

Models and policies for family development, population control, and family planning: a scoping review

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ABSTRACT

Uncontrolled population growth causes poverty, hunger, disease and death. Ironically, population explosions usually occur in developing countries, while population growth is usually low, zero, or even negative in developed countries. Considering these factors, this research aims to formulate effective family planning and population control methods to improve the quality of family development. In this research we present a scoping review article regarding family development models and policies, population control, and family planning. A comprehensive search was conducted in major databases, including PubMed, EBSCO, ProQuest, and ScienceDirect, via presentation methods using PRISMA-ScR guidelines. As a result, we found 16 articles meeting the eligibility criteria. The findings of this research provide insight to stakeholders and researchers into how family development, population control, and family planning policies can be modeled so that effective results can be achieved.

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1. INTRODUCTION

In November 2022, the world population reached 8 billion milestones [1]. Global population growth demonstrates our species' progress. As illustrated in Figure 1, the population growth of our species has been exponential since three centuries ago, with approximately 600 million, 990 million, 1.65 billion, and 6 billion people in 1700, 1800, 1900, and 2000, respectively [2]. Following the global population growth, the overall gross domestic product (GDP) has also increased. However, the societal disparities in terms of life expectancy, finances, human development index (HDI), and equality have not been solved, leaving a major advancement gap between developed and developing countries. As shown in Figure 2, since 1975, it has taken only 12 years for the world population to increase by one billion [2]. According to the UN projection, this growth rate will remain high, with an expected 10.9 billion people will inhabit the planet in 2100 [2]. Nowadays, among the 8 billion people worldwide, more than half of them (54.24%) live only in 8 countries: China (1.439 billion), India (1.380 billion), United States (331 million), Indonesia (273 million), Pakistan (220 million), Brazil (212 million), Nigeria (206 million), and Bangladesh (164 million) [3]. Unfortunately, other than the United States, all of the above countries are developing countries, at least according to IMF [4] and World Bank [5]. Bangladesh is even classified among the low-income countries in the least developed countries category [5].

Without an equal (or better) economic boost, population growth will only cause a societal problem. Uncontrolled population growth is evidenced to introduce poverty, hunger, diseases, and deaths. Ironically, the population boom usually happened in developing countries, while the population growth was typically low, zero, or even negative in developed countries. Considering this factor, it is critical to formulate effective methods for family planning and population control to enhance the quality of family development. Unfortunately, according to UN projection, those eight countries will still top the world's most populous countries list in 2030, with Ethiopia joining the list as the 9th country with the most population. Again, by today's metrics, joining Bangladesh, Ethiopia is listed among the low-income countries within the least developed countries category [5].

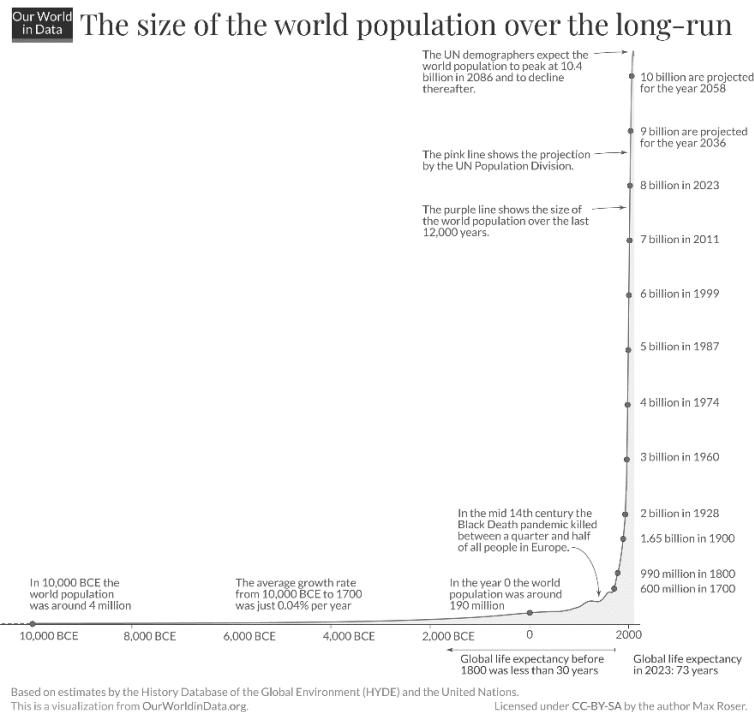


Figure 1. The world population over the last 12,000 years [2]

