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Review Article

Socioeconomic and Cultural Factors Influencing Type of Hormonal Contraceptive Use in Women in Developed vs Under-Developed Geographic Areas

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ABSTRACT

The intent of this study is to identify and compare sociocultural barriers in various geographic regions that impede access, type and use of hormonal contraception, and methods to improve restrictions in access. Understanding and addressing sociocultural barriers to hormonal contraception on a larger intercontinental scale can create a more effective and inclusive healthcare system. A search using PubMed, Cochrane, and Embase was conducted on current and past literature performed in various developmental countries. Terms such as "birth control access AND developed nations", "barriers of hormonal contraception AND low-income countries" were used. Studies included ranged from RCTs, cross-sectional studies, literature reviews, and meta-analyses. Countries reviewed with lower levels of development in Africa, the Middle East, Southeast Asia, and Latin America have demonstrated a rise in long-acting hormonal contraception (LARCs) after injectables. Barriers in these regions include misconceptions fertility and contraception use, access to modern contraceptives (these include oral and emergency contraceptive pills, implants, injectables, contraceptive patches and rings, intrauterine devices, female and male sterilization, vaginal barrier methods and female condoms), stigma and patriarchal settings that result in male influence on women's reproductive choices. More developed regions of the world like the United States and Europe demonstrated a range of contraceptive options with the most compliance for intrauterine implants (IUDs) in younger reproductive women. The greatest hindrances for developed regions were cost, difficulty obtaining appointments, and fallacies for future fertility. Contraceptive education and culturally sensitive counseling should be emphasized for healthcare employees serving women with ease of access, and to strengthen reproductive support services. Advocating to provide underdeveloped regions with better contraceptive resources highlights an importance to give women globally the empowerment to choose the direction of their own reproductive journey.

Introduction

Hormonal contraception is a world-wide recognized method for desirable family planning, treatment for gynaecological disorders, or other applications. The ability to select the type of effective contraception is essential for women's reproductive health and wellbeing. According to the Centers for Disease Control and Prevention, in 2015-2017, 64.9% of the 72.2 million women aged 15-49 in the United States (U.S.) alone were using contraception, not accounting for the even larger scale of global use [1]. Despite the growth in utilization, there are continuous limitations to equitable access and options for contraception in women. Several barriers exist in different geographic regions that can impede access and its usage, and the uniqueness/specificity of these barriers can vary with each demographic region [2-4]. These barriers shed light on the disparities that exist for women around the world comparing some developed and underdeveloped countries.

Many developed countries have established healthcare systems that are more advanced and readily available. Nonetheless, difficulties in access still exist in developed nations, such as insurance coverage, limitations in education, socioeconomic stability, and career opportunities. Even in the U.S., one-third of adult U.S. women who have ever tried to obtain

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prescription contraception reported access barriers [5]. Contrasting, underdeveloped countries that face difficulty in allocating reproductive services include obstacles geared more towards overall healthcare infrastructure, limited access to such contraceptives, and medical education on its uses. Different cultural stigmas, norms and religious beliefs may also influence women in certain regions to have larger families or deny contraception.

This review focuses on the intricate relationship between sociocultural factors that influence women's use and impact of the type of hormonal contraceptives of choice in different nations. Examining these barriers and elements contributes to better understanding of the greatest hindrances to contraceptive use, type, ontraceptive, type, and access. Some of these impediments can be minimized to provide a more equitable and inclusive global society for women's health in family planning and gynaecological treatment.

Methods

I. Overview

Literature databases were accessed through Rowan-Virtua University School of Osteopathic Medicine (SOM) Library through portals on its website, including PubMed, Embase, and Cochrane library. Studies included dated back from 1995 to 2023.

II. Search Term Strategy

The key terms and phrases used for the search query included: "barriers AND hormonal contraception", "socioeconomic barriers AND hormonal contraception in the U.S.", "birth control access AND developed nations", "barriers of hormonal contraception AND low-income countries". The use of Boolean operators such as 'AND' and 'OR' were implemented to refine the search and ensure inclusivity.

