

# Effectiveness of Educational Interventions on Women's Knowledge and Use of Contraception: A Scoping Review

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**Abstract:** Contraception is one of the means to prevent unwanted pregnancies and to ensure good health outcomes in both mother and baby. Good knowledge of contraception has been associated with proper and effective use of contraceptive methods, which in turn prevents the incidence of unintended pregnancy and abortion.

**Aim:** To determine the effectiveness of educational interventions for improving knowledge and/or use concerning contraception in women of reproductive age.

**Methods:** A scope review of all articles related to contraceptive education, knowledge and use. The search strategy including data base such as: ProQuest, CINAHL and Medline. Grey literature also searched as Google Scholar. The search was conducted over the last three years. All the included studies were critically appraised using Hawker et al. tool. After the selection process, 9 studies matching the inclusion criteria identified and were incorporated in the review.

**Results:** The literature review content categorized into three themes: effect of contraceptive education on knowledge, effect of contraceptive education on use and factors associated with utilization of modern contraception; and the most common among them was effect of contraceptive education on use of contraception.

**Conclusion:** This review provides clear evidence that a wide range of educational tools can effectively increase client knowledge and use of contraception. Future studies should assess what aspects of educational interventions are most effective in changing women's fertility behavior.

**Keywords:** Birth control, contraceptive counseling, contraceptive education, contraception knowledge, contraception use, family planning, women.

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## 1. INTRODUCTION

An unwanted pregnancy may lead to an induced abortion. Abortion outside the medical setting is one of the most dangerous consequences of unwanted pregnancy. Contraception is one of the means to prevent unwanted pregnancies and to ensure good health outcomes in both mother and baby (Coomson & Manu, 2019).

Contraception is defined as the prevention of conception by methods other than abstinence from coitus (Ibrahim et al., 2015). Diverse methods of contraceptives exist, each with its own advantages and disadvantages. An ideal contraceptive should be effective, forgettable, reversible, convenient, simple, cheap and safe (Ibrahim et al., 2015).

Good knowledge of contraception has been associated with proper and effective use of contraceptive methods (Gosavi et al., 2016). As a result, the correct use of contraception can prevent unintended pregnancies, unsafe abortions, and sexually transmitted infections, including HIV (Ayub et al., 2015).

By promoting contraceptive counseling, accurate information of different contraceptive types and use will be provided and misconceptions about risks will be dispelled (Kaewkiattikun, 2017). Therefore, this review sought to determine the effectiveness of educational interventions for improving knowledge and/or use concerning contraception in women of reproductive age.

### AIM

To determine the effectiveness of educational interventions for improving knowledge and/or use concerning contraception in women of reproductive age.

**PICOT Question**

In women of reproductive age, how do educational interventions compared to no educational interventions affect women's knowledge and use of contraception?

**2. METHODS**

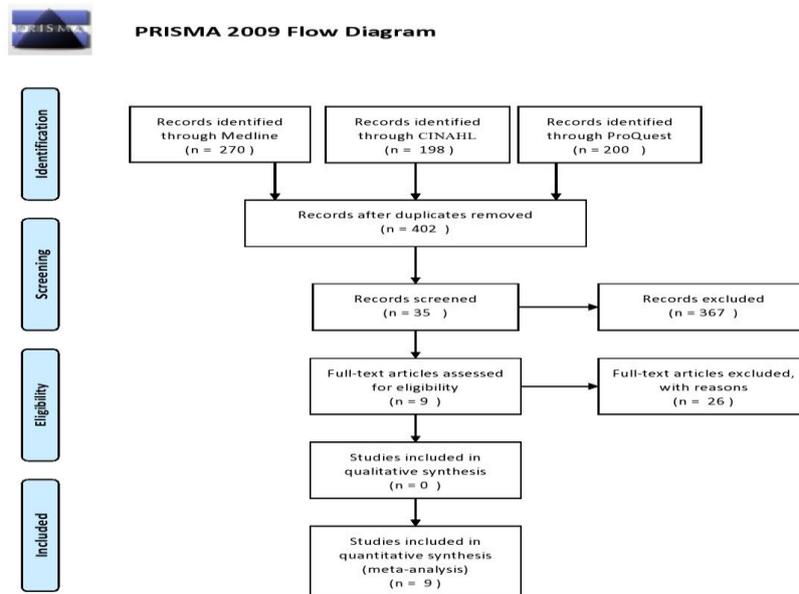
This review was guided by Preferred Reporting Items for Systematic Reviews and Meta -Analysis (PRISMA) guidelines (Moher et al., 2009). The review focused on studies that had met the same inclusion and exclusion criteria. The inclusion criteria for this review included: full text articles which were published between 2014 to 2019, in English language, which studies the effect of contraceptive education on contraceptive knowledge and use. While the exclusion criteria encompassed studies in other language than English language, and studies that are not relevant to our topic. The initial studies identified were of quantitative design and all met the inclusion criteria.

