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Research Article

Socio-epidemiological Profile of Family Planning Users at Abass Ndao Hospital Center from January to May 2023

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Abstract

Introduction: Family planning plays a major role in improving maternal and child health. Our objective was to determine the socio-epidemiological profile of family planning users at Abass NDAO Hospital Center. Materials and methods: This was a retrospective, descriptive and analytical study including all patients using family planning who had a record in the maternity ward of Abass Ndao Hospital Center from January 2023 to May 2023. Data were entered and analyzed using Microsoft Excel, Sphinx Plus version 4.5 and Stata MP 16.0 software. Results: We included 107 patients. The mean age of the patients was 29.5 years ±6.8. The 25-34 age group was the most represented (52.3%). The mean number of children was two (2). The majority of users had the status of "married women" (90.7%, n=97) and were educated (89.6%, n=95) with a strong representation of secondary and higher levels. About one quarter (n=27) of the patients were employees of the formal private sector, 23.4% (n=25) housewives and 21.5% (n=23) schoolgirls-students. The menstrual cycle was regular in 87.9%. There were more multiparous women (49.5%, n=53) than primiparous women (40.2%, n=43). The rate of high blood pressure, overweight and obesity was successively 12.1%, 29.4% and 25.5%. The main source of information on family planning was of medical origin through health workers (32.7%, n=35). The contraceptive methods most used were Depo injectable (41.1%, n=44) and Jadelle (27.1%, n=29). Conclusion: Our study was able to highlight the sociodemographic and clinical characteristics of family planning users, determine the planning methods most used in the maternity ward of ABASS NDAO Hospital Center, as well as the methods most frequently used.

Keywords

Family Planning, Contraception, Maternity Ward Abass Ndao Hospital Center, Senegal

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1. Introduction

For years, men have spaced the births of their offspring by using various methods such as abstinence, prolonged breast-feeding, etc. Contraception consists of the voluntary prevention of the occurrence of pregnancy, thus including both the spacing of births and their limitation [1]. It plays a crucial role in the promotion of maternal and child health, allowing women to space their pregnancies, thus reducing the risks linked to closely spaced deliveries [2].

Moreover, by giving couples the possibility of deciding the number of children they want to have, family planning contributes to the quality of life of the mother and the child by ensuring adequate maternal care and by a more rational allocation of family resources [3]. It is furthermore accepted that family planning contributes to reducing the burden of maternal morbidity and mortality by preventing the occurrence of complications linked to pregnancies that are too early, too close together, too late and too numerous [1, 4]. WHO estimates that an appropriate family planning program contributes to reducing maternal mortality by 32% by preventing a large number of unwanted pregnancies and unsafe abortions [1]. Indeed, around 358,000 women die each year from complications linked to pregnancy and childbirth.

In Senegal, the maternal mortality rate was 392 deaths per 100000 live births, infant mortality 47‰ live births (ANSD-EDS 2023). Thus an early pregnancy in a young woman, married or not, can constitute a considerable obstacle to the improvement of quality of life [5]. Despite the efforts made by the health authorities the contraceptive prevalence rate was until now estimated at 26% in 2023 far from the objective set at 46% by 2030 within the framework of national and regional commitments in the field of family planning [6, 7]. It is for these reasons that we conducted this study consisting in describing the sociodemographic and clinical characteristics of family planning users in the maternity ward of Abass Ndao hospital center.

2. Methodology

2.1. Study Setting

The study took place in the maternity ward of Abass Ndao Hospital Center, a hospital of the City of Dakar with national status. As regards the infrastructure, it includes a delivery room, a triage room, a pathological pregnancy unit comprising 5 rooms having 10 beds in total, a normal postpartum unit of 8 beds, a pathological postpartum unit of 8 beds, two recent operated-patient units of 8 beds, cubicles having a total of 6 beds. The health staff includes eight (8) obstetrician-gynecologists, thirty-four (34) midwives, twenty-nine (29) nurses and one (1) social worker.

