

# Unmet Needs for Family Planning among Adolescent Girls Giving Birth in Three Teaching Hospitals in Yaoundé

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## Abstract

Many adolescent girls are pressured into having sex at an early age, which puts them at high risk of unwanted pregnancies and unsafe abortions. The overall objective of this study was to evaluate the unmet needs of adolescents who give birth. A descriptive cross-sectional study was carried out in three university hospitals in Yaoundé, Cameroon: Yaoundé Central Hospital, Yaoundé Gyneco-Obstetrics and Pediatric Hospital and the District Hospital of Bi-yem-Assi, from February 1, 2020 to June 30, 2020. Included were any teenage mothers speaking English or French. Data were entered using CSPRO 7.3, analyzed by Excel 2010 and SPSS version 23.0. The tools used to express our results were the number, the frequency, the mean, the odds ratio (OR) and the P. P was significant if less than 5%. Of a total of 2692 births recorded, 188 (7%) were from adolescents. Of these, 157 fulfilling our selection criteria were recruited and data analyzed. The average age of the participants was  $17.9 \pm 1.12$  years with extremes of 13 and 19, the average parity was  $1.2 \pm 0.4$  with extremes of 1 and 3. Out of 157 participants, 2 who fell in the age range of 10 to 14 years (100%) and 106 of 155 (68.4%) whose age ranged from 15 to 19 years had unmet need for family planning. Only unmarried participants had unmet needs after multivariate analysis [aOR 2.4 (1.1 - 5.3);  $p = 0.035$ ]. Being unmarried was independently associated with the occurrence of unmet needs. The intensification of campaigns for provider behavior changes com-

munication and the creation of services dedicated to the sexual and reproductive health of adolescents would help to reduce the rate of unmet needs for family planning among adolescent girls.

## Keywords

Adolescent Girls, Unmet Need, Family Planning

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## 1. Introduction

Around the world, young women experience a high rate of unwanted pregnancies and abortions due to their limited knowledge of sexual and reproductive health. Family planning (FP) knowledge and use are important indicators of sexual and reproductive health among young people, especially in African regions [1]. Young people represent 24% of the population in the world, and 32% in 2019 in Cameroon [2]. Adolescence is the period of growth and human development that occurs between childhood and adulthood, that's the ages from 10 to 19 years [3]. Many adolescents are pressured into having sex, which puts them at very high risk of unwanted pregnancies [3]. Family planning (FP), is one of the components of reproductive health, which allows individuals and couples to avoid unwanted pregnancies, decide on the timing of pregnancies and the number of children they want [4].

Since the 1970s, the WHO with the support of the United Nations Fund for Population Activities (UNFPA) has been actively involved in the promotion of adolescent sexuality and reproduction [5].

In Cameroon, according to the 2018 demographic and health survey (DHS V) [6], 24% of adolescent girls had started their reproductive life, of which 5% were pregnant with a first pregnancy and 19% had at least a child. The percentage of adolescent girls who have already begun their reproductive life increases rapidly with age, rising from 4% at age 15 to 23% at age 17 and then to 49% among those aged 19 [6]. A study on the unmet needs for family planning among adolescents could contribute to the search for solutions to improve access to effective methods of contraception, in order to contribute to achieving the third goal of sustainable development, which is to empower people to lead healthy lives and support the well-being of all at all ages [7]. Our general objective was to assess the unmet needs for FP among adolescent girls who give birth, specifically to describe the socio-obstetric profile, determine the frequency of use of contraceptive methods and identify unmet needs for contraception.

## 2. Methods

The study was descriptive cross-sectional, lasting 5 months, from February 1 to June 30, 2020 in 3 hospitals in the city of Yaoundé: Yaoundé Central Hospital (YCH), Yaoundé Gyneco-Obstetrics and Pediatric Hospital (YGOPH) and Bi-

yem-Assi District Hospital (BDH). These hospitals (among which the first 2 are reference hospitals) perform between 300 and 350 deliveries per month, which allowed us to reach our minimum sample size.

The study population consisted of adolescents who gave birth in the hospitals mentioned. Sampling was consecutive and exhaustive. Included were all teenage mothers speaking English or French. Excluded were any adolescent who refused consent, or whose parent did not give consent, or who withdrew consent during the study, and/or whose information was incomplete for the data analysis. The minimum size of our sample was estimated using the Lorenz formula and ended up recruiting 157 participants.

After obtaining the authorizations, we went to the various maternities. From the registers of the delivery room, we identified the names of the mothers and their ages, in order to extract the names of the adolescent girls. We then spotted them in the postpartum wards. After consent, we proceeded to recruitment. Hospital records were consulted when necessary to complete the information. Data consisted of continuous and categorical variables of sociodemographic information and knowledge and use of contraceptives. All the information collected was reported on previously established, tested and adapted technical sheets.