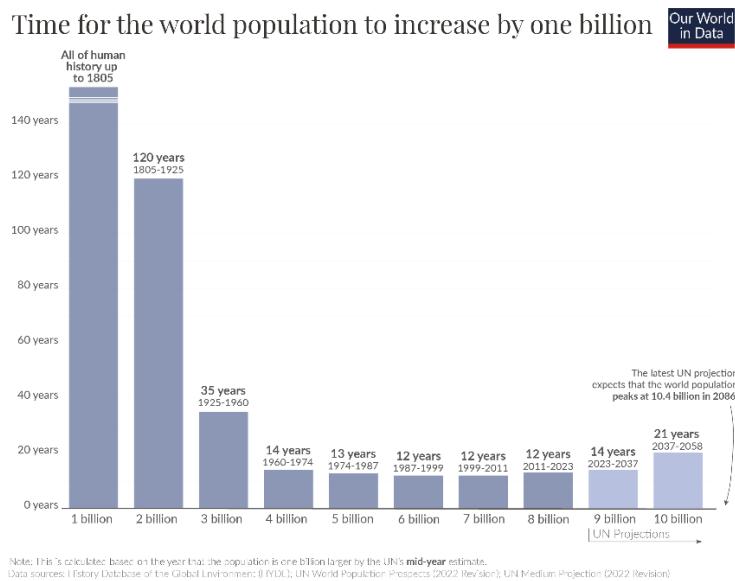


Figure 2. Time it took for the world population to increase by one billion [2]

Despite the United Nations forecast that 10.9 billion people will reside on the earth by 2100, not everyone agrees. According to scholars from the University of Washington, the world's population will be around 6.3 to 8.8 billion people by 2100 [6]. Nevertheless, it is critical to address this issue such that the quality of societal development can be increased.

The ability to plan when and if to have children is critical to women's health and their equal functioning in society [7]. Family planning promotion in high-birth-rate countries has the potential to reduce poverty and hunger, as well as prevent 32% of all neonatal deaths and almost 10% of childhood deaths [8]. Moreover, family planning would also significantly contribute to women's empowerment, universal primary education, and long-term sustainable development.

Over the last 50 years, family planning programs have significantly contributed to increasing contraceptive use from less than 10% to 60% [9] and lowering fertility in developing nations from six to three births per woman [9]. Unfortunately, contraception use remains low in half of the 75 largest low-income and lower-middle-income countries (primarily in Africa). At the same time, fertility, population increase, and unmet need for family planning are moderately high [10].

A similar situation has happened in Indonesia. Indonesia has experienced extraordinary population growth from year to year in the last decades. To build a quality population, the government pays great attention to human resource development [11], including the health sector. Health development should be carried out through various efforts by all components of the nation in order to achieve health goals. Among those efforts are by increasing public awareness, willingness, and ability to live a healthy life. A population with adequate healthy life awareness is proven to be a critical key for developing socially and economically productive nations [12].

Family development and population control in developing countries are important because they can have significant impacts on individuals, communities, and societies. Family development refers to the process of creating and maintaining supportive and healthy relationships within a family, while population control refers to efforts to manage the size and growth of a population. Family planning is a key aspect of family development and population control, as it enables individuals to make informed decisions about when and how to have children, which can have long-term consequences for the well-being of the individual and the family.

The success of the implementation of family development, population, and family planning programs can be pursued by utilizing the family as the smallest unit of the population. At the same time, it is beneficial for children's development as the family is the first community for child growth and development [13]. Moreover, a family planning program is essential to achieve an adequate level of community welfare and satisfy the need for development in the quality human resources sector. Therefore, the family in society plays a very important and strategic role in building and strengthening the life of the nation and state [14].

