

Review Article: Systematic Review, Meta-Analysis, Integrative Review, Scoping Review

ANALYSIS OF FACTORS INFLUENCING THE USE OF THE TUBECTOMY METHOD IN FERTILE COUPLES: A LITERATURE REVIEW

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Abstract

Background: The use of tubectomy contraception is one way to control birth rates and improve reproductive health. Tubectomy is a permanent form of contraception that involves blocking or sealing the fallopian tubes to prevent the egg from reaching the uterus for fertilization. This article analyzes the factors that influence the use of tubectomy contraception among couples of childbearing ages.

Objective: This literature review aims to identify factors that influence the use of the tubectomy method in fertile couples.

Design: This research design is a literature review.

Data Sources: Search for articles using three journal databases, namely Google Scholar, PubMed, and ScienceDirect.

Reviews Methods: Used PRISM flow diagram to find a total of 6 articles that meet the inclusion criteria reviewed.

Results: Inclusion criteria include full text articles from 2015-2024 published from national or international journals. Article types are quasi-experimental and case studies. Five articles meet the inclusion criteria. The various techniques used in tubectomy, the benefits and risks associated with the procedure, and its effectiveness in preventing pregnancy. Tubectomy can be done through different methods.

Conclusion: Tubectomy is crucial to recognize and address the social stigmas surrounding tubectomy in order to create a more supportive and understanding environment for individuals seeking this form of birth control. By promoting open dialogue and challenging misconceptions, we can work towards creating a more inclusive society where individuals feel empowered to make informed decisions about their reproductive health.

Keywords: *Couples of Childbearing Ages, Family Planning Program, Tubectomy*

INTRODUCTION

Family planning is an effort to achieve the SDG's target in 2030 and demographically

the role of the Family Planning Program is to control the population growth rate. Family planning as one of the 5 pillars of Safe

Motherhood, in the framework of a strategy to reduce maternal mortality and morbidity (Indraswari, Yuhan, 2017). Indonesia, which is a developing country with a population of (3.44%) of the total world population, continues to increase from 2013-2017. (Ministry of the Republic of Indonesia, 2017). Permanent contraception in women is called tubectomy or commonly called the Female Operation Method (MOW) is an action to close both the right and left fallopian tubes, which causes the egg to be unable to pass through the tube, thus the egg cannot meet the male sperm so that pregnancy does not occur (Meilani, et al., 2012).

The low use of long-term contraceptive methods (Tubectomy) among women who have been married in Indonesia is caused by many factors, which in the analysis conducted by the National Family Planning Coordinating Board (BKKBN) can be grouped according to individual factors (clients), program factors related to service quality and the environment. The results of the Mini Survey of active KB participants revealed that quite a lot of KB participants use KB methods irrationally or not according to the age of a mother, the number of children and the health condition of the mother (Bahu et al., 2019). There are 8 factors for choosing MOW KB: (1) Education Level. (2) Knowledge. (3) Religion. (4) Socioeconomic Status and Welfare Level. (5) Role Model. (6) Age. (7) Parity. (8) Husband's Support. Age is a unit of time that measures the existence of an object or creature, both living and dead. The age set for sterilization in women is 22 years old with 5 children. The youngest age limit is 25 years old. 25-30 years with 4 living children. 30-35 years with 3 living children, and above 35 years with 2 living children (Dyah & Sariyati, 2016).

Tubectomy is crucial to recognize and address the social stigmas surrounding tubectomy in order to create a more supportive and understanding environment for individuals seeking this form of birth control. This literature review aims to identify factors that

influence the use of the tubectomy method in fertile couples.

METHODS

Design

This research was conducted using the literature review. The articles selected are research articles that discuss about the factors that influence the use of the Tubectomy method in fertile couples.

Search Methods

Article searches were carried out using PICO with the keywords in English "fertile age couples and Tubectomy, and Family planning program".

The inclusion criteria in this study were articles published between 2015-2024, articles in Indonesian and English, full text. Articles that are in accordance with the objectives to be achieved (screened from title, abstract and full text) contains factors that influence the use of the Tubectomy method in fertile couples using semi-experimental, quasi- experimental and case study research designs.

The exclusion criteria in this study were all forms of articles with a review design, articles with interventions that were less focused on factors that influence the use of the Tubectomy method in fertile couples.

