

Factors influencing contraception choice and use among women of reproductive age in the LMICs of the South Asia region: A scoping review

FINAL

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Table of Contents

ABSTRACT	2
INTRODUCTION	3
OBJECTIVES	4
CONCEPTUAL FRAMEWORK	5
METHOD	6
INCLUSION CRITERIA:	6
EXCLUSION CRITERIA:	6
STUDY DESIGN	7
RESEARCH QUESTION	7
SEARCH AND REVIEW STRATEGY	7
STUDY FINDINGS	9
RESULTS	11
DISCUSSION	20
LIMITATIONS	21
RECOMMENDATIONS FOR FUTURE RESEARCH	21
CONCLUSION	22
REFERENCES	23
ANNEX -1	26
ANNEX -2	27
ANNEX-3	28
ANNEX -4	29
ANNEX -5	31
ANNEX - 6	34
Figure 0-1 conceptual framework	5
Figure 0-1 Year of publications	9
Figure 0-2 Map of LMICs of South Asian countries (Context)	10
Figure 0-3 Prisma Flow Chart	11
Table 1 Operational Definition	6
Table 2 The population, concept, and context framework	7
Table 3 Findings from literature	15
Table 4 Key Findings	16
Table 5 Key terms and searches	27
Table 6 Title and abstract relevance screening tool	28
Table 7 Data Extraction Chart	34

Abstract

Introduction:

Contraception is an important factor in determining the reproductive health and well-being of women in low- and middle-income countries (LMICs). Women in these countries often face barriers to accessing contraception, including cultural and societal barriers, lack of awareness about available options, and lack of access to health facilities. As a result, many women in LMICs are unable to make informed decisions about the type of contraceptive method that is best suited to their needs and circumstances. In this study, our aim is to provide an overview of the available evidences of the factors influencing contraception choice and use among women of reproductive age (15-49 years) in LMICs of the South Asia region.

Methods:

We conducted a scoping review. We searched for articles from the following databases: PubMed, Springer, and Google Scholar. The studies that were considered for the review were published between the years 2012 and 2022. To report our screening results, we followed the guidelines of the PCC framework and the PRISMA chart. The results of the searched databases were transferred to a standard systematic review software (Rayyan) for further management to determine the quality of the included studies and screening was done following pre-determined criteria and two independent reviewers participated in the process.

Results:

Our title screening search criteria identified a total of 275 articles. Only 14 studies matched our inclusion criteria and were included in the quality assessment stage. We found how the knowledge, sociocultural factors, partner involvement, and health facilities related to access to contraceptive methods are whether or not associated with the use and choice of contraceptive methods and their common reason for discontinuation of contraceptive methods.

Conclusion:

There is still a need to enhance educational programs, enhance access to a range of contraceptive options and address the barriers that prevent women from making informed decisions to enhance the health and overall well-being of women living in the South Asian region of LMICs.

Keywords: contraceptive use, contraceptive choice, common reason for discontinuation of contraception, South Asia, LMICs

Introduction

Contraception is the intentional avoidance of conception through the use of several tools like sexual behaviors, substances, medications, or surgical techniques, that's why contraceptive can be defined as any method or tool used to prevent a woman from getting pregnant (Jain & Muralidhar, 2011). According to estimates, 222 million women worldwide who live in developing nations would prefer to put off or stop having children but do not utilize any form of contraception and the main causes of this difference are restrictions based on gender, a lack of options for methods, access to contraception, the terror of side effects, cultural or religious disapproval, resistance to accessible services (Who, 2013). The use of contraceptive methods has so many benefits for the family, many scientists discovered that pregnancy-related complications and deaths could be avoided, additionally, using contraceptives like condoms can help prevent the spread of STDs like HIV and hormonal contraceptives can also help with pain and irregular bleeding associated with a woman's period (Hossain et al., 2018).

Maternal mortality among women between the ages of 15 and 49 accounts for 99% of all deaths worldwide, with LMICs countries taking on the majority of this burden (WHO, 2015). Every year, 21 million unsafe abortions are performed, largely in developing nations, and this startling number results in 47,000 maternal deaths, If knowledge of family planning and contraception was available and used, many of these deaths could be avoided (WHO, 2013). Modern forms of birth control, such as male and female sterilization, intrauterine devices, implants, injections, oral contraceptives, and spermicides, are significantly more effective at avoiding pregnancy compared to older techniques like the withdrawal method and calendar-based methods of abstinence (Singh & Darroch, 2012). Contraceptives provide numerous benefits to women's health, including improved outcomes for the children and also for their mother, they can help extend the time between pregnancies, which is especially important in developing countries where closely spaced pregnancies carry a higher risk of a negative outcome (Cleland et al., 2012). The low usage of modern contraception methods, despite a growing selection, indicates a need to improve family planning (FP) services in terms of quality, accessibility, and availability. The utilization and adoption rates of birth control methods can serve as an indicator of the effectiveness of family planning services in catering to the needs of female and male partners (Begum et al., 2021). Unintended births might decrease by an estimated 75% and maternal fatalities could decrease by a third in low-income areas if every unmet demand for contraception were met (Ahmed et al, 2012). In many LMICs, the availability and usage of birth control are limited, due to a complex interplay of factors such as socioeconomic conditions and cultural norms. Despite this, there remains a significant demand for family planning services, as evidenced by the high percentage of women who desire to delay or limit pregnancy but do not have access to effective contraceptive methods (Wulifan et al., 2016).

Women must have the capacity to decide whether to use contraception and the freedom to access their chosen method in order for contraception to be used effectively (James-Hawkins & Broaddus, 2016). Unmet need does not imply a lack of Family Planning services because it also implies that women lack information about the accessibility of services, lack of confidence, and aren't empowered enough to decide to use services (Pradhan & Dwivedi, 2015). The implementation of birth control measures has been shown to significantly reduce maternal mortality rates. In the year 2008, the use of contraceptives prevented 40% of

maternal deaths that were caused by unintended pregnancies. Many young women, particularly adolescents, report misconceptions about the potential negative impacts of contraceptive methods on their health and fertility as significant barriers to using these methods, which misconceptions include concerns about both short-term side effects and long-term effects on their ability to have children in the future. And this can make it difficult for these women to make informed decisions about their reproductive health and may prevent them from accessing the contraception options that would best meet their needs (Chandra-Mouli et al., 2014). Furthermore, if all women in developing countries who desired to avoid pregnancy had access to and utilized an effective contraceptive method, there could be a 30% reduction in maternal deaths (Cleland et al., 2012). Unfortunately, there is still a high level of unmet need for modern forms of contraception in women living in LMICs, specifically in regions such as South Asia, Sub-Saharan Africa, and Southeast Asia (MacQuarrie, 2014). Upadhyay et al (2014) found that when women are given the ability to choose their own method of birth control, it leads to fewer unintended pregnancies, longer gaps between pregnancies, and a decrease in overall fertility. But the prevalence of contraception use also differs with the belief of religion, other cultural trends being able to lower it; for instance, use of the contraceptive method was found to differ noticeably by religion, with Muslim women using contraception 16% less commonly than non-Muslim women (Hossain et al. 2018). One of the effective methods for reducing the rate of unintended pregnancies may be to include women's partners in family planning services (Kavanaugh et al., 2012). The cause of discontinuance contraception of in women varies depending on the kind of technique, one of the most common causes for discontinuation among oral pill users is side effects or health-related concerns (19.7%), and users of rhythm methods report the least (3.5%) (Sato et al., 2020).

The proposed scoping review is a broad examination of a wide range of factors related to contraception use and choice among women of reproductive age (15-49) in low- and middle-income countries (LMICs) of the South Asia region. The study aims to gather information on the current use and choice of contraception methods among women in these countries, as well as identify any factors that may be associated with the use, discontinuation or barriers to access of these methods. Furthermore, the review will be searching for any gaps or inadequacies in current information, policies, programs, and research related to contraception in the region. The overall goal of the review is to provide recommendations for future actions and interventions that can improve access to and use of contraception among women of reproductive age in LMICs of the South Asia region.

Objectives

General objective: To provide an overview of the available evidences of the factors influencing contraception choice and use among the women of reproductive age (15-49 years) in LMICs of the South Asia region.

Specific objectives:

To explore the factors associated with the choice of women in contraceptive methods among women of reproductive age in LMICs of the South Asia region.

