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Psychosocial Determinants of Expectant Mothers' uptake of Sexual and Reproductive Health Services in the City of Parakou in 2017

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ABSTRACT

Introduction: *Health Authorities have been concerned about expectant mothers' low uptake of maternity services, despite the efforts made by the State to ensure "access to sexual and reproductive health services including family planning (SDG 3.7). The purpose of this study is to find out the psychosocial determinants associated with expectant mothers' low uptake of maternity services in the city of Parakou in the year 2017.*

Methods: *This was a cross-sectional study with prospective data collection from 20th January to 20th March 2017, conducted in the maternal immunization department within the maternal and child health Training and Research Unit (TRU) of Borgou-Alibori Teaching Hospital (CHUD/B-A) located in the city of Parakou. Comprehensive sampling method was used, while data collection was conducted through a pre-tested questionnaire.*

Results: *The 273 nursing mothers included in the study were aged between 15 and 43 years, with the mean age estimated at 28.8 ± 5.95 years. 20-29 years age group was the most represented (58.85%). The proportions of women under 20 and 30 years and above were respectively 11.72% and 34.43%. In addition, married mothers accounted for 48.72% while single mothers represented 8.06%. The proportion of those who attained secondary education level was 28.05%. Those who lived within 5-15 km from the maternity ward were 86.81% compared to those residing beyond 15 km (8.06%). 16.85% of women gave birth in a private hospital against 83.15% in public health facilities. The monthly income earned by 9.16% was below CFA 40,000 compared to 32.60% who earned more than CFA 100,000 as monthly income. 35% of the women declared to have experienced poor hospitality or faced unhelpful attitudes in the health facilities. Below are some factors that actually affected women's behaviors regarding care services:*

- *Hospitality: age, marital status, gravidity,*
- *Prenatal care: public/private birthing center, geographic accessibility, economic income, quality of antenatal visit, desire for pregnancy, spouse behavior towards pregnancy, quality of obstetric care.*
- *Quality of medical assistance: educational level, gravidity, parity and previous caesarean section were not associated with the quality of medical assistance.*

Conclusion: *Future studies will focus on the fear impact on pregnancy outcome regarding expectant mothers' uptake of maternal and child health services.*

Keywords
Psychosocial determinants, Expectant mothers, Healthcare services.

Introduction

All women aspire to live a happy motherhood [1]. However, in many parts of the world, pregnancy and childbirth pose risks to women. As a matter of fact, each year, over half a million mothers living in underdeveloped countries die from pregnancy and childbirth. About 99% (302,000) of all maternal deaths recorded worldwide in the year 2015 occurred in developing regions. Sub-Saharan Africa alone accounts for 66% of deaths (201,000), followed by South Asia (66,000). In a meta-analysis published in 2018, Geleto et al. [2], reported that between 1990 and 2015, about 10.7 million women died from obstetric complications. Yet, it is recognized that maternity associated risks can be reduced for all these women through the implementation of the 5th Millennium Development Goal (MDG). For the time being, these losses are regrettable although the global development agenda changed to Sustainable Development Goals (SDGs) after the year 2015 [3]. However, in industrialized countries, almost all women receive assisted care and delivery. According to a study carried out by MAIA Catherine in 2004, in sub-Saharan Africa, one out of 26 women, compared with one out of 7,300 women in these developed countries, face the risk of losing their lives, and the risk of maternal death was 175 times higher in developed regions [4]. This risk is approximately one out of seven in Niger, whereas in Sweden it is one out of 17,400. While in Benin, the number of women who deliver in health facilities keeps increasing, i.e. from 18.5% in 2001 to 55.1% in 2007, a fairly considerable proportion of those women still deliver at home assisted by unskilled staff and the rate of maternal mortality remains high. According to the WHO document entitled "WHO 2016-2019 Cooperation Strategy with BENIN", some of the direct causes associated with maternal mortality include [5]: bleeding, eclampsia and abortion which is increasingly being practised in poor conditions, especially among young people. Also, as noted by Sénat et al. [6] "the following months after childbirth are a transitional and psychological recovery period for all parents. Such period is even harder to go through in the event of psychosocial risk factors... and the child psycho-emotional development may be seriously impacted. These difficulties may include postnatal depression which is the most common case. This study focuses on screening some psychosocial determinants [7,8] of expectant mothers' uptake of sexual and reproductive health services in the city of Parakou in 2017.