III. Inclusion Criteria

The articles selected were English written. Emphasis was placed on finding studies with perceptions and statistics regarding hormonal contraception performed in the United States as well as various countries expanding to different continents such as Africa, South America, Asia, and Europe. Studies included any socioeconomic background, country, nationality, and ethnic groups to get the most diverse perspective for this study. Conversely, studies were excluded if they did not meet the defined criteria or if they were duplicates.

IV. Types of Studies

The articles included in the search ranged from randomized controlled trials (RTC), cross-sectional studies, other literature reviews, and meta-analyses. There was no limitation on study-type.

V. Study Selection

Studies underwent screening focusing on titles and abstracts to gauge relevance. The eligibility of full-text articles from potentially pertinent studies was assessed. Any discrepancies were addressed through discussion and consensus.

VI. Types of Outcome Measures

The primary outcome measure is to assess the multiplicity of socioeconomic barriers and influences on hormonal contraceptive type, accessibility, and to identify a potential trend of common barriers in developed versus underdeveloped geographic regions to create a comprehensive analysis.

VII. Data Extraction and Analysis

A narrative analysis of data was utilized to identify, analyse, and summarize findings from included studies. Themes and patterns from the analysis were synthesized to address research objectives.

Results

Real-world data captured a wide range of factors that may affect contraceptive adherence including side effects and ease of use, but also other factors related to user experience in terms of history of contraception, desire for pregnancy, and medical counseling [6]. In addition, studies and other findings revealed that women's fear of contraceptive side effects, disapproval by partners, lack of knowledge about the contraceptive methods, religion, minimal or lack of spousal communication, and misconceptions were influencing factors on the accessibility to birth control in certain regions [7]. All these factors are important in understanding accessibility and effectiveness of hormonal contraception individually. Furthermore, there is a great overlap and oftentimes multiple factors play a role.

It is important to recognize that discussions and distinctions regarding racial groups, ethnicities, sex, gender, and national categorizations should not be viewed as absolute, as many individuals and groups have a mixed heritage and diverse sociocultural lifestyles. The distinctions or categorizations made in this review are intended solely for the purpose of examining reproductive health trends and contraceptive accessibility and use, without drawing definitive conclusions about any specific people group.

I. Underdeveloped Nations

Countries that exhibit lower levels of economic development, industrialization, healthcare, education, technology, innovation, and income are defined as "underdeveloped" nations or "developing" nations [8]. There are broad generalizations about continents and countries that may exist in this category and there may be exceptions.

Studies focusing on contraceptive use in the continent of Africa highlighted models of fertility transition [7, 9-11]. For example, Kenya was the most notable country of this transition, demonstrating a high level of fertility of over eight children born to an individual in the 1970s, which decreased to an average of 4 children per individual by 2014 [9]. While being predominantly categorized as 'underdeveloped', especially in past decades, the use of contraceptives in this region increased from 32% in 2003 to 58% by 2014 [9]. Along with that trend, the unmet need

for contraception showed a steady decrease from 29% in 1998 to 18% by 2014 [9]. These trends within Kenya, categorized as an 'underdeveloped' region of the globe, indicate gradual advancing accessibility and patterns of contraceptive use in the overall population in recent years, however, notable rates of unmet contraceptive needs remain.

The fear of contraceptive side effects, discontentment by male partners, lack of knowledge of contraceptive methods, and minimal spousal communication have been a great influence for this region [7]. In addition, this region is characterized by predominantly patriarchal societies where sexual, family planning, and reproductive decision-making is almost solely influenced by the male heads of households, which subsequently leads to a preference for male-born children [7]. This results in many women of this region with less patient-autonomy to make reproductive medical decisions. Behaviours such as hiding contraceptive pills or preferring contraceptive injections to avoid tangible evidence of contraception are therefore increased in this region.

Additionally, the fact that many women in Kenya consider the pill difficult to adhere to may help explain the rise in injectable use, from 7% in 1993 to 29% in 2015, whereas the use of pills has stagnated between 7% and 10% over this period [11]. This trend demonstrates the increase of 'method mix' to this region, which is defined as the relative level of use of different contraceptive methods over a demographic [9]. Method mix in Kenya, such as that of rising preference in injectable use, is often met with challenges in allocating and providing contraceptive commodities to these regions [9].

