

A Study of Educational Services and Preferences for Long-Term Contraceptive Use in Women: A Systematic Literatur Review

Ana Sundari^{1*}, Siti Harnina Bintari¹, Dina Nur Anggraini Ningrum¹, Eko Farida¹

¹University Negeri Semarang, Central Java, Indonesia

Corresponding author: anasundari@students.unnes.ac.id

Abstract: Family planning interventions focus on the use of long-term contraceptives for determining pregnancy spacing and improving maternal and child health. In developed countries, although the number of unwanted pregnancies has decreased, almost half of all pregnancies are estimated to be unwanted. This represents that the counseling methods carried out by service providers are still ineffective. The aim of this study is examine more deeply the study of educational services and preferences for long-term contraceptive use in women as a program evaluation material that can then be adapted and developed into more effective services. This systematic review was written based on the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guideline through two electronic databases, Science Direct and Sage Journal. The keywords used were "Couples of Childbearing Age" AND "Education/Counseling" AND "Intervention Long-Term Contraceptives Implants" OR "IUDs" OR "Condoms" OR "Hormonal Contraception" so that 15 articles were analyzed. The result show that the access to contraception and contraceptive selection should be supported by insurance & service providers should offer counselling on and access to a wide range of contraceptives in their place, proven pharmacist prescriptions for increased contraceptive availability that support the determination of long-term contraceptive use in women, checks on health websites about contraceptive use e.g. on university websites, doctors, and apps like Health-E You. In addition, the use of tools such as the postpartum intrauterine contraceptive device (PPIUCD), AKDR LNG 13.5 mg, and the use of a suction cervical stabilizer during IUD insertion. The education about contraception needs to be carried out by providing counseling, both by doctors, pharmacists, insurance companies, as well as access to health websites and applications.

Keywords: Contraceptive, Education, Family Planning, Women's Preferences

INTRODUCTION

Contraceptive users in the world according to World Health Organization (WHO) more than 100 million women use contraceptives that have an effectiveness with more than 75% of hormonal contraceptive users and 25% of non-hormonal contraceptive users in the world in 2019 reaching 89%. In 2020, the number of modern family planning users in urban areas reached 58%, while in rural areas it reached 57%. Africa is recorded as many as 82% of the population does not use contraception. Southeast Asia, South and West Asia as many as 43% use contraception (World Health Organization, 2021).

Increasing the use of family planning methods and access to services around the world is a priority for government and partner investments. There is a lot of evidence linking family planning (family planning) to a decrease in maternal mortality by reducing the likelihood of unplanned pregnancies, unsafe

abortions, and potential health risks from high parity and close pregnancies (Ali & Tran, 2022). The importance of family planning is listed in many of the United Nations Sustainable Development Goals targets for 2030: 3.1 reduce the global maternal mortality rate, 3.7 ensure universal access to sexual and reproductive health services, and 5.6 universal access to sexual and reproductive health and reproductive rights (Dockalova et al., 2016).

Family planning interventions focus on the use of long-term contraceptives to determine pregnancy spacing and improve maternal and child health (Gallagher et al., 2021). The Long-Term Contraceptive Method is a very effective and efficient contraception for the purpose of inflating births or terminating pregnancies in couples of childbearing age who no longer want to have children, this method of contraception covers a long duration and works up to 10 years (French, 2019). However, the facts on the ground show that at least two-thirds of women in countries with limited resources still cannot reach family planning services due to insurance problems and the lack of counseling services available (Manzer & Bell, 2022). Access to a wide range of contraceptive options is critical to the health of women of childbearing age and it is not appropriate for those on low incomes not to have access to these options (Johnson, 2022).

Increasing access to and use of modern contraceptives for women remains a key public health strategy to reduce the burden of sexual and reproductive health problems (Sully et al., 2020); (Phiri et al., 2023). Access to contraceptive services is also often unfulfilled in developed countries. In the United States and Europe, for example, although the number of unwanted pregnancies has decreased, almost half of all pregnancies are estimated to be unwanted. This represents that the counseling methods carried out by service providers are still ineffective (Gyllenberg et al., 2021).

