

Poor use of postnatal care service at health facilities in rural Southern Benin: What factors should we target?

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Abstract

Postnatal consultation helps to early detect maternal and newborn pathologies in postpartum. In low-middle income countries, such as Benin, postnatal consultation rates are quite low. This is even more alarming in rural areas. This study aims to search factors associated with postnatal care visit. A cross-sectional study, conducted in Sèmè-kpodji, southern Benin, included 339 women who have delivered between January 2015 and January 2016. Sociodemographic information and data concerning women gynecological status and health center services management have been analyzed by logistic regression. Postnatal care visit rate was 12.68%. Primiparous mothers (OR=2.57 [1.15-3.02]), communication session of change of behavior (OR=1.98 [1.62-3.14]), secondary level of education (OR=1.23 [1.07-2.11]) and good quality of reception at health center (OR=1.75 [1.25-3.45]) were significant determinants of postnatal care visit. We lightened the benefit effect of communication session during antepartum. These strategies need to be strengthened by targeting older women. It is also necessary to increase the level of education of women.

Keywords: Postpartum care visit, Maternal and child risk, Communication session, Level of education, Quality of health service management.

Introduction

Postpartum is the period between the delivery and the return of menstruation, usually about 6 to 8 weeks after delivery.¹⁻³ This is a significant stage in the life of a woman because she is subject of great physical, physiological and psychological changes. Thus, postpartum is a period of high risk of morbidity and mortality which need to be carefully follow-up. Postnatal care visit is a medical examination of a woman who has recently given birth and of her newborn. It aims to: verify the return to normal physiological status, confirm the disappearance of certain pathologies and disturbances related to pregnancy, ensure the absence of postpartum complications, and possibly advise contraception if the woman wishes. The World Health Organization recommends a schedule of three postnatal consultations: the first at the latest 8 days after birth, the second between the 6th and the 8th week and the third to the fortieth day after birth.

Postnatal care visit rates are diversely distributed worldwide.^{4,5} They are quite low in low and middle income countries (LMICs) in general and more particularly in Africa. In Benin, according to health demographic survey 2015 (pages 76-80) of public health ministry, postnatal care visit rate was 37.2% at national level; it was rather low in Oueme department (22.1%) and in Sèmè-Kpodji (16%). To improve the rate of postnatal consultation, the Ministry of Health has initiated a public health intervention named: communication session of change of behavior. During

these sessions which taken place in antenatal period, women are informed about postpartum risks and newborns' pathologies.

Several factors are described in the literature as being related to postnatal care visit.⁶ Maternal age, low socio-economic status, low educational level and occupational category, single mothers, bad reception at the health center and non-respect of the woman's intimacy during the consultation are factors that lead to poor postnatal care visit rates.⁷⁻¹⁰

In 2015, the Ministry of Public Health reported a maternal mortality rate of 200.1 per 100,000 live births nationally; 370.4 in the department of Ouémé and 651.1 in Sèmè-Kpodji. In West Africa, where Benin is located, this rate was 468.9 maternal deaths per 100,000 live births.¹¹⁻¹³ By comparison; this ratio was 16.0 maternal deaths per 100,000 live births in high-resource countries.¹¹⁻¹³

In the Beninese population, infant mortality was 54.8 per 1000 live births. In Oueme and Seme-Kpodji, perinatal mortality was 42.5% and 26.3% respectively. Maternal and child health indicators remained alarming, confirming the increasingly strong link with poor monitoring postnatal consultation.

This study is therefore justified and aims to identify factors associated with postnatal care services in southern Benin.

Materials and Methods

Study Area and Population

A cross-sectional study took place in Benin, Sèmè-Kpodji, located 15 km south-east of the capital Porto-Novo between January 2015 and January 2016 and concerned all women who gave birth in the health center of Agblangandan during this period. Exclusion criteria: secondary move out of the area of study and not signing the informed consent form. In final, 339 women were included.

Data Collection

Field investigators, trained before the beginning of data collection, interviewed the women at the health center or went to interview them at home when necessary. Using a questionnaire and an interview guide, socio-demographic data (age, marital status, polygamy status, level of education, decision to seek care, participating in communication sessions of change of behavior during antenatal period), gynecological information such as parity, caesarean at delivery, newborn disease at birth and factors related to health center and service management (distance from home to health center, road condition, means of transport, journey time from home to health center, quality of reception, respect of intimacy and perception of waiting time at health center) have been collected.

Newborn disease at birth included respiratory distress, infections (respiratory, digestive), fever, diarrhea, anemia, neonatal jaundice.

Dependent Variable

In this work, the variable to explain was the postnatal care visit. It was coded « 1 » when the woman was present at a postnatal consultation. Thus, the calculated OR represented the probability for a woman to attend a postnatal care visit.

Statistical Analysis

Quantitative variables means were compared by Student test. Proportions of dichotomous variables were compared by the Chi-2 test, or the exact Fischer test when needed. Univariate analyzes were made. Multivariate analysis was conducted using a logistic regression model including all variables with a p-value \leq 20% at the univariate step. The level of significance was set at $p \leq 5\%$ in the final model. Data was processed and analyzed using Stata®, version 11.0 (StataCorp LP, College Station, TX, USA).