Search Outcome

The researcher obtained 5 articles that matched the keywords. Assessment based on eligibility against inclusion and exclusion criteria resulted in 6 articles that met and could be used in the literature review. The results of this study is reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Statement (PRISM):

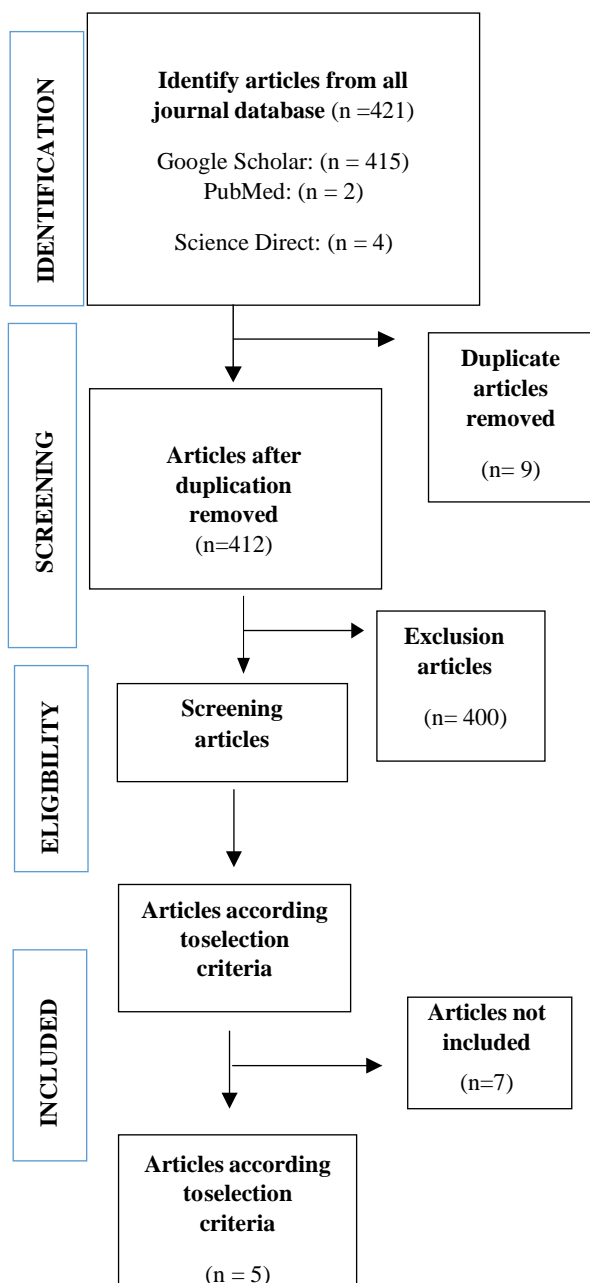


Figure 1. PRISM Diagram

Quality Appraisal

Researchers analyze every incoming literature that meet the criteria. Data were analyzed by summarizing the play results selected to obtain topics and subtopics. After that, the researcher combined the data analysis and analyze it to find subthemes. To achieve the aim of this literature review, the literature regarding factors that influence the use of the Tubectomy method in fertile couples was thoroughly reviewed. Using the PRISM

techniques, researchers selected 5 articles to review.

Data Abstraction

A literature search found 421 articles, of which 9 articles were duplicates, leaving 412 articles. A total of 412 articles were then screened and from the screening results, 400 articles were excluded because there were no full text articles available (not completely accessible), the type of articles did not meet the criteria (RCT, quasi-experiment, pre-experiment, and case study) and the results of the screening. The remaining ones are 12 articles. The remaining articles were then selected according to the criteria, namely those that discussed clearly and specifically about Factors that influence the use of the Tubectomy method in fertile couples namely 5 articles, which were then carried out by a literature review.

Data Analysis/ Synthesis

In this research, the authors analyzed articles by assessing and reading articles thoroughly by analyzing from the title, abstract, methods, how to collect data and the results obtained from each article then associated with the research topic to be discussed. In this research there were 6 articles that met the criteria of the 6 articles, data analysis was carried out that data were obtained in according to with the research topic.

RESULTS

The results of the literature search found 6 articles that met the inclusion criteria. Four articles are Cross Sectional, 1 article is a case study. All articles were published in 2015-2024 (Table 1).