One of the main reasons why family development is important is that it can contribute to the overall well-being of individuals. Strong and supportive family relationships can provide a sense of belonging, security, and support, which can help individuals to cope with stress, challenges, and life transitions. In addition, families can provide a sense of identity and a sense of purpose, which can be especially important during times of uncertainty or change.

Family development is also critical because it can have positive impacts on children. Children who grow up in supportive and nurturing environments are more likely to develop healthy emotional, social, and cognitive skills, which can set them up for success later in life. In contrast, children who grow up in environments that are lacking in support and stability may be more likely to experience negative outcomes such as poverty, social isolation, and mental health issues.

The establishment of population control aimed at monitoring, checking, and evaluating the objectives that have been set aims to achieve the goals that have been set so that they can be achieved effectively and efficiently [15]. The first thing that can be done in population control is through the synchronization of integrated policies between the central government and local governments in terms of family planning programs and family development. This effort is then can be followed by the implementation of Advocacy, Communiqué, Information, and Education. Third, access to information, promotion, and socialization through effective media communications can be employed in addition to maintaining program participation and improving the quality of family planning services [16].

Fast population growth encourages the development of various aspects of life, including health, social, economic, and many more [17]. In the health aspect, the position of the Population, Family Planning, and Family Development Program is often within the scope of the National Priorities for Health Development (NPHD) [18]. In Indonesia, for example, a government policy in health development has successfully controlled population growth through the family planning program (FPP) [19]. FPP policy aims to improve the community's quality of life in a systematic and planned manner [20]. Considering the importance of this program's objective in reducing the rate of population growth, successful implementation has now become

crucial [21]. However, in reality, some parties are still not interested or do not want to participate in this program, causing the implementation of the family development program began to falter [22].

Population development and family development are problems that are often overlooked. Indeed, attempting to solve population problems with birth control alone does not guarantee that the results will automatically improve the quality of life of the population concerned or future generations. However, it can provide the possibility for each person to gain greater freedom to determine what is best for the welfare of themselves, their families, and their children. Thus, it is hoped that a good balance can be achieved between the population growth rate and the community welfare development [2].

In summary, family development, population control, and family planning are important for the well-being of individuals, families, and communities. By creating supportive and healthy relationships within families, managing the size and growth of populations, and enabling individuals to make informed decisions about when and how to have children, we can create more sustainable and supportive environments for all. Therefore, in this article, we have presented a scoping review regarding models and policies for family development, population control, and family planning, especially in developing countries. We have extensively searched online major databases such as PubMed, ProQuest, EBSCO, and ScienceDirect for relevant articles regarding family development, population control, and family planning. From thousands of articles, we have selected 16 articles that met the eligibility criteria. The findings of this study provide insight to the stakeholders as well as researchers on how the policies for family development, population control, and family planning can be modeled such that effective outcomes can be achieved.

Finally, the rest of this article is organized as follows. In Section II, we present the method of the scoping review in this study. Then, section III presents the findings of this study, followed by a brief discussion regarding the findings. Finally, we conclude the findings of this study in Section IV.

2. METHOD

We have used Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) [23] protocol to design the reporting method of the scoping review in this study. PRISMA-ScR is a checklist for scoping review protocol containing 20 essential reporting items and 2 optional items that were developed following published guidance from the Enhancing the QUAlity and Transparency of health Research (EQUATOR) Network.

2.1. Eligibility criteria

In the article identification stage, we used the patient/population, intervention, comparison and outcomes (PICO) framework [24] to identify key concepts following the focus of this review. We include only original peer-reviewed articles that explain the models and policies of family development, population, and family planning in developing countries that were published between January 1, 2012, and January 31, 2022. We limit the language of the articles to English and Indonesian. Review articles, meta-analyses, commentary papers, raw data, research notes, and unpublished works were excluded from this study.