Methods

It was a cross-sectional study, based on comprehensive census of 273 nursing mothers from 0 to 11 months, consecutively recruited from 20th January to 20th March 2017 in the maternal immunization department within the maternal and child health TRU of CHUD/B-A of Parakou. Nursing mothers living outside of Parakou as well as pregnant women were disqualified.

Variables

The dependent variable was related to "Uptake of maternity services". It was dichotomous:

- Yes: Prenatal care (PNC) services attended and delivery in a public/private maternity ward;
- No: No pregnancy follows up in a public/private maternity ward.

Independent variables included socio-demographic data, data related to quality of care, prenatal visits data, data determining medical assistance, and women's attitudes towards the services used. Data collection was carried out through semi-structured individual interviews with the nursing participants using a pre-tested questionnaire in accordance with the ethical principles outlined in Helsinki World Medical Association Declaration [9].

Data processing and analysis

Data entry was carried out with EPIDATA and analyzed with EPI INFO. EXCEL 2010 was used for tables. As for comparisons, a p-value <0.05 was considered statistically significant.

To study the stability of the association between quality of care, prenatal visits and the quality of medical assistance during childbirth, univariate analysis ($p<0.05$) was simultaneously introduced into a logistic regression model by performing top down stepwise successive iterations. The odds ratio (OR) were determined along with their 95% confidence interval to estimate the direction, strength and stability of the association.

The probability of Chi^2 associated with the model made it possible to decide on the relevance of the model used. In this study, the model is considered relevant when the probability associated with Chi^2 is less than 5% or 10%. With respect to the expectant mothers' uptake of sexual and reproductive healthcare services, the logistic regression model provides for each variable introduced into the equation a probability ($P> | t |$) which indicates the probability of the significance of the parameter related to a given modality. When this probability is less than 5%, we consider that there is a significant differential uptake of care services between women with the characteristic of the modality considered and women included in the reference modality.

When the odds ratio is less than 1, expectant mothers with the characteristic of the given modality of the predictor variable run 1- OR less risk than their counterparts of the reference modality in carrying out the event. When the risk ratio is greater than 1, it means women belonging to the modality of the predictor variable run OR times the risk of experiencing the event.

Results

Quality of hospitality

The proportion of women admitted to hospitals, who reported to have experienced poor hospitality decreases until it reaches zero; for 43.75% of women aged below 20 years old, hospitality was unsatisfactory in maternity wards. Multiparous women were 3.73 (OR [1.57-8.89]) times more likely to experience good hospitality in sexual and reproductive health facilities compared to primiparous women. Table I below shows the various factors associated with quality of hospitality during delivery care.

Total		Quality of hospitality		OR	IC95%	Khi²	P-Value
		Poor	Good				
Age in years						33.77	0,000
< 20	32	14 (43.75)	18 (56.25)	1			
[20- 30]	147	17 (11.56)	130 (88.44)	5.95	[2.51-14,09]		0.0001
[30 and above]	94	4 (4.26)	90 (95.74)	17.50	[5.16-59,34]		0.0000
Marital status					12.63	0.0018	
Single	22	14(63,64)	8 (36,36)	1			
Married	133	121 (90.97)	12 (.02)	5.76	[2.01-16.50]		0.0011
Cohabitation	118	103 (87.29)	15(12.71)	3.92	[1.41-10,92]		0.0089
Divorced	0	0 (0.00)	0 (0.00)	-	-		
Gravidity						11.65	0.0029
Primigravida	145	28 (19.31)	117 (80.69)	1			
Bigravida	91	5 (5.49)	86 (94.51)	4.12	[1.53-11,09]		0.0051
Multigravida	37	2 (5.41)	35 (94.5)	4.19	[0.95-18,46]		0.0584
Parity							
Primiparous	147	28 (19.05)	119 (80.95)	1		11.29	0.0035
Multiparous	118	7 (5.93)	111(94.07)	3.73	[1.57-8.89]		0.0029
Grand multiparous	8	0 (0.00)	8 (100)	-	-		
Caesarean section						1.15	0.2840
No	214	25 (11.68)	189 (88.32)	1			
Yes	59	10 (16.95)	49 (83.05)	0.64	[0.29-1.44]		0.2867

Table 1: Quality of hospitality provided to women during delivery, according to age, marital status, gravidity, parity and history of caesarean section (N = 273, Parakou / Benin, 2017).