Definition Tubectomy

Female surgical method contraception (MOW) or tubectomy or can also be called sterilization is an act of closing both fallopian tubes so that the egg cannot pass through the fallopian tube so that the egg does not meet the

male sperm so that pregnancy does not occur. Very effective (0.5 pregnancies per 100 women during the first year of use) and effective 6-10 weeks after surgery (Triyanto and Indriani, 2019).

Tubectomy is one of the most effective contraceptives. The effectiveness of the tubectomy method reaches 98.85% when carried out in accordance with the established standard operating procedures. Tubectomy has the advantage of fewer complaints compared to other contraceptive methods. In addition, this contraception is also more practical because it only requires one action (Endang Purwoastuti, 2015)

How Tubectomy Works

The way a tubectomy works is by tying the fallopian tubes so that sperm cannot meet the ovum (Mega and Wijayanegara, 2017).

Indications for tubectomy

Indications for tubectomy include: 1) Age over 26 years 2) Having more than 2 children 3) Being sure that you have the desired number of family members 4) Mothers who have just given birth 5) The patient understands and agrees with the tubectomy procedure, especially the partner's knowledge about this contraceptive method, its risks and the permanent nature of this contraceptive (Mulyani and Rinawati, 2013).

Contraindications for tubectomy

Contraindications for tubectomy include: 1) Pregnant or suspected pregnant 2) Vaginal bleeding of unknown cause 3) Not having given written consent 4) Not being allowed to undergo surgery 5) Under 30 years of age who have not had or still want to have children (Mega and Wijayanegara, 2017).

DISCUSSION

Age

Age has an effect on pregnancy and childbirth. Mothers aged less than 20 years and more than 35 years have a high risk that may

threaten the health and life of the mother and the fetus she is carrying during pregnancy, childbirth, and postpartum. The results of this study indicate that mothers aged > 35 years are more likely to choose tubectomy because of the risk of pregnancy over the age of 35 years so that the use of tubectomy is chosen with the aim of terminating pregnancy to minimize the risk. Women under the age of 20 years are advised to postpone their pregnancy while women over the age of 35 years are advised not to get pregnant again, because of medical reasons and other health reasons. In theory, it is explained that older women (> 30 years) are expected to start limiting pregnancy if they already have children, because at that age some of the female reproductive organ's change, so the use of contraception is very necessary to prevent high-risk pregnancies. According to researchers, most of the use of short-term contraception is generally used by relatively young women under 30 years old. While women over the age of 30 years relatively use long-term contraception. So, it can be concluded that age is a factor in choosing a contraceptive (Huda et al., 2016).

Education

Education is a learning for the community so that the community is willing to take actions to maintain and improve their health. Education means guidance given by someone to the development of others towards certain ideals that achieve safety and happiness. Education is needed to get information, for example things that support health so that it can improve the quality of life. In general, the higher a person's education, the easier it is to receive information. Based on the results of previous studies, most respondents who have low education tend not to follow family planning. Based on the results of the study, in general, mothers with low education levels have an average of >3 children so they decide to choose the tubectomy method with the aim of stopping pregnancy or not wanting to have any more children. This situation can occur