2.2. Type and Period of Study

Type of study: this was a cross-sectional and descriptive study among women users of family planning at Abass Ndao Hospital Center.

Study period: This study took place from January to May 2023.

2.3. Study Population

Our study population included all patients using family planning having a medical file during the study period.

2.4. Data Collection Procedures

The data were collected from the medical files of women using family planning using a previously tested form. The data collected included:

Sociodemographic data: age, marital status, level of education, gynecological-obstetrical and medical-surgical history;

Clinical data: anthropometric data (weight and height), blood pressure expressed in mm Hg with a measurement in both arms;

Family planning method used.

2.5. Data Entry and Analysis

After manual sorting, data entry and analysis were carried out using Excel and Sphinx software. Data analysis was performed using STATA MP 16.0. with:

1) A descriptive part to calculate means with their standard deviation for quantitative variables, frequencies for qualitative variables;
2) An analytical part to look for the determinants of the use of family planning. The tests (Wilcoxon and Kruskal Wallis tests) were used according to their conditions of application, the test was significant when the p value was less than or equal to 0.05.

2.6. Ethical Consideration

Administration of the questionnaire was carried out with the consent of the beneficiaries. In addition, the confidentiality, anonymity, discretion and medical secrecy expected by these women were respected. The head of the maternity department had given his agreement for the conduct of this study.

3. Results

During the study period we included one hundred and seven women (107).

3.1. Descriptive Results

Age: The mean age of the patients was 29.5 years ±6.8 with

extremes of 14 and 45 years and the median age of 29 years. The 25-34 age group was the most represented (52.3%). Twenty-six (26) patients were 35 years and older i.e. 24.3% and twenty-four (24) i.e. 22.4% patients between 18 and 24 years old.

Marital status: The status of "married women" was in the majority (90.7%, n=97) followed by "single women" (8.4%, n=9) and there was only one (1) divorced woman.

Level of education: The majority of women were educated (89.6%, n=95) of whom 41.5% (n=39) had secondary level and 33% (n=31) higher level. On the other hand 10.4% (n=9) of the patients were not schooled.

Occupation: About one quarter (n=27) of the patients were employees of the formal private sector, 23.4% (n=25) housewives and 21.5% (n=23) schoolgirls-students.

Date of last menstrual period (LMP): The date of the last menstrual period was recorded in one hundred and four (104) patients. Eighteen (18) of our patients had their menstruation during the study. Twenty-three (23) of our patients were in the postpartum period. Thirteen (13) of our patients had amenorrhea.

Duration of menstruation: The mean duration of menstruation was five (5) days with extremes of three (3) and eight (8) days.

Menstrual cycle: The menstrual cycle was regular in ninety-four (94) women i.e. 87.9%.

Parity: The population of our study was constituted essentially of multiparous women (49.5%, n=53) followed by primiparous women (40.2%, n=43). Nulliparous women numbered eleven (11) i.e. 10.3%.

Number of children: The mean number of children was two (2) with extremes from 0 to 8. Almost all the women had at least one child (89.7%, n=96).

History of abortion: Among the 107 patients, fourteen (14) i.e. 13.1% had a history of abortion of whom eleven (11) patients i.e. 10.3% had had an abortion and three (3) i.e. 2.8% had had several abortions.

Stillbirth: Among the 107 patients, four (4) of them had a history of stillbirth i.e. 3.7% of whom three (3) patients i.e. (2.8%) had one (1) and one (1) patient had two (2) stillbirths.

Breastfeeding pattern: The breastfeeding pattern was recorded in 93 patients. Among the latter, seventy-three (73) i.e. 78.5% practiced exclusive breastfeeding and twenty (20) of them i.e. 21.5% preferred mixed breastfeeding.

Blood pressure: The mean systolic blood pressure was 112 mm Hg ±11.9 with extremes of 90 and 140 mm Hg. The mean diastolic blood pressure was 73 mm Hg ±10.3 with extremes of 50 and 110 mm Hg. Ninety (90) of the patients i.e. 84.1% were normotensive and four (4) of the patients i.e. 3.7% were hypotensive; on the other hand thirteen (13) of the patients i.e. 12.1% were hypertensive.