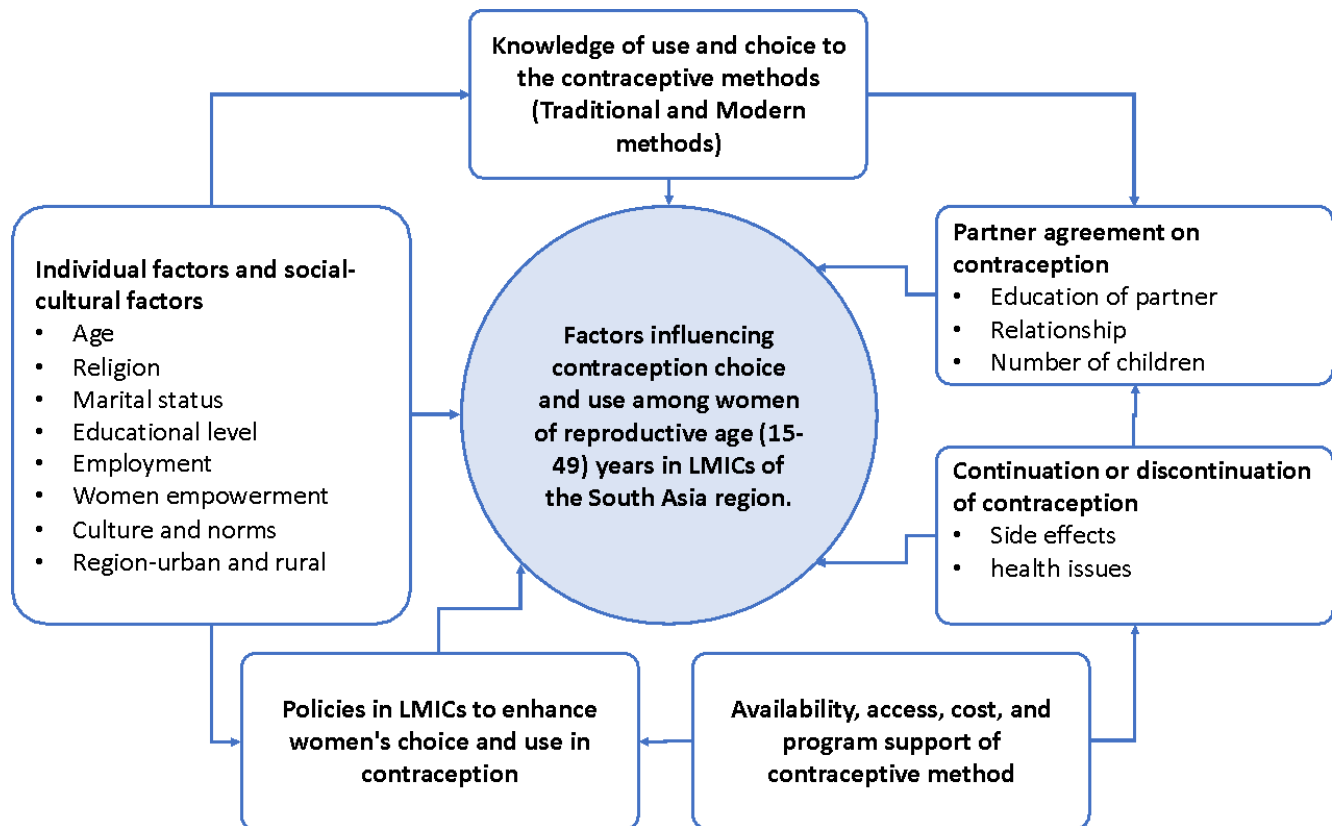
To explore the factors associated with the use of contraception among women of reproductive age in LMICs of the South Asia region.

To explore to know the common reasons for the discontinuation of contraception among women of reproductive age in LMICs of the South Asia region.

Conceptual Framework

This conceptual framework outlines all the key factors that are relevant to the topic. There are various elements that can have an impact on the subject being studied. There are a number of factors that can influence contraception choice and use among women of reproductive age (15-49) in LMICs in the South Asia region.

Figure 0-1 conceptual framework



A woman's individual appearances, such as her age, education level, and economic status, employment status, and access to healthcare can impact her ability to obtain and use and choice of contraceptives. Also, woman's cultural and religious beliefs can influence her views on contraception and her willingness to use it. A woman's relationship with her partner, including her level of communication and decision-making power, if a woman's partner is opposed to contraception or does not support her use of it, can affect her ability to use contraception consistently. So their relationship status and educational qualification of that partner. Also, the number of children should be associated with choice and use of contraception. A woman's knowledge about contraceptives and her attitudes towards their use can impact her decision to use them. In the conceptual framework, availability, access, cost, and program support can all impact the contraception choices and use of women of reproductive age LMICs in the South Asia region. For example, if there are few contraception options available or if they are difficult to obtain, women may be less likely to use them. Similarly, if contraception is costly or not covered by programs or services, women may be

unable to afford it. On the other hand, if there is a range of contraception options available, they are accessible and affordable, and there is strong program support for their use, women may be more likely to use contraception consistently. Women also consider their use and choice of Contraceptive methods according to side effects and health issues. Lastly, the policies surrounding the use of contraception can greatly influence the selection and utilization of birth control methods. Therefore, it is crucial to take into account all of the aforementioned factors when developing interventions to enhance contraceptive use in the South Asia region.

Operational Definition

Outlines the operational definitions that will be used for this scoping review given in the table

Table 1 Operational Definition

Key terms	Operational definitions
Low and middle-income Countries (LMICs) in South Asian region	low- and middle-income countries in South Asian region according to the World Bank country classification as at the Effective Date in. Listed countries are- Afghanistan, India, Pakistan, Bangladesh, Maldives, Sri Lanka, Bhutan and Nepal
Contraception	Any contraceptive methods (traditional and modern)
Women in reproductive age	Women who are aged (15-49)

Method

A scoping study was carried out in order to find, collate, and summarize studies on this topic from LMICs of the South Asian region. This is a valuable method for analyzing how this study on a certain issue is shown across contexts, clarifying ideas of awareness, and revealing knowledge gaps that prompt specific questions for additional research (Munn et al,2018). This paper focuses on describing the research examining the factors influencing contraception use and choice among women of reproductive age (15-49) in LMICs of the South Asian region.

Inclusion criteria:

Articles related to Contraception of women of reproductive age (15-49) in LMICs of the South Asia region.

Articles are written in the English language

Articles in full-text peer-reviewed journals or articles using any study methodology, design, sample size, and interventions.

Peer-reviewed articles published, and studies conducted from 2012–2022, from recent studies of the last 10 years.

Exclusion criteria:

Articles that do not fulfill the inclusion criteria.

Articles and references are written in languages other than English.

Articles whose abstracts and/or full-text versions are not available or cannot be retrieved.

Any review articles like systematic review and scoping review.

Articles that include special groups like women of a specific profession, women with any diseases and disabilities, and women in specific group like tribal

Study Design

We followed the checklist of Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping reviews (PRISMA-ScR) to report this study’s findings.

Research Question

What are the available evidences on the factors influencing contraception choice and use among the women of reproductive age (15-49) in LMICs of the South Asia region? Annex -1

The eligibility criteria for potential articles to address the research question were determined using the population concept context (PCC) framework, as depicted in Table 2 The population, concept, and context framework.

Table 2 The population, concept, and context framework

Criteria	Determinant
Population	(1) Women of reproductive age (15-49 years) (2) Women of reproductive age in in LMICs of the South Asia region.
Concept	1. Studies presenting evidence on contraceptive use. 2. Studies presenting evidence of the choice of contraceptive methods. 3. Studies presenting evidence of common reasons for discontinuation of contraception.
Context:	LMICs of the South Asia region. Bangladesh <ul style="list-style-type: none"> • Pakistan • India • Sri Lanka, • Bhutan • Nepal • Afghanistan

Search and review strategy

PubMed, Springer, and Google scholar were systematically searched to retrieve relevant articles. presents key terms used for the literature search. Annex - We combined keywords using Boolean operators: ‘OR’ and ‘AND’. In combining synonyms, the ‘OR’ operator was used between the terms whiles the ‘AND’ operator was used to combine different terms. For example, one search strategy was: Women in reproductive age (15-49) AND 'Contraceptive

use' AND 'Contraceptive choice' AND LMICs AND 'South Asia region' AND 'Common reason for discontinuation of contraception' OR Bangladesh OR India OR Bhutan OR Pakistan OR Afghanistan OR Sri Lanka Or Nepal. For PubMed, we also conducted a search utilizing all specified Medical Subject Headings (MeSH) terms.

Eligibility criteria

The review included peer-reviewed primary and secondary studies except any review articles published between 2012–2022 on contraception choice and use among women of reproductive age (15-49 years) in LMICs of the South Asia region. Studies published within the last ten years were selected to know the recent situation in this aspect. This included studies published in English whose population were women of reproductive age in LMICs countries of the South Asian region. The studies were identified from three main databases, namely; PubMed, Springer, and Google Scholar. Annex -

Study Selection

The results of the searched databases were transferred to a standard systematic review software (Rayyan) for further management. Initially, an independent reviewer conducted the title screening and duplicate deletion (Annex-) Two reviewers independently went through the titles, and abstracts among all articles and applied the inclusion and exclusion criteria. All disputes among them were resolved by discussing with the principal reviewer. All articles after the first screening was recovered in full text and uploaded to the software. (Annex -) Similarly, the second screening was done again by two reviewers by going through the full articles and again the disputes were resolved by discussion. The next steps were data extraction and charting with pre-formed formats for summarization and charting.