Table 1. Results of Literature Study

No	Writer And title	Types of Interventions	Results	Conclusion
1.	Hardianto Dg. Salimung (2019) Influence Factors Tool selection Contraception tubectomy on age couple fertile at home common illness Saweri gading city Palopo	Survey analytic with use Approach case control	<ul style="list-style-type: none"> - Results test statistics obtained p value = 0.000 on α 0.05 ($0.000 < 0.05$) with level trust 95%, so there is a relationship between age and election tool contraception tubectomy. - Results test statistics obtained p value = 0.774 on α 0.05 ($0.774 > 0.05$) with level trust 95%, so no educational relationship with election tool contraception tubectomy. - Results test statistics obtained p value = 0.001 on α 0.05 ($0.001 < 0.05$) with level trust 95%, there is a parity relationship with election tool contraception tubectomy - Results test statistics obtained p value = 0.024 on α 0.05 ($0.024 < 0.05$) with level trust 95%, there is connection knowledge with selection of contraception Tubectomy 	There is connection age, education, parity, mother's knowledge with election tool contraception tubectomy
2.	Istri, Efi Trimuryani (2020) Factors related to selection of tubectomy contraception for women of childbearing age	Cross sectional aproach	<ul style="list-style-type: none"> - Results test statistics obtained mark p = 0.732 > 0.05 which means there is no relationship between age and the choice of tubectomy contraception in women of childbearing age. - The results of the statistical test obtained a p value of 0.896 > 0.05, which means that there is no relationship between education and the choice of tubectomy contraception in women of childbearing age. - The results of the statistical test obtained a p value = 0.086 > 0.05, which means there is no relationship between knowledge and choice of contraception tubectomy in women of childbearing age. 	The more children there are, the more interest there is in stop fertility will the greater it is, so that the acceptor will use long-term contraception.
3.	Erika Fuadsanah, Sri Hadi Sulistiyaningsih, Yuli Irnawati (2020) Factor related to KB selection method women's surgery (mow) in fertile couples in Winong village Pati District regency starch	Correlation analysis with cross sectional approach	<ul style="list-style-type: none"> - The results of the statistical test obtained a p value of $0.021 < 0.05$, so there is a relationship between the number of children / parity and the choice of tubectomy contraception in women of childbearing age. - Respondents Which his age more from 30 years old who used MOW KB < 3 years were 13 respondents (39.4%) and those who used MOW KB \geq 3 years were 17 respondents (51.5%). - Parity of more than 2 chooses to use MOW KB with users < 3 years, namely as many as 14 Respondent (42.4%) And Which user \geq 3 year as much as 18 Respondent (54.5%). - Birth control MOW < 3 year that is as much 	Factors that related to the choice of tubectomy contraception on women of childbearing age is the number of parities. The more children there are, the more interest there is in stop fertility will the greater it is, so that the acceptor will use long-term

			as 11 respondents (33.3%) and Users KB ≥ 3 year as much as Factors that related to the choice of tubectomy contraception on women of childbearing age	contraception. From some mothers who use birth control.
4.	Dwi Astuti Widia Ningrum, Dhiny Easter Y, Sugihati (2018) Factors associated with method selection long term contraception (tubectomy) on fertile age couple in Batang Health Center work area district day East Lampung	Study quantitative with by using a cross-sectional approach	<ul style="list-style-type: none"> - Results test statistics obtained mark $p = 0.043 < \alpha = 0.05$ then there is a relationship between the wife's age and the choice of tubectomy contraception - The results of the statistical test obtained a p value = $0.032 < \alpha = 0.05$, so there is a relationship between education level and the choice of tubectomy contraception. - The results of the statistical test obtained a p value of 0.009, meaning there is a relationship between work and the choice of tubectomy contraception. - The results of the statistical test obtained a p value = $0.070 > \alpha = 0.05$, so there is no relationship between the number of children and the choice of tubectomy contraception. 	Test obtained a p value = 1,000, There is no relationship. significant relationship between work and choice of tubectomy contraception in couples of ages fertile.
5.	Adelina Pratiwi, Nafika Nur Rahmah., (2020) Factors associated with selection of tubectomy contraception in fertile age couple	Quantitative method with analytical survey with cross sectional design	<ul style="list-style-type: none"> - The results of the statistical test obtained a p value = $0.037 < \alpha = 0.05$, so there is a relationship between husband's support and the choice of tubectomy contraception. - The results of the statistical test using chi-square obtained a p value = 0.629, which means no there is a significant relationship between education with tubectomy contraception selection - The results of the statistical test using chi-square obtained a p value = 0.009, meaning there is a significant relationship between age and the choice of tubectomy contraception. - The results of the statistical test using the chi-square statistical test obtained a p value = 0.040, meaning there is a significant relationship between parity and the choice of the contraception. 	<ul style="list-style-type: none"> - No significant relationship between education with the choice of tubectomy contraception on the couple - A significant relationship between age and the choice of tubectomy contraception. - A significant relationship between parity and the choice of tubectomy

because it is accompanied by other factors that influence a person's thinking in choosing the contraceptive to be used. The difference in the level of education of family planning acceptors regarding the selection of contraceptives to be used, the role of health workers is expected to be able to provide counseling to fertile couples according to the understanding of each family planning acceptor. A highly educated person will definitely think about the future, if the couple is still young and is afraid that they will want to have another child or if they are divorced and want to remarry, this will also affect the couple because tubectomy is permanent (Indraswari & Yuhan, 2017).

