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## Original Research Article

Low-income women and use of prescribed contraceptives in the context of full health insurance coverage in France, 2019<sup>☆,☆☆</sup>Juliette Congy<sup>a,\*</sup>, Jean Bouyer<sup>a,b</sup>, Elise de La Rochebrochard<sup>a,b</sup><sup>a</sup> Institut National d'Etudes Démographiques, Ined, Sexual and Reproductive Health and Rights Unit – UR14, 9 cours des Humanités, Aubervilliers, France<sup>b</sup> Université Paris-Saclay, UVSQ, Inserm, CESP, 16 avenue Paul Vaillant Couturier, Villejuif, France

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## ABSTRACT

**Objective:** Major socioeconomic differences in contraceptive use are observed in high-income countries. Cost is often cited as a main factor to explain these differences but other barriers may also exist. Our aim was to compare prescribed contraceptive use among low-income and non-low-income women in a national context of full health insurance coverage.

**Study design:** In the French national health insurance database, we selected all women (14.8 million) aged 15–49 years living in France in 2019. We compared the prevalence of use of each prescribed contraceptive between low-income and non-low-income women: oral contraceptives, copper intrauterine devices (IUDs), the levonorgestrel intrauterine system (LNG-IUS), and implants.

**Results:** In the study population, 11% had a low income. Fewer low-income women used prescribed contraceptives than non-low-income women (36% vs. 46%,  $p < 0.001$ ). When using a contraceptive, low-income women used a different method: at 20–24 years old, they used less oral contraceptives (60% vs. 77%,  $p < 0.001$ ) and more implants (22% vs. 9%,  $p < 0.001$ ), while at 40–44 years, they used less levonorgestrel intrauterine systems (18% vs. 30%,  $p < 0.001$ ).

**Conclusions:** Even in a national context of free access to medical care for low-income women, they use less and different prescribed contraceptives than non-low-income women. These results could reflect barriers other than financial cost to the use of prescribed contraceptives by low-income women.

**Implications:** Financial barriers need to be removed in order to increase contraceptive use. However, this may not be sufficient and further research should explore barriers that low-income women may encounter in accessing and choosing their contraception.

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## 1. Introduction

To promote their sexual and reproductive health and rights, women need full access to contraception and choice of contraceptive method. Contraception is one of the most important tools to decide freely the number, spacing, and timing of children, considered as a basic human right since the 1994 Conference on Population in Cairo, Egypt [1]. Despite widespread use of contraception in high-income countries [2], substantial differences in contraception use have been shown in countries such as the United States, Australia, the United Kingdom, and Spain, with lower use

among low-socioeconomic-level women [3–6]. To explain these differences, financial cost is often cited as a major reason for nonuse [7].

However, differences in access to healthcare are not driven only by financial cost [8], and differences may exist even in the context of free access. France offers the opportunity to explore this issue with a nationally based public health policy allowing low-income women free access to prescribers and to prescribed contraception.

The aim of this study was to estimate the use of prescribed contraception among low-income women in a national context of full health insurance coverage and to compare it with use in the non-low-income population.

## 2. Materials and methods

## 2.1. Data sources

The French health insurance database includes 98% of the resident population. These data have been presented in detail elsewhere [9]. They

