**Title:** Demand for family plannin­g satisfied with modern methods among sexually active women in low- and middle-income countries: who is lagging behind?

**Authors:**

Fernanda Ewerling1,2 – fewerling@equidade.org (ORCID 0000-0003-3668-7134)

Address: Marechal Deodoro n1160, 3rd floor, Pelotas, RS, Brazil.

Phone: +55 (53) 3284 - 1300

Cesar G Victora1,2 – cvictora@equidade.org (ORCID 0000-0002-2465-2180)

Anita Raj3, e-mail – anitaraj@ucsd.edu (ORCID 0000-0002-8127-5123)

Carolina Coll1 – ccoll@equidade.org (ORCID 0000-0003-0808-8230)

Franciele Hellwig1,2 – fhellwig@equidade.org (ORCID 0000-0002-2509-9866)

Aluisio JD Barros1,2 – abarros@equidade.org (ORCID 0000-0002-2022-8729)

**Affiliations:** 1International Center for Equity in Health, Federal University of Pelotas, Pelotas, Brazil; 2Postgraduate Program in Epidemiology, Federal University of Pelotas, Pelotas, Brazil; 3 Center on Gender Equity and Health, University of California San Diego, US.

# Abstract

**Background:** Family planning access is key for reducing unintended pregnancies and their health consequences and is also associated with improvements in economic outcomes.

**Objective:** Identify sexually active women who are not having their demand for family planning satisfied with modern methods and to describe their sociodemographic characteristics, subsidizing information to better target effective programs.

**Methods:** Analyses were based on publicly available national health surveys carried out since year 2000 in low- and middle-income countries. We estimated demand for family planning satisfied with modern methods (mDFPS) among women aged 15-49 years in need of contraception. We identified subgroups with low coverage (mDFPS below 20%) according to marital status, wealth, women’s age and education, literacy, urban or rural area of residence, geographic region and religion.

**Results:** 52.9% of women who needed contraception were using a modern method, but coverage varied greatly. West & Central Africa showed the lowest coverage, with South Asia and Latin America & the Caribbean at the other end of the spectrum. Some countries showed high reliance on traditional contraceptive methods, markedly those from Central and Eastern Europe, and the Commonwealth of Independent States. Albania, Azerbaijan, Benin, Chad and Congo DR presented mDFPS below 20%. In most countries, mDFPS coverage was low among women in the poorest wealth quintiles, youngest age groups, with little education and living in rural areas. Coverage according to marital status varied across greatly across the world regions.

**Conclusions:** More than half of women in need were not using effective family planning methods. As is often the case, subgroups requiring special attention include women who are poor, uneducated and young. Efforts to increase mDFPS must address not only the supply side but also tackle the need to change social norms that might inhibit uptake of contraception.

**Keywords:** Family planning; Contraception; Socioeconomic Factors; Health Equity.

# Introduction

“Leaving no one behind” is a key feature of the Sustainable Development Goals (SDGs) launched in 2015 by the United Nations. Universal access to sexual and reproductive health, inclusive of family planning, is one of the key objectives for sustainable development. It is explicitly mentioned in goal 3 on good health and wellbeing, but may also be considered as part of goal 5, that aims at gender equality and women’s empowerment [[1](#_ENREF_1), [2](#_ENREF_2)]. Provision of safe, effective and affordable modern contraceptive methods is central to achieve high levels of demand satisfied for family planning (DFPS, also referred to as contraceptive prevalence) and address women´s sexual and reproductive health needs[[3](#_ENREF_3)]. The optimal use of modern contraceptive methods will help prevent unintended pregnancies and induced abortions in low- and middle-income countries (LMICs) [[4](#_ENREF_4)], and will directly contribute to improve maternal and child health outcomes [[5](#_ENREF_5), [6](#_ENREF_6)]. Family planning also has potential to reduce poverty worldwide by improving educational and economic achievements of women [[3](#_ENREF_3), [7](#_ENREF_7)].

Although contraceptive use prevalence and DFPS are increasing worldwide[[8](#_ENREF_8), [9](#_ENREF_9)], coverage remains unacceptably low in many LMICs, with about one in three women of reproductive age failing to use modern methods despite their desire to delay or limit pregnancy[[10](#_ENREF_10)]. Large gaps remain in DFPS with modern methods (mDFPS) between countries, with the lowest coverage among countries where overall contraceptive use is low, or where women mainly rely on traditional methods [[11](#_ENREF_11), [12](#_ENREF_12)]. Furthermore, within-country socioeconomic disparities in access to modern contraception persist [[13](#_ENREF_13), [14](#_ENREF_14)]. Positive attitudes towards modern contraception tend to be more common among women with higher educational level [[10](#_ENREF_10)]. Lower levels of contraceptive use are reported for women who are young, poor and live in rural areas [[10](#_ENREF_10)].

Lack of access to information or services, as well as the stigma attached to contraceptive use due to social norms and expectations surrounding early marriage and motherhood, lead women not to use contraception even when they desire to avoid pregnancy [[10](#_ENREF_10), [15](#_ENREF_15), [16](#_ENREF_16)]. Qualitative evidence indicates that female disapproval of modern family planning methods is influenced by women´s misconceptions, including their limited understanding of potential side effects [[10](#_ENREF_10)].

Efforts to achieve universal mDFPS require the assessment of within-country inequalities and identification of low-coverage population subgroups [[14](#_ENREF_14)]. In this context, disaggregated analyses according to key stratifiers are essential [[1](#_ENREF_1)]. An important limitation is that most of the family planning literature is based on married women; expanding this focus to all sexually active women may provide further insights on who is being left behind [[17](#_ENREF_17)]. Our objective was to identify which groups of sexually active women are not being reached by family planning programs, both at national and subnational levels, to inform the improvement and expansion of programmatic efforts to narrow the gaps in mDFPS.

