Pmtct)	Qualitative	Purposive sampling	
Lea Reffita (2019)	Ingne Analysis of factors affecting the pmtct program in Strategies to reduce hiv rates in situbondo regency	Qualitative	Purposive sampling	The results of this study show that the factors that affect the implementation of PMTCT are the knowledge of counselors, the quality of counselors, supporting factors, the implementation of pmtct stages, obstacles to the implementation of PMTCT. Obstacles in the implementation of PMTCT

at Sorong City Hospital there are 5, namely factors from counselors, factors from clients, factors from families, factors from the community and factors from service facilities.

From the results of the study showed that the process of implementing the PMTCT program affects the development of the PMTCT program from each year and will have a positive impact both for health workers and for pregnant women. In the process of implementing the program

PMTCT is influenced by several factors, including there are supporting factors from the process of implementing the PMT program.

CT and there are also factors that hinder. From these inhibiting factors, several efforts and strategies are carried out. specific strategies to support the course of the program PMTCT

Discussion

The results and discussions are based on the purpose of writing literature to see the challenges of implementing the PMTCT program from several studies that have been conducted in different conditions and places / regions. Of the 4 articles analyzed the challenges in running the PMTCT program can arise from patients or from officers who carry out the program (Rahmadhani & Asti, 2020). Challenges that can occur in patients include lack of information about hiv transmission prevention programs from mother to child ranging from goals, benefits, side effects and in-depth information about ARVs, in addition to the involvement of couples and families also affects the running of the PMTCT program, these involvement includes participation in the treatment process such as activeness in checking the amount of viral load and accompanying commitment during treatment (Widyasari, 2016) . The commitment of sufferers in carrying out ARV therapy is also a challenge because the therapy lasts a lifetime (Indriani, 2017). In

addition, the patient's reluctance to disclose his BMI status also poses a challenge in the implementation of PMTCT (Susanti & Suhartanti, 2016). The challenges in running the PMTCT program that occurs in health workers (health workers, health cadres) include the imbalance of workload with wages that can be obtained, in addition to difficulties in ensuring the right PMTCT services for their patients, another challenge is ensuring patients are committed to carrying out therapy by removing the stigma attached to the community, the availability of drugs and hiv test kits is also a challenge in the implementation of the program (Maria, 2019) . With the unavailability of drugs or test kits the patient becomes a loss of confidence in the program carried out (Ingne, 2019)

The results of the analysis of 4 researchers found challenges in the implementation of the PMTCT program both the challenges felt by HIV sufferers and health workers who implemented the program, the challenges came from internal or external factors. In the implementation of the PMTCT program experienced by mothers with HIV status, including the lack of information related to the PMTCT program, lack of commitment in carrying out ARVs so that treatment is not optimal and there is still a lot of stigma in the community so that mothers are reluctant to disclose their HIV status (Rahmadhani, 2021a). The various challenges faced by this show that the role of health workers in handling HIV / AIDS cases needs to be improved such as improving counseling at the time of HIV diagnosis and at the time of starting ARVs (Badriah, 2018). The ability of health workers to carry out counseling also affects the success of the PMTCT program. In addition to counseling skills, according to Asmaurah in his research said the sensitivity and role of health workers is very influential in the implementation of the PMTCT program, frequent interactions between health workers and patients will also bring an understanding of physical and psychological conditions will be better, but it will also affect the sense of self-esteem and acceptance of the presence of health workers. Education and counseling are also very influential on the success of the program (Wahyuni, 2014)

Commitment is very important in the implementation of PMTCT, the commitment includes. The regularity of taking ARVs for the rest of his life. The commit is not only from patients who run therapy but also from those around him (Suryavanshi, N, Mave, V, 2018). According to wenny wahyu research, the role of husband and family shows a positive influence on the participation of patients running the PMTCT program. This is in accordance with the theory put forward by Green where the role of husband and family includes reinforcing factors that will form new behavior, namely the strengthening factors of a person affecting HIV positive pregnant women running the PMTCT program (Schuster, R, 2016). The challenges faced by the implementing officers of the PMTCT program include too much workload and unbalanced wages, these workloads include monitoring, recording and reporting cases and the running of the program and ensuring patient commitment in ARVs. Too much workload can be caused by a lack of health workers or an uneven distribution of health workers. The tantangan will reduce the morale and performance of health workers in implementing the PMTCT program. Karmila in his research stated that HIV who had met health workers had a positive perception of ARV therapy. The posotif precept was obtained after health workers provided counseling and motivation to

implement the HIV program (Carmone, 2014). In addition, according to Sanders in his research said pregnant women with HIV positive who do not have support from family or health workers will experience various situations such as anxiety about her condition and the baby, transmission to the baby, the delivery process that will be lived. The anxiety will continue until there is certainty that the baby is not infected with the HIV virus. The availability of HIV testing kits and ARV drugs is also important in the implementation of PMTCT, if the lack of availability of test kits and drugs will cause people to be reluctant to check their HIV status. This will worsen the condition of HIV spread and will be very easy to increase hiv cases because there is no treatment of people with HIV status.

Conclusion

The successful implementation of prevention of HIV / AIDS transmission from the mother depends on several parties. The active role of health workers in the dissemination of counseling and education about HIV is not only done to the mother, but also done to her family. Information on the family alone is not enough but also the need for the active role and support of family members as a motivator for mothers in running the PMTCT program.

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Conflicts of Interest

The authors declared that there is no conflict of interest in this research.

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