Decision-making on the use of permanent contraception is often the last option in family planning services in low- and middle-income areas. The dependence is quite high among women under 35 years old (Hellwig et al., 2022). If left further, the side effects are also quite worrying. Therefore, the importance of education about contraceptives must also be carried out massively. So far, limited education has been carried out by local pharmacists and contraceptives prescribed by pharmacists are used for reasons of convenience and convenience as well as having privacy of visits (Gomez et al., 2022). Knowledge of contraceptives must be mastered by local medical services to minimize decision-making errors while reaching a wider range of counseling. Studies on educational services and preferences for the use of long-term contraceptives need to be studied more deeply as a consideration for the use of devices in women. The suggested interventions can be used as program evaluations which can then be adapted and developed into more effective services. Side effects of contraceptive use, access and availability problems, the desire to switch to permanent methods and the inconvenience of use should be present in the health care education system (Beeshame et al., 2022). The provision of contraceptive services must

be able to overcome the logistical and interpersonal challenges that are developing in the community (Key et al., 2023).

METHOD

This systematic review is based on the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guideline.

Eligibility Criteria

This review of this study is based on research articles related to couples of childbearing age, education/counseling, and intervention long-term contraceptives. The population and sample criteria in this study are women of childbearing age

Search Strategy

Article searches were conducted using electronic databases, namely ScienceDirect and SageJournal. The selected publication time range is 2021 – 2023. The search used the keywords "Couples of Childbearing Age" AND "Education/Counseling" AND "Intervention Long-Term Contraceptives Implants" OR "IUDs" OR "Condoms" OR "Hormonal Contraception".

Article selection

The articles obtained are then selected based on their relevance to the time span and keywords used. The article selection process is based on several criteria, namely a publication time span of 3 years (2021-2023), using English, research articles, contraception and open access & open archive. From the ScienceDirect database after going through the initial selection process, 73 articles were obtained and from SageJournal 14 articles were obtained. Then the 87 articles were re-selected based on their relevance to the purpose of the study, by reading the title and abstract of each article. So that the final results were obtained as many as 15 articles to be analyzed (Figure 1).

Data extraction

The selected articles are then analyzed, relevant information will be extracted. Relevant information includes the study, year, title, method, and research results. The results obtained were then reviewed in relation to the study of educational services and preferences for the use of long-term contraceptives