# Methods

Our analyses were based on publicly available national health surveys from LMICs and restricted to the latest survey from each country, carried out since year 2000. These surveys included Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS). The similarity of the methodology and sampling strategy used in both types of surveys ensures the comparability of their results. We identified 95 surveys, from which we excluded 18 (see Table 1) that only had information on women who were married or in a union. Table 2 presents the 77 surveys used in this analysis.

Our main indicator was the proportion of women using a contraceptive method, among those in need of contraception. We will call this indicator DFPS, but it is also be referred in the literature as family planning coverage [[18](#_ENREF_18)], or other similar denominations. Differently from other indicators commonly used in the field, such as unmet need for contraception for which the denominator includes all women, this is a coverage indicator because the denominator is restricted to the sexually active women in need of contraception. We estimated demand for family planning satisfied with any contraceptive (DFPS) as well as with modern methods only (mDFPS) among sexually active women aged 15-49 years. Women were considered sexually active either if they were in a union or reported a sexual intercourse in the four weeks before the survey. mDFPS was calculated according to the 2012 update of the indicator definition [[19](#_ENREF_19)]. Women in need of contraception are defined as those who are fecund and do not want to become pregnant within the next two years, or who are unsure about whether or when they want to become pregnant. Pregnant women with a mistimed or unwanted pregnancy are also considered in need of contraception. Modern contraceptive methods were defined as technological products or medical procedures that affect natural reproduction [[20](#_ENREF_20)]. According to this definition, modern methods include contraceptive pills, condoms (male and female), intrauterine device (IUD), sterilization (male and female), injectables, hormone implants, diaphragms, spermicidal agents (foam/jelly), and emergency contraception.

We also present coverage according to type of mDFPS contraceptive, coded as: (1) modern, short acting methods including contraceptive pills, condoms, diaphragms, spermicidal agents and emergency contraception; (2) modern, long acting methods, including IUD, injectables and hormone implants; and (3) modern, permanent methods, that comprise male and female sterilizations. Reliance on modern methods was assessed by the share of modern over any contraceptive method (modern or traditional). Traditional methods include lactational amenorrhea, abstinence, rhythm or calendar methods, and withdrawal. Reliance on modern methods was plotted against the country’s per capita gross domestic product (GDP) per capita adjusted by purchase power parity, in international dollars, to evaluate its covariance.

Mean mDFPS was estimated for each world region according to marital status (women in a union vs not in a union). The region estimates are unweighted averages. Correlation between the mDFPS and the country’s total fertility rate was also assessed.

For identifying countries, areas and subgroups of women who are being been left behind, we arbitrarily defined very low coverage as being below 20%. Analysis were stratified by woman’s age (15-17 years; 18-19 years; 20-49 years old); education (none; primary; secondary or higher), literacy (yes; no); union, defined as being currently married or in a union (yes; no); wealth quintiles, based on the asset index included in the survey datasets (Q1 being the poorest and Q5 the richest quintile); area (urban; rural) and region of residence in the country, classified according to the surveys; and religion defined in DHS as the woman’s religion, and in MICS as the religion of the household head.

Several analyses are presented by world region, according to the UNICEF classification: West & Central Africa, Eastern & Southern Africa, Central and Eastern Europe & the Commonwealth of Independent States (CEE & CIS), South Asia, East Asia & Pacific and Latin America & the Caribbean.

The surveys are based on complex samples and all estimates took into account the sample design, including clusters, strata and sample weights. All analyses were conducted using Stata (StataCorp. 2013. Stata Statistical Software: Release 13. College Station, TX: StataCorp LP).

# Results

Overall, mDFPS ranged from 13.5% (in Albania) to 89.5% (in Cuba), with a global unweighted mean coverage of 52.9% (see Table 2). South Asia and Latin America & the Caribbean presented the highest average mDFPS, around 70%, followed by East Asia & Pacific, Eastern & Southern Africa, CEE & CIS, and West & Central Africa. The latter presented mean mDFPS of 32.9%, with countries ranging from 17.6 to 51.5%. Eleven surveys were available for the Middle East & North Africa in the study period, but none had information for sexually active women who were not in union.

Still in table 2, DFPS was subdivided by the type of contraceptive method. The last column indicates the proportion of the DFPS (with any contraceptive method) that was due to modern contraceptive methods. Diverse countries from CEEE & CIS have low reliance on modern contraception (% modern), which means that most women in countries as Albania, Armenia, Azerbaijan, Bosnia and Herzegovina still relying on traditional contraception. In East Asia & Pacific, Cambodia, Philippines and Vietnam also showed lower shares of DFPS with modern methods. This pattern was also observed in Congo and Congo DR. Zimbabwe, Barbados, Saint Lucia, Swaziland, Belarus, Ukraine, Suriname, Serbia, Lesotho and Costa Rica are the top ten countries for the use of modern, short term contraception. Even among these countries, Barbados, Saint Lucia and Suriname have around one quarter of the women in need of contraception failing to use any method. In Uzbekistan, Malawi, Kazakhstan, Indonesia, Kenya, Rwanda and Ethiopia most women relied on long-acting contraception. Within this group, Uzbekistan, Ethiopia and Kenya showed extremely low use of other modern methods. Permanent contraception was highly prevalent in eleven countries, including three from South Asia (India, Nepal and Bhutan) and eight from Latin American & Caribbean (Dominican Republic, Colombia, Costa Rica, Nicaragua, Panama, Belize, Honduras, and Cuba). In all of these countries, more than one quarter of the couples included a partner who had been sterilized.