Data Charting and extraction

A data charting form was created to assist in identifying the appropriate variables to be extracted for addressing the research question of the study. This form will chart the following study characteristics and data: The data extraction tool contained information on the authors and year of publication, aim of the study, design of the study, study area (country), sample size (n), study population, and objectives, and key findings. The data extraction chart was tested by two independent reviewers, and the studies were finalized with re-fined as needed. Annex -

Data Analysis

The results of the scoping review analyzed presented thematically under broader themes in tabular form with separate tables for findings on the use and choice of contraception in the reproductive age of women in LMICs of the South Asia region. Where numerical data is available. Key findings will be summarized from each table identifying commonalities and differences. The final report will include a thematic overview of the findings in a summarized

way indicating the current state and gaps in the respective issue in the alignment of the study on objectives.

Patient and Public involvement

This review is a broad examination of a topic that does not involve any human or animal participants. Ethics approval and consent to participate were not applicable.

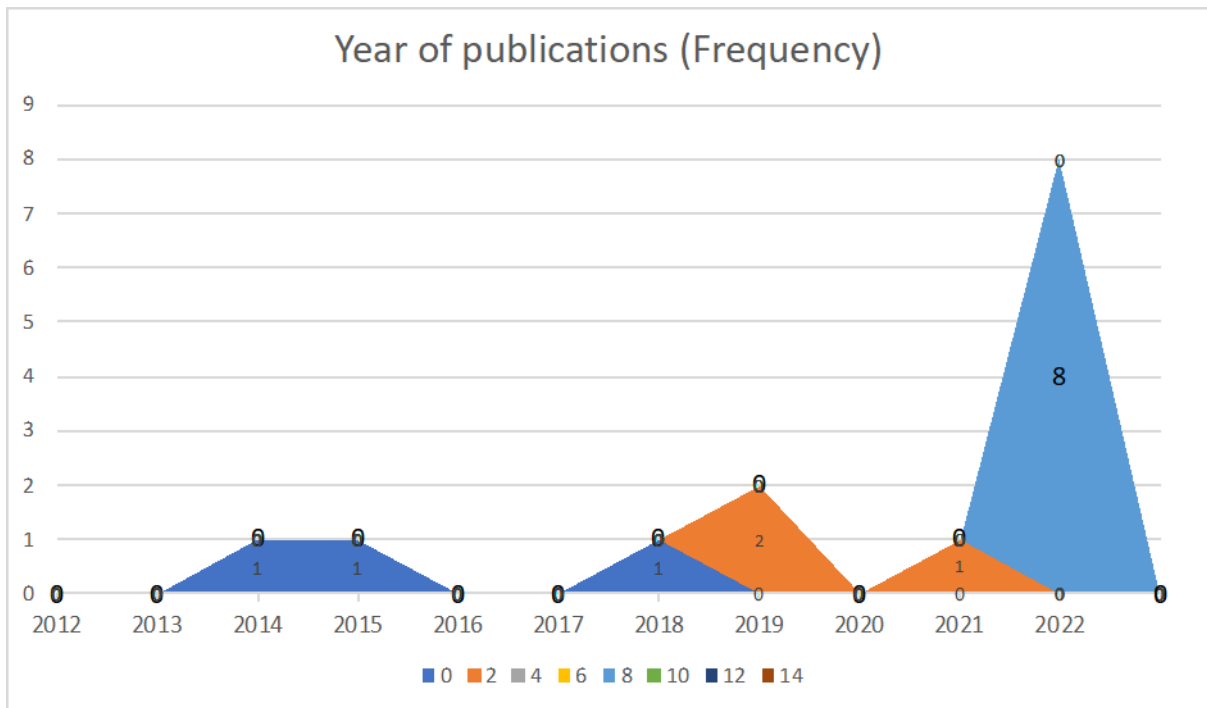
Study findings

As shown in Figure 0-1 conceptual framework, Only 14 studies which met our inclusion criteria and were included for the analysis and quality assessment stage out of 275 articles, which were identified by our search criteria for article screening. After the search from databases, information about all the searched articles was downloaded in CSV files and those files were uploaded to Rayyan which is a standard systematic review software. Only 6 articles were removed as they were detected as duplicates and further it was checked again for removal. We eliminated 241 articles from our study during the title and abstract screening stage by using specific exclusion criteria (i.e., those which are not about LMICs of the South Asian region). Of the remaining 28 articles, every full-text article was read and 14 were excluded, among those six studies were excluded for wrong content, one study was a wrong context paper, and other studies were about the wrong population. Through a comprehensive data search and after reviewing it was identified a group of 14 papers that are relevant to this study's objectives. In order to ensure the study of all the papers is based on the most appropriate and relevant sources of information, it is important to consider the inclusion and exclusion criteria during the literature search process, which was done during the selection of full-text articles. These papers were found to assess their quality and relevance to this study.

Characteristics of Included Studies

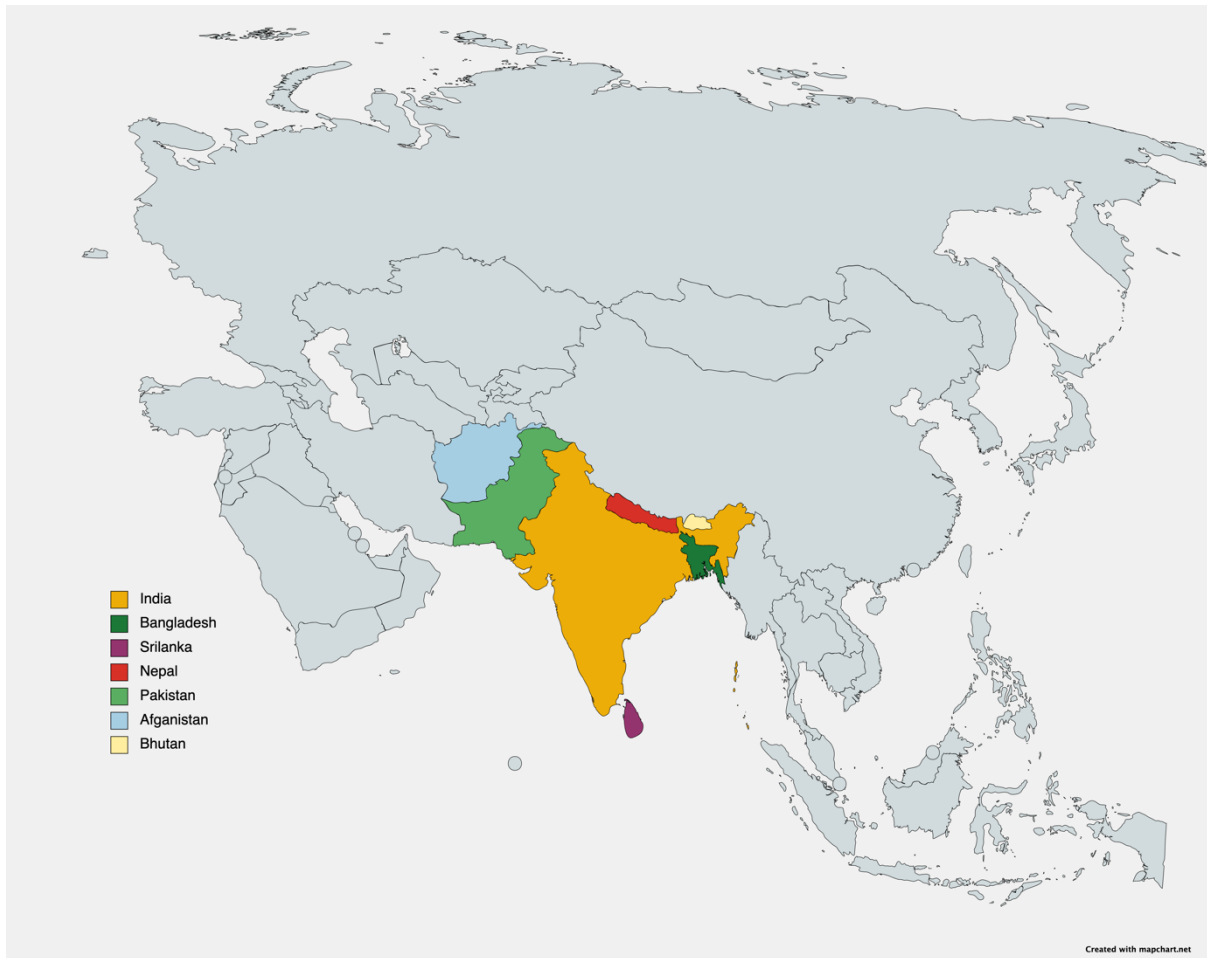
The PCC framework is shown in Table 2 The population, concept, and context framework. The operational definition of the studies that are included is shown in Table 1 Operational Definition. All the qualified studies were published from the year 2012 to 2022.

Figure 0-1 Year of publications



At least 6 studies did not mention any specific country individually but instead referred to a group of countries in the South Asian region as LMICs. These studies likely used data from 3-4 countries in this region and studies have addressed issues related to South Asian countries, where we found data from India, Bhutan, Pakistan, Nepal, Bangladesh, Sri Lanka, and Afghanistan, as well as a range of other low- and middle-income countries.