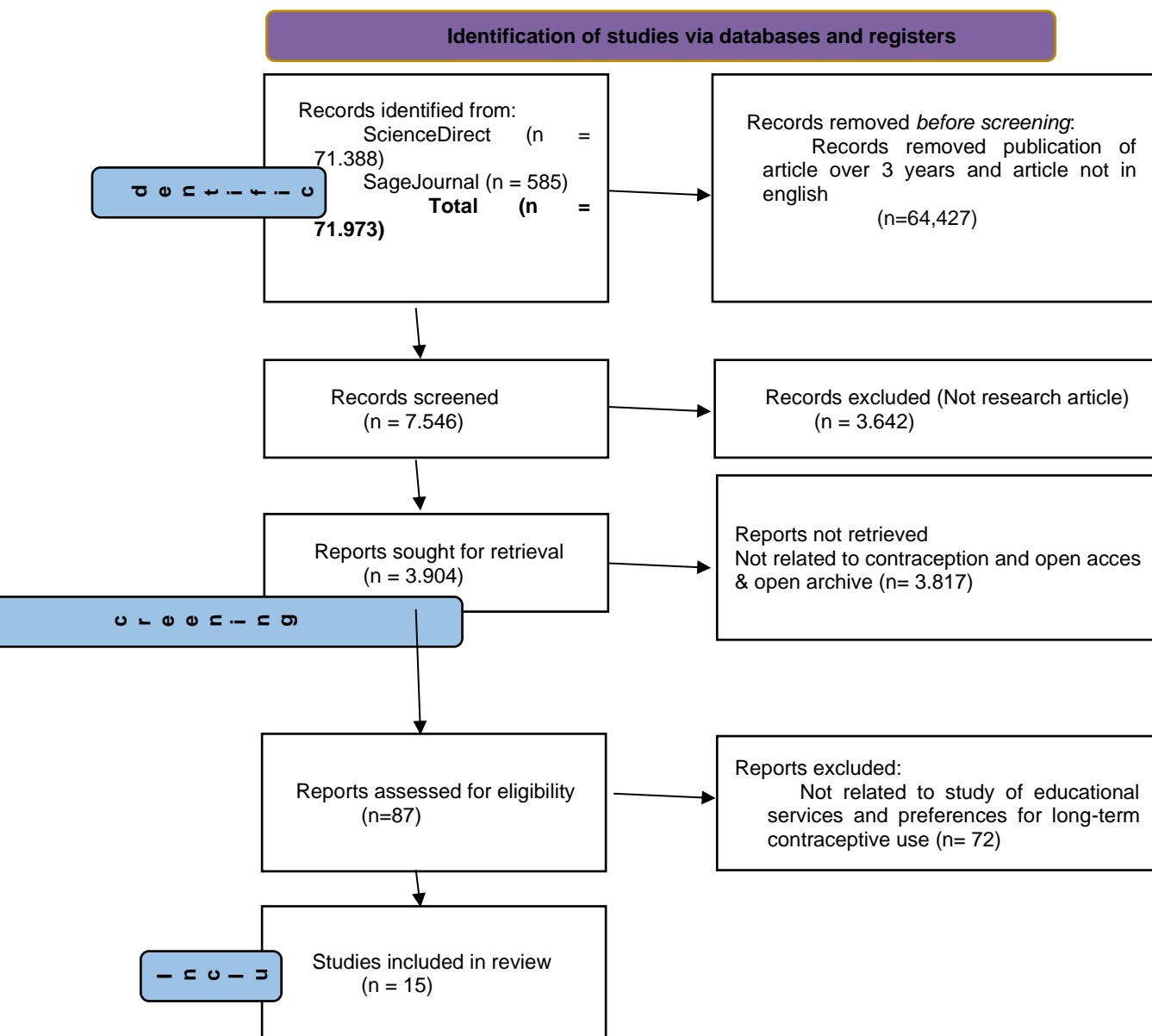


Figure 1. Study Selection Process

RESULTS

Based on the results of the study of several articles in general, the use of contraceptive methods is influenced by 2 factors broadly including studies of educational services and preferences for the use of long-term contraceptives

Educational Services

Improving the accessibility and availability of family planning services and interventions for married women, as well as for men, is essential to lower fertility rates, delay first pregnancies, and

improve pregnancy outcomes, maternal and child health, as well as overall family health and social well-being (Zakiyah et al., 2016). Women's health is more than just providing technical solutions or increasing the availability of contraceptive methods. The most important thing is women's right to choose and access to quality reproductive services. Access to quality family planning is not only a human right, but also very important for every individual, community welfare, and nation building as a whole (Muttreja & Singh, 2018). Research shows that adequate attention to family planning in countries with high birth rates can not only reduce poverty and hunger, but also prevent 32 percent of maternal deaths and nearly 10 percent of child deaths (Cleland et al., 2006)

Quality of care (QoC), which consists of critical components such as access to contraceptive options, counselling services, information and follow-up, can ensure that the unmet needs of millions of women across the country are met, and that fertility declines are accelerating. Efficient response to users not only creates demand but also ensures client returns. long-term effectiveness and sustainability of the program (Muttreja & Singh, 2018).

The government is obliged to ensure the availability of safe, quality, and affordable information facilities and reproductive health service facilities for the community, including family planning. Health services in family planning are intended to arrange pregnancy for couples of childbearing age to form a healthy and intelligent next generation. Couples of childbearing age are biased to get contraceptive services in places that serve family planning programs (Kementerian Kesehatan RI, 2018).