Between-country inequalities in mDFPS are large in all regions, as shown in Figure 1, where each dot represents one country. CEE & CIS and Eastern & Southern Africa were the regions with the largest spreads across the countries, presenting gaps of 69.5% and 59.7%, respectively, comparing the countries with highest and lowest coverage in each region. West & Central Africa has the largest number of countries with data, the lowest mean, and is one of the most homogeneous, with only one country with coverage above 50%.

In Figure 2, the share of DFPS with modern methods was plotted against the country’s per capita gross domestic product (GDP). In general, countries with higher GDP also show greater reliance on modern methods, with the notable exception of CEE & CIS countries (highlighted in Figure 2). This region showed peculiar results, with huge variation in mDFPS (from 13.5% to 83.0%, Figure 1), and the lowest reliance on modern methods. Albania and Kosovo, for instance, have DFPS over 80%, but only about a quarter of these women use modern methods. We show in Figure 3 that, generally countries with higher mDFPS have lower total fertility rates. But surprisingly, CEE & CIS countries appeared again as exceptions, presenting the lowest fertility rates despite their mDFPS.

Women not in a union were much more likely to use modern contraception in West and Central Africa and CEEE & CIS. However, the opposite trend was observed in Latin America & Caribbean, South Asia and East Asia & Pacific (Table 3).

We also mapped all countries and subgroups with mDFPS below 20% (Figure 3), taken as an indication of extremely low coverage. Five countries were found to have extremely low mDFPS: Albania, Azerbaijan, Benin, Chad and Congo DR. Another eleven countries presented at least one subgroup with mDFPS below 20%. These subgroups tended to include the usual suspects: women who were poor, young, less educated or illiterate, and rural. We also identified specific religious groups: Islam in CAR and Guinea; Animist in Cameroon, Congo Brazzaville and Mali; and other religions (which comprises different small religious groups in each country) in Cote d’Ivoire, Ethiopia and Mali. In Guinea and Guinea Bissau, married women had extremely low coverage, whereas in Lao, this was the case for unmarried women. Coverage levels in each subgroup are presented in Table 4.

# Discussion

This is a comprehensive overview of demand for family planning satisfied in low and middle-income countries, using recent survey data. Family planning, despite all technological advances and the variety of methods available, remains a controversial issue [[10](#_ENREF_10)]. Some religions condemn the use of contraceptives, and in some social contexts there is strong pressure for a pregnancy shortly after marriage. Also, a large number of children may be perceived as a welcome help in rural settings [[15](#_ENREF_15), [21](#_ENREF_21)].

Previous studies on family planning coverage in low- and middle-income countries were mostly limited to women who are married or in union, therefore leaving aside a substantial amount of women (unmarried and sexually active) who have demand for family planning[[22](#_ENREF_22), [23](#_ENREF_23)]. One of the main strengths of this article is that we advanced knowledge by presenting comparable estimates for demand for family planning satisfied with modern methods for all sexually active women regardless their marital status at a global scale, using data from both DHS and MICS surveys. We additionally used eight sociodemographic stratifiers, which allowed us to identify subgroups that are lagging behind in terms of demand for family planning satisfied, addressing within-countries inequalities. This is critical to track progress towards achieving the target of universal access to sexual and reproductive health care services of the post-2015 SDGs and reach the benchmark of demand satisfied with modern methods by 2030[[17](#_ENREF_17), [22](#_ENREF_22)].

West & Central Africa stands out as the region with the lowest mDFPS coverage. There is also a large difference between sexually active women in a union and those who are not in a union, with much higher coverage in the latter group. This is a region with high rates of child marriage[[24](#_ENREF_24), [25](#_ENREF_25)] and many of its countries are among the ones with lower empowerment levels in Africa [[26](#_ENREF_26)]. This suggests that efforts must be directed not only to the supply side – including provision of contraceptives through appropriate delivery channels - but also against child marriage and towards empowerment of women and changes in social norms that might inhibit uptake of contraception by married women by claiming for a pregnancy soon after marriage and/or for a large number of children. West and Central African countries have also been identified in a previous publication by Choi and colleagues as those with the largest gap between projected and required changes to achieve the SGD family planning benchmark by 2030[[22](#_ENREF_22)].

The countries mapped in Figure 3, all of which have extremely low mDFPS, deserve special attention from global level stakeholders, as well as from national health managers and policy makers. With such a low coverage at national level, these countries need urgent and comprehensive initiatives to increase family planning uptake. The subnational groups highlighted in Figure 3 are, for the most part, not surprising: these are constituted by poor, little educated and young women. Interestingly, religion – which is commonly believed to present a barrier to family planning with modern contraceptives - did not come up in our analysis as an important determinant of mDFPS. In some countries, Islam, Christianism and other religions appear among the low coverage subgroups, but wealth, education and age are much more consistent markers.

Another interesting determinant was whether or not the woman was in a union. In some regions, sexually active women outside a union were much more likely to use a modern method, given that most are not willing to get pregnant. In other regions, however, women in union presented a much higher mDFPS. These women are also, on average, younger than those in a union, what also may constitute a barrier. These paradoxical findings suggest that the availability of contraceptives may not be the primary barrier, as access may be affected by social norms and barriers. 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 marriage.

According to the average of available surveys, about half (52.9%) of women who need contraception are using a modern method, which means that almost half of women who are fertile but do willing to get pregnant are failing to be reached by family planning strategies. The reasons behind low coverage vary across countries and regions. The literature indicates that the most widespread reasons are related to opposition from partners or others, concerns about side effects and low perceived risk of pregnancy due to infrequent sexual activity; lack of access to contraceptives does not figure among the most common barriers for use[[27](#_ENREF_27), [28](#_ENREF_28)].