Long-acting reversible contraception (LARC) uses like intrauterine devices (IUDs), injections, and implants have recently been observed to expand in this region, though still noticed to be low. Increasing the variety in the share of LARCs can expand the method mix [9]. In the city of Nairobi, Kenya, 75% of women surveyed were currently using methods of contraception. Injectables were the leading contraceptive choice followed by implants, as the dominant methods. In the city of Homa Bay, Kenya, the level of current use was 65% of women surveyed, with a method mix similar to Nairobi [10].

Higher levels of education can be associated with greater access to information and to healthcare services in understanding reproductive health. However, educational attainment does not uniformly appear to determine contraceptive choices. In a study done by Kungu *et al.* using 3 waves of data from the Kenya Demographic Health Survey of 2003, 2008, 2009, and 2014 demonstrated slow growth of LARC usage in Kenya with a predominant population of women ages 25-34 years in 2014. In this study, education demonstrated some influence in 2003, with secondary educated women being more likely to use LARC as compared to no education. Years later, most users in 2014 for both IUDs and implants, with a 50-60% share each, had primary level education, while the lowest use for both was among women with higher education [9]. Personal preferences, values, current state of financial stability, shifts in societal attitudes all create a multi-faceted influence on contraceptive choices as well.

In countries like Uganda and Senegal, structural barriers include long distances to the nearest health facility, a lack of trained personnel and supplies, the cost of travel and services, and de facto policies that exclude unmarried young people from reproductive health services [4]. The prime among socio-cultural barriers young people face in accessing contraception is the stigma associated with sexual activity, especially among young women with lack of knowledge about the reproductive system, contraceptive options, patriarchal setting, and the cost and legality [4, 12].

Specifically with societal stigma on reproductive health care and decision making, it is noted that the tendency of health workers in these regions to refuse reproductive health services to unmarried adolescents creates a large gap in the contraceptive usage and benefits [2, 4, 13]. In evaluating other underserved regions, a study that assessed 16 diverse countries ranging from sub-Saharan Africa and Southeast Asia about contraception for adolescents (15-19) in 2014 demonstrated contraceptive use ranges from 21%-64%; for the married, the range is even wider, 6%-67% [2].

The limitation to only condoms or pill contraception and false beliefs of LARCs to be inappropriate for young women leave a poor understanding of how contraceptive methods work properly. This incorrect use of other more available methods may lead to taking the oral contraceptive pill just before or after intercourse rather than regular use. Different misconceptions mislead women and prevent them from trying other forms of beneficial contraceptives that could be more effective in terms of stability and usage. 40% thought injectables might cause health problems while 38% though injectables may cause unpleasant side effects, compared with 24% and 26% for pills [10]. The use was low in Matlab, Bangladesh, of 59%, where oral contraception pills and injectables were the favoured methods due to low approval for IUDs and sterilizations in women [10]. Percentages of women surveyed in sub-Saharan Africa and Southeast Asia having unmet need range from 34%-67% for the unmarried and 7%-62% for the married [2]. Many women of these regions are left with an increase of unprotected intercourse that are likely linked to high incidences of unintended pregnancies, increased risk for maternal morbidity/mortality, disturbance to economic/educational pursuit and a decline in women's empowerment through such misconceptions and unmet needs.

Interestingly, LARCs have shown a notable rise in small regions like the Middle East. A study done with participants in Gaza, Palestine explored some potential barriers to contraception for women and to understand their perspectives. Contraception was mainly used to reduce unintended pregnancies or spacing them apart. The limitations exist with misconceptions for fertility, shortages, and men being the major factor in choosing the method. In Palestine, 54.8% of married women aged 15-49 years reported using contraception with 44% of reproductive age using modern contraceptives like IUDs [14]. Participants of the study reported a limited choice of contraception for the women of the Gaza Strip- most used contraceptives were the IUD, used by 56 (35.4%) women, and combined oral contraceptive pills (COCP) by 41 (25.9%), followed by less reliable choices, namely condoms with 26 women (16.5%) and natural methods with 24 (15.2%) [14]. Greater access of LARCs, such as the hormonal implants, demonstrated an increased uptake of contraception in Gaza through challenges and switches of contraceptive methods like accessible COCP are regular with shortages [14]. These reported barriers are displayed in (Table 1).