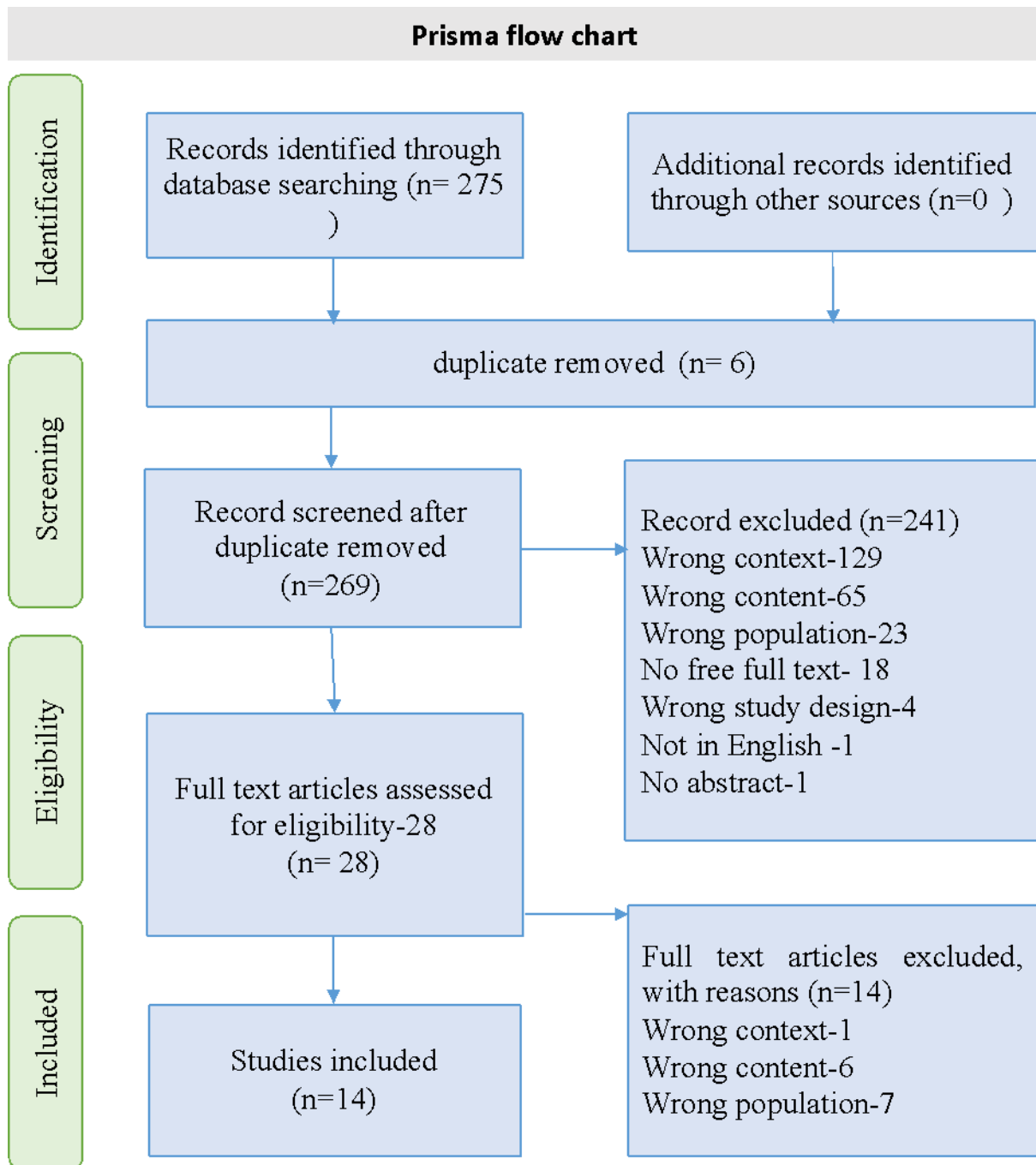
Figure 0-2 Map of LMICs of South Asian countries (Context)



These studies also have provided information and insights into the characteristics and circumstances of this South Asian region of LMICs. The other 8 studies were country-specific and were included in the South Asia region of LMICs. Most of the literature was about Bangladesh (n=5) and other literature was about India (n=3). This study mainly focused on female participants who were between (15-49 age). The majority of the studies reviewed were published in recent years, with most being from 2014 or later. The most recent studies in the review were from 2022, of which there were 8 in total. This suggests that there is an increasing body of research on the topic being conducted in recent years. All of these studies were cross-sectional studies.

Prisma flow chart

Figure 0-3 Prisma Flow Chart



Results

The evidence from the included studies is divided into the following levels: the individual woman level (user) where information about factors related to individual levels such as age, educational level, employment status, empowerment, and household involvement. And others are partner involvement, community involvement, health system management and also about the contraceptive methods

Individual woman level

Several studies have investigated different elements that can impact contraceptive choices and usage among women in individual-level of LMICs in South Asian nations (Begum et al.,

2021; Islam et al., 2022; Hellwig et al., 2022; Huda et al., 2014; de Vargas Nunes Coll et al., 2019). These studies have found that age, education, employment status, and wealth are important predictors of the use of contraception (de Vargas Nunes Coll et al., 2019; Islam et al., 2022; Silverman et al., 2019). Silverman et al (2019) mention that women with higher educational aspirations tend to have greater knowledge about the use of contraception. Two studies discovered that compared to women with lower education, educated women are more inclined to have autonomy in choosing contraceptive methods. Furthermore, the connection between employment status, financial stability, and contraceptive usage among women has also been highlighted by these studies, indicating that women who have stable jobs and higher incomes tend to use contraceptives more frequently (de Vargas Nunes Coll et al., 2019; Islam et al., 2022). de Vargas Nunes Coll et al (2019) found that married adolescents without children had the lowest modern contraceptive use and choice in all regions of these low- and middle-income countries. Contraceptive use is more commonly studied among married women, although there is some research on the topic among unmarried women in these countries as well. For example, de Vargas Nunes Coll et al. (2019) found that the percentage of contraceptive use among unmarried women in Bhutan, Nepal, and India was 2.6%, 0.4%, and 0.1%, respectively. This suggests that there may be unique challenges to promoting contraceptive use among unmarried women in these countries. Further research conducted by Begum et al. (2021) revealed that a significant proportion of women discontinued the use of contraceptive methods due to their desire to have children. Additionally, this study found that the discontinuation rate was higher among rural women compared to urban women, and among uneducated women compared to educated women. These findings indicate that there may be specific factors that impact contraceptive usage among certain subpopulations, such as rural and uneducated women, and highlights the importance of considering these factors when developing strategies to promote contraceptive use.

Socio-Cultural impact

Cultural and societal attitudes can have a strong influence on contraceptive usage among women in LMICs, particularly in the South Asian region. Studies have shown that cultural and social norms show a vital role in determining women's attitudes toward contraceptive use and in affecting their access to information and services regarding contraceptives are found in this study. For example, Huda et al. (2014) found that in Bangladesh, negative perceptions about contraceptives and a lack of knowledge about their use were common barriers to uptake. This suggests that addressing negative attitudes and increasing knowledge about contraceptives may be important strategies for promoting their use in this region. In addition to attitudes and knowledge, social norms regarding marriage and fertility expectations can also influence contraceptive use among adolescents in these countries (de Vargas Nunes Coll et al., 2019). These norms may pressure young married women to bear children soon after marriage, leading to lower rates of modern contraceptive use among adolescents (Begum et al., 2021; de Vargas Nunes Coll et al., 2019). Hellwig et al. (2022) also found that cultural and social norms, as well as limited access to services, were important factors in the high dependence on permanent contraception in certain countries, especially in India, which is in the South Asian region. A study by Huda et al. (2014) discovered that religious beliefs were identified as one of the major factors associated with the discontinuation of contraceptive methods. The study explored how religious beliefs can impact the use of contraceptives and

found that individuals with stronger religious beliefs were more likely to discontinue the use of contraceptive methods.

Contraceptive Methods

Most of the studies were about both methods but few studies gave information about specific modern contraceptive methods like permanent sterilization (Hellwig et al., 2022), in another study mixed contraceptive methods among women are shown but postpartum women are dominated by short-acting methods, and also traditional methods. Surprisingly in India half of the postpartum women rely on long-acting methods and also female sterilization (Moore et al., 2015) Women in this region also rely on female sterilization which is a permanent method (Huda et al., 2014). There was one study that only talked about the traditional method in detail where the prevalence of use of the traditional method has declined a little but discontinuation rate is lower in the traditional method than in the modern method (Bertrand et al., 2022). More than 20% of women choose to use female permanent contraception with fewer than 2 living children and are below 35 years of age (Hellwig et al., 2022).