Anthropometric data: Weight status was assessed in fifty-one (51) patients. The mean weight was 72.7 kg ±13.4 and extremes of 52 and 118 kg. The mean height was 1.67 ±0.1 and extremes of 1.55 and 1.81 m. The mean BMI was 26.2 ±5.0 and extremes of 17.4 and 39.1. Twenty-one (21) i.e. 41.2% of our patients had a normal weight, thirteen (13) i.e. 25.5% of our patients were obese and fifteen (15) i.e. 29.4% of our patients were overweight.

Source of knowledge: The main source of information on family planning was of medical origin through health workers (32.7%, n=35) then the husband (8.4%, n=9) and the parents (2.8%, n=3).

Table 1. *Distribution of patients according to information sources.*

Information sources	Number (n)	Pourcentage (%)
Health worker	35	*32,7*
Husband	9	*8,4*
Parents	3	*2,8*
Other	60	*56,1*
Total	**107**	***100***

Contraceptive method: The contraceptive methods most used were Depo injectable (41.1%, n=44) and Jadelle (27.1%, n=29) followed by Implanon (22.4%, n=24) then the IUD (intrauterine device) (9.4%, n=10).

Table 2. *Distribution of patients according to types of contraception.*

Contraceptive methods	Number (n)	Percentage (%)
Injectable Depo-Provera	44	*41,1*
Jadelle	29	*27,1*
Implanon	24	*22,4*
Intrauterine device	10	*9,4*
Total	107	*100*

3.2. Analytical Results

The practice of contraception was statistically correlated with parity; indeed the more children the woman has the more she is inclined to use contraception (p=0.011). On the other hand this practice was independent of age (p=0.516), of the marital status of the patients (p=0.224), of the level of education (p=0.716), of body build (p=0.634) and of blood pressure status (p=0.097).

4. Discussion

Age: The mean age of family planning users was 29.5 years ±6.8 with extremes ranging from 14 and 45 years. Similar results were obtained both at the national and African level, the

mean age of users being between 28 and 30 years [8-10]. Similar trends were observed in Mali where authors such as Sanogo [11], Jean Marie and Sao [12] speak of profiles of users predominantly aged 25 to 34 years. On the other hand, Ba [13] and Diop [14], in their studies conducted on Norplant® in Senegal, had found a higher mean age respectively of 31.3 and 32 years unlike Diarra in Mali in 2012 who had found a lower mean age of 27.4 years.

Overall, these results confirm that modern contraception remains mainly mobilized by women in the full period of reproductive activity, often already engaged in motherhood. Recent national analyses [6, 15] moreover show that the prevalence of modern contraception is highest among women aged 25-34 years, both at the national level and in urban settings. Studies focused on young people in Dakar also indicate that, if contraceptive initiation can be early, regular use remains more frequent after a few years of sexual life and sometimes after a first pregnancy [5, 16]. The persistence of high fertility rates at advanced ages, described in several countries of the subregion, helps explain this still relatively late resort to family planning [14, 17].

Level of education: In our study, the majority of women were educated (89.6%, n = 95), with a strong representation of secondary and higher levels. This rate is clearly higher than those reported in several previous works: Leye et al reported 65.8% of educated women, whereas the study by Sane Ndiaye found 65.7%. In Mali, Diarra reported 81.3% of schooled women and Jean M. 72%, whereas Sidibe observed a markedly lower literacy level, at 47.98%. These differences suggest an overall progression of female schooling among family planning users, but also differences of context between countries, study settings and periods of observation.

Many recent analyses confirm that education constitutes a major determinant of the use of modern contraception. Women who have reached at least the secondary level have higher probabilities of adopting a modern method, due to better access to information, greater decision-making autonomy and an increased capacity to negotiate within the couple [3, 18, 19]. In Senegal, reports devoted to the sexual and reproductive health of adolescent girls and young women show that schooling not only prolongs the period before first marriage, but is also accompanied by more frequent use of modern methods, particularly in urban settings [5, 6]. Even when the statistical association between level of education and contraceptive use does not appear significant in a given study, the convergence of the available works argues in favor of a structuring role of female education in the dynamics of family planning, by strengthening women's capacity to plan and master their reproductive life.