Several countries in Latin America have seen progress in the use of more modern contraception as well, but inequalities and barriers remain. The lowest modern contraceptive prevalence was observed in Haiti (31.3%) and Bolivia (34.6%). Brazil, Colombia, Costa Rica, Cuba, and Paraguay had over 70% of modern contraceptive prevalence with low absolute inequalities [15].

In most countries, short-acting reversible contraceptives (SARCs), that include oral contraceptive pills, emergency contraceptive pills, condoms, diaphragms, contraceptive patches, and rings, etc., were the most frequent type of contraceptive used by women. A 2019 study done by Ponce de Leon *et al.* indicates that 40% or more of women were using SARCs in Argentina, Barbados, Brazil, Costa Rica, Nicaragua, Paraguay, Peru, and St Lucia. By contrast, only Cuba, Colombia, Mexico, Ecuador, Paraguay, Trinidad and Tobago had more than 10% of women adopting LARCs. Permanent contraception, like sterilization via tubal ligation, vasectomy, and hysterectomy, accounted for more than half of all methods being used in Mexico, Dominican Republic, and El Salvador. Mexico had the lowest prevalence of SARCs (14%) and was the only country in which LARCs (17%) were more frequently used than SARCs [15]. This reveals diverse circumstances of contraceptive use by countries in Latin America with many of the more underserved countries in this region utilizing SARCs. Certain countries in this geographic area with higher socioeconomic status demonstrated more frequent use of LARCs or permanent contraception. These reproductive trends and barriers are comprehensively portrayed in (Table 2).

Table 1: Review of reported predominant barriers to contraception accessor use over categorized underdeveloped nations by study.

Study Reviewed	Reported Predominant Barriers to Contraception Use of Underdeveloped Nations
Abdi *et al.* [7]	Fear of contraceptive side effects, discontentment by male partners, lack of knowledge of contraceptive methods, and minimal spousal communication
Cohen *et al.* [4]	Societal stigma associated with sexual activity, especially among young women
Kabagenyi *et al.* [12]	Societal stigma associated with sexual activity, especially among young women
Machiyama *et al.* [10]	Misconceptions about contraceptive methods, including false beliefs about LARCs
Böttcher *et al.* [14]	Limited access to certain contraceptive methods due to shortages
Chandra-Mouli *et al.* [2]	Societal misconceptions and unmet contraceptive needs contribute to increased unprotected intercourse and unintended pregnancies

Table 2: Review of reported contraception of Choice, reported predominant barriers to contraception access and use, and supplemental contributing sociological factors by noted city, nation, or geographical region.

Noted City, Nation, or Geographical Region	Reported Predominant Form of Contraception	Reported infrastructural and sociocultural predominant barriers to contraceptive use	Reference
Kenya	Injectables and Implants	Fear of contraceptive side effects, discontentment by male partners, lack of knowledge of contraceptive methods, minimal spousal communication. Predominantly patriarchal societies where male heads influence reproductive decision-making.	[7, 9-11],
Uganda	Not specified	Long distances to the nearest health facility, lack of trained personnel and supplies, cost of travel and services, de facto policies excluding unmarried young people from reproductive health services, and stigma associated with sexual activity especially among young women.	[12]
Senegal	Not specified	Long distances to the nearest health facility, lack of trained personnel and supplies, cost of travel and services, de facto policies excluding unmarried young people from reproductive health services, and stigma associated with sexual activity especially among young women.	[4]
Sub Saharan Africa	Not specified	Limited contraceptive knowledge, societal stigma on reproductive health care and decision making, and refusal of reproductive health services to unmarried adolescents by health workers.	[2]
Southeast Asia	Not specified	Limited contraceptive knowledge, societal stigma on reproductive health care and decision making, and refusal of reproductive health services to unmarried adolescents by health workers.	[2]
Matlab, Bangladesh	Oral Contraceptive Pills and Injectables	Misconceptions about injectables causing health problems and unpleasant side effects. Low approval for IUDs and sterilizations.	[10]
Gaza, Palestine	IUDs and COCP	Misconceptions about fertility impact. Shortages of contraceptive methods. Male influence on contraceptive method choice.	[14]
Latin Americas	SARCs	Inequalities and barriers in accessing modern contraception.	[15]