Partner Involvement

Multiple studies in LMICs, including in the South Asian region have looked into the role and impact of partner participation and contribution to contraceptive use and choice, these studies have explored how the involvement and attitude of partners can affect the use of contraceptives (Huda et al., 2014; Khan & Islam, 2022; Silverman et al., 2019). A number of studies have also found that partner attitudes and behaviors can greatly influence women's use of contraceptives. For example, Huda et al. (2014) found that objections from partners were a common reason for contraceptive discontinuation. This was particularly true for women whose partners lived abroad or were widowed. In a similar vein, a study conducted by Silverman et al. in 2019 discovered that women who go through reproductive manipulation, which is frequently associated with abuse in relationships of a married couple, are more susceptible to negative reproductive health outcomes, including unintended pregnancies and not utilizing contraceptives. These findings emphasize the importance of taking into account the involvement of partners in contraceptive decision-making and addressing any power imbalances that may prevent women from being able to make choices and use appropriate contraceptive methods. Khan and Islam (2022) found that there exists a connection between husband disapproval of contraceptive use in women and infrequent sexual intercourse, where 30% of the surveyed women reported that they stopped using contraceptive methods because of their husband's disapproval. This research indicates that addressing the attitudes and behaviors of men and partners can play a vital role in increasing the rate of contraceptive use among women as mentioned in other literature. These findings, along with other studies, highlight the importance of taking the influence of partners on contraceptive use into account and the need to address power imbalances that may prevent women from making autonomous decisions about their reproductive health, in order to promote effective contraceptive use among women.

Related to health facilities and health-related issues

Availability and access to healthcare facilities have been identified as critical factors in the use of modern contraceptive methods in LMICs, particularly in the South Asian region (Gaur et al., 2022; Khan et al., 2022). Khan et al. (2022) conducted a study that found that the

proximity of health facilities and their approach to giving long-acting, contemporary methods of birth control are strongly associated with a lower probability of unintended pregnancies. They found that when healthcare facilities were located closer to women's homes and were able to provide a wider range of birth control options, the likelihood of unintended pregnancies decreased. This research emphasizes the importance of accessibility and availability of healthcare facilities in promoting effective contraceptive use and highlights the need for improving the infrastructure and capacity of these facilities, particularly in rural and remote areas, in order to reduce unintended pregnancies. However, other factors, such as availability, cost, and choice of methods, may also affect the use of contraception. A study by Gaur et al. in 2022 has found that the availability of limited options for post-abortion birth control, especially in private clinics, and the favoring of permanent methods and intrauterine devices (IUCDs) in public health clinics, may play a role in the low usage of contraceptives post-abortion among women. These findings highlight the need to consider a range of factors that may impact contraceptive use, and to ensure that women have access to a range of effective methods that are suited to their needs and preferences. The health-related issue also has been known as a potential barrier to contraceptive uptake and continuation is the occurrence of side effects or health-related issues. For example, Huda et al. (2014) found that common reasons for the discontinuation of Norplant, a long-acting modern contraceptive method, were menstrual disorders (59%), vomiting (7%), and weight gain (4%).

Table 3 Findings from literature

Author, year	Country/ Setting	Study design	Population Characteristics	Sample
Begum et al.,2021	India	Cross-Sectional (The calendar data survey from NFHS-4)	married women aged (15 – 49) years	476777Women
Bertrand et al.,2022	LMICs countries	Cross-sectional survey	Women of reproductive age (15-49) and married	83 LMICs countries
de Vargas Nunes Coll et al.,2019	LMICs Countries	Cross-sectional, descriptive-analytical study(data from nationally representative Demographic and Health Surveys (DHS) and Multiple Indicator Surveys (MICS) carried out since 2005 in LMIC	Women aged 15-19	81 LMICs countries with available information for sexual active female adolescents aged 15-19 years
Ewerling et al.,2018	LMICs Countries	Cross-sectional study (Demographic and Health Survey and Multiple Indicator Cluster Survey data)	Women aged (15-49)	DHS and MICS samples include around 15,000 and 10,000 households respectively Total-25000
Gaur et al.,2022	India	Cross sectional	married women aged 15-49 years	5545 married women
Hellwig et al.,2022	LMICs countries	Cross-sectional study (Using Data from the latest national health survey carried out in LMICs and multiple cluster survey from 105 LMICs countries)	Women aged (15-49)	Data from 20 LMICs countries were taken
Huda et al.,2014	Bangladesh	Descriptive, cross-sectional study (conducted in the Family Planning Association of Bangladesh (FPAB), Dinajpur	All women 25-31 years who visited the clinic to remove Norplant	73 women
Islam et al.,2022	32 LMICs Of Southern Asia And Sub-Saharan Africa	Cross-sectional Study used demographic and Health Survey (DHS)data on Family planning from 32LMICs of South Asia(SA), Southeast Asia (SEA), WestCentral Africa(WCA),and Eastern-Southern Africa(ESA)	Married younger women aged 15–24 years old	100,666 women

Author, year	Country/ Setting	Study design	Population Characteristics	Sample
Khan & Islam, 2022	Bangladesh	Cross-sectional survey	Women of reproductive age (15-49) and married	4126 women
Khan & Islam, 2022	Bangladesh	Cross-Sectional study. Stratified random sampling method (cluster)	Women aged (15-49)	12,241 women
Khan et al., 2022	Bangladesh	Cross-sectional study and used multistage random sampling methods to collect a nationally representative sample from 2017/18 BDHS	Women of reproductive age (15-49)	5051 women
Khan et al., 2022	Bangladesh	Cross-sectional survey	Women of reproductive age (15-49) and married	10,938 women
Moore et al., 2015	LMICs Countries	Cross-sectional study Secondary analysis of postpartum women aged 15–49 years in 22 DHS surveys from 21 LMICs conducted between 2005 and 2012.	Women aged (15-49)	22 DHS surveys from 21 LMICs
Silverman et al., 2019	India	Cross-sectional study (The data utilized were collected via the second of two surveys regarding topics related to family planning administered to a population-based sample of households across the state of Uttar Pradesh)	Married women in reproductive age (15-49)	2400 married women

Table 4 Key Findings

Author, year	Aim/Purpose	The focus of the study and	Pattern of contraceptive methods	Results /Key findings
Begum et al., 2021	To examine the contraceptive acceptance, discontinuation rates, and associated factors among reproductive-age women in India over one year	Discontinuation of contraceptive methods	Mostly discussed all modern contraceptive methods	The majority of women discontinued the use of methods because they wanted to have children. Rural women were more likely to discontinue the method than urban women. Discontinue rate was higher among uneducated women than among educated women

Author, year	Aim/Purpose	The focus of the study and	Pattern of contraceptive methods	Results /Key findings
Bertrand et al.,2022	To analyzed over 80 national surveys to compare traditional with modern method users, by type, region, socio-demographic characteristics, strength of family planning programmes and discontinuation rates	contraceptive methods	Traditional Contraceptive Methods	The prevalence of use of Traditional method has decline a little. Discontinue rate is lower in traditional method than modern method
de Vargas Nunes Coll et al.,2019	To describe how having a partner and children impact contraceptive behavior of sexually active female adolescents from low and middle-income countries (LMICs)	Contraceptive Use Family planning Marriage and having children	Mainly discussed about modern contraceptive method, some information about traditional	Married adolescents without children presented the lowest modern contraceptive prevalence in all regions of these LMICs countries. Early marriage and a lower likelihood of using contraceptives pointed out where social norms tend to favor boys, education and employment over girls, and where young wives suffer and enormous pressure to bear children soon after marriage
Ewerling et al.,2018	To identify groups of sexually active women with extremely low demand for family planning satisfied with modern methods (mDFPS) in low- and middle-income countries, at national and subnational levels to inform the improvement and expansion of programmatic efforts to narrow the gaps in mDFPS coverage	Family Planning, Contraception	Modern and Traditional both methods were discussed	South Asia presented the highest average mDFPS in married women. In some places, married women are expected to have children and therefore not to use contraception; on the other hand, unmarried women may have restricted access to contraception due to taboos against sex outside of marriage. The percentage of contraceptive use among unmarried women in Bhutan, Nepal, and India was 2.6%, 0.4%, and 0.1%, respectively
Gaur et al.,2022	To explores the association between place of abortion and women's post-abortion contraceptive behavior	Post abortion contraceptive methods Choice of contraceptive method	Modern Contraceptive methods	The decision to choose methods like sterilization or intrauterine contraceptive devices (IUCDs) was associated with the place of abortion, past contraceptive behavior, number and sex of surviving children at the time of abortion, mass media exposure, and time of the abortion The lack of post-abortion contraceptive choices for women is evident in the low uptake of post-abortion contraceptives in