Occupation: About one quarter (25.2%, n=27) of the patients were employees of the formal private sector, 23.4% (n=25) housewives and 21.5% (n=23) schoolgirls-students. This distribution reflects a certain social diversification of the users, who are no longer only housewives, as some older studies suggested. In Diarra's study, housewives were the most represented (30.3%), followed by schoolgirls/students (28.1%) [10]. This could be explained by the fact that employees of the private sector tend to be better informed than housewives or as a lever for organizing reproductive life in relation to professional constraints. Compared with our results, those of Traore showed that housewives represented 63.3% of users against 8% of civil servants, which reflects a context where family planning remained more anchored in households than in formal salaried environments [20].

In our study, schoolgirls and students used contraception at a rate of 21.5%; this confirms contraceptive needs concern young women still in schooling.

In our study, the non-negligible share of employees of the private sector suggests that contraception is also mobilized as a lever for organizing reproductive life in relation to professional constraints, these women often being better informed on the available methods and more concerned with planning their pregnancies.

The proportion of schoolgirls and student users (21.5%) furthermore confirms that contraceptive needs concern young women still in schooling. International data show that the median age at first sexual intercourse generally lies between 16 and 19 years for girls and between 17 and 19 years for boys, which coincides with the school or immediate post-school period and contributes to making a need for contraception emerge early [21]. In Africa, several surveys indicate comparable ages at first intercourse, often close to 16 years for girls; in Chad, for example, the mean age at first sexual intercourse is estimated at 15.9 years in girls and 18.8 years in boys. These elements shed light on the presence of young people in school settings among users of modern methods and underline the importance of sex education measures and services adapted to adolescents and young adults.

Marital situation: In our study, 90.7% of the users were married. This high rate could be explained by the fact that socially these women are free from any judgment if ever they contract a pregnancy, they can present themselves without embarrassment in health structures. On the other hand unmarried women would very quickly be exposed to the prejudices of society in the event of pregnancy outside marriage. The study by Ralisata et al [29] had also found a predominance of married women users of contraception with respectively 66.1% and 82%. Recent analyses by FP2030 [6, 26] and the Ouagadougou Partnership [7] show that, despite the progress in modern contraceptive prevalence in Senegal, strong unmet needs persist among adolescent girls and young single women, particularly in urban settings. Our results, in line with these observations, indicate that FP services remain still largely oriented toward women in union, and underline the necessity of strengthening the offer and accessibility for young unmarried women.

Information sources: Health workers constituted the main sources of information on family planning (32.7%), followed by the husband (8.4%) then the parents (2.8%). At the African scale we find roughly the same results.

Keita's study showed that health workers constituted the main source of information then friends and spouses with respectively 56.5%, 27.4% and 7%, confirming the pivotal role of the health system in the dissemination of family planning messages [22]. In the study by Saizonou et al, in Benin [23], the source of family planning information most cited was health centers (71.85%), thus showing women's dependence vis-à-vis health structures for access to information. A study by El Rabi Ousni [24] showed that in their majority, women obtained modern contraceptive methods from the public sector (56%), of which 46% from health centers.

Recent evaluations of youth-friendly reproductive health services in Senegal nevertheless underline that the impact of this centrality depends on the quality of counseling, the availability of methods and the capacity of providers to respect the informed choice of users [25-27]. Our results support these analyses, by showing that health workers play a determining role in orienting contraceptive choices, which pleads for a strengthening of their training on listening, neutrality and taking into account women's preferences and constraints.

Number of children: In our study, the population using family planning was constituted mainly of multiparous women (49.5%), followed by primiparous women (40.2%), whereas nulliparous women represented only 10.3%. The mean number of children was two, and nearly 90% of women had at least one living child. These results indicate that the resort to contraception is made mainly after entry into motherhood, in a logic of spacing or limiting births.