**3. SEARCH STRATEGY**

A review of the literature was conducted using different databases including: CINAHL, Medline and ProQuest through the Saudi Digital library database. The electronic search was completed on December 28, 2019, resulting in a total of 668 records. 198 was founded in CINAHL and 270 was founded in Medline. The remain, 200 studies extracted from ProQuest. Search terms included contraceptive education, contraceptive counseling, contraceptive knowledge, contraception use, family planning, birth control, women.

Search limits were applied and they included: year of publication, which was searched from 2014 to 2019, English language and full text. After the duplicate articles were removed, the remaining 402 articles were screened by title which then resulted in 36 potentially relevant articles based on the abstract and full-text electronic copy availability.

The researcher then reviewed each of the 35 articles using the exclusion and inclusion criteria. Articles were excluded if their primary focus was not contraceptive counseling or education. The final number of articles included in the review was 9 articles: with 2 article retrieved from CINAHL, 2 articles from Medline, and 5 articles from ProQuest (Refer to Figure number 1 for details).



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit [www.prisma-statement.org](http://www.prisma-statement.org).

**Fig.1: Study selection process**

#### 4. FINDINGS/RESULTS

A Summarization of our report by thematic analysis into categorizes first theme is discussing the effect of contraceptive education on woman knowledge of contraception. Second theme is discussing the effect of contraceptive education on woman use of contraception. Third theme is discussing factors associated with utilization of modern contraception. For each themes and sub themes a study discussion is commenced distinctly.

##### I. Effect of contraceptive education on woman knowledge of contraception:

Good knowledge of contraception has been associated with increased use of contraceptive methods, which in turn decreases the incidence of unintended pregnancy and abortion (Gosavi et al., 2016). Thus, some studies has examined the effect of contraceptive education on knowledge (Akamike et al., 2019; Chandrasekhar et al., 2018) .

In Nigeria, A quasi-experimental study conducted on 484 women aged 15 to 49 years. The study aimed to examine e the effect of Community awareness campaign; distribution of information, education communication (IEC) materials on awareness and use of modern contraceptives (Akamike et al., 2019). Intervention group in this study is women from rural areas while control group is women from urban areas. The study concluded that community mobilization have significantly raised the level of awareness and use of modern family planning methods among study population (Akamike et al., 2019).

Likewise, in a quasi experimental study (one group pretest- posttest design) conducted in India among 140 women in the age group 15-45 (Chandrasekhar et al., 2018). Study population received counselling sessions and classes including various family planning methods, and researcher had assessed level of knowledge of participants before and after the intervention. Results revealed that Counseling sessions and classes had great impact in improving knowledge of rural women regarding the modern family planning methods (Chandrasekhar et al., 2018).

##### II. Effect of contraceptive education on woman use of contraception:

Contraceptive utilization is a key predictor in preventing unwanted pregnancies, reducing maternal and child mortality, and improving the lives of women and their families. In addition, it is critical in achieving towards the 2030 Sustainable Development Goals (SDGs) (Abraha et al., 2018).

Many studies had focused on examining the effect of educational interventions on the use of contraceptive methods (Harrington et al., 2019;Kaewkiattikun, 2017; He et al., 2017; Pradhan et al., 2019). In these studies, it was found that education has significant effect on increasing use of contraception methods.

A randomized controlled trial study carried out, by Harrington and colleagues, from Kenya on 463 participants to assess the effect of 2-way short message service (SMS) on postpartum contraceptive use among individual women and couples (Harrington et al., 2019). The study demonstrated that two-way SMS messages, were associated with increased use of contraceptive during postpartum period(Harrington et al., 2019).

In 2017, Kaewkiattikun conducted a randomized controlled trial in Thailand on 233 postpartum adolescents. The study aim was to compare long-acting reversible contraceptive (LARC) use between immediate and conventional postpartum contraceptive counseling (Kaewkiattikun, 2017). He has found that Immediate postpartum contraceptive counselling have significant effect on increasing LARC use in postpartum adolescent , in comparison with conventional postpartum counselling (Kaewkiattikun, 2017).