II. Developed Nations: United States

Healthcare technology today has advanced the creation of numerous forms of contraception. Major socioeconomic differences in contraceptive use are observed in high-income countries as well. The economic and resource burden is minimal in more developed nations. A woman living in the United States will have over 10 categories of contraception and countless formulations from which to choose, and despite these contraceptive advances, unplanned pregnancies make up 45% of all pregnancies in the United States [16]. Therefore, obstacles still exist even in the most industrialized nations. Cost is often cited as a main factor explaining these differences in contraceptive methods, but other barriers may also exist [17].

In the United States, most frequently cited barriers and facilitators were method characteristics, partner and provider relationships, transportation, healthcare availability and accessibility, cost with insurance, and stigma [3]. In a study done by Grindlay *et al.* evaluating birth control access among U.S. women participants with a total of 1385, 68% of women that had ever tried to get a prescription for hormonal contraception showed that among this population, 29% reported having problems obtaining a prescription or refills [5].

The various blockades and difficulties to obtaining consistent contraception in the U.S. included cost or lack of insurance, challenges obtaining an appointment or getting to a clinic, the clinician requiring a clinic visit, exam, or pap smear, not having a regular doctor/clinic, difficulty accessing a pharmacy, and other reasons [5]. Uninsured women are more likely to report problems obtaining a prescription or refill, although women with public or private insurance also reported difficulties [5]. These barriers were particularly predominant prior to the 2011 Affordable Care Act implemented in the United States, a comprehensive health reform law that has brought changes to contraceptive accessibility, thus changes from this law should be kept in mind. However, knowing accessibility concerns prior to the Affordable Care Act is a useful baseline for assessing the advancement of contraceptive accessibility through the decades.

Regarding types of contraception in the United States, when comparing different contraceptives such as the COCP versus transdermal contraceptive patch, vaginal contraceptive ring, or levonorgestrel intrauterine system (LNG-IUS) 12,16, and 20 μg/day versus the copper IUD, a significant outcome was that the COCP group had a higher proportion of women who discontinued for 'other personal reasons' compared with the group assigned to the LNG-IUS 20 (OR 0.27, 95% CI 0.09 to 0.85) [18]. The use of LARCs again are seen to be on a rise this past decade worldwide.

The United States has several subgroups of underserved women who have trouble with contraception methods as well. American Muslim women are an understudied minority ethnic group. Racial and ethnic minorities are likely to experience more difficulties in contraceptive access or unintended pregnancies. American Muslim women, ages 18-49, within the U.S. with self-reported data in 2015 noted 66% used oral contraceptive pills, 66% also used condoms, and 32% used the withdrawal method [19]. Not as much variation of hormonal contraceptive use or LARC use was observed in this study of women. The primary factors contributing to difficulties faced by this group of women are rooted in religious or cultural beliefs that prioritize procreation within the context of marriage and may discourage premarital intercourse. Additionally, individuals may encounter stigma from those who adhere to different beliefs or through confrontations regarding their behaviours [19]. Married women within this group were associated with greater odds of contraceptive use compared to non-married women [19].

Another racial minority includes African American women. Compared to Caucasian adolescents, hormonal contraceptive use among African American female adolescents remains low, with low-income, inner-city adolescents having some of the lowest rates of compliance [20]. In a study done by Gilliam *et al.* trying to understand African American female adolescents use and attitudes about contraception in a small focus group, eight sexually active adolescents (53%), three (38%) reported using birth control every time they had sex, six (75%) stated they used a condom every time they had sex, six (75%) had been pregnant one or more times (three of which ended in abortion; two of which ended in miscarriage), and five (63%) were currently parenting one or more children [20]. A hard time remembering to take daily medication, change weekly contraceptive patches, or return to clinic every three months for injections and unfamiliarity with newer methods such as IUDs were reported factors contributing to lower compliance to contraceptives [20].