The data collected on the technical sheets were entered using CPro 7.3 software and analyzed with Excel 2010 and SPSS version 23.0 softwares. Tools used to express our results were frequency and mean. Odds ratio (OR) and the *p* were used to find the association between the different variables studied and the unmet FP needs. *p* was considered significant for any value less than 0.05.

We obtained ethical clearance from the Institutional Ethics Committee for Research in the Human Sciences of the University of Douala. Written informed consent was requested from all participants and their parents.

### 3. Results

From February 1 to June 30, 2020, we recorded a total of 2692 deliveries, of which 188 (7%) were from adolescents. Of these, 157 fulfilling our selection criteria and were recruited and data analyzed.

The average age of the participants was  $17.9 \pm 1.12$  years with extremes of 13 and 19, the average gravidity was  $1.2 \pm 0.5$  with extremes of 1 and 3, and the average parity was  $1.2 \pm 0.4$  with extremes of 1 and 3. The socio-demographic and obstetrical profile of the participants is shown in **Table 1**. Among the 157 participants, 155 (98.7%) were between 15 and 19 years old, 135 (86%) were Christians, 124 (79%) were unmarried, 156 (99.4%) were in school, 155 (98.7%) had partners attending school. One hundred and thirty-two (84.1%) lived in urban areas, 62 (39.4%) were from the Center Region and 44 (28%) from the West. One hundred and thirty-two (84.1%) had a gravidity of 1, and 136 (86.6%) had a parity of 1. Of the 156 educated female participants, 121 (77.6%) had secondary education, and of the 155 educated partners, 104 (67.1%) had a high school level.

Of the 157 participants, 7 (4.5%) did not know any contraceptive method, 47 (29.1%) had never used one (this includes those having no knowledge of

**Table 1.** Distribution of participants according to their socio-demographic and obstetrical profile.

Variables	Number	Percentages (%)
Age (years)		
10 - 14	2	1.3
15 - 19	155	98.7
Religion		
Christian	135	86
Muslim	22	14
Marital status		
Unmarried	124	79
Married	33	21
schooling status		
Goes to school	156	99.4
Does not go to school	1	0.6
Education level (n = 156)		
Primary	19	12.2
Secondary	121	77.6
University	16	10.2
Schooling status of partner		
Goes to school	155	98.7
Does not go to school	2	1.3
Education level of partner (n = 155)		
Primary	13	8.4
Secondary	104	67.1
university	38	24.5
Residence		
Rural	25	15.9
Urban	132	84.1
Region of origin		
Centre	62	39.4
West	44	28
Far-North	8	5.1
South	8	5.1
South west	7	4.5
Littoral	7	4.5

**Continued**

North	7	4.5
North west	7	4.5
East	4	2.5
Adamawa	3	1.9
Gravidity		
1	132	84.1
2 - 3	25	15.9
Parity		
1	136	86.6
2 - 3	21	13.4

contraceptive methods). All 110 (100%) who had knowledge of contraceptive methods knew of the existence of condoms, and the other methods were little known. Of the 110 (70.1%) who used a contraceptive method, 103 (93.6%) used condoms, with other methods being used very little (**Table 2**). Of all 157 participants, only 97 (61.8%) knew that they could be purchased at the shop and 80 (51%) at the pharmacy, 91 (58%) did not know of the existence of the services of FP, 149 (94.9%) were not attending FP services, 108 (68%) had had an unwanted pregnancy. The most common cause of non-use of contraceptive methods was partner refusal with a frequency of 38.3% (**Table 2**).

Among the 157 participants, all those aged 10 - 14 years and 68.4% of the age group 15 - 19 years had an unmet need for FP (**Table 3**). Also, 70.2% of those who had a secondary education and 70.5% of those who had had only one pregnancy had unmet needs. Knowledge of contraceptives or a source of contraceptives did not influence unmet needs. Seventy-point five percent of those who did not consult family planning services had unmet needs. Nevertheless, only unmarried and Christian religion seemed to increase unmet need in our study with respectively OR = 2.6 IC: 1.2 - 5.7  $p = 0.016$  and OR = 2.6 IC: 1.02 - 6.4  $p = 0.040$ .

To find the factors independently associated with the non-satisfaction of FP needs, we used all the factors that were initially associated during the bivariate analysis (**Table 4**.) Only the unmarried status of adolescents independently increased the unmet FP needs: OR = 2.4 CI: 1.1 - 5.3  $p = 0.035$ .