Ethics

Before the beginning, all participants were informed about the nature and purpose of the study in order to obtain their free and informed consent. Signing of consent was required. Participants were free to withdraw at any time during the study.

Results

Postnatal care visit rate

Of the 339 women included in this study, only 43 have complied the postnatal consultation schedule, a rate of 12.68%.

Baseline Characteristics of the Participants

Maternal mean (SD) age was 28.22 (2.17); for the majority, 60.18%, they were between 25 and 34 years old. In our sample, there were almost 25% primiparous mothers; 19.76% had delivered by caesarean and 17.40% of newborns had a pathology at birth.

Almost all women were married, 312, and 82.89% lived in a monogamous family. The unschooling status rate was 38.94%, but more than 32% of mothers had at least secondary level of education. The decision to seek care was mainly taken by the husband (54.57%). Less than half of women (46.02%) had participated in communication session of change of behavior.

All the descriptive characteristics of women are shown in (Table 1).

Table 1: Participants characteristics description

	N=339	Mean (SD)	%
Postnatal Care Visits			
Yes	43		12.68
No	296		87.32
Age (in years)		28.22 (2.17)	
Age group			
≤ 25	91		26.84
] 25 - 35]	204		60.18
>35	44		12.98
Parity			
Multiparous	256		75.52
Primiparous	83		24.48
Caesarean at delivery			
Yes	67		19.76
No	272		80.24

Sick newborn at birth		
Yes	59	17.40
No	280	82.60
Marital status		
Single	27	7.96
Married	312	92.04
Polygamy		
Yes	58	17.11
No	281	82.89
Level of education		
Unschooling mothers	132	38.94
Primary level	97	28.61
Secondary level and more	110	32.45
Decision to seek care		
Made by the husband	185	54.57
Made by the woman herself	154	45.43
Participation in Communication session for a change of behavior		
Yes	156	46.02
No	183	53.98

Health center services

To get from their homes to the health center, nearly 67% of women would travel a distance more than 3 km, on a motorcycle or by car (60.47%). Most of them had declared that the road condition was good (72%) and made more than 30 minutes while traveling (85%). And during the postnatal consultation, 77.58% of women had

Declared been well received, 86.13% considered that the conditions were fulfilled concerning the respect of their intimacy. On the other hand, 33.04% found the waiting time too long.

(Table 2) summarized the factors related to health center services.

Table 2: Factors related to health center and services

	N=339	Mean (SD)	%
Distance Home-Health center in km			
< 1	44		12.98
1-3	68		20.05
> 3	227		66.97
Condition of the road			
Good	244		71.98
Poor	95		28.02
Means of transport			
On foot / by bike	134		39.53
Motorcycle / Car	205		60.47
Journey time home-health center (in minutes)			
< 30	51		15.05
≥ 30	288		84.95
Quality of reception at health center			
Satisfied	263		77.58
Not satisfied	76		22.42
Respect of intimacy			
Yes	292		86.13
No	47		13.87
Perception of waiting time at health center			
Acceptable	227		66.96
Too long	112		33.04

Factors associated with postnatal care visits:

At univariate step, these factors were significantly linked with a higher probability to attend postnatal care visit: mother's age, parity, mother's level of education, Participating in communication session of change of behavior and quality of reception at health center.

The fact that husband made decision to seek care and the acceptable waiting time at health center seemed to improve the rate of attending postnatal care visits but these two borderline effects were not significant, $p = 0.06$ and 0.08 respectively.

(Table 3) recapitulated univariate analysis results.

Table 3: Factors associated with postnatal care visit (Univariate analysis)

	Postnatal care visit (N or Mean)		
	Yes	No	P
Age (in years)	26.42	28.15	0.006
Parity			0.001
Multiparous	24	232	
Primiparous	19	64	
Caesarean at delivery			0.54
Yes	14	53	
No	29	243	
Sick newborn at birth			0.26
Yes	11	48	
No	32	248	
Marital status			0.38
Single	18	9	
Married	25	287	
Polygamy			0.29
Yes	9	49	
No	34	247	
Level of education			0.04
Unschooling mothers	7	125	
Primary level	15	82	
Secondary level and more	21	89	
Decision to seek care			0.06
Made by the husband	32	153	
Made by the woman herself	11	143	
Participation in Communication session for a change of behavior			0.03
Yes	30	126	
No	13	170	
Distance Home-Health center in km			0.15
< 1	26	18	
1-3	8	60	
> 3	9	218	
Condition of the road			0.84
Good	31	213	
Poor	12	83	
Means of transport			0.16
On foot / by bike	34	100	
Motorcycle / Car	9	196	
Journey time home-health center (in minutes)			0.32
< 30	10	41	
≥ 30	33	255	
Quality of reception at health center			0.02
Satisfied	31	232	
Not satisfied	12	64	
Respect of intimacy			0.44
Yes	35	257	
No	8	39	
Perception of waiting time at health center			0.08
Acceptable	29	198	
Too long	14	98	

After multivariate analysis, our results have pointed out that primiparous mothers ($p < 0.001$), those who have participated in communication session of change of behavior ($p = 0.02$), women with at least secondary level

of education ($p = 0.03$) and women satisfied by the quality of reception at health center ($p = 0.04$) were significantly more likely to respect postnatal care visits schedule. Results are shown in (Table 4).