Women of reproductive age serving in Armed forces or Military of the United States also particularly continue to have trouble with appropriate hormonal contraceptive use and accessibility. Roughly half of servicewomen who had to start or refill contraception during deployment report difficulty in doing so [21]. The most common methods among servicewomen were the pill (36.6%), intrauterine device (22.3%) and implant (13.1%) [21]. Difficulty obtaining an appointment and the inability to get a full supply of birth control were barriers to contraception access both before and during deployment, yet only 16% felt that they did not have access to the full range of contraceptive methods [21].

III. Developed Nations: Non-U.S. Regions

In other intercontinental regions with significant industrialization have their limitations as well. In particular, France shows that one of the main strengths of the French health insurance database is that it covers about 98% of the resident population, including low-income women residing in the country [17].

Among both low-income and non-low-income women, implants were mostly used by those aged 20-24 years (22% and 9%, respectively), whereas the LNG-IUS was mostly used by those aged 40-45 years (18% and 30%, respectively) [17]. Two-year continuation rates were 88.1% for the copper-IUD, 91.1% for the LNG-IUS and 83.6% for the implant [6]. The high continuation rates observed with LARC methods suggest that they are well accepted (including side effects), that users have received proper counseling and that they offer a flexible contraceptive choice [6]. There is an overall high continuation and usage of LARCs compared to oral contraceptives.

In Japan, emergency contraceptive pills (ECPs) are difficult to obtain, require prescription, are expensive and typically not covered by national health insurance. Levonorgestrel-only ECPs and copper IUDs are the only available emergency contraception for women in this region [22]. In another study assessing a population of women in Ukraine, 75% used condoms and pessaries and 46% used oral contraceptives whilst only a few women of 16% had used IUDs with knowledge of IUDs and implants being low (17% and 47% respectively) [23]. The most feared self-reported side effects related to hormonal contraception were future infertility expressed by 35%, followed by thrombosis expressed by 24% and 21% feared weight gain [23].

In the United Kingdom, several studies approached the changes of hormonal contraceptive use in the past two decades. Measured prescription contraceptive use of the UK in 2008 showed prevalence that was: COCs, 16.2%; progestin-only pills, 5.6%; copper-IUD, 4.5%; LNG-IUS, 4.2%; progestogen-only implants, 1.5%; progestogen-only injections, 2.4%; and contraceptive patches, 0.1% [24]. Within 1 year, 9.8% of new COC users switched to alternative COCs, and 9.0% changed to a different method [24].

In the developed regions of the United Kingdom, such as Scotland and its counterparts, there exists minimal variance in the prescription patterns of contraceptives across urban and rural healthcare facilities, as well as among practices of varying sizes [25]. Notably, discernible trends emerge in prescription practices concerning socioeconomic factors.

Within regions characterized by lower levels of socioeconomic deprivation, medical practices exhibit reduced rates of prescribing implants by 19%, transdermal patches by 16%, and an elevated prescription rate of progestin-only pills by 9% compared to their counterparts in the most deprived quintiles [25]. The predominant form of contraception prescribed in these areas remains COCP, with a marginal increase observed from 17.7% in 2004-2005 to 18.3% in 2008-2009. Over the span of 2004 to 2009, the overall annual incidence of hormonal LARCs in these regions experienced a modest uptick from 27.7% to 30.1% [26].

Conversely, within the contraceptive landscape of Northern Ireland, a distinct shift is noted in prescription patterns from 2010 to 2016 [25]. During this period, there was a reduction of 12% in the dispensing of COCP, 6% in contraceptive injections, and 5% in emergency contraception. Contrarily, there was a notable increase of 23% in the dispensing of progestin-only pills, 12% in contraceptive implants, and 6% in IUDs.

The use of more modern hormonal contraception, like LARCs, have been on the rise in numerous developed regions alike undeveloped regions, but with greater accessibility to these methods and several other options of choice. Comprehensive reported trends of contraceptive access and use of developed nations can be found in (Table 3).

Table 3: Review of reported factors that may influence contraception access or use over categorized developed nations by study.