2.2. Search strategy and resources

For the search strategy, we extensively explored PubMed, ProQuest, EBSCO, and Sciencedirect databases. We focused on the extended frameworks by defining synonyms through the thesaurus and Boolean operators (AND and OR) to combine keywords in search, resulting in more focused and relevant results in the mentioned databases. The search strategy is formulated by developing keywords that are carried out through discussions between authors. The keywords for search strategy were defined as ("Family Development" OR "Population" OR "Population Control" OR "Family Planning") AND ("Research" OR "Study" OR "Studies").

2.3. Study selection and data extraction

We used Zotero reference assistant software to identify and manage the gathered literature. Zotero is proven to be a useful software for citation management [25] in scoping review. The selection process was carried out by two authors (DA and KH) independently by screening the title, abstract, and full text. The selection was conducted based on eligibility criteria and the development of a formulated rubric table for data extraction. After the selection process was carried out, the other authors were then compared and validated for both included and excluded articles. Each author then analyzed the literature using an independently designed data extraction format.

2.4. Quality assessment

The quality assessment stage was carried out to assess the quality of articles that can be helpful in identifying bias and methodological weaknesses in research, thereby improving the quality of this review.

Article assessment of the selected quantitative research in this article was conducted using the quality assessment protocol from the Joanna Briggs Institute (JBI) [26]. Each selected article is rated according to the designed checklist sheet, followed by the quality classification into three categories: high, medium, and low quality. The score ranges for high, medium, and low qualities, respectively, are (7-8), (4-6), and (0-3). This is determined following the study in 2015 [27]. Note that there are 20 essential reporting items in the PRISMA-ScR protocol. Based on the points assessed for the cohort design study, each list of questions in the first 12 items was graded as either 0 (high bias risk) or 1 (low bias risk), with a total score of ≤ 6 points indicating low quality and a total score of > 6 points indicating high quality. Meanwhile, each question in the 8-item list was scored 0 (high bias risk) or 1 (low bias risk), with a total score of ≤ 4 points indicating low quality and a total score of > 4 high-quality points [28].

2.5. Data synthesis

Data synthesis in this research uses a narrative method by grouping extracted data that is relevant to answer the research objectives. Research journals that meet the inclusion criteria then collected and a journal summary is made including the name of the researcher, year of journal publication, research objectives, methods, summary of the results or findings. The research journal summary is entered into a table according to the format adjusted by the author. The results of the extraction process can be seen in the diagram below [29].

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. Search results

In Figure 3, we presented the PRISMA flow diagram for the literature search, screening, and selection stages of this scoping review. After the deletion of duplicate articles, the total number of articles screened was 1,107. The authors (DA, KH) independently screened the title, abstract, and full text according to the inclusion criteria. As a result, we excluded 893 articles during the title and abstract screening stage since they were not fitted with the selection criteria. This results in 214 articles left for the full-text filtering stage. We then analyzed and filtered the remaining articles using a rubric table according to the data extraction format. After thorough assessment and discussion, we obtained 16 articles that met the eligibility criteria.