Awareness of the Use of Contraceptives according to research conducted by Vricella, L. K., Gawron, L. M., Louis, J. M. (2019) by conducting effective communication and education for counseling recipients. With effective communication, it can increase the interest in the installation of contraceptives. In his research, it was concluded that doctors or health workers in providing incomplete counseling, limited time, and lack of knowledge from health workers can increase the level of public distrust (Vricella et al., 2019). The Communication, Information and Education process is expected to increase motivation and increase knowledge, change in attitudes and behaviors of the community in family planning, through maturing the age of marriage, arranging births, fostering family resilience, improving family welfare so that the norm of a happy and prosperous small family is achieved. However, information obtained from family planning officers at the Health Center, it is known that health workers do not routinely carry out Communication, Information and Education, even though training has been carried out and media in the form of a decision making aid (flip sheet) in family planning (Hutabarat et al., 2022).

Decision aids are beneficial because they provide information and educate patients about available treatment options, thus helping to reduce decision-making conflicts (Stacey et al., 2017). Patient decision-making aids are resources that make it easier for patients to participate in decision-making by outlining the choices to be made, outlining possible and potential outcomes, and defining personal values.

More recently, decision-making tools have been used to inform patients and the general public about health issues (Bennett et al., 2015). Research has shown the effectiveness of decision-making aids in family planning counseling (Wu et al., 2018). Strengthened by research conducted by (Martyas, 2017) that Communication, Information and Education increases knowledge about how to choose contraceptives and the method or contraceptive device used is appropriate for acceptors so that the drop out rate can be reduced and foster the sustainability of family planning participants. Through the Communication, Information and Education process, prospective Acceptors or already Acceptors of Family Planning get the right information about the side effects of contraception, types of contraception, advantages, disadvantages, and satisfaction with one of the contraceptives and want to get repeat services from the contraception that has been used. After getting the information, the prospective Acceptor or Acceptor can make a decision to choose and use the family planning method and if there are complaints of side effects, the officer can help overcome the complaint. With advances in information accessibility and high-quality contraceptive counseling, individuals now have the ability to decide the number and spacing of their children's births. This can be achieved through family planning, which also has many positive impacts on women's education and empowerment (Leon et al., 2019); (Ali & Tran, 2022). This is in accordance with research conducted (Beeshame et al., 2022) that the provision of quality counseling and contraceptive support can increase the use of contraceptives, namely implants and IUDs, in a sustainable manner. The decision to use and access contraception is also influenced by several factors such as insurance. For this reason, it is necessary to have education about accessing and using contraception, by expanding the literature and exploration in the in-depth study in Table 1

Table 1. A Review of Educational Services and Long-Term Contraceptive Use Preference Studies in Women

Author and Year	Heading	Method	Result	Recommended interventions
(Aemro et al., 2022)	Immediate postpartum intrauterine contraceptive device utilization and associated factors among women who gave birth in public health facilities of Adama town, Ethiopia	Cross-sectional study on 493 postpartum mothers related to health facilities in the city of Adama from January 20 to February 20, 2021. Data was collected through questionnaires. Logistic regression models were used to identify factors related to the utilization of immediate postpartum intrauterine contraceptive devices (IPPIUCDs).	22.1% (95% CI: 17.3-25.2) mothers used IPPIUCD within 48 hours of giving birth. This study shows that women who have good knowledge about PPIUCD has a 3.8 times greater likelihood of using IPPIUCD compared to women with poor knowledge (AOR=3.815, 95% CI: 1,942–7,494).	Postpartum intrauterine contraceptive device (PPIUCD) is recommended for use because it is a highly effective, reversible and long-term contraceptive device with a failure rate of less than 1% and does not affect breast milk.
(Manzer & Bell, 2022)	“Did I choose a birth control method yet?”: health care and women’s contraceptive decision-making	The study of 86 women aged 16-44 years with in-depth and semi-structured interviews analyzed how unwanted pregnancies affected women's access to and decision to use contraceptives.	There are 2 main factors in the selection of contraceptive use, namely insurance protection and contraceptive counseling by service providers. Insurance restrictions are a barrier for women to accept their preferred contraceptive method, because they cannot complete the postpartum procedure so they do not sterilize.	Providers should receive ongoing training on all contraceptive methods, especially for those who are not specialized in women's health. A women's health clinic should offer counseling about and access to a wide range of contraceptives in their place.