Author, year	Aim/Purpose	The focus of the study and	Pattern of contraceptive methods	Results /Key findings
				private facilities and the predominant promotion of permanent methods and IUCDs in public health facilities
Hellwig et al.,2022	To describe the reliance on female permanent contraception among women with demand for family planning satisfied with modern methods(mDFPS)In low-and middle-income countries (LMICs) and To describe socio-economic and demographic patterns of permanent contraception in countries with high use	Permanent contraception, Family planning	Mainly Permanent Modern contraceptive method	In India, more than 20%of Women using contraceptives with fewer than 2 living children were using female permanent contraception Reliance on permanent contraception was high in several countries and among women aged less than 35 years.
Huda et al.,2014	To describes various factors that lead to the acceptance of the long-term method-Norplant and those that lead to early discontinuation	Long-acting contraception, Family planning and contraceptive discontinuation	Modern long-acting contraceptive Method	Side effects-Menstrual disorder Vomiting Weight gain Other reasons for discontinuation- Desire for children Absence of Husband Husband's objections Religious beliefs
Islam et al.,2022	To compare the coverage of modern contraceptive usage and the UNMC among the young married women of low-and lower-middle income countries (LMICs) of Asia and Sub-Saharan Africa, and further examined the likelihood of UNMC across these regions	Unmet need for modern contraception, Low and lower middle-income countries	Modern contraceptive method	Regionally, women of SA reported as higher (24.6%) UNMC. some social factors showed positive significant association with this,like education, unemployment, and decision-making autonomy and the poorest households have low use of contraceptive methods.
Khan & Islam, 2022	To determine whether women's experiences of unintended pregnancies affect changing their contraceptive using patterns	Switching patterns of contraception	Both methods	There was no change in contraceptives or switch to relatively low effective contraceptives than switching to relatively high effective
Khan & Islam,2022	To determine how changes in pre-pregnancy contraceptive methods used between 2011 and 2017/18 contributed to the changes in pregnancy resulting from contraceptive methods failure in Bangladesh	Contraceptive failure, Contraceptive Methods, Unintended pregnancy	Both Traditional and Modern Contraceptive methods	Around 46% of women in the 2011 survey and 41% of women in the 2017/18 survey reported that they had stopped using contraceptives because they wanted to have a child. Around 30% of women had stopped using contraceptives because of their husband's disapproval, concern over the si

Author, year	Aim/Purpose	The focus of the study and	Pattern of contraceptive methods	Results /Key findings
				effects, lack of availability, cost, or infrequent sexual intercourse. Traditional contraceptive methods use slightly declined in Bangladesh with a marginal increase in modern contraceptive methods
Khan et al.,2022	To investigate the effects of health facility level factors, including the availability of long acting modern contraceptives (LAMC) at the nearest health facility and its distance from women's homes, on the occurrence of unintended pregnancy that resulted in a live birth.	Unintended pregnancy, Contraceptive Methods	Long-acting modern contraception	The closer the health facility was to the women's residence and the more prepared the facility was to provide LAMC, were found to be associated with 14–31% reduced likelihood of unintended pregnancy. A reciprocal increase in unintended pregnancy was found with increased distance between women's homes and the nearest health facility
Khan et al.,2022	To examine the association between the availability and readiness of health facilities and the use of LAMC in Bangladesh	Availability of health care facility	Modern contraceptive method	Health facilities providing LAMC located at a closer distance was positively associated with increased uptake of LAMC
Moore et al.,2015	To analyze data from recent Demographic and Health Surveys (DHS) conducted in 21 low- and middle-income countries (LMICs) to examine patterns of interpregnancy intervals, unmet need, pregnancy risk and family planning method use and method mix among women 0–23 months postpartum.	Unmet need of Family planning Postpartum Contraceptive use	Both Modern and Traditional methods	The method mix among postpartum women is dominated by short-acting methods and also traditional methods. Except Bihar, India half of the postpartum women rely on long-acting methods and also female sterilization.
Silverman et al., 2019	To assess the prevalence of RC, both husband and in-law perpetrated, among a large population-based sample of women in Uttar Pradesh, India. Independent effects of IPV (both physical and sexual) and RC on contraceptive use, unintended pregnancy, and abortion will also be examined.	Un-intend Pregnancy Intimate Partner Violence	Both Method about overall contraception	literate women were more likely than illiterate women to report using modern contraception. 1 in 8 women experiencing RC is at significantly greater risk of poor reproductive health outcomes, including unintended pregnancy and contraceptive nonuse, and that these effects are independent of and beyond those that may be attributed to IPV. Sexual IPV positively associated with use of some methods of contraception.

Author, year	Aim/Purpose	The focus of the study and	Pattern of contraceptive methods	Results /Key findings
				Women married prior to age 18 years were more likely than those who married at older ages to report that their most recent pregnancy was unintended

Discussion

The studies included in this review suggest that there are a variety of factors that influence contraceptive use and choice among women in LMICs, particularly in South Asian nations. These factors include individual-level characteristics such as age, the status of employment, wealth, and education. According to Islam et al. (2022) and de Vargas Nunes Coll et al. (2019), various socioeconomic and demographic factors like as education, employment status, wealth, and geographic location are related to the use and choice of contraceptive methods. It was discovered that younger married women are more inclined to put off starting a family than their older counterparts. There is a broad understanding that factors such as marital status and parity (number of children) have a significant influence on a woman's reproductive health practices and decision-making, including her choices around using modern contraceptive methods (de Vargas Nunes Coll et al., 2019) underlines this point. Studies have consistently shown that married women and those who have children tend to have different contraceptive use patterns than single or childless women. Women in the South Asian region are having children just after marriage, it is indeed important to provide interventions that are tailored to the specific reproductive health needs of young married couples, as well as female adolescents more generally. This can help to address family planning and support young couples in making informed decisions about when to have their first child. There are a number of different strategies that can be effective in this regard, including providing education and information about family planning options, access to quality reproductive health services, and support for young couples to delay their first pregnancy until they are ready. It is also important to consider the social and cultural factors that may influence the reproductive decisions of young married couples and to design interventions that take these factors into account (de Vargas Nunes Coll et al., 2019). One of the studies has highlighted the fact that societal expectations and cultural norms can greatly influence a woman's access to and use of contraception. In some places, married women are expected to fulfill their familial roles as mothers and therefore may not be encouraged or allowed to use birth control. This can lead to unintended pregnancies and negative consequences for their health and well-being. On the other hand, unmarried women may face significant barriers to accessing contraception due to taboos against premarital sex. This can create a double standard, where married women are expected to have children and unmarried women are not supposed to be sexually active (Ewerling et al., 2018), but an overview of contraception in unmarried women in south Asian region was less this study compare to other LMICs countries. So, there are information gaps that we could not detect and know the consequence among unmarried women in the South Asian region.

In LMICs, especially in the South Asian region, it is prevalent for young women with fewer than three children to rely heavily on permanent methods of contraception. However, these procedures are irreversible and more suitable for women who are certain that they do not want more children, which is typical for older women with more children. This excessive utilization of permanent methods among young women raises ethical questions that need to be examined carefully, particularly in light of the availability of long-acting reversible methods. These ethical concerns include respecting the autonomy of women and couples and guaranteeing that informed consent is attained prior to proceeding with the procedure (Subramanian et al., 2018; Hellwig et al., 2022). Additionally, The discontinuation of

long-acting contraceptive methods may also be due to other reasons such as a preference for over-the-counter short-acting techniques like condoms or oral contraceptives which do not require medical attention, desire to have children, side effects, health-related issues or due to infrequent sexual activity and husband being away (Begum et al., 2021). A study by Khan et al. (2022) discovered that there is a strong relationship between the availability of healthcare facilities and contraceptive use and that enhancing healthcare facilities can make a significant contribution to increasing the use of modern contraceptive methods. However, it was also found that wealthier and more educated individuals tend to opt for private clinics for access to long-acting methods or use of methods which are short acting such as condoms or pills from private sources, while less privileged individuals may have limited access to these options. This highlights the need for more healthcare facilities and the upgrading of existing facilities to provide long-acting methods at the community level, to make these options more accessible to all.

In summary, the available evidence points to the need for increasing access to a diversity of contraceptive options, particularly long-acting methods, to enhance their utilization and decrease unintended pregnancies in these countries. However, this is not just a matter of providing access, it is also necessary to address negative perceptions and increase knowledge about contraceptives, as well as to tackle the social and cultural barriers that may impede their use. However, there are still deficiencies in the research, such as a shortage of information about the experiences and perspectives of unmarried women and adolescents. Further research is required for a deeper understanding of the factors that influence contraceptive use among these specific populations. This can help in creating more effective interventions, and policies that are inclusive, evidence-based, and tailored to the needs and context of different population groups.

Limitations

It's possible that some relevant studies on the topic of contraceptive use and choice among women may have been overlooked during the scoping review process, even though efforts were made to be thorough. The search terms utilized were broad and pertinent, yet there may have been other related terms that were missed. Additionally, the search strategy might have been skewed towards studies related to public health and social sciences and may have favored articles published in English. Moreover, no qualitative studies that met the inclusion criteria were found, which could have provided valuable perspectives. It's also likely that some literature relevant to the topic may have been excluded due to the research's exclusion criteria. Despite these limitations, the review is thought to have been thorough in analyzing the literature on contraceptive use and contraceptive choice in the South Asian region of low- and middle-income countries. The review aimed to understand the factors that influence contraceptive use and choice among women of reproductive age (15-49) in this region, and it is believed that this objective has been achieved.

Recommendations for future research

Conducting further primary research could yield valuable information on the factors that influence contraceptive use and choice among women, especially among specific populations, in the South Asian region of LMICs. It would be beneficial to examine the utilization and choice of contraceptives more in-depth, including the extent of contraceptive use and its impact on users, as well as factors that contribute to continuation or discontinuation of use, particularly considering the possibility of switching to other modern

contraceptive methods based on personal preference and need. Moreover, it would be worthwhile to investigate whether contraceptive use and choice are considered significant by both married and unmarried women of reproductive age in this region.