Study Reviewed	Reported Trends of Contraceptive Access and Use Across Categorized Developed Nations	Predominant nation or geographic region examined
Cea-Soriano *et al.* [24]	Varied prescription patterns of contraceptives across different regions and healthcare facilities. Notable changes in prescription practices influenced by socioeconomic factors.	United Kingdom
Given *et al.* [25]	Varied prescription patterns of contraceptives across different regions and healthcare facilities. Notable changes in prescription practices influenced by socioeconomic factors. Minimal variance in prescription patterns across urban and rural healthcare facilities. Prescription practices influenced by socioeconomic factors. Distinct shift in prescription patterns from 2010 to 2016, with changes in the dispensing of various contraceptive methods.	United Kingdom
Reddy *et al.* [26]	Varied prescription patterns of contraceptives across different regions and healthcare facilities. Notable changes in prescription practices influenced by socioeconomic factors. Minimal variance in prescription patterns across urban and rural healthcare facilities. Prescription practices influenced by socioeconomic factors.	United Kingdom
Congy *et al.* [17]	Comprehensive coverage by the French health insurance database, including low-income women. High acceptance and continuation rates of long-acting reversible contraceptive (LARC) methods.	France
Agostini *et al.* [6]	Comprehensive coverage by the French health insurance database, including low-income women.	France

	High acceptance and continuation rates of long-acting reversible contraceptive (LARC) methods.	
Kamijo *et al.* [22]	Difficulty in obtaining emergency contraceptive pills (ECPs) due to prescription requirement, cost, and lack of insurance coverage.	Japan
Grindlay *et al.* [5]	Challenges include cost, lack of insurance, difficulty obtaining appointments or accessing clinics, requirement of consultation visits, and difficulty accessing pharmacies.	United States
Gilliam *et al.* [20]	Low compliance rates and familiarity with contraceptive methods among African American female adolescents pose challenges to contraceptive use.	United States
Seymour *et al.* [21]	Servicewomen in the Armed Forces face difficulties in obtaining and refilling contraception, especially during deployment.	United States
Budhwani *et al.* [19]	American Muslim women face difficulties due to religious and cultural beliefs emphasizing intercourse solely procreation.	United States
	Stigma associated with using contraceptives in the setting of intercourse without procreation.	

Discussion

Data reviewed presents a diverse array of factors influencing contraceptive use, access, and adherence, including cost, accessibility, cultural norms, stigma, side effects, and misconceptions. These factors exhibit both similarities and differences between developed and underdeveloped nations. Notably, underdeveloped regions face several limitations impacting hormonal contraception type and use, with prevalent misconceptions observed in countries like Kenya and Bangladesh regarding oral contraceptives and their alleged role in infertility and disease.

Regarding IUD development and usage, positive aspects such as high effectiveness and long-acting nature are countered by concerns about health risks, including cancer and infertility. While IUDs are often associated with menstrual pain and cycle interference, pills exhibit more common side effects compared to injectables and implants. Data reviewed on the Gaza Strip highlights significant challenges stemming from widespread misconceptions, including concerns about contraceptive impact on future fertility and cancer.

In underdeveloped regions, factors such as fear of side effects, disapproval by partners, lack of knowledge, religious beliefs, and limited spousal communication play pivotal roles in contraceptive decision-making. Patriarchal societies, particularly in regions like Kenya and Uganda, often designate men as sole decision-makers in family planning matters. While male involvement in women's reproductive health can be beneficial, it also necessitates countering negative beliefs through education and awareness-raising efforts.

Several underdeveloped regions, like Palestine, face challenges in contraceptive service provision, including long waiting times and shortages of contraception. In Kenya, while LARC methods are reported to be on the rise, accessibility issues persist, particularly in rural areas. Socioeconomic inequalities influence contraceptive use patterns, with disparities observed between richer and poorer women in Latin America.

In some countries, laws and policies restrict hormonal contraception supply to unmarried adolescents or those under a certain age, reflecting deep-rooted social stigmas and cultural barriers surrounding sexual and reproductive health (SRH). Healthcare workers' refusal to provide contraceptive information and services exacerbates these challenges, underscoring the importance of comprehensive contraceptive education and counseling for all healthcare personnel.