Author and Year	Heading	Method	Result	Recommended interventions
(Linder et al., 2024)	Characteristics and hormonal contraception use patterns of levonorgestrel 13.5 mg intrauterine device users in Sweden 2014–2016	A population-based observational study of women who took IUD-LNG 13.5 mg between 2014-2016 and followed up until December 31, 2020. The descriptive analysis included demographic characteristics, duration of use of IUD-LNG 13.5 mg, and contraceptive switching patterns.	<p>38,327 women with an average age of first use IUD-LNG 13.5 mg 26 (SD: 7) years old and more than 80% because advised by midwives. The most common comorbidities (prevalence 2%–3%) are depression, anxiety, premenstrual syndrome, and menorrhagia. The duration of the first use is 2.6 years and after that 50% of women choose to continue using hormonal contraceptives.</p> <p>Compared to IUD-LNG users who have never using hormonal contraceptives (HC) before, the prevalence of cervical intraepithelial neoplasia, inflammation of the genital organs, and premenstrual syndrome is less.</p> <p>Duration of use of IUD-LNG 13.5 mg in users who have never previous hormonal contraceptive use was 4 months longer (34.5 months compared to 30.5 months in previous hormonal contraceptives).</p>	The use of 13.5 mg IUD-LNG can be used for contraceptive use options with a duration of 2.6 years, close to the indicated use limit of 3 years.
(Gomez et al., 2022)	Community perspectives on pharmacist-	The study was conducted in 2019-2020 in Tulare County, California. Female correspondents aged 15-44.	Respondents knew that pharmacists had accurate knowledge of the prescriptions for hormonal contraceptives that could be used.	The study shows that increasing the availability of contraceptives prescribed by pharmacists can support the determination of long-term

Author and Year	Heading	Method	Result	Recommended interventions
	prescribed hormonal contraception in rural California	Community-based research approaches, social media advertising and social networking. The analysis focused on 177 respondents who had potential contraceptive needs in the future.	57% of respondents are interested in getting contraception from pharmacists.	contraceptive use in women so that in the future it can overcome the access gap.
(Kakar et al., 2022)	Contraception information on the websites of student health centers in the United States	This study uses software (Quantitative Measures of Online Health Information) to test access to online information about contraception and reproductive health ((LARC/injection, contraception, condom, Pap test) on the websites of health centers of all public universities in the United States in July-September 2020.	Of the 545 public universities, the data shows that 66% have access to information about contraception. Universities that have medicine have an 82% ($p < 0.1$) higher chance of providing LARC/injectable information on their websites. Pell grantee universities are less supportive of condom use preferences. Hispanic students support the preference for the use of LARC/injections.	Checks of student health websites regarding contraceptive use can reveal access gaps in each university.
(Beeshame et al., 2022)	Contraceptive method preference and reasons for contraceptive discontinuation among women randomized to intramuscular depot medroxyprogesterone	Evidence for Contraceptive Options and HIV Outcomes (ECHO) trials by randomly selecting women on intramuscular depot medroxyprogesterone acetate (DMPA-IM), IUD, or levonorgestrel (LNG) implants in women aged 16-35 years between 2015-2018. Follow-up was carried out for 12-18 months by	The results ($n = 757$) were 21% who stopped using DMPA-IM, 20% who stopped using LNG implants, and 22% who stopped using IUD-Cu. Each group stopped due to bleeding problems. In the end, 58% of women did not choose to use any method and a quarter switched to the male condom method only.	Provision of counselling and quality contraceptive support can increase the use of implants and IUDs on an ongoing basis.