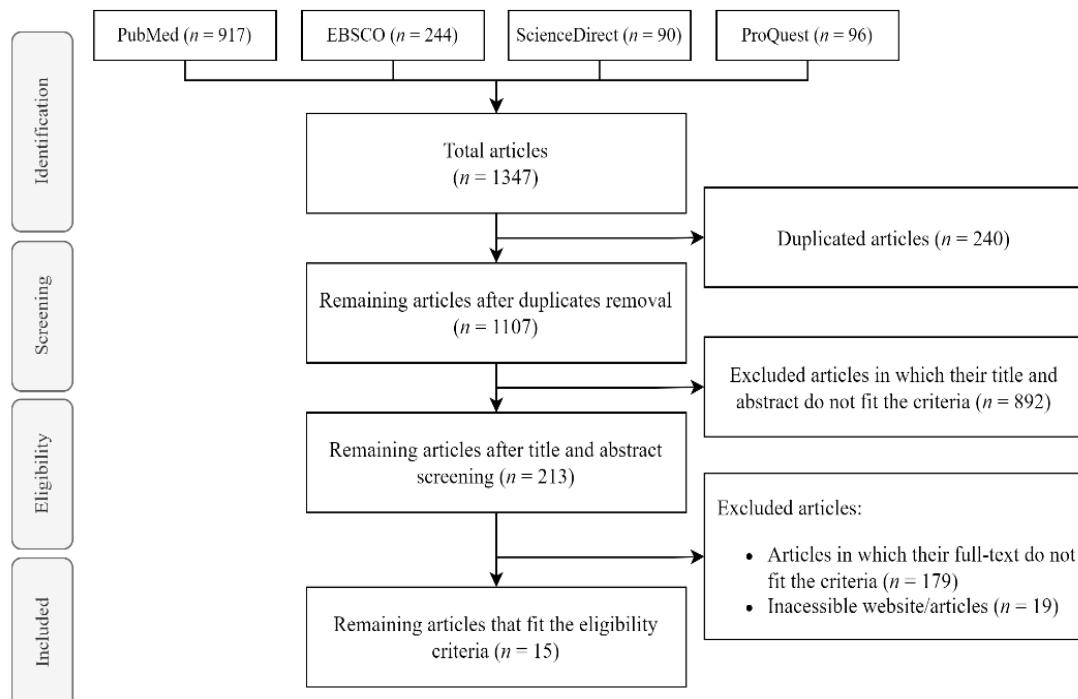


Figure 3. Research design of this study following PRISMA-ScR flow diagram

3.1.2. Characteristic studies

After undergoing the PRISMA flow diagram protocol, 16 articles satisfied the inclusion criteria and, thus, were included for further analysis as shown in Table 1 (see in Appendix) [30]-[44]. All of the included articles were published in international journals between January 1, 2012, and January 31, 2022. Sixteen selected articles come from (or were conducted in) seven developing countries, including Africa (n=5), Nigeria (n=4), Indonesia (n=2), Ethiopia (n=2), Cambodia (n=1), and Bangladesh (n=1). The 16 articles were based on cross-sectional research design studies (n=11) and cohort studies (n=4).

3.1.3. Quality assessment

As mentioned in the previous section, the quality assessment of those 15 articles was conducted using the JBI checklist. We found 11 high-quality cross-sectional design studies, each with a score >4, indicating high-quality works. As for the cohort study, we found 4 articles, each with a score >6, indicating high-quality articles. Therefore, it is safe to conclude that the selected 15 articles fall in the high-quality category according to the JBI assessment checklist.

3.2. Discussion

3.2.1. Family development, population, and family planning models

Success in realizing balanced population growth as well as developing the quality of the population and family will improve all aspects and dimensions of societal advancement. Family planning is an effort to regulate the birth of children, the distance between births, ideal age of childbirth, and regulate pregnancy through promotion, protection, and assistance in accordance with reproductive rights to realize a quality family [16], [30].

Efforts for health promotional programs such as well-regulated community mobilization with available, accessible, acceptable, and adequate quality treatments is a necessity to realize a successful family planning program. The need for a clear promotion of education and reproductive health regarding the benefits of limiting the number of children should be very well addressed [32], [40], [41]. Indeed, previous study indicated that promotive and preventive measures in family planning provide benefits in family development [31].

In addition to addressing the low use of birth control and investigating its association with women's employment status, it is necessary to provide educational services in the form of access to mass media communication, and provide health facilities that allow intervention for better birth control opportunities in the vulnerable regions [30]. Mass media, such as newspapers, magazines, or television can be used as one of the health promotional efforts in providing information about contraception [44]. Abovementioned mass media are proven to be effective to deliver (and emphasize) the importance of the use of modern contraceptives. Moreover, self-efficacy related to contraceptions is also one of the important things to consider when delivering the corresponding health information [37].

Misconception about modern contraception is another issue that needs to be addressed. Instead of due to the low knowledge level, often, people avoid modern contraceptive due to the misbelief regarding the use of modern contraception. For instance, let us take a look at the research conducted in Nigeria in 2017. Despite widespread knowledge of the technique, the willingness to use modern contraception for family planning in Nigeria is still relatively low. Misperceptions regarding contemporary contraception are to blame for this.