Parity

Relationship between Parity of Women of Childbearing Age and Interest in Choosing Tubectomy Contraceptives Based on the results of the study, it can be seen that most respondents have a parity number with multiparity (2-4 children). Parity can influence someone in choosing an effective and stable contraceptive that suits their condition to prevent high-risk pregnancies that can result in danger to the death of the mother and baby. The higher the parity of fertile couples, the higher the motivation or interest in using contraceptives, especially tubectomy. The relationship between the number of children is because most fertile couples have more than two children. This situation is caused by the fact that the family planning program with an ideal number of two children has not yet become a culture. Various assumptions that develop in society about many children also mean many fortunes that will be obtained by the family, boys are symbolized as the proudest children and children are a guarantee for parents in the future are still held tightly by some people, especially in rural areas (Rahman et al., 2017). Most mothers have high parity when choosing to have tubectomy contraception, although there are still mothers who have high parity but do not choose tubectomy contraception. Having many children will certainly affect the cost of

living and education which is increasingly expensive. Women who give birth to five or more children will have a risk of problematic pregnancies. One possible complication is bleeding during childbirth. The more often pregnant, the worse the impact on health because of the increased risk to the mother. Mothers with many children are likely to experience impaired health, looseness in the abdominal wall, and disorders in pregnancy. This tubectomy contraception is very effective because it can prevent 99% of pregnancy. Most mothers who use other contraceptive methods fail to prevent pregnancy because the contraceptive device leaks, forgets to do or use the contraception so that unwanted pregnancies occur and finally the mother has another child. This tubectomy is very practical, can be used only once and does not need to remember it so that pregnancy can be prevented to reduce maternal and neonatal risks (Rizkitama, 2017).

Knowledge in choosing tubectomy

Knowledge is the result of knowing and this does not happen after a person has sensed a particular object. Knowledge is closely related to education, where it is expected that with higher education, the person will have broader knowledge. There are several ways to gain knowledge. The study concluded that there is a significant relationship between the knowledge of Family Planning acceptor mothers and the use of contraceptives. This means that the better the knowledge of Family Planning acceptor mothers, the more rational they are in using contraceptives (Septiwiarysi, 2017).

Relationship between Husband's Support and Choice of Tubectomy

The implementation of the family planning program in Indonesia must pay attention to reproductive rights, women's empowerment and gender equality in accordance with the agreements made at the population and development conference. Socialization of reproductive rights and gender

equality is an activity that always receives attention and improvement in the implementation of program services, as well as in efforts to provide health services and family planning and reproductive health. The absence of a relationship between husband's support and the choice of long-term family planning methods is usually caused by the low level of concern of most husbands for the contraception used by their partners. This situation can be seen from the rarity of husbands taking their wives to family planning service locations. In addition, the level of husbands' understanding of contraception is also not as expected (Siregar, 2018)

CONCLUSION

Tubectomy is an effective and efficient contraceptive to prevent pregnancy. However, there are still many fertile couples who do not choose this method due to several factors, these factors need to be identified so that they can provide intervention recommendations for efforts to increase the number of users of this contraceptive.

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DECLARATION OF CONFLICTING INTEREST

The authors have no conflict of interest to declare.

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AUTHOR CONTRIBUTION

Agus Sulistiyowati: Main authors, conceptualization, methodology, analysis, and resources.

Dini Prastyo Wijayanti: Generate ideas, conceptualization, formal analysis, and data curation.

Risti Puji Listari: Validation, formal analysis, and data curation.

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REFERENCES

- Adelina Pratiwi, Nafika Nur Rahmah. (2020). Factors Related to the Selection of Tubectomy Contraception in Fertile Age Couples. *Journal „Aisyiyah Medika*, Volume 5, Number 1.
- Amalia, A. (2016). Knowledge of Family Planning According to Islam Regarding the Use of Contraceptives at BPS Anik Susantu Amd Keb Dusun Jatirejo Topeng Village Tikung District Lamongan Regency.
- Bahu, R., Hasania, E., & Hilmuhu, F. (2019). The Relationship between Parity and Husband's Support with Low Interest in Using Tubectomy Method Contraceptives at Tibawa Health Center. *Akademika: Scientific Journal of Science and Technology Publication Media*, 8(1). <https://doi.org/10.31314/akademika.v8i1.299>
- Dwi Astuti Widia Ningrum, Dhiny Easter Y, Sugihati. (2018). Factors Related to the Selection of Long-Term Contraceptive Methods (LMPs) in Fertile Age Couples in the Working Area of Batang Hari Health Center, East Lampung Regency. *World Public Health Journal* Volume 7. Number 4.