# Conclusion

Demand for family planning satisfied with modern methods is highly variable globally, within regions and within countries. Efforts to increase mDFPS must be directed not only to increased availability through appropriate delivery channels, but also towards empowerment of women and changes in social norms that might inhibit uptake of contraception. Also, a large proportion of women report desire for contraception, but rely on withdrawal and periodic abstinence. The high reliance on traditional methods among some countries, mostly from CEE & CIS, suggests a different challenge in terms of policies. The use of traditional contraceptive methods is associated with sexual disorders and dissatisfaction, and also makes men and women more susceptible to sexually transmitted diseases[[29](#_ENREF_29)]. The literature also shows that the individual efficacy of the traditional contraceptive methods is lower than the efficacy of the modern methods[[30](#_ENREF_30)]. Thus, the low fertility rates found in these countries can be a result of the use of traditional contraceptive methods being effective at the population level, or it can be due to the high induced abortion rates in the region – one of the highest in the world[[31](#_ENREF_31)]. Thus, to guarantee the couples more freedom and safety in their sexual life, initiatives to promote the transition from traditional to modern contraceptive methods, which present a much higher efficacy at individual level, are needed.

The increased availability and frequency of national demographic and health surveys, coupled with growing emphasis on disaggregated statistics during the SDG era will allow analyses such as ours to be repeated periodically. This will allow the description of time trends at national and subnational level, allowing the monitoring of equity gaps, the identification of success stories as well as of persistent challenges.

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# Author contributions

# AB and FE proposed the idea and outlined the methods to be used. FE and FH analysed the data and wrote the first draft of the manuscript. CV, CC and AR wrote and critically revised the Article. AB supervised all the statistical analysis and wrote the manuscript. All authors read and approved the final manuscript.

# Disclosure statement

All the authors declare no competing interests.

# Ethics and consent

This paper works with information from Multiple Indicator Cluster Surveys and Demographic and Health Surveys, both publicly available data sources. The ethical responsibility is entirely of the institutions that conducted the surveys in each country, eliminating the requirement of this study’s ethical approval.

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# Paper context

Global studies are mainly focused on demand for family planning satisfied with any contraceptive method and restricted to partnered women. Interest is increasingly changing towards modern contraception, which present higher effectiveness to prevent unwanted pregnancies. We provide further and timely insight on the status of global demand for family planning satisfied with modern methods among sexually active women, identifying who is way behind and in need of special attention in terms of programs and policies.

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# Figures

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Figure 1 – Demand for family planning satisfied with modern contraceptive methods among sexually active women (mDFPS) – regional averages and country estimates (regions: West & Central Africa; Eastern & Southern Africa; Central, Eastern Europe and the Commonwealth of Independent States; South Asia, East Asia & Pacific; Latin America & the Caribbean).



Figure 2. Share of the demand for family planning satisfied with to modern contraceptive methods (% modern) vs country GDP per capita (PPP, international dollar). Countries from CEE & CIS are highlighted in red. Note: The share of DFPS with modern contraceptive methods (% modern) was calculated as the ratio between the mDFPS and the DFPS.



Figure 3. Demand for family planning satisfied with modern contraceptive methods (mDFPS) and total fertility rate. Countries from CEE & CIS are highlighted in red.