Furthermore, a clustered randomized controlled trial conducted on 901 nulliparous women aged 18–40 years in China. The study conducted to evaluate the effects of two community intervention models on modifying contraceptive attitudes and behaviors among nulliparous women (He et al., 2017). New community- based intervention model (NC) include providing contraceptive counseling services, two-day health lectures on the reproductive health knowledge, contraceptive guideline and contraceptive resource, group education and distribution of educational booklet about natural and modern contraceptives. On the other hand traditional community intervention model (TC) include basic reproductive and contraceptive services. The study showed that the NC model have raised the rates of the use of contraceptive methods in the intervention group (He et al., 2017).

In 2019, another clustered randomized controlled trial conducted by Pradhan and colleagues from Nepal on 75,566 pregnant women who visited the hospital for antenatal care or delivery services (Pradhan et al., 2019). The study aimed to examine the impact of integrating postpartum contraceptive counseling and immediate postpartum intra-uterine device insertion services on unmet need for family planning. The intervention group of the study received family planning counselling and leaflets while control group received standard care. Results of the study revealed significant increase in the use of intrauterine device during postpartum period (Pradhan et al., 2019).

### III. Factors associated with utilization of modern contraception:

Utilization of modern contraceptive methods is one of the cornerstones in the fight against maternal, infant and neonatal morbi-mortality. It reduces the need for abortion, especially unsafe abortion (Njotang et al., 2017). Thus, many studies had concerns about factors associated with use of contraception ((Berta, Feleke, Abate, Worku, & Gebrecherkos, 2018; Coomson & Manu, 2019; Negeso Gebeyehu, Abebe Alemu, & Dinsa, 2019) .

In 2018, a cross-sectional study conducted in Ethiopia by Berta and colleagues on 404 postpartum women. The study revealed that menses returning after birth, resumption of sex, husband approval of contraceptive and knowledge on contraceptive use were factors associated with contraception use (Berta et al., 2018).

Similarly, a cross-sectional study with a sample that consists of 320 postpartum women, conducted in Ghana to explore factors associated with the use of contraception (Coomson & Manu, 2019). The study found that past modern contraceptive use, resumption of sexual activity and menstruation, male partner involvement in contraception, family planning counselling during antenatal care and knowledge of the modern methods of contraception available are factors influence modern contraceptive use (Coomson & Manu, 2019).

Furthermore, Gebeyehu, Alemu and Dinsa conducted a cross-sectional study on 368 postpartum women in Ethiopia and the study aim was to determine postpartum modern contraceptive use and associated factors (Negeso Gebeyehu et al., 2019). The study concluded that educational status of mothers, resumption of sex, menses resumption and duration of postpartum period were factors significantly associated with postpartum modern contraceptive use (Negeso Gebeyehu et al., 2019).

## 5. CONCLUSION

This systematic review provides clear evidence that a wide range of educational tools can effectively increase client knowledge and use of contraception. In addition, this review showed that resumption of sexual activity and menstruation and husband approval of contraception are factors associated with utilization of modern contraception. Unfortunately, no evidence is provided for the impact of educational interventions on client comfort with using contraception or the development of attitudes toward contraceptive methods. Future studies should assess the impact of educational interventions on client comfort with using contraception.

### LIMITATIONS

In this scope review most of the recent studies are literature reviewed. In addition, most of our literature found in Africa and South Asia. Unfortunately, studies are lacking in Saudi Arabia.

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Appendix A: Data Extraction Table/ Review Matrix