Total		Prenatal visits		OR	IC95%	Khi²	P-Value
		< 4 PNC	≥ 4 PNC				
Birthing center					21.73	0.0000	
Private health facility	46	8 (17,39)	38(82,61)	1			
Public health facility	227	125 (55.07)	102 (44.93)	0.37	[0.-0.39]		0.0001
Accessibility						12.05	0.0072
< 5 Km	13	7 (53.85)	6 (46.15)	1			
≤ 5 – 15 Km	237	107 (45.15)	130 (54.85)	1.42	[0,46-4,34]		0.5416
>15 Km	22	18 (81.82)	4 (18.18)	0.26	[0.06-1.21]		0.0852
Others	1	1 (100.00)	0 (0.00)	0	-		0.9645
Economic income					33.29	0.000	
< 40000	25	19 (76.00)	6 (24.00)	1			
From 40000 to 100000	159	92 (57.86)	67 (42.14)	2.31	[0.87-6.09]		0.0914
> 100000	89	22 (24.72)	67 (75.28)	9.64	[3.42-1.19]		0.0000
Quality of prenatal care				31.49	0.000		
Poor	48	40 (83.33)	16.67 (8)	1			
Acceptable	51	27 (52.94)	47.06 (24)	4.44	[1.74-1.35]		0.0018
Good	174	66 (37.93)	62.07 (108)	8.18	[3.61-8.55]		0.0000
Desire						10.27	0.0005
No	31	24 (77.42)	7 (22.58)	1			
Yes	242	109 (45.04)	133 (54.96)	4.18	[1.74-0.08]		0.0014
Spouse behavior					9.22	0.0099	
Acceptance	258	120 (46.51)	138 (53.49)	1			
Refusal	14	12 (85.71)	2 (14.29)	0.15	[0.03-0.66]		0.0126
Hostility	1	1 (100)	0 (0.00)	0	-		0.9637

Table 2: Uptake of prenatal care (PNC) services during pregnancy, according to birthing center, geographic accessibility, economic income; the quality of prenatal visit, the desire for pregnancy, the spouse behavior towards the pregnancy and the quality of obstetric care (N = 273, Parakou / Benin, 2017).

Total		Gynecologic and obstetric assistance		OR	IC95%	Khi²	P-Value
		Good	Poor				
Educational level					1.84	0.6057	
Unschooled	45	44 (97.78)	1 (2,22)	1			
Primary	122	121 (99.18)	1 (0.82)	0.36	[0.02-5.94]		0.4778
Secondary	73	71 (97.26)	2 (2.74)	1.24	[0.11-14.08]		0.8625
Higher	33	33 (100)	0 (0,00)	0	-		
Gravidity						1.00	0.6063
Primigavida	145	97.93 (142)	2.07 (3)	1			
Bigradiva	91	98.90 (90)	1.10 (1)	0.53	[1.45-4.27]		0.580
Multigravida	37	100 (37)	0 (0.0)	0.00	-		0.970
Parity						0.77	0.6811
Primiparous	147	144 (97.96)	3 (2.04)	1			
Multiparous	118	117 (99.15)	1 (0.85)	0.41	[0.04-4.00]		0.4430
Grand multiparous	8	8 (100)	0 (0.00)	0	-		0.9687
Quality of obstetric care						25.76	0.0000
Poor	24	21 (87.50)	3 (12.50)	1			
Acceptable	18	17	1 (5.56)	0.41	[0.04-4.33]		0.4596
Good	231	231	0 (0.00)	0	-		
Caesarian section							0.2901
Yes	214	210 (98.13)	4 (1.87)	1			
No	59	59 (100)	0 (0,00)	0	-		0.9630

Table 3: Quality of medical assistance during delivery according to expectant mothers' educational level, gravidity, parity and the history of caesarean sections (N = 273, Parakou / Benin, 2017).

Prenatal visit

Among the 22 women living more than 15 km from the birthing center, 18 (81.82%) missed prenatal visits required before delivery. There was also a statistically significant difference between the number of prenatal visits and the spouse behavior towards the pregnancy (p = 0.0099 <0.05). Table II below shows the factors associated with the uptake of prenatal care services.