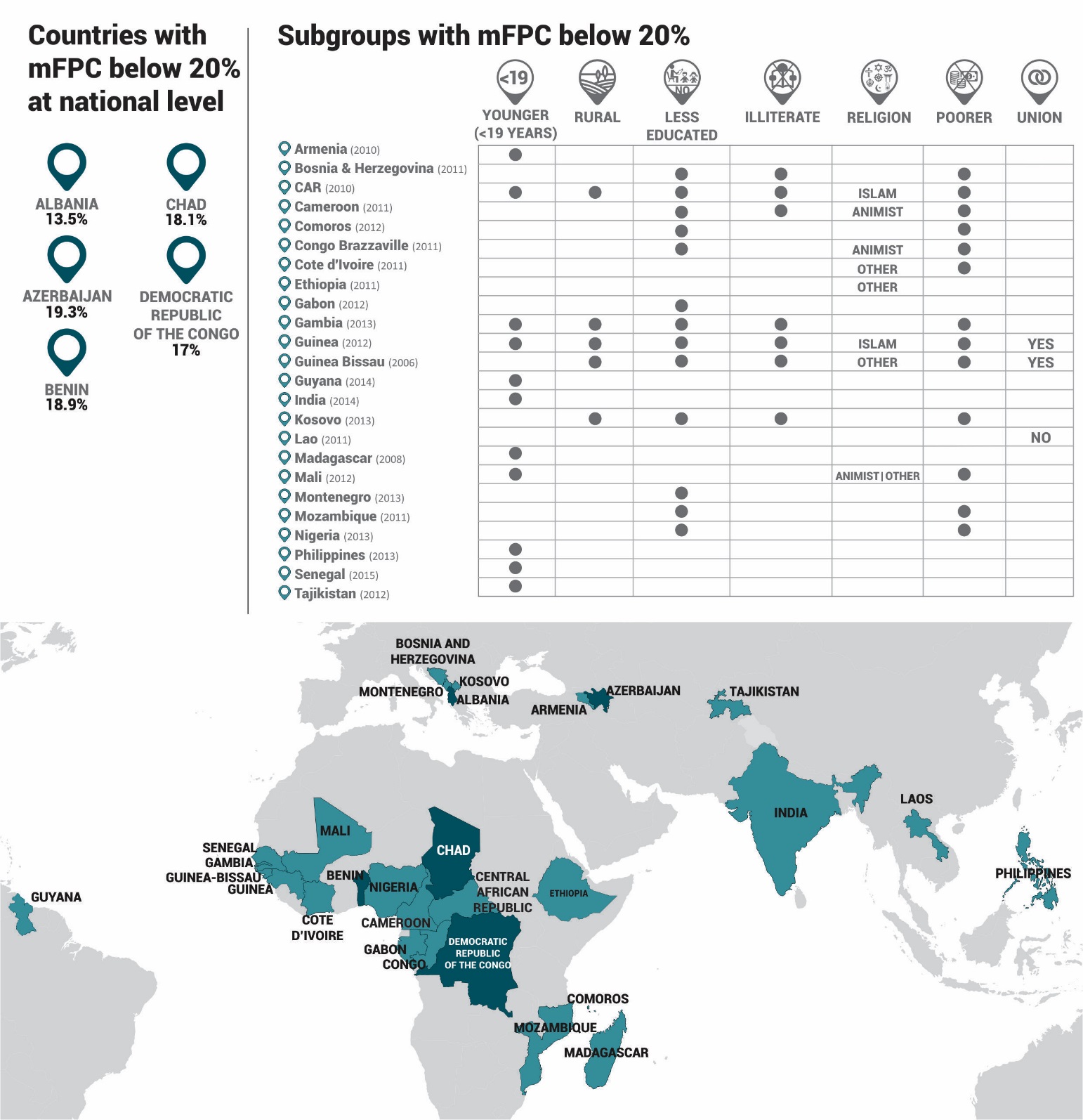


Figure 4. Map of the countries where overall demand for family planning satisfied with modern contraceptive methods (mDFPS) is below 20% (darker colored) and of the countries where at least one subgroup presents mDFPS below 20% (lighter colored).

# Tables

Table 1. Countries without information on contraception among sexually active women not married, excluded of the analyses.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Region | Country | ISO | Year | Source |
| CEE & CIS | Turkmenistan | TKM | 2006 | MICS |
| East Asia & Pacific | Thailand | THA | 2012 | MICS |
| Middle East & North Africa | Algeria | DZA | 2012 | MICS |
| Middle East & North Africa | Djibouti | DJI | 2006 | MICS |
| Middle East & North Africa | Egypt | EGY | 2014 | DHS |
| Middle East & North Africa | Iraq | IRQ | 2011 | MICS |
| Middle East & North Africa | Jordan | JOR | 2012 | DHS |
| Middle East & North Africa | State of Palestine | PSE | 2014 | MICS |
| Middle East & North Africa | Sudan | SDN | 2014 | MICS |
| Middle East & North Africa | Syrian Arab Republic | SYR | 2006 | MICS |
| Middle East & North Africa | Tunisia | TUN | 2011 | MICS |
| Middle East & North Africa | Yemen | YEM | 2013 | DHS |
| South Asia | Bangladesh | BGD | 2014 | DHS |
| South Asia | Maldives | MDV | 2009 | DHS |
| South Asia | Pakistan | PAK | 2012 | DHS |
| West & Central Africa | Mauritania | MRT | 2011 | MICS |