Table 4: Factors associated with postnatal care visit (Multivariate analysis by logistic regression)

Covariates	Adjusted Odds Ratio [95% CI]	p-value
Primiparous mothers	2.57 [1.15-3.02]	<0.001
Maternal age	1.42 [0.90-3.23]	0.09
Participation in Communication session for a change of behavior		
No	1	
Yes	1.98 [1.62-3.14]	0.02
Level of education		
Unschooling mothers	1	
Primary level	1.19 [0.91-2.25]	0.12
Secondary level and more	1.23 [1.07-2.11]	0.03
Quality of reception at health center		
Not satisfied	1	
Satisfied	1.75 [1.25-3.45]	0.04

Discussion

This study which involved 339 women was conducted in Sèmè-Kpodji, a rural area in southern Bénin and aimed to identify the determinants of use of postnatal care visit and to point out the factors to address. The rate of postnatal care visit was 12.68%. Parity, communication session of change of behavior, level of education and quality of reception at health center were main factors related with postnatal care visit schedule.

The low rate of postnatal consultation observed in our study is similar to what is reported in other low and middle income countries (LMICs), particularly in West Africa and Southern Africa.¹⁴⁻¹⁷ In Tanzania, in a rural area and in a population comparable to ours, a prevalence of 10.4% was observed by Kante.¹⁸ These rates remain well below what is observed in high income countries.^{4,5} To explain these low compliance rates recommendations for postnatal consultation, there are factors specific to population and factors specific to LMICs. Often, mothers are left alone to deal with both domestic work, the newborn and other children. The overload of housework, care for the newborn and other siblings including hygiene care and feeding, are that mothers no longer have time to go to the health center. Moreover, they adopt the reasoning that since the child is not sick there is no need to go to the health center. Specific factors related to LMICs include the poor organization of health systems, the lack of adequate care, the difficult accessibility of health centers, especially in rural or remote areas, and the high cost of health care. Added to this are the weak livelihoods.

Women who have participated in communication session of change of behavior had a higher probability to attend postnatal care visit.

This shows that women attach respect and importance to the instructions given to them at the health center. They perceive these guidelines as help and guidance in their postpartum period. During these sessions, women are educated and sensitized on the possible risks they may face before, during and after delivery. The association between this type of public health intervention and postnatal care visit that we found is largely consistent with what is described in the studies conducted in several countries.^{8-10,19-22} These sessions of communication are very useful and play an important role. Other interventions go further by proposing that community health workers make home visits to women who have given birth to inform them about the risks of newborn illness and especially to teach them early recognition of the first signs. These actions have been successfully experimented in several African countries, such as Kenya.²³

Our study showed the importance of a good reception and a good management of women at the health center. Similar results were noted in Uganda and Zambia where the women have declared that they did not attend postnatal care visit because they feared poor reception and lack of care given.²⁴ Our results are in line with a strengthening and improvement of women's reception conditions when they come to the health center. This conclusion is shared by other authors.¹⁰⁻²⁶

We must also consider the cultural context and social constraints in some countries. Although the relationship was not significant, our work showed that husbands were very influential in making decisions about going to the health center. This result is consistent

with other work in LMICs.^{14-17,27,28} several reasons can explain this. It is the husband who decides because he represents family authority, he is head of the family; but also because it is he who gives the money to pay for transport costs, health care cost and possibly prescribed drugs. In rural areas, women are often not financially independent or have relatively low financial autonomy. It would be more effective and the objectives would be better achieved by involving husbands in the public health actions that concern their wives. They need to be integrated into the process and involved more actively, for example by proposing postnatal consultation where the husband is present and attending part of the consultation. Husbands should have also information about disease risk of newborn and how to identify them. They would feel more empowered about the health of their children.

In our study population, primiparous women, often young mothers, were the majority of those who were present to postnatal care visit. This corresponds to what is described in the literature.²¹⁻²⁶ Same observation was made in Nigeria, a country bordering Benin.²⁹ Primiparous have poor experience in motherhood, are often worried over the health of their newborns, and thus express a need to be reassured by the presence of health workers and regular medical examinations. Secondly, they have a better level of education that facilitates their understanding and adherence to awareness messages. Thirdly, these women express their desire for contraception and family planning to better control future pregnancies. They come to get information and to be offered contraceptive methods. Conversely, older women are multiparous, are more confident and reassured due to extensive experience from previous pregnancies. They therefore feel they have little need to go to the health center and go there only in case of illness of the newborn.

Conclusion

Finally this study pointed out the benefit effect of communication session of women during antepartum period. These strategies need to be strengthened by targeting older women. It is also necessary to increase the level of education of women living in rural areas.

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