Author and Year	Heading	Method	Result	Recommended interventions
	acetate, a copper intrauterine device or a levonorgestrel implant: Findings from Durban, South Africa	interviewing 829 women about the reasons for stopping contraceptive use.		
(Keogh et al., 2021)	Hormonal contraceptive use in Ghana: the role of method attributes and side effects in method choice and continuation	This research is based on a survey with 4,143 respondents aged 15-49 in 2018. The methods used were descriptive statistics and logistic regression to test the correlation of the use of hormonal methods, preferred methods and their relationship with method choice & the role of side effects in discontinuation of use.	The use of hormonal methods is associated with young age to minimize harm to health and fertility. Menstrual changes are a common concern for the use of hormonal contraceptives.	With the identification of obstacles and facilitators, the use of hormonal contraceptives assisted by counseling needs to be carried out so that women can choose and consider the most suitable hormonal method.
(Hellwig et al., 2022)	The role of female permanent contraception in meeting the demand for family planning in low-and middle-income countries	Exploration of low- and middle-countries. Countries with more than 25% of permanent contraceptive use were further analysed to look at the number of live children and the intersection between the mother's age and the number of live children.	Of the 20 countries studied, 94% used modern methods of contraception. With the number of 2 children still alive in India 79%, El Salvador 61%, Cuba 55%, Colombia 52% and Thailand 51%. The use of permanent contraception in young women with dependence is >30% with an age range of 25-29 years and >50% with an age range of 30-34 years.	This study can be one of the considerations for choosing permanent contraception in family planning in low- and middle-income areas.
(Key et al., 2023)	Challenges accessing contraceptive care and interest in over-	The research team in this study conducted a cross-cutting online survey using convenience sampling to	The total correspondents were 727 people, 37% were hampered by logistical challenges, 20% were hampered by interpersonal	The use of OTC OCP can address contraceptive services for Black, Indigenous, and people of

Author and Year	Heading	Method	Result	Recommended interventions
	the-counter oral contraceptive pill use among Black, Indigenous, and people of color: An online cross-sectional survey	recruit Asian Americans, Native Hawaiians, Pacific Islanders, Black/African Americans, Native Americans, and Latinos who wanted to use contraception or were using contraceptive methods in the past year. With an age range of 13-50 years, the recruitment resonated between May 2021 and March 2022.	challenges. Respondents who did not use contraceptive methods in the past year, they were 57% more likely to use OTC OCP.	color (BIPOC) in the United States who are often exposed to racism and structural injustice.
(Gyllenberg et al., 2021)	Contraceptive priorities among women seeking family planning services in Finland in 2017–2019	Cross-sectional studies to deepen information on birth and abortion history, contraceptive satisfaction and use, and contraceptive methods to be chosen. Correspondents were taken from an abortion family planning clinic in the Finnish city of Helsinki.	The results were 1,006 female respondents with details of 502 in abortion services and 504 in contraceptive counseling. The ratio of women seeking abortion services with a history of abortion is more than women seeking contraceptive counseling 44%: 11%, with the average number of contraceptive methods used previously 69%: 55% (more than 2 methods used previously), less satisfied with the methods used 36%: 60%, $p < 0.001$. Women seeking abortion services tend to have a lower chance of prioritizing effectiveness, and a higher chance of seeking non-hormonal alternatives.	Doctors who provide counseling about contraception should prioritize contraception according to each individual.

Author and Year	Heading	Method	Result	Recommended interventions
(Johnson, 2022)	Health care access and contraceptive use among adult women in the United States in 2017	The study used the 2017 Behavioral Risk Factor Surveillance Survey to determine health services and cost constraints as factors in the status of health insurance and contraceptive use. The use of contraception is measured in three ways, namely binary variables (using vs not using), prescription status and tiered effectiveness. Analysis using StataSE v16.	The existence of insurance allows users to access all categories of contraception and the existence of private health care providers allows the use of any contraception, prescription method and level I and level II methods. Cost is not considered a barrier to obtaining contraceptive use services.	Insurance and healthcare provision are one of the keys to accessing a wide range of contraceptive options.
(Yaron et al., 2023)	Safety and efficacy of a suction cervical stabilizer for intrauterine contraceptive device insertion: Results from a randomized, controlled study	The randomized, prospective, single-blinded study involved women with an age range of ≥ 18 years at two health centers that were already eligible for IUD insertion. The factors measured were pain in patients with a 100-mm Visual Analogue Scale and serious adverse events were used as safety benchmarks.	100 respondents were randomized into 48 intervention groups using Suction cervical stabilizer and 52 control groups. Pain during IUD insertion was not significantly different between the two groups. The success of IUD insertion is 94%. In the intervention group, the average bleeding was 0.336 (range 0.022–2.189) grams and the control group was 1.336 (range 0.201–11.936) grams ($p = 0.03$ for comparison). By misknowing the side effects in the form of bruises and minor bleeding.	Suction cervical stabilizers can be a more massive use option because they are safe and reduce pain in IUD insertion.
(Jonas et al., 2022)	Participation in an HIV prevention intervention and	A cross-sectional survey of young women aged 15-24 years in six districts in South Africa from 2017 to 2018. To	The results were from a sample of 4,399 adolescents, with a response of 60.6%. In the past year, 61.0% reported using condoms and	More intensive intervention trials should focus on young women with an age range of 20-24 years.