Conversely, in more developed regions like the United States, women have access to a wide range of contraceptive options, albeit misconceptions persist regarding method safety and effectiveness. Language surrounding hormonal contraception remains largely negative, influenced by misunderstandings about device placement and potential side effects. Notably, socioeconomic status significantly impacts immigrant women's contraceptive use in developed regions. In addition, a large distinction of contraceptive use in the U.S. compared to less industrialized nations was that women in the U.S. reported barriers largely attributed to insurance coverage and cost, appointment availabilities, prescription renewal processes, and adherence contrasted to infrastructural barriers within less industrialized nations such as the overall resource allocation and availability of contraceptives as a whole. Similar comparisons and contrasts exist for non-U.S. developed nations compared to less developed nations as well.

Addressing barriers to contraceptive access and utilization requires multifaceted approaches, including educational interventions, support services, affordability initiatives, and enhanced healthcare provider training. While challenges vary across regions, there is considerable overlap between developed and underdeveloped contexts, highlighting the need for comprehensive strategies to promote women's reproductive health globally.

Conclusion

Hormonal contraceptive use is an imperative resource for women regarding their reproductive health. Challenges continue to persist everywhere with differences in barriers of access, usage, and understanding about contraception. Women in underdeveloped regions of the world have seen a slow rise in modern contraception like LARCs. Poor financial, educational, and economic shortages are strong imperatives for using LARCs [27]. The method provides long-acting

effectiveness, is cost-effective compared to COCPs, has reduced usage error, reduced need for regular appointments and refills, and more reproductive control that requires minimal action. However, constraints continue to exist that include lack of reproductive knowledge, fallacies and differing cultural ideals, and patriarchal settings. Though these regions have such hindrances, an increase of modern contraception is becoming more socially acceptable and prevalent due to positive benefits seen that are long-lasting after minimized misconceptions.

In more developed nations, a range of contraceptive options are available for women to choose from with the most compliance for IUDs in younger reproductive women. The most frequently cited barriers are healthcare intricacy, insurance coverage gaps, appointment availability for pelvic exams for prescriptions or follow-ups for injectables, and side effect misunderstandings like decreased fertility. Today, though not mentioned in this paper or studies, a concern for the lack of male contraceptive options contributes to an imbalance and disproportionately large burden on women to manage their choice of fertility and gynaecological concerns. Huge strides have been made in all nations worldwide to increase the method variety and ease for women's contraception. Providing women with medically professional-reviewed leaflets about taking the contraceptive pill correctly, similarly to over-the-counter emergency contraception, has shown to significantly improve their extent of such knowledge and would continue to be beneficial [28]. Addressing some of these major barriers practically can allow hormonal contraception to be the most efficient and effective it can be. It is vital for providers to understand culturally sensitive and comprehensive reproductive health education and restrictions to ensure that women who receive care feel safe and make informed choices based on their own individual circumstances.

Limitations

It's essential to mention that terms "underdeveloped" or "developed" are relative, and many prefer using neutral and less judgmental terms like "developing", "low-income", or "high-income" to describe countries facing economic challenges. Additionally, there is ongoing debate about the value and accuracy of classifying countries in such terms. These terms oversimplify the intricate sociocultural and political realities that these nations face. This review does not include most intercontinental countries, but prioritized focus on studies in developed and underdeveloped regions that provided the most evidence, gathered data, and recent resources. Data discussed in this paper contains high variability due to a large review range of continents and nations on a therapeutic agent with many different uses such as contraception. The data mentioned in this study should be viewed as a snapshot of information seen in that time of study evaluated in those nations. All studies have their stated limitations as well, so data should be viewed carefully with continuous changes occurring today.

Further research would be required to gauge the most recent and up-to-date information about the frequency of hormonal contraceptive method usage, accessibility, and sociocultural factors that may have changed since the studies were last performed. The extensive list of socioeconomic and cultural factors influencing hormonal contraception in various nations are not fully considered or thoroughly addressed, yet the major factors were reflected and evaluated as the most common in those developed and underdeveloped regions.

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