In handling the issues related to family planning, it is necessary to provide effective health communication, information, and education (CIE) activities in service as a process of delivering the information of the birth control program from the stakeholder of the program to families and communities [45]. Through a web-based family planning service information system, it is easier for family planning field officers to convey all information and activities of family planning services carried out to all service users, both birth control service officers and the public in general [46].

3.2.2. Family, population, and family planning policies

Population control is necessary because it can significantly impact the environment, resources, and infrastructure of a community or society. For example, in areas where the population is growing rapidly, there may be pressure on resources such as water, land, and energy, which can lead to environmental degradation, social conflict, and economic instability. On the other hand, population control measures can help ensure that resources are managed sustainably and that there is sufficient infrastructure to support the population's needs.

In Indonesia, population growth control is carried out through the *Population, Family Planning and Family Development Program* (called KKBPK) regulated in the Indonesian Law Number 52 of 2009 Concerning Population Development and Family Development [47]. Family Planning Policy is carried out through efforts to increase community participation and participation. Some of the policy matters discussed

in the selected article are realizing quality families living in a healthy environment. They discussed the need for autonomy in decision-making of women to determine their reproductive decisions which tend to be unmet needs. Those study provided a discussion on universal access to affordable modern contraceptive methods [27], [38].

To increase woman participation and family participation in family development and family planning, it is very important to respect the maternal autonomy in decision making and woman equality so that families can manage pregnancy as desired [35], [41]. Moreover, parenting is also a joint decision between husband and wife that can reduce the chances of young women becoming an unmet need group. This is a form of gender equality in the family that can be realized. One form of gender equality in family participation is in decision making [44].

To improve the quality of CIE and family planning program for health promotion services and pregnancy arrangements need to consider the socioeconomic factor of the family [34], [39], [44]. Family planning interventions can cost-effectively improve women's health outcomes [41]. A study states that family planning plays role in the development of the economy, health, and welfare of the community. Government invest a lot of sources in the free family planning services and better access to contraceptives [34].

Unmet need in family planning is relatively lower in women living in urban areas due to the access to health services and a good level of health awareness compared to women in rural areas [42]. Health facilities/services is one of the main predictors in decision-making policies to use birth control in various regions. A study found that <2% of young women must found unmet need because of poor services due to limited human resources [40].

Control of population growth is carried out in accordance with the carrying capacity to reduce the maternal mortality, infants and children, and an increase in the integration of community participation [30], [31], [32], [33]. The importance of the role of the family can also be seen from the increasing number of policies, programs and budgets allocated for family development. The family became a group considered by various government policies and programs.

3.2.3. The scope of family development, population, and family planning

Family planning is essential to family development and population control because it enables individuals to make informed decisions about when and how to have children. This can have long-term consequences for both the individual and the family, as well as for the community and society. For example, family planning can help reduce the risk of unintended pregnancies, which can negatively impact the health and well-being of both the mother and the child. In addition, family planning can help to ensure that families can provide for and support the children they have, which can contribute to the family's overall well-being.

Family building is one of the important aspects that must be considered, family is the first social component that introduces values, religious morals, socio-culture and various other aspects of life. Efforts to improve social development are inseparable from the importance of the family as one of the important aspects of social construction. Prosperous families are the basic foundation for the integrity of strength and the sustainability of development. So far, we have only focused on creating community welfare by increasing the total family income, even though what must be realized is to align family income with the number of members in the family [22].

Communities and families involvement creates a more accepting community environment, community leaders, and religious leaders to change social norms about family planning and encourage the reproductive health service quality [30]. This family function significantly influenced contraceptive use, together with social, economic, and demographic factors [33]. The probability in women aged 15-49 years who are married or cohabiting who use contraception is higher in those who carry out religious functions and socio-cultural functions [30], [32]-[39], [43].

The government, in this case related to reproductive health and family planning has held a national program. This program maximizes mass media as a tool to provide information about family planning and promote the use of contraception. Hopefully, the information given will help cross-sectoral cooperation to assist in providing programs related to contraceptive [28], [47]-[50].