Author and Year	Heading	Method	Result	Recommended interventions
	access to and use of contraceptives among young women: A cross sectional analysis in six South African districts	check access, condom use, and other contraceptive devices used cross-tabulation and multivariate regression analysis.	other contraceptives (n = 2685). Of the participants (n = 3009) who had sex with details using condoms by 51% and using other contraceptives by 37.4%. Participation in combination interventions was positively associated with reporting non-condom use (Prevalence Ratio (PR): 1.36; 95% CI: 1.21–1.53) and condom use (PR: 1.45; 95% CI: 1.26–1.68). On the other hand, in participants with an age range of 20-24, it was not found. Reports of condom use in the age range of 15-19 years tend to be low. Young women with HIV are more likely to report using contraceptives other than condoms and dual contraceptives, as well as young women who have been pregnant.	
(Sarayani et al., 2023)	Real-world effect of a potential drug-drug interaction between topiramate and oral contraceptives on unintended pregnancy outcomes	The study was conducted with a retrospective cohort design on the MarketScan Research Database with respondents aged 12-48 years with migrant complaints or chronic headaches while using topiramate and oral contraceptives.	As a result, the use of oral contraceptives + topiramate was 63,649 and the use of oral contraceptives + therapy was 59,012. With an average age of 29.2±9.0 and 29.0±9.3 years, respectively. After analysis of contraceptive failure rates of 1.3 (1.1, 1.6) per 100 person-years on oral contraceptive + topiramate interventions.	Low-dose topiramate use with concomitant oral contraceptive use is not associated with the risk of unwanted pregnancy.

Author and Year	Heading	Method	Result	Recommended interventions
(Tebb et al., 2021)	Improving contraceptive use among Latina adolescents: A cluster-randomized controlled trial evaluating an mHealth application, Health-E You/Salud iTu	This study used cluster-randomized (CRCT) in 18 health schools. Participants received interventions in the form of contraceptive applications and decision-making by answering questions. Participants completed a questionnaire and 3 follow-up surveys (48 hours, 3 and 6 months). Regression models were used to look at differences in knowledge about contraception in adolescents, self-efficacy, and their use.	The results were 57.2% for 48-hour surveys, 50.1% for 3-month surveys, 49.7% for 6-month surveys and 42.3% for 3& 6-month surveys. In the mHealth application, there was an increase before and after in the contraceptive knowledge factor ($p < 0.001$). Participants experienced an average increase in self-efficacy, contraceptive use. Service providers and teens are satisfied with the app.	The Health-E You application is an application that provides effective support for adolescents and at the same time creates an efficient visit time between clients and service providers.

Preferences for the Use of Long-Term Contraceptives

Family planning is a tool to control population growth (Mekonnen & Worku, 2011). Family planning is central to efforts to reduce poverty, encourage economic growth, increase women's productivity, reduce fertility and improve child survival and maternal health. Family planning can prevent maternal mortality by up to 20–35% (Gudaynhe et al., 2014). The long-term family planning method has a low failure rate, is safer and more cost-effective than short-term contraception. Birth control prevents pregnancies of more than one year in a single action without the need for repeated procedures (Teferra & Wondifraw, 2015). Although effective, improving maternal health, reducing population growth and fertility reversibility, the acceptance and utilization of the KBT method is very poor (Gebremichael et al., 2014) (Zenebe et al., 2017). Research reports that adolescents who start long-term reversible contraception after childbirth have a lower chance of experiencing unwanted pregnancies than adolescents who start short-term reversible contraception or who do not use any family planning techniques (Baldwin & Edelman, 2013). The advantages of using long-term contraception method include that it only requires one installation for a long period of time at a relatively low cost, safe, does not affect breast milk production and fertility (Azizah & Nisak, 2018).