NO	Study reference (Author/s, year of publication) Country of study	Study objective	Study design	Total sample and type of participants	Intervention group	Control/ placebo/ comparison group	Main finding
1	Harrington ElizabethK, Drake Alison, Matemo Daniel, Ronen Keshet, Osoti Alfred, John-Stewart Grace, John Kinuthia & Unger, Jennifer A. (2019). Kenya	To assess the effect of 2-way short message service (SMS) with a nurse on postpartum contraceptive use among individual women and couples.	A randomized controlled trial	360 women and 103 male partners. <b>Type of participants</b> individual pregnant women and couples.	Automated family planning-focused SMS messages weekly until 6 months postpartum with option to include male partner	Without SMS messages	Two-way SMS messages with optional male participation, were associated with increased use of contraceptive during postpartum period.
2	Kaewkiattikun Kasemsis. (2017). Thailand	To compare long-acting reversible contraceptive use between immediate and conventional postpartum contraceptive counseling and discover predictive factors of postpartum LARC use	Prospective, randomized controlled trial	233 <b>Type of participants</b> postpartum adolescents	Received immediate contraceptive counselling	Received conventional contraceptive counselling At 4-6 weeks postpartum	Immediate postpartum contraceptive counselling have significant effect on increasing LARC use in postpartum adolescent, in comparison with conventional postpartum counselling.
3	He Yuan, Zhang Ning, Wang Jue, He Na, Du Yan, Ding Jing-Xin, Ying Zhang, Xiao-Tian, Jian Huang & Hua Ke-Qin . (2017). China	To evaluate the effects of two community intervention models on modifying contraceptive attitudes and behaviors among nulliparous women.	Clustered randomized controlled trial	901 <b>Type of participants</b> nulliparous women aged 18-40 years from 18 communities	Received new community-based intervention model (NC model), which include: Distribution of a 48-page booklet entitled The Reproductive Health Handbook to each participant (mainly include modern and natural contraceptive methods). (ii) Providing counseling services which include The contraceptive methods, side effects of different contraception and how to handle the problem (iii) Two-day health lectures on the reproductive health knowledge, contraceptive guideline, contraceptive resource. (iv) Four-hour group education, including contraceptive information.	Received traditional community intervention model Which include (i) provision of information through group education; (ii) free training for community doctors (1-2 times training about professional skills); (iii) basic reproductive and contraceptive services	the NC model have raised the rates of the use of contraceptive methods, but it had limited effect on the use of effective contraceptives.
4	Pradhan Elina, Canning David, Shah Iqbal H, Puri Mahesh, Pearson Erin, Thapa Kusum, Lata Bajracharya, Manju Maharjan, Dev C. Maharjan, Ganga Shakya & Chaudhary Pushpa. (2019). Nepal	To examine the impact of integrating postpartum contraceptive counseling and immediate postpartum intra-uterine device insertion services on unmet need for family planning	Stepped-wedge cluster randomized design	75,566 <b>Type of participants</b> pregnant women who visited the hospital for antenatal care or delivery services	Received family planning counselling Postpartum family planning leaflets	Received standard care	The intervention resulted in increased counselling on contraceptive methods and PPIUD uptake.

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5	Akamike Ifeyinwa Chizoba, Okedo-Alex Ijeoma Ni, Madubueze Ugochukwu Chinyem & Umeokonkwo Chukwuma David (2019). Nigeria	To Examine e the effect of community mobilization on awareness, approval and use of family planning among women of reproductive age in the rural areas of Nigeria	Quasi-experimental study	484 <b>Type of participants</b> women aged 15 to 49 years	Community awareness campaign; distribution of information, education communication (IEC) materials. 242 from rural area which served as the intervention site	Community awareness campaign; distribution of information, education communication (IEC) materials. 242 from urban as the control site	Community mobilization have significantly raised the level of knowledge and use of modern family planning methods
6	Chandrasekhar Dilip, Shaji Aswathi, Jose Adra Mariet, Asifa Abdul Kareem, & Thomas Levin (2018). India	To evaluate the effectiveness of pharmacist intervention in Family Planning, Maternal Care and Child Care among rural women.	Quasi experimental study	140 <b>Type of participants</b> women in the age group 15-45	Received counselling sessions and classes including various family planning methods	-	Counselling sessions and classes had great impact in improving knowledge of rural women regarding the modern family planning methods.
7	Berta Marta, Feleke Amsalu, Abate Tatek, Worku Temesgen, & Gebrecherkos Teklay. (2018). Ethiopia	To assess utilization and associated factors of modern contraceptives during extended postpartum period.	Cross-sectional survey	404 <b>Type of participants</b> postpartum women	-	-	Contraceptive use in the postpartum period is influenced by factors such as menses returning after birth, resumption of sex, husband approval of contraceptive and current on knowledge contraceptive use.
8	Coomson Jonathan Ian, & Manu Abubakar. (2019). Ghana	To determine the prevalence and determinants of modern contraceptive use among postpartum women in the Tema Metropolis, Ghana	Cross-sectional survey	320 <b>Type of participants</b> postpartum women with babies aged between three and 15 months	-	-	Factors that influence postpartum modern contraceptive uptake among include past modern contraceptive use, resumption of sexual activity and menstruation, male partner involvement in contraception, family planning counselling during antenatal care and knowledge of the modern methods of contraception available at the health facility
9	Gejo Negeso Gebeyehu, Anshebo Abebe Alemu, Dinsa Leta Hinkosa . (2019). Ethiopia	To determine postpartum modern contraceptive use and associated factors in Hossana town, Hadiya zone, Southern nation nationalities peoples region, Ethiopia.	Cross-sectional study	368 <b>Type of participants</b> Postpartum women	-	-	Factors that are associated with postpartum modern contraceptive use include educational status of mothers, resumption of sex, menses resumption and duration of postpartum period.