This configuration is consistent with numerous studies carried out in Senegal and in the sub-region, which show that the use of modern methods increases with parity. Several works thus describe low use among nulliparous women, then a progression of contraceptive practice among women having one, two or more children [11, 12, 13, 28]. Analyses in the general population also confirm that modern contraceptive prevalence is higher among women who already have several children, whereas unmet needs remain significant among primiparous women and women having a low number of children [6, 15]. Moreover, international studies have shown that infant morbidity and mortality tend to increase from the third or fourth birth onward, which reinforces the relevance of limitation and spacing strategies in large families [29-3]. The results of our study, which highlight a statistically significant association between parity and contraceptive use ($p = 0.011$), fit within this logic: the higher the parity, the more likely women are to resort to a modern method.

Obesity and contraception: In our study 29.4% of the patients were overweight and 25.5% were obese. These proportions show that an important share of contraceptive users already presents excess weight. Comparable results were reported by Sonou et al. [30] in Benin, who found 26.9% overweight and 23.2% obesity among women using hormonal contraception, which confirms that obesity is frequent among users of modern methods in West Africa.

In our series, obese women resorted to different methods: some used Depo injectable, others Jadelle, Implanon or the copper intrauterine device. This diversity of practices reflects the necessity of offering a range of methods adapted to risk profiles. The literature underlines that, in obese women, microprogestin contraceptions, injectable progestins, implants and the levonorgestrel IUD are generally considered usable, subject to an overall cardiovascular risk assessment [32-34]. On the other hand, the use of combined estrogen-progestin oral contraceptives must be considered with caution. In a woman older than 35 years with a BMI greater than 30 kg/m ^{2} or presenting other cardiovascular risk factors (hypertension, smoking, diabetes, dyslipidemia), recent recommendations favor non-combined methods, notably the copper or levonorgestrel IUD, progestin-only contraceptives, definitive methods and mechanical methods [32, 34, 35]. Several authors also recall that the risk of venous thrombosis is multiplied in obese women using estrogen-progestins, and that this risk increases gradually with BMI [33, 36]. Moreover, studies have shown significant weight gain under injectable progestin contraception, particularly in obese adolescents, which must be discussed with the patients when choosing the method [32, 33]. In the United States, the risk of oral contraceptive failure was also statistically correlated with BMI, women with excess weight or obesity presenting more unplanned pregnancies under the pill [36].

In our study, 12.1% of the patients were hypertensive, which testifies to a non-negligible frequency of this cardiovascular risk factor among contraceptive users. Higher results were reported in Benin, where Sonou et al [31] found around one quarter of hypertensive women in a population using hormonal contraception, confirming that hypertension constitutes an important issue in West Africa. These data underline the necessity of systematically screening cardiovascular risk factors, in particular arterial hypertension, before any contraceptive prescription.

In our series, hypertensive women resorted to different methods: some used Depo injectable, others the intrauterine device, Implanon or Jadelle. This profile illustrates both the diversity of contraceptive choices and the importance of adapting the method to the patient's cardiovascular background. The literature shows that, in adult women suffering from arterial hypertension, the use of combined oral contraceptives is associated with an increase in the risk of acute cardiovascular events, notably myocardial infarction and ischemic stroke [37, 38].

The use of combined hormonal contraception is also accompanied by a moderate but real rise in blood pressure, both systolic and diastolic, with an incidence of newly appeared hypertension estimated between 0.6% and 8.5% depending on the series [37, 38]. Recent recommendations therefore do not recommend the prescription of estrogen-progestin contraceptives in hypertensive women, whether controlled or not, and this whatever the mode of administration (oral route, transdermal patch or vaginal ring), because of the risk of additional increase in blood pressure [32, 34].