#### 4. Discussion

Teenagers made up 7% of births in our study, a frequency slightly lower than that of 9.3% found at the HCY in 2014 by Fouelifack *et al.* [8]. Their study concerned births from the HCY only and their sample size was larger than ours (5997 births).

**Table 2.** Distribution of the population according to frequency of use of contraceptive methods.

Variables	Number	Percentages (%)
Do you know at least one contraceptive method? n = 157		
No	7	4.5
Yes	150	95.5
Know contraceptives methods (n = 150)		
Condom	150	100
Pills (COC)	48	32
Injectable contraceptive	30	20
Implant	21	14
Emergency contraceptive pill	18	12
Intrauterine device	17	11.3
Spermicide, Exclusive maternal breastfeeding	2	1.4
Use of a contraceptive method		
Yes	110	70.1
No	47	29.9
Methods used (n = 110)		
Condom	103	93.6
Injectable Contraceptive	5	4.5
Emergency contraceptive pill	5	4.5
Implant	2	1.8
Reason for not using a contraceptive method (n = 47)		
Do not know how to	7	14.9
Refusal of the partner	18	38.3
Do not feel like using it	15	31.9
No answer	7	14.9
Knowledge of a source of contraceptive (n = 157)		
Stores/kiosk	97	61.8
Pharmacies	80	51
Hospital/health center	49	31.2
No source	11	7
Pils	1	0.9
Knowledge of the existence of family planning services (n = 157)		
Yes	66	42
No	91	58

## Continued

Consult/use family planning services		
Yes	8	5.1
No	149	94.9
Voluntary pregnancy		
Yes	49	31.2
No	108	68.8

**Table 3.** Factors associated with unmet FP needs.

Variables	FP needs (%)		OR (95% IC)	p
	Unmet needs	Met needs		
Marital status				
Unmarried	91 (73.4)	33 (26.6)	2.6 (1.2 - 5.7)	0.016
Married	17 (51.5)	16 (48.5)	0.4 (0.2 - 0.8)	0.016
Age (years)				
10 - 14	2 (100)	0 (0)	NA	1.000
15 - 19	106 (68.4)	49 (31.6)	NA	1.000
Religion				
Christian	97 (71.9)	38 (28.1)	2.6 (1.02 - 6.4)	0.040
Muslim	11 (50)	11 (50)	0.4 (0.2 - 1.07)	0.040
Level of education (n = 156)				
Primary	12 (63.2)	7 (36.8)	0.8 (0.3 - 2.1)	0.586
Secondary	85 (70.2)	36 (29.8)	1.4 (0.6 - 3.1)	0.407
University	10 (62.5)	6 (37.5)	0.7 (0.3 - 2.2)	0.580
Level of education of partner (n = 155)				
Primary	9 (69.2)	4 (30.8)	1.01 (0.3 - 3.5)	1.000
Secondary	74 (71.2)	30 (28.8)	1.3 (0.7 - 2.7)	0.415
University	24 (63.2)	14 (36.8)	0.7 (0.3 - 1.5)	0.367
Residence				
Rural zone	19 (76)	6 (24)	1.5 (0.6 - 4.1)	0.369
Urban zone	89 (67.4)	43 (32.6)	0.7 (0.2 - 1.8)	0.396
Gravidity				
1	93 (70.5)	39 (29.5)	1.6 (0.7 - 3.8)	0.301
2 - 3	15 (60)	10 (40)	0.6 (0.3 - 1.42)	0.301

## Continued

	Parity			
1	95 (69.9)	41 (30.1)	1.4 (0.5 - 3.7)	0.464
2 - 3	13 (61.9)	8 (38.1)	0.7 (0.3 - 2.0)	0.464
Knowledge of contraceptive methods				
Yes	104 (69.3)	46 (30.7)	1.7 (0.4 - 7.9)	0.678
No	4 (57.1)	3 (42.9)	0.6 (0.1 - 2.7)	0.678
Knowledge of sources of contraceptives				
Health center/hospital	36 (73.5)	13 (26.5)	1.4 (0.7 - 2.9)	0.394
Pharmacies	60 (75)	20 (25)	1.8 (0.9 - 3.6)	0.087
stores	66 (68)	31 (32)	0.9 (0.5 - 1.8)	0.797
No mentioned source	8 (72.7)	3 (27.3)	1.3 (0.3 - 4.8)	1.000
Reasons for not using contraceptives				
Does not know	4 (57.1)	3 (42.9)	0.9 (0.2 - 4.9)	1.000
Refusal of partner	7 (44.4)	10 (55.6)	0.4 (0.1 - 1.4)	0.155
Does not feel like using it	9 (60)	6 (40)	1.2 (0.3 - 4.1)	0.808
No response	6 (85.7)	1 (14.3)	5.4 (0.6 - 49.3)	0.213
Consult/use family planning services				
Yes	3 (37.5)	5 (62.5)	0.3 (0.6 - 1.1)	0.109
No	105 (70.5)	44 (39.5)	3.9 (0.9 - 17.4)	0.109