4. CONCLUSION

This article presents how important these three interrelated concepts are to the health and well-being of individuals, families, and society as a whole. For example, family development and support can lead to better physical and mental health outcomes, while population control and family planning can help ensure that communities have the resources and infrastructure to support their populations. In short, encouraging family development, population control, and family planning is very important to build strong and healthy families and communities so that they are able to carry out family functions optimally.

APPENDIX**Table 1. Characteristics of the selected studies (n=16)**

Authors	Country	Purpose	Design studies	Remark(s)
[30]	Afrikaans	Comparative analysis and informing birth control policies and programs	Cross-sectional	The need to provide areas that provide convenience for the better intervention of birth control opportunities.
[31]	Nigeria	Addressing the development gap by formulating an index of integration of family planning and child immunization services	Cross-sectional	More nuanced integration measures can more accurately reflect the true variations in integration in health facilities and the need for policies and programs that seek to promote.
[32]	Indonesian	Assessing the structural role and quality of birth control service processes in the use of modern contraceptives in women with reproductive age	Cross-sectional	The quality of the structure and process of birth control care has a vital role to play in the use of birth control which results in substantial growth in the use of modern contraceptives and the importance of community promotion programs that are available, accessible, acceptable, and of good quality.
[33]	East Ethiopia	Identifying factors related to unmet needs regarding the family planning	Cross-sectional	Socio-demographic, economic, and health institution factors determine the need to increase access to family planning services.
[34]	Mali and Senegal (Africa)	Identify factors that can help deliver information regarding birth control and to know what may affect the use of birth control	Cross-sectional	The strongest factor in the use of contraception is the husband. The need for education campaigns can be satisfied using an effort to increase the use of family planning. Family planning can be developed as a form of birth control to ensure economic continuity, health, welfare, and population growth.
[35]	Afrikaans	Comparing economic factors and demographic factors that cause the unmet needs regarding the family welfare	Cohort retrospective	Studies show that barriers to access to birth control, marital status, and husband's permission are the causes of unmet need events.
[36]	Cambodia	Determining the social and demographic factors that influence the unmet needs regarding the family planning	Cohort retrospective	The discovery of economic factors as well as women with low health autonomy where couples want a larger number of children.
[37]	Nigeria	To fill the society advancement gap and test the impact of media exposure on birth control messages on modern contraceptive use	Cross-sectional	Communication programs have become the main gateway as a medium that can increase discussions among partners about birth control, which can significantly contribute to the improvement of modern contraception.
[38]	Nigeria	To estimate the adoption rate and the trend of birth control prevalence on a sub-national scale	Cross-sectional	Understanding forecasts and sub-national birth control trends are integral to informing programmatic decision-making and providing affordable yet universal access to adequate family planning.
[39]	Afrikaans	Knowing the cause of the unmet need for family planning	Cross-sectional	The results of this research suggested that age, economy, and parity influence the incidence of unmet needs for birth control.
[40]	Nigeria	Investigate programmatic implications of unmet need for contraception among men and young married women	Cross-sectional	It was found that men were more responsive and informed about modern contraceptives than women. Families do not use birth control due to religious factors, pregnancy, poor access, and quality of services.
[41]	Guinea (Africa)	Analyze factors influencing the contraceptive use	Cohort retrospective	This research shows a significant relationship between ethnicity, socioeconomic status, democracy, and contraceptive use.
[42]	Indonesia and Uganda (Africa)	Estimating the long-term cost-effectiveness of birth control interventions	Cross-sectional	Increasing birth control interventions can improve women's health outcomes substantially and can be cost-effective. These results are strong in the sensitivity analysis.
[43]	Ethiopia	Knowing the prevalence and determinants of unmet need for birth control in couples.	Cross-sectional	The results showed that women aged 15-24 years had their birth control needs met. The unmet need for birth control is relatively lower in women living in cities due to access to services, information, and a good level of public awareness to increase knowledge about contraception.
[44]	Bangladesh	Exploring the factors related to the unmet need for birth control in WUS who are married under the age of 25	Cohort retrospective	Some of the significant causes of the occurrence of unmet need for birth control are region, place of residence, religion, husband's desire for children, birth control services, decision-making in child care, mass media, and the number of births.

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