Table 2. List of surveys included in the analysis, with their year, source of information and demand for family planning satisfied with any contraceptive method (DFPS), DFPS with modern contraceptive methods(mDFPS) by type of contraceptive method used and the share of DFPS with modern contraceptive methods (% modern).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **Modern method** | | |  |
| **Region** | **Country** | **Year** | **Total DFPS** | **Modern DFPS** | **Short acting1** | **Long acting2** | **Permanent3** | **% modern4** |
| CEE & CIS | **Albania** | 2008 | 84.2 | 13.5 | 8.0 | 1.9 | 3.6 | 16.1 |
| **Armenia** | 2010 | 80.2 | 39.4 | 25.0 | 14.0 | 0.4 | 49.1 |
| **Azerbaijan** | 2006 | 69.3 | 19.3 | 6.3 | 12.4 | 0.6 | 27.9 |
| **Belarus** | 2012 | 90.2 | 77.0 | 52.3 | 20.4 | 4.3 | 85.4 |
| **Bosnia and Herzegovina** | 2011 | 81.2 | 29.0 | 22.7 | 6.1 | 0.3 | 35.8 |
| **Kazakhstan** | 2010 | 83.4 | 81.4 | 25.9 | 53.6 | 1.9 | 97.5 |
| **Kosovo** | 2013 | 90.1 | 22.3 | 14.1 | 7.1 | 1.0 | 24.7 |
| **Kyrgyzstan** | 2012 | 66.3 | 61.5 | 18.0 | 40.6 | 2.9 | 92.7 |
| **Macedonia** | 2005 | 28.7 | 21.7 | 14.3 | 5.9 | 1.5 | 75.7 |
| **Moldova** | 2012 | 87.5 | 66.3 | 30.8 | 29.1 | 6.4 | 75.8 |
| **Montenegro** | 2013 | 60.9 | 47.6 | 37.3 | 10.2 | 0.1 | 78.2 |
| **Serbia** | 2010 | 91.5 | 48.8 | 44.7 | 3.8 | 0.2 | 53.3 |
| **Tajikistan** | 2012 | 55.0 | 50.9 | 9.3 | 40.5 | 1.2 | 92.6 |
| **Ukraine** | 2012 | 92.2 | 70.6 | 51.9 | 17.4 | 1.2 | 76.5 |
| **Uzbekistan** | 2006 | 89.3 | 83.0 | 3.5 | 76.3 | 3.2 | 93.0 |
| East Asia & Pacific | **Cambodia** | 2014 | 81.8 | 56.4 | 29.1 | 22.8 | 4.5 | 68.9 |
| **Indonesia** | 2012 | 84.4 | 78.9 | 21.0 | 53.4 | 4.6 | 93.5 |
| **Mongolia** | 2013 | 81.4 | 73.0 | 27.4 | 40.9 | 4.8 | 89.7 |
| **Philippines** | 2013 | 75.7 | 51.2 | 29.7 | 9.8 | 11.6 | 67.6 |
| **Timor-Leste** | 2009 | 42.0 | 39.7 | 4.6 | 33.6 | 1.5 | 94.5 |
| **Vietnam** | 2010 | 95.3 | 75.0 | 29.1 | 40.9 | 5.0 | 78.7 |
| **Lao People's Democratic Republic** | 2011 | 78.0 | 68.0 | 37.2 | 23.6 | 7.3 | 87.2 |
| Eastern & Southern Africa | **Burundi** | 2010 | 40.3 | 32.8 | 6.5 | 25.2 | 1.1 | 81.4 |
| **Comoros** | 2012 | 38.8 | 27.8 | 12.5 | 13.7 | 1.5 | 71.6 |
| **Ethiopia** | 2011 | 52.6 | 50.2 | 4.7 | 44.7 | 0.9 | 95.4 |
| **Kenya** | 2014 | 76.4 | 70.4 | 15.3 | 50.9 | 4.1 | 92.1 |
| **Lesotho** | 2014 | 77.0 | 76.4 | 42.2 | 32.3 | 2.0 | 99.3 |
| **Madagascar** | 2008 | 67.0 | 48.7 | 13.8 | 33.0 | 1.9 | 72.6 |
| **Malawi** | 2013 | 75.3 | 74.0 | 6.8 | 54.2 | 12.9 | 98.2 |
| **Mozambique** | 2011 | 34.7 | 33.9 | 20.2 | 13.2 | 0.5 | 97.9 |
| **Namibia** | 2013 | 79.3 | 78.5 | 36.6 | 35.6 | 6.3 | 99.0 |
| **Rwanda** | 2014 | 72.3 | 63.5 | 16.9 | 44.7 | 1.9 | 87.9 |
| **Swaziland** | 2010 | 84.6 | 83.0 | 52.3 | 25.1 | 5.7 | 98.1 |
| **Tanzania, United Republic of** | 2010 | 62.6 | 50.7 | 20.6 | 24.1 | 5.9 | 80.9 |
| **Uganda** | 2011 | 48.0 | 41.5 | 10.3 | 26.8 | 4.4 | 86.6 |
| **Zambia** | 2013 | 67.9 | 62.0 | 23.8 | 35.7 | 2.5 | 91.4 |
| **Zimbabwe** | 2014 | 88.0 | 87.5 | 63.6 | 22.8 | 1.1 | 99.5 |
| LAC | **Barbados** | 2012 | 75.1 | 70.9 | 54.5 | 10.4 | 6.1 | 94.5 |
| **Belize** | 2011 | 75.4 | 71.4 | 28.1 | 16.8 | 26.5 | 94.8 |
| **Bolivia** | 2008 | 75.5 | 43.4 | 11.8 | 23.9 | 7.7 | 57.4 |
| **Colombia** | 2010 | 91.5 | 83.2 | 21.3 | 23.8 | 38.1 | 90.9 |
| **Costa Rica** | 2011 | 88.1 | 86.8 | 41.0 | 12.8 | 33.0 | 98.4 |
| **Cuba** | 2014 | 90.3 | 89.5 | 36.5 | 28.0 | 24.9 | 99.0 |
| **Dominican Republic** | 2014 | 84.2 | 82.9 | 27.2 | 10.5 | 45.3 | 98.5 |
| **Guyana** | 2014 | 53.5 | 51.6 | 28.0 | 18.5 | 5.2 | 96.4 |
| **Haiti** | 2012 | 48.5 | 44.1 | 14.1 | 27.9 | 2.1 | 90.9 |
| **Honduras** | 2011 | 87.2 | 75.9 | 20.9 | 29.0 | 25.9 | 87.0 |
| **Nicaragua** | 2001 | 82.4 | 79.2 | 23.9 | 24.8 | 30.4 | 96.1 |
| **Panama** | 2013 | 77.3 | 74.5 | 22.0 | 22.9 | 29.5 | 96.4 |
| **Peru** | 2012 | 90.6 | 62.1 | 29.2 | 23.7 | 9.2 | 68.6 |
| **Saint Lucia** | 2012 | 76.0 | 72.3 | 52.7 | 10.7 | 8.8 | 95.1 |
| **Suriname** | 2010 | 69.7 | 69.2 | 46.7 | 8.6 | 13.9 | 99.3 |
| **Trinidad and Tobago** | 2006 | 61.0 | 56.3 | 23.2 | 21.9 | 11.2 | 92.3 |
| South Asia | **Bhutan** | 2010 | 85.8 | 85.6 | 17.5 | 42.5 | 25.6 | 99.7 |
| **India** | 2005 | 81.9 | 69.9 | 12.0 | 2.6 | 55.2 | 85.4 |
| **Nepal** | 2011 | 64.3 | 55.9 | 11.1 | 15.1 | 29.7 | 86.8 |
| West & Central Africa | **Benin** | 2011 | 30.4 | 18.9 | 11.3 | 7.4 | 0.3 | 62.3 |
| **Burkina Faso** | 2010 | 41.1 | 38.4 | 14.4 | 23.5 | 0.4 | 93.2 |
| **Cameroon** | 2011 | 53.6 | 35.5 | 26.9 | 7.6 | 1.0 | 66.2 |
| **Central African Republic** | 2010 | 36.3 | 24.6 | 22.9 | 1.2 | 0.4 | 67.6 |
| **Chad** | 2014 | 20.3 | 18.1 | 6.7 | 10.7 | 0.8 | 89.4 |
| **Congo** | 2011 | 73.8 | 36.4 | 32.5 | 3.7 | 0.2 | 49.3 |
| **Côte d'Ivoire** | 2011 | 41.9 | 29.8 | 24.6 | 5.0 | 0.1 | 71.0 |
| **Gabon** | 2012 | 58.5 | 40.3 | 38.8 | 0.7 | 0.8 | 68.9 |
| **Gambia** | 2013 | 27.1 | 24.5 | 8.5 | 14.3 | 1.7 | 90.4 |
| **Ghana** | 2014 | 48.0 | 38.9 | 13.1 | 22.9 | 2.9 | 81.0 |
| **Guinea** | 2012 | 24.3 | 20.3 | 14.3 | 5.7 | 0.2 | 83.4 |
| **Guinea-Bissau** | 2006 | 38.4 | 29.5 | 12.7 | 15.7 | 0.9 | 76.8 |
| **Liberia** | 2013 | 41.0 | 38.6 | 10.8 | 27.4 | 0.4 | 94.1 |
| **Mali** | 2012 | 29.0 | 27.8 | 8.4 | 19.0 | 0.4 | 95.8 |
| **Niger** | 2012 | 46.5 | 40.8 | 32.0 | 8.4 | 0.5 | 87.9 |
| **Nigeria** | 2013 | 52.3 | 35.1 | 20.7 | 13.4 | 1.0 | 67.2 |
| **Sao Tome and Principe** | 2014 | 55.0 | 51.5 | 30.2 | 20.6 | 0.8 | 93.6 |
| **Senegal** | 2015 | 48.3 | 43.7 | 13.0 | 29.9 | 0.8 | 90.4 |
| **Sierra Leone** | 2013 | 47.9 | 45.3 | 14.4 | 30.0 | 0.9 | 94.4 |
| **Togo** | 2013 | 39.2 | 34.1 | 12.5 | 21.2 | 0.4 | 87.1 |
| **Congo, Democratic Republic** | 2013 | 43.6 | 17.0 | 11.7 | 3.9 | 1.5 | 39.0 |