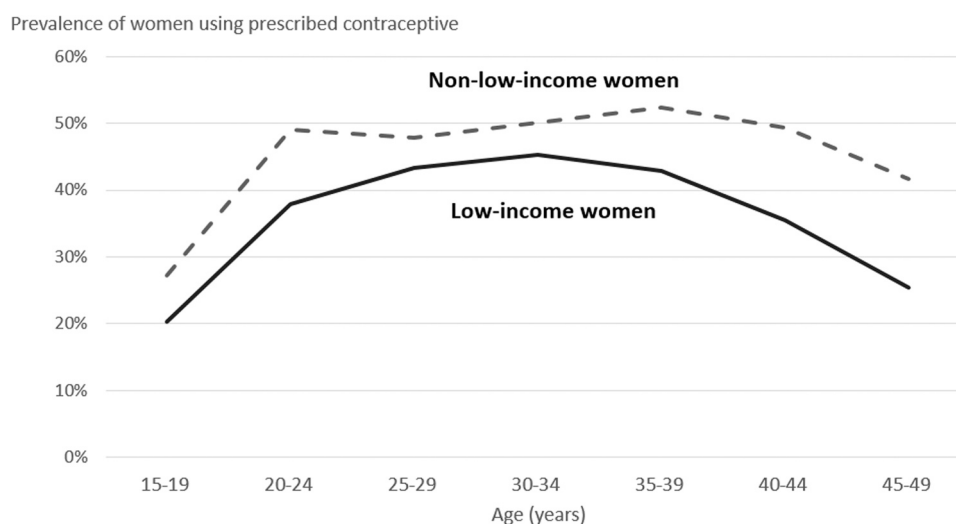
Abbreviations: IUD, intrauterine device; LARC, long-acting reversible contraceptive; LNG-IUS, levonorgestrel intrauterine system

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**Fig. 1.** Prescribed contraceptive use among low-income ( $n = 1,640,457$ ) and non-low-income women ( $n = 13,145,472$ ) in France, 2019.

provide information on all healthcare reimbursements as well as some information on the patient: age, sex, place of residence, and registration with French-specific healthcare insurance for low-income people. This specific healthcare insurance is granted to persons below the poverty line, that is, with an income less than 50% of median income [10]. Access to these data is regulated and our institutional data protection officer approved this research under the reference 2019-DPD-0013.

## 2.2. Study population

We selected all women ( $n = 14,785,929$ ) aged 15–49 years living in France (after exclusion of French overseas territories) in 2019. This study population included 1,640,457 low-income women (i.e., covered by the French-specific healthcare insurance for low-income people) and 13,145,472 non-low-income women (i.e., not covered by the specific healthcare insurance).

## 2.3. Outcome

Prescribed contraception included oral contraceptives (first- and second-generation combined oral contraceptive pills and progestosterone-only pills), copper intrauterine devices (copper IUD), the levonorgestrel intrauterine system (LNG-IUS), and implants (progestogen-only implants). To consider the population that used contraceptives on October 31, 2019, we selected all women whose last prescribed contraceptive purchased had a recommended duration of use still ongoing at that date.

## 2.4. Statistical analysis

The prevalence of prescribed contraception use in the population was estimated for all prescribed contraceptives and by type of contraceptive (oral contraceptive, copper IUD, LNG-IUS, and implant). Prevalences of low-income and non-low-income women were compared with a  $\chi^2$  test using a 0.05 level of significance. We carried out analyses using SAS version 9.4 (SAS Institute, Cary, NC).

## 3. Results

In our study population, 11% were low-income women. Thirty-six percent of low-income women used a prescribed contraceptive versus 46% of non-low-income women ( $p < 0.001$ ). Use of prescribed contraception varied by age: in both groups, contraception was the lowest in the youngest and oldest age groups and highest in women aged 30–39 years (Fig. 1).