**Table 4.** Multivariate analysis of factors associated with unmet need for family planning.

Variables	Adjusted OR (95% IC)	p
Christian	2.2 (0.9 - 5.7)	0.092
Unmarried	2.4 (1.1 - 5.3)	0.035

Among the 157 participants (**Table 1**), 155 (98.7%) were between 15 and 19 years old, 135 (86%) were Christians and 124 (79%) were unmarried. The majority 156 (99.4%) were in school and 155 (98.7%) of their partners were educated. Up to 132 (84.1%) lived in urban areas. Sixty-two (39.4%) were from the Center Region and 44 (28%) from the West. One hundred and thirty-two (84.1%) had a gravidity of 1, and 136 (86.6%) had a parity of 1. Of the 156 school-going participants, 121 (77.6%) had secondary school level and of the 155 partners 104 (64.1%) had a secondary school education. We have not found another study to compare our results.

The rate of use of a contraceptive method (70.1%) (**Table 2**) is high compared to that of 11.9% obtained during the DHS V of 2018 [6] in Cameroon for the age

group of 15 - 19 years [6]. Our data are hospital-based while those of the DHS are community-based. This could explain the difference. The condom use rate of 93.6% (103 out of 110) is close to 96% found in urban areas by Ajong *et al.* [9] in 2016. The condom remains the most well-known and used contraceptive method in urban areas in Cameroon. Moreover, this condom use rate is higher than the 5.6% rate of use among adolescent girls aged 15 to 19 found during the 2018 DHS V [6]. This can be explained by the same reasons mentioned above. The rate of 5.1% of adolescents who have already attended a FP center is much lower than the 28% found by Vilpert Sarah in 2008 [10]. His study was done in all “PROFAM” FP services in the world, while ours took place only in three hospitals in Yaoundé. Our rate of 68.8% who had had an unwanted pregnancy (Table 2), is higher than 45% found in 2017 in Africa by Darroch *et al.* [11]. This difference can be explained by the fact that we carried out our study in a hospital setting while theirs was done in a community setting.

In Table 3, unmarried status and Christian religion seemed to increase unmet need in our study with respectively OR = 2.6 CI: 1.2 - 5.7 p = 0.016 and OR = 2.6 CI: 1.02 - 6.4 p = 0.040. But after multivariate analysis (Table 4), only unmarried adolescents independently increased non-satisfaction of FP needs: aOR = 2.4 (CI: 1.1 - 5.3) p = 0.035. This factor had a significant link with unmet needs for FP as already found by Assefa *et al.* in Ethiopia [12] and Darroch *et al.* in New York [11]. The other studied variables had no association with unmet FP needs (Table 3 and Table 4), unlike other studies conducted in Cameroon [13] and Ethiopia [14] [15] which found significant associations. This difference can be explained by the difference between the types of study and the sample sizes.

According to Ajong *et al.* [16], despite the availability and sometimes free contraceptive methods at different levels in Cameroon, the frequency of use of contraceptive methods in the community is still low, while the unmet need for FP which is one of the main monitoring indicators for FP programs are supposed to be kept as low as possible or even zero if the third objective of sustainable development is to be achieved. The social recognition of young women’s sexuality exerts a decisive influence on their perception of the “risk” of pregnancy, on their access to information and contraception and their contraceptive practice [17]. Thus, in countries such as France where adolescents’ access to contraception is most widely authorized by law, young people protect themselves more against unplanned pregnancies [18].

#### Limits of the study

We used a cross-sectional study design, which can only pick up associations rather than causal relationships. During the period of our study, we were confronted to the pandemic due to Corona Virus 19. The official prescription of confinement has largely contributed to the drop in the hospital attendance rate. During recruitment, some teenage girls were ashamed to answer certain questions and could therefore give us incorrect answers. This behavior was more accentuated by certain religious or socio-cultural beliefs.