A modest increase in blood pressure (of the order of 5 to 7 mmHg) has been observed in certain users of estrogen-progestins, and frank arterial hypertension appears in a limited but non-negligible proportion of them [31,38]. In this context, progestin-only methods (microprogestin pill, implants, injectables) and intrauterine devices are generally preferred in women presenting hypertension or high cardiovascular risk, provided that their tolerance profile is assessed individually.

Thus, the proportion of hypertensive women observed in our study reinforces the idea that family planning must be closely articulated with the management of chronic diseases. A systematic screening for hypertension, an evaluation of overall cardiovascular risk and individualized advice on the safest methods constitute indispensable prerequisites before contraceptive prescription in these patients.

Postpartum and contraception: In our study, twenty-three patients were in the postpartum period, of whom five presented amenorrhea. It emerges that women who had already had the return of menses were proportionally more numerous to resort to a contraceptive method than those still in amenorrhea. This situation suggests that many women continue to assimilate postpartum amenorrhea to sufficient protection against pregnancy, whatever the moment of the postnatal period. Works carried out in other contexts confirm this observation. In Benin, Saizonou and collaborators showed that more than half of postpartum women declared not yet having had the return of menses, and that a large part of them had not initiated a contraceptive method, illustrating the persistence of an underestimated "window at risk" [23]. In Uganda, Sileo et al. highlighted that women who had already had the return of menses had resort to contraception about eight times higher than those who were still in amenorrhea, which shows to what extent the resumption of menstruation is perceived as the trigger signal of contraceptive need [39]. In Rwanda, Dulli et al. [41] observed that nearly half of women waited for the return of menses before using family planning services, despite a real risk of pregnancy upstream.

These results, compared with our own data, indicate that the postpartum period remains largely underexploited as an opportunity for prevention of closely spaced pregnancies. They join recent recommendations which recommend systematically integrating contraceptive counseling into postnatal follow-up, from the maternity ward then during vaccination and child growth consultations [40]. In this context, additional efforts are necessary to explain to women that the occurrence of a pregnancy is possible before the return of menses, in particular when breastfeeding is not exclusive or decreases in frequency. The promotion and provision of methods compatible with breastfeeding (progestin pills, implants, IUDs) in immediate and late postpartum, as well as clear counseling on the calendar of fertility return, are essential levers for reducing unplanned pregnancies in the year following childbirth.

5. Conclusion

Contraception plays a crucial role in the promotion of maternal and child health through the reduction of maternal and infant mortality, allowing women to delay and space their pregnancies, thus reducing the risks linked to closely spaced deliveries which are widely documented as factors of maternal and neonatal morbidity and mortality. Moreover, by giving couples the possibility of deciding the number of children they want to have, family planning contributes to the reduction of infant mortality by ensuring adequate maternal care.

International estimates show that a well-organized family planning program could reduce maternal mortality by about one third, by preventing a large number of unwanted pregnancies and unsafe abortions. Despite these recognized benefits, the burden remains high: several hundred thousand women still die each year of complications linked to pregnancy and childbirth, often in contexts of low contraceptive coverage and high unmet needs. In Senegal, recent indicators recall the extent of the issue: the maternal mortality rate is 392 deaths per 100000 live births and infant mortality is 47‰ live births. Thus an early pregnancy in a young woman, married or not, can constitute a considerable obstacle to the improvement of quality of life.

Abbreviations

ANSD	National Agency of Statistics and Demography
EDS	Demographic and Health Survey
IUD	Intra Uterine Device
LMP	Last Menstrual Period
WHO	*World Health Organization*

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Author Contributions

Coumba Ka: Conceptualization, Data curation, Formal Analysis, Methodology, writing, Writing – original draft

Boubacar Gueye: Conceptualization, Data curation, Formal Analysis, Methodology, Supervision, validation

Alassane Amadou Barro: Conceptualization, Data duration, Formal Analysis, Methodology

Cheikh Tacko Diop: Conceptualization, Formal Analysis, Methodology, Supervision, Validation, Writing – review & editing

Ndeye Mareme Sougou: Conceptualization, Formal Analysis, Methodology, Writing – review & editing

Conflicts of Interest

The authors declare no conflicts of interest.

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