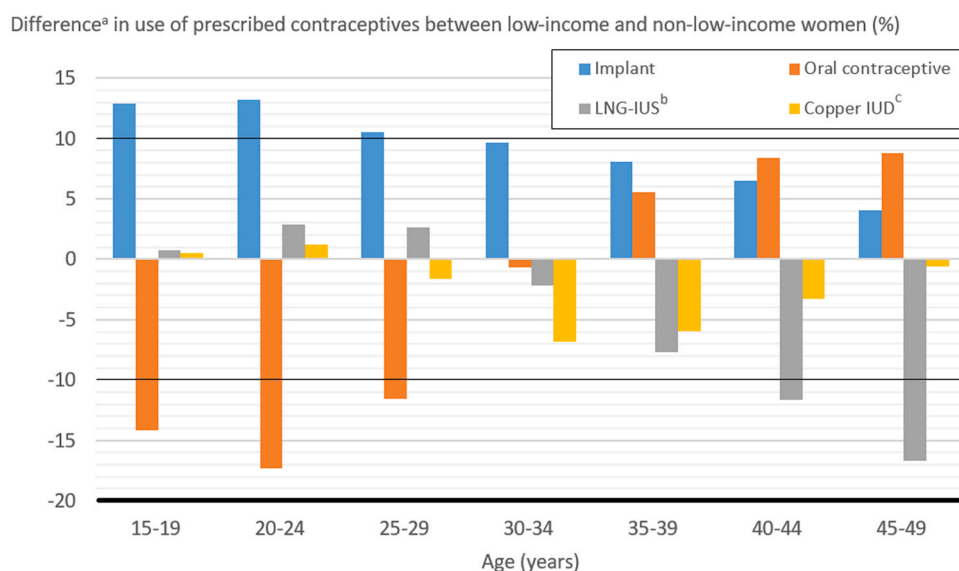
Among women using a prescribed contraceptive ( $n = 6,588,703$ ), the type of prescribed contraceptive used differed greatly over the reproductive period (Table 1). Among both low-income and non-low-income women, implants were mostly used by those aged 20–24 years (22% and 9%, respectively), whereas the LNG-IUS was mostly used by those aged 40–45 years (18% and 30%, respectively). Differences between low-income and non-low-income women are given in greater detail in Fig. 2. For example, the difference in implant use in the 15–19 years age group was 13% (i.e., this was the difference between use by low-income women, which was 19%, and

**Table 1**  
Types of prescribed contraceptives used by low-income and non-low-income women in France, 2019.

Age group (years)	Low-income women ( $n = 593,942$ )				Non-low-income women ( $n = 5,994,761$ )				p Value <sup>a</sup>
	Oral contraceptive % $n = 295,846$	LNG-IUS % $n = 70,523$	Copper IUD % $n = 134,105$	Implant % $n = 93,468$	Oral contraceptive % $n = 3,062,337$	LNG-IUS % $n = 1,040,554$	Copper IUD % $n = 1,533,523$	Implant % $n = 358,347$	
15–19	76.9	1.7	2.5	18.9	91.0	1.0	2.0	6.0	< 0.001
20–24	59.7	6.4	12.0	21.8	77.1	3.5	10.8	8.6	< 0.001
25–29	48.5	9.9	23.3	18.2	60.1	7.3	24.9	7.7	< 0.001
30–34	44.3	12.0	27.8	15.8	45.0	14.2	34.6	6.2	< 0.001
35–39	42.9	14.7	29.0	13.4	37.4	22.4	34.9	5.3	< 0.001
40–44	43.1	17.9	28.0	11.1	34.7	29.5	31.2	4.6	< 0.001
45–49	45.4	17.0	25.4	7.7	36.6	33.7	26.0	3.7	< 0.001
All women	49.8	11.9	22.6	15.7	51.1	17.4	25.6	6.0	< 0.001

LNG-IUS, levonorgestrel intrauterine system; IUD, intrauterine devices.

<sup>a</sup>  $\chi^2$  test p value.



**Fig. 2.** Difference in use of prescribed contraceptives between low-income women ( $n = 593,942$ ) and non-low-income women ( $n = 5,994,761$ ) in France, 2019. All bars with a value less than 0 indicate that low-income women used that method less than non-low-income women. Conversely, where the value is greater than 0, low-income women use the method designated by the bar more than non-low-income women. Notes: (a) For example, the first blue bar on the left of the figure showing 13% implant use in the 15–19 years age group corresponds to the difference in the prevalence of implant use in this age group between low-income (19%) and non-low-income (6%) women. (b) LNG-IUS = levonorgestrel intrauterine system. (c) Copper IUD = copper intrauterine device.

use by non-low-income women, which was 6%). Substantial differences between the two groups were observed among women aged under 30 years for implants (more used by low-income than non-low-income women with a difference of 11–13%) and for oral contraception (less used by low-income women with a difference of –12% to –17%). Differences were also observed among women aged 40 and over for the LNG-IUS (less used by low-income women with a difference of –12% to –17%).