## 5. Conclusion

Among the 157 participants, 132 (84%) had had at least one pregnancy, 136 (86.6%) had given birth at least once. The frequency of non-use of contraceptive methods among adolescents was 29.9%. We noted a low attendance rate for FP services (5.1%), a high rate of unwanted pregnancies (68.8%). The best-known source of contraceptive method supply was the shop (61.8%). Partner refusal was the most cited reason for not using contraceptive methods (38.3%). Being unmarried was independently associated with the occurrence of unmet needs. We suggest that FP actors favor the community approach to health, targeted at adolescents. The intensification of behavior change communication campaigns and the creation of services dedicated to the sexual and reproductive health of adolescents would make it possible to reduce the rate of unmet needs for FP among adolescent girls.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## Author Contributions

Fouelifack and Ticki Mengue conceived the study, analyzed, drafted and edited the manuscript. Ofeh and Fouelifa drafted and edited the manuscript. Fouedjio edited the manuscript. All the authors read and approved the final manuscript submitted for publication.

## Disclosures and Ethics

As a requirement of publication authors have provided to the publisher signed confirmation of compliance with legal and ethical obligations including but not limited to the following: authorship, contribution, conflicts of interest, privacy and confidentiality. Beside the individual contributions from each of the authors, this study received no financial assistance.

## Author Agreement

The authors have read and confirmed their agreement with the ICMJE authorship and conflict of interest criteria. The authors have also confirmed that this article is unique and not under consideration or published in any other publication, and that they have permission from rights holders to reproduce any copyrighted material.

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## Appendixes

Original questionnaire

### **Annexe 5: Fiche de collecte des données**

Date: \_\_\_\_\_

Lieu: \_\_\_\_\_

Q-1- Numéro du dossier: \_\_\_\_\_

Q-2- Age:

10 - 14 = 1

15 - 19 = 2

Age précis: \_\_\_\_\_

Q-3- Statut matrimonial

Célibataire = 1

Mariée = 2

Q-4- Gravidité

1 - 2 = 1

3 - 4 = 2

Gravidité précise: \_\_\_\_\_

Q-5- Parité

1 - 2 = 1

3 - 4 = 2

Parité précise: \_\_\_\_\_

Q-6- Religion

Chrétien = 1

Musulman = 2

Athée = 3

Q-7- Région

Adamaoua = 1 Centre = 2 Est = 3 Extrême nord = 4 Littoral = 5 Nord = 6  
Nord-ouest = 7 Ouest = 8 Sud = 9 Sud-ouest = 10

Q-8- Zone d'habitation

Rurale = 1

Urbaine = 2

Q-9- Statut de scolarisation

Scolarisée = 1

Non scolarisée = 2

Q-10- Si scolarisée, niveau d'étude

Primaire = 1

Secondaire = 2

Universitaire = 3

Q-11- Statut de scolarisation du conjoint

Scolarisée = 1

Non scolarisée = 2

Q-12- Niveau d'étude du conjoint

Primaire = 1

Secondaire = 2

Universitaire = 3

**Q-13- Connaissez-vous des méthodes contraceptives ?**

Oui = 1 Non = 2

**Q-14- Si oui, lesquelles:**

Pilules = 1 Préservatif = 2 Spermicide = 3

Norplant = 4 Dispositif intra-utérin = 5 Contraceptif injectable = 6

Allaitement maternel = 7 Autre (à préciser) = 8 \_\_\_\_\_

**Q-15- Utilisez-vous une méthode contraceptive avant de concevoir ?**

Oui = 1

Non = 2

**Q-16- Si oui, lesquelles:**

Pilules = 1 Préservatif = 2 Spermicide = 3

Norplant = 4 Dispositif intra-utérin = 5 Contraceptif injectable = 6

Allaitement maternel = 7 8-Autre (à préciser) \_\_\_\_\_

**Q-17- Si non, pourquoi ?** \_\_\_\_\_

**Q-18- Avez-vous désiré cette grossesse ?**

Oui = 1 Non = 2

**Q-19- Avez-vous utilisé une méthode contraceptive pour ne pas avoir cette grossesse ?**

Oui = 1 Non = 2

**Q-20- Si oui, laquelle:**

Pilules = 1 Préservatif = 2 Spermicide = 3

Norplant = 4 Dispositif intra-utérin = 5 Contraceptif injectable = 6

Allaitement maternel = 7 Autre (à préciser) = 8 \_\_\_\_\_

**Q-21- Quelles sont les sources d'approvisionnement en méthodes contraceptives que vous connaissez ?**

Centre de santé/Hôpital = 1 Pharmacie = 2 Boutiques = 3

Autres (à préciser) = 4 \_\_\_\_\_

**Q-22- Savez-vous qu'il existe des services de prestation de planification familiale ?**

Oui = 1

Non = 2

**Q-23- Si oui: avez-vous déjà fréquenté ces services ?**

Oui = 1

Non = 2