- Dyah, PE, & Sariyati, S. (2016). Religion with Family Planning (KB) Participation and Selection of Contraceptive Types in Fertile Age Couples (PUS) in Argomulyo Sedayu Village, Bantul, Yogyakarta. *Indonesian Nursing and Midwifery Journal*, 3(1), 1. <https://doi.org/10.21927/jnki.2015.3>
- Erika Fuadsanah, Sri Hadi Sulistiyarningsih, Yuli Irnawati. (2020). Analysis of Factors Related to the Selection of Female Operation Method (MOW) in Fertile Age Couples in Winong Village, Pati District, Pati Regency. *Scientific Journal of Obstetrics and Health*, Bakti Utama Pati Health Sciences College Volume 11 No. 1, Pages 36 - 39, January 2020 ISSN 2087-4154
- Hardianto Dg. Salimung. (2019). Factors Influencing the Selection of Tubectomy Contraceptive Devices in Fertile Age Couples at Sawerigading General Hospital, Palopo City. *Journal of Health Phenomena*, Volume 2 Number 1.
- Huda, A., Widagdo, L., & Widjanarko, B. (2016). Factors Related to Contraceptive Use Behavior in Women of Childbearing Age at the Jombang Health Center-South Tangerang City. *Journal of Public Health (E-Journal)*, 4(1), 461-469
- Indraswari, RR, & Yuhan, RJ (2017). Factors Affecting Delay in First Child Birth in Rural Areas of Indonesia: Analysis of 2012 SDKI Data. *Indonesian Journal of Population*, 12(1), 1. <https://doi.org/10.14203/jki.v12i1.274>
- Ministry of the Republic of Indonesia. (2017). *Indonesian Health Profile 2017*. Indonesian Health Profile 2017 DIY Regional Government. (2018). *DIY Total Birth Rate Below National - News | DIY Regional Government Portal*
- Rahman, Z., Kunoli, F.J., & Amalinda, F. (2017). The Factors Related to the Application of Contraception Method of Women Operation (Mow). *Promotif: Journal of Public Health*, 7(2), 153. <https://doi.org/10.31934/promotif.v7i2.89>
- Rizkitama, AA (2017). Several Factors Related to Women's Participation in Choosing Tubectomy in TUBECTOMY Participants in Bumiayu District, Brebes Regency. Diponegoro University, Semarang
- SDKI. (2017). *Indonesian Demographic and Health Survey*. In *Indonesian Demographic and Health Survey*. <https://doi.org/0910383107> [pii]r10.1073/pnas.0910383107
- Septiwiarysi, S. (2017). Analysis of Factors Influencing the Selection of Women's Operative Method Contraception Factors Related to Women's Participation in Choosing Tubectomy in TUBECTOMY Participants in Bumiayu District, Brebes Regency. Diponegoro University Semarang

- (MOW) at Muhammadiyah Hospital Palembang in 2016. *Scientia Journal Stikes Prima Jambi*, 6(2)
- Siregar, GG (2018). Analysis of Dominant Factors Influencing Female Couples of Childbearing Age on the Use of Tubectomy Contraceptive Methods in Sidomulyo Village, Deli Serdang Regency in 2018. *Journal of Midwifery & Reproductive Health Research*, 1(1), 13
- Surya, 8 (1), 32-39 Bahu, R., Hasania, E., & Hilmahu, F. (2019). The Relationship between Parity and Husband's Support with Low Interest in Using Tubectomy Method Contraceptives at Tibawa Health Center. *Akademika*: Scientific Journal of Science and Technology Publication Media, 8 (1). <https://doi.org/10.31314/akademika.v8i1.299>
- Utami's wife, Efi Trimuryani. (2020). Factors Related to the Selection of Tubectomy Contraceptives for Women of Childbearing Age. *Silampari Nursing Journal* Volume 3, Number 2.

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