#### 4. Discussion

Even in a national context where low-income women have free access to medical care, they used less prescribed contraception than non-low-income women over the reproductive period. When they did use prescribed contraception, low-income women used different types of contraceptives: younger women used less oral contraceptives and more implants, whereas older women used the LNG-IUS less.

Our results are in line with a US study showing that use of contraception only slightly increased when implementing a program (Medicaid) with free access to contraceptives for low-income women [11]. Despite free access to contraception, lower use of contraception was also observed among women living in socio-economically disadvantaged areas in the United Kingdom [5] but not in Northern Ireland [12]. A few other studies have explored socio-economic differences in contraception use [11,13,14] but in these works, copper IUDs, the LNG-IUS, and implants were grouped together as long-acting reversible contraceptives (LARC). As our results showed very different tendencies between these three contraceptives, the relevance of LARC as a category should be questioned.

Differences observed in contraception use among low-income women in a national context of full health insurance coverage may reflect differences in women's choices. Indeed, French low-income women more often use contraceptive methods that do not require prescriptions, such as withdrawal, barrier methods, or natural family planning [15]. This may reflect women's preferences for non prescribed contraceptives and greater ambivalence toward unintended pregnancies among low-income women [16].

However, these differences may also reflect inequities in access to contraception even after eradication of financial barriers. Based on

the literature, several mechanisms could be considered as possible mediators of unequal access to contraception.

First, low-income women may use prescribed contraceptives less because they face difficulties of access to prescribers of contraception, for example, to obtain an appointment with a contraceptive provider, to access a specialist such as a gynecologist, or to go through the administrative process to obtain and maintain their specific health insurance [17,18]. Faced with these difficulties, low-income women may withdraw from contraceptive care or tend to consult a general practitioner. When contraception is prescribed by a general practitioner, women may face a restricted contraceptive choice as general practitioners are less inclined than gynecologists to insert an IUD that requires a gynecological examination [19–21].

Second, low-income women may be more likely to withdraw or avoid medical care after experiencing discrimination by medical providers [15]. This would lead to less use of prescribed contraceptives by low-income women, as observed in this study. Moreover, low-income women are usually targeted in public health programs on contraception because they have more unintended pregnancies and (repeated) abortion than other women [22]. For this reason, with these women, medical professionals may tend to encourage the use of more effective contraceptives such as the implant rather than the pill [23–25], leading to a greater use of these methods.

One of the main strengths of the French health insurance database is that it covers about 98% of the resident population [9], thus including a very large number of low-income women who are often hard to reach in surveys [26]. However, the women with the very lowest incomes may not request the specific health coverage and thus not be considered here. These women without insurance are known to use less contraceptives [27] and if they were considered, the differences between the two groups would probably have been greater. Another limitation of the health insurance database is the absence of data on non-reimbursed prescribed contraceptives (3rd- and 4th-generation pills, patch, and contraceptive ring), but low-income women probably do not make much use of these methods because of the financial barriers. If these contraceptives were included in the analysis, the differences between the two groups would probably increase further. Last, our data relate to purchases in

pharmacies, and it is possible that some contraceptives were bought but not used by women.

To conclude, the lower use of contraceptives and the differences in contraceptive use in low-income women may be an indicator of non financial barriers in access to contraception, and these should be investigated. In order to ensure that all women may decide freely the number, spacing, and timing of their children, it is very important to understand the barriers to use and choice of contraceptives.

### Data Availability

To request access to the French health insurance database, please contact the Health Data Hub (website: <https://www.health-data-hub.fr/>).

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