1 Modern, short acting contraceptive methods: pill, condom, diaphragm, spermicide (foam/jelly), and emergency contraception.

2 Modern, long acting contraceptive methods: intrauterine device (IUD), implant and injectable contraception.

3 Modern, permanent contraception: male and female sterilization.

4 The share of DFPS with modern contraceptive methods (% modern) was calculated as the ratio between the mDFPS and the DFPS.

Note: estimates with their confidence intervals are presented in supplementary material.

Table 3. Mean demand for family planning satisfied with modern contraceptive methods (mDFPS), share of demand for family planning satisfied with modern contraceptive methods (% modern)1 and mDFPS according to marital status by region of the world.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **N countries** | **Mean mDFPS** | **% modern1** | **Mean mDFPS** | |
| **Region** | **Not in union** | **In a union** |
| West & Central Africa | 21 | 32.9 | 78.6 | 46.6 | 30.2 |
| Eastern & Southern Africa | 15 | 58.8 | 90.2 | 58.0 | 58.5 |
| CEE & CIS | 15 | 48.9 | 65.0 | 57.9 | 46.8 |
| South Asia | 3 | 70.5 | 90.6 | 58.8 | 70.5 |
| East Asia & Pacific | 7 | 63.2 | 82.9 | 35.3 | 63.7 |
| Latin America and Caribbean | 16 | 69.6 | 91.0 | 65.2 | 70.4 |
| **Total** | **77** | **52.9** | **81.7** | **54.3** | **51.9** |

1 The share of DFPS with modern contraceptive methods (% modern) was calculated as the ratio between the mDFPS and the DFPS.