Conclusion

The results of this study suggest that there are significant obstacles that hinder the adoption of modern contraceptive methods among women of reproductive age in low- and middle-income countries (LMICs) in South Asia. These barriers include limited access to a variety of contraceptive options and a lack of knowledge about the perspectives and experiences of unmarried women and adolescents. In order to overcome these challenges, there is a requirement to improve access to birth control methods and increase awareness about their use among sexually active women in South Asia. This can be achieved through the incorporation of family planning services into existing health programs and by implementing educational campaigns that target young people, unmarried women and newly married individuals. It is important that these efforts take into the account, the social and cultural context of the South Asian region, using a combination of approaches, such as mass media campaigns, public forums, and interfaith dialogues. By addressing these issues, it will be possible to increase the use of modern contraceptives among women in South Asia and improve their reproductive health outcomes.

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Annex -1

Objective	To provide an overview of the available evidences on the factors influencing contraception choice and use among the women of reproductive age (15-49 years) in LMICs of the South Asia region.
Research Question	What are the available evidences on the factors influencing contraception choice and use among the women of reproductive age (15-49) in LMICs of the South Asia region?
Specific Research Questions	<p>1.What are the factors associated with the choice of women in contraception methods among the women of reproductive age in LMICs of the South Asia region?</p> <p>2.What are the factors associated with the use of women in contraceptive methods among the women of reproductive age in LMICs of the South Asia region?</p> <p>3. What are the common factors for discontinuation of contraception among the women of reproductive age in LMICs of the South Asia region?</p>
Research Strategy	
Inclusion Criteria	<p>Population:</p> <p>(3) Women of reproductive age (15-49 years)</p> <p>(4) Women of reproductive age in LMICs of the South Asia region.</p>
	<p>Concept:</p> <p>4. Studies presenting evidences on contraceptive use.</p> <p>5. Studies presenting evidences of the choice of contraceptive methods.</p>

	6. Studies presenting evidences of common reasons for discontinuation of contraception.
	Context: in LMICs of the South Asia region. Bangladesh ,Pakistan, India, Sri Lanka, Bhutan, Nepal, Afghanistan
	Open access, full-text articles
	Articles and references are written in English.
Exclusion Criteria	Any study that does not fulfill the inclusion criteria Women in specific Categories like by their profession, tribal women, transgender women etc Any review Articles
	Articles and references are written in languages other than English.
	Articles whose abstracts and/or free full-text versions are not available or cannot be retrieved.
Time Frame	From 2012-2022
Data Source	Indexed Articles from PubMed, Google Scholar, Springer.

Annex -2

Key terms and Searches

Table 5 Key terms and searches

PCC Terms	Serial No.	Searches	Key terms
Population	1	Women of reproductive age (15-49 years)	<ul style="list-style-type: none"> ● Women of reproductive age (15-49 years) ● Women of reproductive ● Women(age15-49) ● Women ● Female

Concept	2	<ul style="list-style-type: none"> ● contraceptive use ● Contraceptive choice ● Common reasons for discontinuation of contraception 	<ul style="list-style-type: none"> ● Contraceptive use ● Choice of contraceptive methods. ● Contraception ● Common reasons for discontinuation of contraception. ● Inhibition of fertilization ● Fertilization Inhibition ● Contraceptive Methods ● Contraceptive Method ● Female Contraception ● Female Contraceptions ● Choice
Context	3	LMICs of the South Asia region.	<ul style="list-style-type: none"> ● LMICs of the South Asia region OR ● Low and Low middle-income countries in the Asia region OR ● Bangladesh OR ● Pakistan OR ● India OR ● Sri Lanka OR ● Bhutan OR ● Nepal OR ● Afghanistan OR
P+C+C	4		#1 AND #2 AND #3

Annex-3

Title and abstract relevance screening tool

Table 6 Title and abstract relevance screening tool

No.	Question	Reason for exclusion
1	Does the article have abstracts?	“No abstract”
2	Does the article describe research in English?	“Not in English”
3	Is the article published in between 2012 and 2022?	“Wrong publication year”
4	Does the article mention any Women, Women in reproductive age (15-49) except special groups like women of a specific profession, women with any diseases and disabilities, and specific groups like tribals?	“Wrong population”

5	Does the article mention women's contraception, reproduction, women's contraceptive method, women or female contraception, and their choice, use, and common reasons for contraception?	"Wrong concept"
6	Does the article mention about LMICs, Low and Low middle-income countries, LMICs countries of South Asia or the South Asian Region or Bangladesh or Pakistan or India or Sri Lanka or Bhutan or Nepal or Afghanistan	"No context defined" if no specific country is mentioned
		"Wrong context" if countries other than LMICs mentioned

Reviewer decision:

- If the reviewer answer "yes" to all questions, the article was marked as "included"
- If the reviewer answer is "no" for at least one of the questions, the article was marked as "excluded" and the reason for exclusion(s) was added

Annex -4

Full-text article relevance screening tool

General Information

Title:	
First author:	Year of publication:
Citation:	

Study Eligibility

Study Characteristics		Reason for exclusion
Language	<i>Is it published in English?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclude	Not in English

Study Characteristics			Reason for exclusion
Publication type	book chapter, case report, commentaries, any unpublished report	<i>Does the publication type meet the criteria for inclusion?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclude	Wrong publication type
Country of study	Any countries classified as LMICs of the South Asia Region by the World Bank? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclude		Wrong context
	Specific location:		
Study related to contraception, reproduction, contraceptive method, women or female contraception and their choice, use and common reason about contraception?	<input type="checkbox"/> women contraception <input type="checkbox"/> women contraceptive methods <input type="checkbox"/> Reproduction <input type="checkbox"/> women or female contraception <input type="checkbox"/> women choice about contraception <input type="checkbox"/> women use about contraception <input type="checkbox"/> common reason for discontinuation of contraception	<i>Does the disease being studied meet the criteria for inclusion?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclude	Wrong concept
Study related to Women, Women in reproductive age (15-49) except special group like women of	Describe the participants included:		Wrong population
	<i>Does the health-care facility meet the criteria for inclusion?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclude		

Study Characteristics		Reason for exclusion
specific profession, women with any diseases and disabilities, and any special groups like tribals		
Measured outcome	List of outcomes:	Wrong concept
	<i>Do the outcome measures meet the criteria for inclusion?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclude	
Level of outcome	<i>Is this study conducted at the national level?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclude	Wrong context

Summary of Assessment for Inclusion

<p>Reviewer decision</p> <p>(1) If the reviewer answer “yes” to all questions, the article was marked as “included”</p> <p>(2) If the reviewer answer is “no” for at least one of the questions, the article was marked as “excluded” and reason for exclusion(s) was added</p>

Annex -5

Key Terms used for electronic database

Google Scholar

Search date	December 12, 2022
Limits	Date range: 2012 – 2022 Language: English Academic content: All field Sort by: Relevance Entry term location: anywhere in the article

Search query	Women in reproductive age (15-49) AND 'Contraceptive use' AND 'Contraceptive choice' AND LMICs AND 'South Asia region' AND 'Common reason for discontinuation of contraception'
Number of hits	290
Notes	Screen the first 100 hits (considering the time required to screen each hit and its relevancy) from each search

PUBMED

Search date	December 12, 2022
Limits	Date range: 2012 – 2022 Language: English Academic content: All field Sort by: relevance
Search query	Women in reproductive age (15-49) AND 'Contraceptive use' AND 'Contraceptive choice' AND LMICs AND 'South Asia region' AND 'Common reason for discontinuation of contraception' OR Bangladesh OR India OR Bhutan OR Pakistan OR Afghanistan OR Sri Lanka Or Nepal AND Contraception AND Choice AND Women AND LMICs AND Reproduction
Number of hits	165

SpringerLink

Search date	December 16, 2020
Limits	Date range: 2012 – 2022 Language: English Content type: Article Sort by: relevance
Search query	Women in reproductive age (15-49) AND 'Contraceptive use' AND 'Contraceptive choice' AND LMICs AND 'South Asia region' AND 'Common reason for discontinuation of contraception'
Number of hits	10