Medically assisted delivery

There was no statistically significant difference between the quality of medical care and the educational level of the woman. Parity did not have any significant impact on the quality of care provided to women in child delivery services (p> 0.05). The proportion of women who did not receive any assistance from qualified personnel was 2.04%. Table III below shows the factors associated with the quality of medical care provided to expectant mothers during delivery.

Discussion

Limitations of the study

One of the limitations of this study is prevarication bias which is specific to studies based on data obtained from respondents' interview on the basis of small sample size. But the fact that the collection tool was previously tested and adjusted, is likely to reduce these biases.

Quality of hospitality

On the basis of age and purchasing power, the respondents have differential chances for uptake of sexual and reproductive health services according to the quality of hospitality (refer to table 1). This finding was reported in 2017 by Rurangirwa et al. [10], who noted that the risk of misuse of prenatal care services in Rwanda was higher among women aged 31 years old and above. Thus, the analysis reveals that compared to women under 20, those in 20-29 years age group strongly represented in the study, and those aged 30 and above, are respectively more than 5 times and 17 times (OR = 5.95 and 17.50) likely to experience good hospitality in sexual and reproductive health care services. However, 43.75% of women under 20 years of age feel that these services are of poor quality.

As with age, the patients' marital status is significantly associated with the hospitality provided to Parakou women in the sexual and reproductive health services. Spinsters (36.36%) take the view that the quality of hospitality is poor compared to 9.02% of married women. Married women and those cohabiting who use sexual and reproductive health services were respectively 5.76 ([2.01-16.50]) and 3.92 ([1.41-10.92]) more likely to be provided with good hospitality in prenatal care services than spinsters (confer to table I). Birmeta et al. [11], also reported a significant association between prenatal care attendance and some demographic, socio-economic and health-related factors, such as age at last birth, literacy level of women, average monthly family income.

Hospitality and Medical assistance

Parity: In Parakou, parity as well as gravidity is an influencing factor in the provision of care to women in sexual and reproductive health services. Bigravida were 4.12 (OR [1.53-11.09]) times more

likely to experience good hospitality than primigravida (reference category). Furthermore, table n ° I show that for 19.31% of primigravida, quality of hospitality was poor against 5.41% of multigravida. However, there is no significant difference between primigravida and multigravida. Parity significantly influences the uptake of sexual and reproductive health care services ($p < 0.05$) according to the quality of hospitality; 19.05% of primiparous women attended less than 4 PNC services compared with 0% of multiparous women. Multiparous women are 3.73 (OR [1.57-8.89]) more likely to experience good hospitality in a maternal health facility compared to primiparous women. Thus, parity is an important factor in the uptake of care services by pregnant women. Finally, impediments to women access to care seems to be the rationale behind the fear of experiencing poor hospitality, especially when the attitude of the service providers is perceived as a cause of losing the child delivered in a previous pregnancy follow-up.

History of caesarean sections: There was no statistically significant difference between the quality of hospitality and women who had caesarean delivery once. However, 16.95% of women with at least one history of caesarean section experienced poor quality of medical assistance compared to 11.68% of women who never had a caesarean section. Mongbo et al. [12], noted that after caesarean section, 19.4% of women discontinued any new conception. Uptake of sexual and reproductive health services might fuel anticipatory anxiety among those women.

Birthing centers and affordability: Women who gave birth in a public health facility are 83% less likely to use sexual and reproductive health services in the city of Parakou. Regarding the demand for care, 87.82% of women who delivered in private health facilities have either an income greater than or equal to FCFA 100,000, or a spouse whose income is satisfactory enough. Since these facilities are mostly run by qualified staff (doctors), women prefer attending them irrespective of the cost involved. Schooled women are the most represented. The quality of services including care, health workers' qualification and cost differ from one sector to another. Women experience good hospitality in private health facilities. Health workers' are qualified and the cost seems affordable. This cost is high for women with low income. Thus, if women have the required means, they prefer attending private health facilities, regardless of the distance. Also, the provision of free caesarean section instituted by Benin Government, played an important role in attendance of private health facilities by women.

Geographic accessibility: While geographical accessibility of health facilities influences expectant mothers' uptake of sexual and reproductive health services in the city of Parakou ($p < 0.05$), that is not the case for women living within 5-15 km from the health facilities. Their counterparts residing less than 5 km from the health facility served as the reference category for uptake of sexual and reproductive health care services ($p > 0.05$). Kyei-Nimakoh et al. [13] noted that regarding supply, the main obstacles were the cost of services, the physical distance between health facilities and the user's place of residence, including long waiting times in health facilities, staff poor knowledge and skills, poor referral practices, and discourteous interpersonal relationships on the part of caregivers.