According to the National Health Services, the use of contraception depends on the type or stipulation of contraceptive use. However, there are some contraceptives that do not require attention or regular use to function properly, such as contraceptives that are classified as long-active reversible contraceptive (LARC) called long-term contraceptive methods. The requirement to repeat the use of implants and IUDs is 99% of women who use implants and IUDs in a year and for the female operative method or tubectomy is 99% effective where only 1 in 200 women become pregnant during her lifetime after tubectomy is applied, and for vasectomy only 1 in 2000 men can produce sperm again during her lifetime (National Health Service, 2017.).

Unwanted pregnancy is a new problem that needs to be addressed, one of which is the use of contraception. The use of contraception also needs various considerations, one of which is how to access and sort contraception, which is the focus of this literature study. To address the gap in access and contraceptive selection, insurance and service providers should offer counselling on and access to a wide range of contraceptives in their place, proven pharmacist prescriptions for increased contraceptive availability that support the determination of long-term contraceptive use in women, checks on health websites about contraceptive use e.g. on university websites, doctors, and apps such as Health-E You (Tebb et al., 2021); (Manzer & Bell, 2022); (Gomez et al., 2022); (Kakar et al., 2022); (Gyllenberg et al., 2021).

Contraceptives such as the postpartum intrauterine contraceptive device (PPIUCD) are recommended to be used because they are highly effective, reversible and long-term with a failure rate

of less than 1% and do not affect breast milk. Suction cervical stabilizers are also recommended because they can be a more massive use option because they are safe and reduce the pain of IUD insertion. The 13.5 mg IUD LNG can also be used for contraceptive use options with a duration of 2.6 years, close to the indicated use limit of 3 years (Aemro et al., 2022); (Linder et al., 2024); (Yaron et al., 2023).

According to research conducted (Tesfa & Gedamu, 2018) on factors related to the use of long-term family planning methods among women of productive age stated that women's knowledge about long-term family planning, couple discussions about family planning and women's work affect the use of long-term contraceptive methods (6 times, 3 times and 4 times, respectively), besides that monthly household income is also associated with the long-term contraception method. The findings of this study corroborate the findings of (Pardosi et al., 2021) in their research that the relationship between parity, age, knowledge, type of contraceptives, husband support, counseling and exposure to information media with the selection of the long-term contraception method affects the interest of pregnant women in choosing postpartum contraceptives with long-term contraceptive methods. Similar research conducted by (Handebo, 2021) (Handebo, 2021); (Sato et al., 2020) stated that the choice of contraceptives is influenced by the low level of knowledge about the choice of contraceptive methods, which is influenced by various factors, such as maternal age, place of residence, financial status, media exposure, internet use, marital status, education, employment status, access to health facilities, and access to contraceptives. Misperception of contraceptives according to (Boadu, 2022) is a significant public health problem, and it affects the prevalence of access to and use of contraceptives in sub-Saharan Africa, which is still very low. The researchers hypothesized that respondents' level of knowledge of IUD would predict whether they would choose to use IUD. Preference shows the level of consumer preference for a product, which means that consumers are satisfied with the product. In this case, it is the level of acceptor's preference for contraceptive satisfaction

CONCLUSION

It can be concluded that education about contraception needs to be carried out by providing counseling, both by doctors, pharmacists, insurance companies, and access to health websites and applications that can be used, for example Health-E You. In addition, the recommended contraceptives such as postpartum intrauterine contraceptive device (PPIUCD), IUD LNG 13.5 mg, and the use of suction cervical stabilizer at the time of IUD insertion

Conflict of Interest

No potential conflict of interest was reported by the authors

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