Annex - 6

Table 7 Data Extraction Chart

Author, year	Country/Setting	Aim/Purpose	Study design	Population Characteristics	Sample	The focus of the study and	Pattern of contraceptive methods	Results
Begum et al., 2021	India	To examine the contraceptive acceptance, discontinuation rates, and associated factors among reproductive-age women in India over one year	Cross-Sectional (The calendar data survey from NFHS-4)	married women aged (15 – 49) years	476777 Women	Discontinuation of contraceptive methods	Mostly discussed all modern contraceptive methods	Findings revealed that 11.7% accepted modern methods of which 68% were for spacing. Only 5% switched to other methods. The discontinuation rate was high among condom (56.8%) and oral contraceptive pill users (34.5%), among women aged less than 25 years, with parity less than 2, belonging to the rural area and having no education
Bertrand et al., 2022	LMICs countries	To analyzed over 80 national surveys to compare traditional with modern method users, by type, region, socio-demographic characteristics, strength of family planning	Cross-sectional survey	Women of reproductive age (15-49) and married	83 LMICs countries	contraceptive methods	Traditional Contraceptive Methods	The advance of modern methods has greatly reduced the share held by traditional methods, but the actual prevalence of their use has declined little. Discontinuation rates are somewhat lower for traditional methods than for the resupply methods of the pill, injectable and condom; among users of all these methods, more than a quarter stop use in the first year to switch to alternative

		programmes and discontinuation rates						methods. Traditional method use is firmly entrenched in many countries, as the initial method tried, a bridge method to modern contraception and even the primary method where other methods are not easily available
de Vargas Nunes Coll et al.,2019	LMICs Countries	To describe how having a partner and children impact contraceptive behavior of sexually active female adolescents from low and middle-income countries (LMICs)	Cross-sectional, descriptive-analytical study(data from nationally representative Demographic and Health Surveys (DHS) and Multiple Indicator Surveys (MICS) carried out since 2005 in LMIC	Women aged 15-19	81 LMICs countries with available information for sexually active female adolescents aged 15-19 years	Contraceptive Use Family planning Marriage and having children	Mainly discussed about modern contraceptive method, some information about traditional	Modern contraceptive prevalence and mDFPS were lower among adolescents who were married and had no children as compared to those married who had at least one child, or those sexually active outside marriage. Social norms regarding marriage and fertility expectations and other cultural barriers have a role at least as relevant as contraceptive availability.
Ewerling et al.,2018	LMICs Countries	To identify groups of sexually active women with extremely low demand for family planning satisfied with modern methods (mDFPS) in low- and middle-income countries, at national and subnational levels to inform the improvement and expansion of	Cross-sectional study (Demographic and Health Survey and Multiple Indicator Cluster Survey data)	Women aged (15-49)	DHS and MICS samples include around 15,000 and 10,000 households respectively Total-25000	Family Planning, Contraception	Modern and Traditional both methods were discussed	Almost half of the women who are fertile but not willing to get pregnant are failing to be reached by effective family planning strategies in this study.In Asia & Pacific and Latin America & the Caribbean mDFPS was higher among married women compared to unmarried ones whereas the opposite was found in West & Central Africa and CEE & CIS countries

		programmatic efforts to narrow the gaps in mDFPS coverage						
Gaur et al.,2022	India	To explores the association between place of abortion and women's post-abortion contraceptive behavior	Cross sectional	married women aged 15-49 years	5545 married women	Post abortion contraceptive methods Choice of contraceptive method	Modern Contraceptive methods	1.About 20% of women who underwent an abortion adopted a contraceptive method by the end of one month following an abortion. The decision to choose methods like sterilisation or intrauterine contraceptive devices (IUCDs) was associated with the place of abortion, past contraceptive behaviour, number and sex of surviving children at the time of abortion, mass media exposure, and time of the abortion 2. The lack of post-abortion contraceptive choices for women is evident in the low uptake of post-abortion contraceptives in private facilities and the predominant promotion of permanent methods and IUCDs in public health facilities
Hellwig et al.,2022	LMICs countries	To described the reliance on female permanent contraception among women with demand for family planning satisfied with modern methods(mDFPS)In low-and middle-income	Cross-sectional study (Using Data from the latest national health survey carried out in LMICs and multiple cluster	Women aged (15-49)	Data from 20 LMICs countries were taken	Permanent contraception, Family planning	Mainly Permanent Modern contraceptive method	Reliance on permanent contraception was high in several countries and among women aged less than 35 years.

		coun-tries (LMICs) and To describe socio-economic and demographic patterns of permanent contraception in countries with high use	survey from 105 LMICs countries)					
Huda et al.,2014	Bangladesh	To describes various factors that lead to the acceptance of the long-term method-Norplant and those that lead to early discontinuation	Descriptive, cross-sectional study (conducted in the Family Planning Association of Bangladesh (FPAB), Dinajpur	All women 25-31 years who visited the clinic to remove Norplant	73 women	Long-acting contraception, Family planning and contraceptive discontinuation	Modern long-acting contraceptive Method	Common reasons for early removal of Norplant was menstrual disorder (59%), followed by desire for children (16%), husband's death, for abandonment or residing abroad (8%), anorexia, nausea, vomiting (7%), weight gain (4%), husband's objection (3%), and religious beliefs (3%)
Islam et al.,2022	32 LMICs Of South Asia And Sub-Saharan Africa	To compare the coverage of modern contraceptive usage and the UNMC among the young married women of low-and lower-middle income countries (LMICs) of Asia and Sub-Saharan Africa, and further examined the likelihood of UNMC across these regions	Cross-sectional Study used demographic and Health Survey (DHS)data on Family planning from 32LMICs of South Asia(SA), Southeast Asia (SEA), WestCentral Africa(WCA),and	Married younger women aged 15–24 years old	100,666 women	Unmet need for modern contraception, Low and lower middle-in come countries	Modern contraceptive method	Women from SA Reported Higher usage Modern Contraceptives (44.7%) and Higher UNMC (24.6%). Socioeconomic factors like-higher education (in SA and WCA), unemployment(in SA and ESA), no media exposure(in SA and ESA),and higher decision-making autonomy(except SEA)showed positive and significant association with UNMC

			Eastern-Southern Africa(ESA)					
Khan & Islam, 2022	Bangladesh	To determine whether women's experiences of unintended pregnancies affect changing their contraceptive using patterns	Cross-sectional survey	Women of reproductive age (15-49) and married	4126 women	Switching patterns of contraception	Both methods	Unintended pregnancy was relatively high in Bangladesh. After experiencing unintended pregnancies, women were more likely to bring no change in contraceptives or switch to relatively low effective contraceptives than switching to relatively high effective
Khan & Islam, 2022	Bangladesh	To determine how changes in pre-pregnancy contraceptive methods used between 2011 and 2017/18 contributed to the changes in pregnancy resulting from contraceptive methods failure in Bangladesh	Cross-Sectional study. Stratified random sampling method (cluster)	Women aged (15-49)	12,241 women	Contraceptive failure, Contraceptive Methods, Unintended pregnancy	Both Traditional and Modern Contraceptive methods	Around 46% of women in the 2011 survey and 41% of women in the 2017/18 survey reported that they had stopped using contraceptives because they wanted to have a child. Around 30% of women had stopped using contraceptives because of their husband's disapproval, concern over the side effects, lack of availability, cost, or infrequent sexual intercourse
Khan et al., 2022	Bangladesh	To investigate the effects of health facility level factors, including the availability of long acting modern contraceptives (LAMC) at the nearest health facility and its distance from women's homes, on the occurrence of unintended	Cross-sectional study and used multistage random sampling methods to collect a nationally representative sample from 2017/18 BDHS	Women of reproductive age (15-49)	5051 women	Unintended pregnancy, Contraceptive Methods	Long-acting modern contraception	The closer the health facility was to the women's residence, and the more prepared the facility was to provide LAMC, were found to be associated with 14–31% reduced likelihood of unintended pregnancy. A reciprocal increase in unintended pregnancy was found with increased distance between women's homes and the nearest health facility

		pregnancy that resulted in a live birth.						
Khan et al., 2022	Bangladesh	To examine the association between the availability and readiness of health facilities and the use of LAMC in Bangladesh	Cross-sectional survey	Women of reproductive age (15-49) and married	10,938 women	Availability of health care facility	Modern contraceptive method	Health facilities providing LAMC located at a closer distance was positively associated with increased uptake of LAMC
Moor et al., 2015	LMICs Countries	To analyze data from recent Demographic and Health Surveys (DHS) conducted in 21 low- and middle-income countries (LMICs) to examine patterns of interpregnancy intervals, unmet need, pregnancy risk and family planning method use and method mix among women 0–23 months postpartum.	Cross-sectional study Secondary analysis of postpartum women aged 15–49 years in 22 DHS surveys from 21 LMICs conducted between 2005 and 2012.	Women aged (15-49)	22 DHS surveys from 21 LMICs	Unmet need of Family planning Postpartum Contraceptive use	Both Modern and Traditional methods	61% of all postpartum women across the 21 countries have an unmet need for family planning. Pregnancy risk rises steadily throughout the 2 years after birth. The risk of pregnancy peaks at 6–11 months after birth. Even when postpartum women are using family planning, they rely overwhelmingly on short-acting methods.
Silverman et al., 2019	India	To assess the prevalence of RC, both husband and in-law perpetrated, among a large population-based sample of women in Uttar Pradesh, India.	Cross-sectional study (The data utilized were collected via the second of two surveys regarding topics related to	Married women in reproductive age (15-49)	2400 married women	Un-intended Pregnancy Intimate	Both Method about overall contraception	Women married prior to age 18 years were more likely than those who married at older ages to report that their most recent pregnancy was unintended, and literate women were more likely than illiterate women to report using modern contraception in the past year and less likely to report their

		Independent effects of IPV (both physical and sexual) and RC on contraceptive use, unintended pregnancy, and abortion will also be examined.	family planning administered to a population-based sample of households across the state of Uttar Pradesh)			Partner Violence		last pregnancy as unintended. 1 in 8 women experience RC is at significantly greater risk of poor reproductive health outcomes, including unintended pregnancy and contraceptive nonuse, and that these effects are independent of and beyond those that may be attributed to IPV.
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