Table 4. List of countries and subgroups with demand for family planning satisfied with modern contraceptive methods (mDFPS) below 20%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Country** | **Year** | **Source** | **Subgroup** | **mDFPS** | **N (unweighted)** |
| **Countries with mDFPS below 20% at national level** | | | |  |  |
| Albania | 2008 | DHS | National | 13.5% | 4269 |
| Azerbaijan | 2006 | DHS | National | 19.3% | 3849 |
| Benin | 2011 | DHS | National | 18.9% | 5864 |
| Chad | 2014 | DHS | National | 18.1% | 3734 |
| Congo DR | 2013 | DHS | National | 17.6% | 6529 |
| **Subgroups with mDFPS below 20%** | | |  |  |  |
| Armenia | 2010 | DHS | Age: 18-19 years | 11.0% | 29 |
| Bosnia & Herzegovina | 2011 | MICS | Wealth: Q2 | 18.8% | 435 |
| Bosnia & Herzegovina | 2011 | MICS | Literacy: no | 2.9% | 44 |
| Bosnia & Herzegovina | 2011 | MICS | Education: primary | 12.7% | 567 |
| CAR | 2010 | MICS | Wealth: Q2 | 5.9% | 755 |
| CAR | 2010 | MICS | Age: 15-17 years | 17.4% | 220 |
| CAR | 2010 | MICS | Area: rural | 7.9% | 2080 |
| CAR | 2010 | MICS | Education: none | 7.4% | 1267 |
| CAR | 2010 | MICS | Literacy: no | 14.4% | 2732 |
| CAR | 2010 | MICS | Wealth: Q1 | 5.8% | 601 |
| CAR | 2010 | MICS | Religion: Islam | 15.2% | 405 |
| CAR | 2010 | MICS | Wealth: Q3 | 11.9% | 860 |
| Cameroon | 2011 | DHS | Literacy: no | 19.3% | 1910 |
| Cameroon | 2011 | DHS | Wealth: Q1 | 10.2% | 603 |
| Cameroon | 2011 | DHS | Education: none | 11.4% | 701 |
| Cameroon | 2011 | DHS | Religion: Animist | 17.9% | 80 |
| Comoros | 2012 | DHS | Wealth: Q1 | 19.8% | 340 |
| Congo Brazzaville | 2011 | DHS | Religion: Animist | 15.7% | 33 |
| Congo Brazzaville | 2011 | DHS | Education: none | 19.9% | 411 |
| Congo Brazzaville | 2011 | DHS | Wealth: Q1 | 17.5% | 1906 |
| Cote d'Ivoire | 2011 | DHS | Religion: Other | 13.8% | 53 |
| Cote d'Ivoire | 2011 | DHS | Wealth: Q1 | 18.4% | 641 |
| Ethiopia | 2011 | DHS | Religion: Other | 18.8% | 34 |
| Gabon | 2012 | DHS | Education: none | 19.6% | 156 |
| Gambia | 2013 | DHS | Wealth: Q1 | 15.2% | 481 |
| Gambia | 2013 | DHS | Education: primary | 18.3% | 351 |
| Gambia | 2013 | DHS | Wealth: Q2 | 14.9% | 556 |
| Gambia | 2013 | DHS | Literacy: no | 18.0% | 1705 |
| Gambia | 2013 | DHS | Area: rural | 14.8% | 1356 |
| Gambia | 2013 | DHS | Education: none | 18.1% | 1374 |
| Gambia | 2013 | DHS | Age: 15-17 years | 11.0% | 48 |
| Gambia | 2013 | DHS | Age: 18-19 years | 11.4% | 92 |
| Gambia | 2013 | DHS | Wealth: Q3 | 19.3% | 464 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Country** | **Year** | **Source** | **Subgroup** | **mDFPS** | **N (unweighted)** |
| Guinea | 2012 | DHS | Age: 18-19 years | 17.2% | 177 |
| Guinea | 2012 | DHS | Wealth: Q3 | 16.0% | 413 |
| Guinea | 2012 | DHS | Wealth: Q4 | 19.0% | 596 |
| Guinea | 2012 | DHS | Wealth: Q1 | 10.8% | 403 |
| Guinea | 2012 | DHS | Age: 15-17 years | 14.0% | 121 |
| Guinea | 2012 | DHS | Area: rural | 14.1% | 1365 |
| Guinea | 2012 | DHS | Religion: Islam | 18.2% | 2037 |
| Guinea | 2012 | DHS | Education: none | 15.6% | 1556 |
| Guinea | 2012 | DHS | Union: yes | 15.8% | 1977 |
| Guinea | 2012 | DHS | Literacy: no | 16.1% | 1859 |
| Guinea | 2012 | DHS | Education: primary | 19.8% | 321 |
| Guinea | 2012 | DHS | Wealth: Q2 | 15.3% | 376 |
| Guinea Bissau | 2006 | MICS | Wealth: Q1 | 5.2% | 338 |
| Guinea Bissau | 2006 | MICS | Union: yes | 18.6% | 1731 |
| Guinea Bissau | 2006 | MICS | Area: rural | 10.1% | 1132 |
| Guinea Bissau | 2006 | MICS | Religion: Other | 19.6% | 30 |
| Guinea Bissau | 2006 | MICS | Wealth: Q2 | 9.5% | 360 |
| Guinea Bissau | 2006 | MICS | Literacy: no | 18.1% | 1711 |
| Guinea Bissau | 2006 | MICS | Education: none | 9.8% | 1182 |
| Guinea Bissau | 2006 | MICS | Wealth: Q3 | 13.5% | 456 |
| Guyana | 2014 | MICS | Age: 15-17 years | 11.8% | 89 |
| India | 2005 | DHS | Age: 15-17 years | 11.6% | 597 |
| Kosovo | 2013 | MICS | Literacy: no | 18.4% | 125 |
| Kosovo | 2013 | MICS | Education: none | 18.2% | 57 |
| Kosovo | 2013 | MICS | Education: primary | 17.5% | 115 |
| Kosovo | 2013 | MICS | Wealth: Q2 | 19.2% | 398 |
| Kosovo | 2013 | MICS | Wealth: Q1 | 18.9% | 427 |
| Kosovo | 2013 | MICS | Area: rural | 19.9% | 1315 |
| Lao | 2011 | MICS | Union: no | 5.4% | 95 |
| Madagascar | 2008 | DHS | Age: 15-17 years | 19.4% | 401 |
| Mali | 2012 | DHS | Age: 15-17 years | 15.7% | 123 |
| Mali | 2012 | DHS | Religion: Animist | 6.7% | 34 |
| Mali | 2012 | DHS | Religion: Other | 19.7% | 58 |
| Mali | 2012 | DHS | Wealth: Q2 | 16.7% | 536 |
| Mali | 2012 | DHS | Wealth: Q1 | 11.4% | 495 |
| Mali | 2012 | DHS | Wealth: Q3 | 17.3% | 573 |
| Montenegro | 2013 | MICS | Education: primary | 16.1% | 132 |
| Mozambique | 2011 | DHS | Wealth: Q2 | 17.6% | 499 |
| Mozambique | 2011 | DHS | Education: none | 18.5% | 921 |
| Mozambique | 2011 | DHS | Wealth: Q1 | 11.2% | 389 |
| Nigeria | 2013 | DHS | Education: none | 10.1% | 2338 |
| Nigeria | 2013 | DHS | Wealth: Q1 | 6.0% | 1010 |
| Nigeria | 2013 | DHS | Wealth: Q2 | 19.7% | 1455 |
| **Country** | **Year** | **Source** | **Subgroup** | **mDFPS** | **N (unweighted)** |
| Philippines | 2013 | DHS | Age: 15-17 years | 18.1% | 65 |
| Senegal | 2015 | DHS | Age: 15-17 years | 14.5% | 69 |
| Tajikistan | 2012 | DHS | Age: 18-19 years | 13.4% | 40 |