Economic income and uptake of sexual and reproductive health services: Women had differential chances for uptake of sexual and reproductive healthcare according to economic income. In bivariate analysis, about 76% of female respondents earning less than FCFA 40,000 attended less than 4 PNC services for their last birth, compared to 24.72% for women who earn above FCFA 100,000. Thus, women with an economic income greater than FCFA 100,000 were 9.64 times (OR [3.42-21.19]) more likely to use prenatal care services than their counterparts earning less than FCFA 40 000. Yet, regarding the uptake of sexual and reproductive health care services, there is no significant difference between women earning less than FCFA 40,000 and those with income ranging between FCFA 40,000 and 100,000. Herngreent al. [14] noted since 1993 that, compared to the group with higher socio-economic status, the risk of hospital delivery was higher in the group with lower socio-economic status (OR 1.60, 95% CI 1,16-2,20); Differences in the mode of delivery (including caesarean section) were minor and non-statistically significant.

Quality of prenatal and postnatal visit

Women who reported that the quality of prenatal care was acceptable and those who felt it was good were respectively 4.44 (OR [1.74-11.35]) times and 8.18 (OR [3.61-18], 55]) times more likely to attend care services than those who considered the quality of the prenatal visit to be poor. 83.33% of women experienced poor prenatal care and attended less than 4 prenatal visits. Mohan et al. [15] in Tanzania in 2015 and Elkhoudri et al. [16] in Morocco in 2017, noted that the proportion of women who attended postnatal visits was only 30.1%. The reasons given by women in Tanzania, Morocco and Benin in the city of Parakou were similar: lack of information, unavailability of health professionals, poor hospitality, and financial constraints.

Demand for healthcare, desire for pregnancy and spouse behavior: In bivariate analysis, 77.42% of women who did not desire a pregnancy, failed to attend prenatal visits (Table 2). Similarly, based on "no" response as a reference category, it appears that women who desired pregnancy were 4.18 (OR [1.74-10.08]) times more likely to use maternal health services compared to their counterparts who did not. The more the woman desire to become pregnant, the more interested she is in her health and that of her child.

There is also a statistically significant difference between the number of prenatal visits and the spouse behavior towards the pregnancy ($p = 0.0099 < 0.05$). Compared to those who accepted the pregnancy, pregnant women whose spouses deny being responsible for the pregnancy were 85% less likely to use the recommended PNC services. Birmeta et al. [11] in Ethiopia in 2013, also noted the husband approval as a factor associated with the completion of the 4 recommended PNC services before delivery.

Educational level: The respondent educational level did not

influence the quality of medical assistance during child delivery (refer to table 3). The probability associated with the quality of medical assistance is greater than the significance level (p> 0.05). However, Tarekegn et al. [17] reported that women who completed higher education were more likely to use sexual and reproductive health services, as they seek good medical care. In Parakou, the rate of female enrolment remains low.

Obstetric assistance

Quality of gynecologic and obstetric care: This study results analysis reveals that the quality of obstetric services significantly influences the uptake of sexual and reproductive health care services for women beneficiaries (p <0.05). Those who benefited from good quality obstetric services for caesarean section were less likely (OR = 0.41, [0.04-4.33]) to use sexual and reproductive healthcare services compared to their counterpart who were provided with poor quality care. The uptake of prenatal care also provided for the provision of skilled assistance for delivery as reported by Banke-Thomas et al. [18] Often, however, these women are subject to verbal and sometimes physical abuse, claims of unfair payments. It is worth noting that these relationships are key aspects in the choice of health services [19]. In the light of assurance for human capital building, it was recommended to implement models for continuity of care under the guidance of midwives. In such models, a known midwife or a small group of known midwives provides support for a woman on the entire continuum made up of prenatal, intrapartum and postnatal periods [20].

Conclusion

This study has brought to light the needs of women beneficiaries of sexual and reproductive health care services. Key findings identified the psychosocial determinants of their uptake of these services, such as: age, desire for pregnancy, spouse behavior towards the pregnancy, geographic accessibility of the health facility, affordability, quality of obstetric care and medical assistance. There is need to conduct future studies which will investigate the fear impact on pregnancy outcome regarding the uptake of these services.

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