

Assessment of the Quality of Prenatal Consultations in the Regions of Kandi-Gogounou-Segbana in the Northern Benin

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Abstract

Introduction: Care during pregnancy is important for the health of the mother and the development of the unborn baby.

Objective: To evaluate the quality of Refocused Prenatal Consultations (RPNC) in one health zone of the Northern Benin.

Patients and methods: This is a prospective and evaluative study carried out from March 20th to May 25th, 2017 in twelve health centers at the Kandi-Gogounou-Segbana health zone (KGS) in northern Benin. Sampling is systematic with extensive recruitment. The study included all midwives practicing in the study area and all pregnant women received by these midwives at one of the twelve public health centers of the KGS health zone during the study period. Each midwife and each pregnant woman are included after oral consent.

Results: The quality of the Prenatal Consultation (PNC) at the KGS health zone in the Northern Benin is unsatisfactory (76.9%). Several steps of RPNC (Reception of pregnant, physical examination, tasks after examination, counseling/advices) were insufficiently executed. The best executed steps are Prevention care (92.8%), prenatal check-up (92.0%) and Interview/interrogation (91.3%). The quality of the RPNC is compromised by the lack of control and monitoring of norms and standards in force in Benin.

Keywords: Prenatal consultations; Quality; Northern Benin

Introduction

Antenatal care is one of the four pillars of safe motherhood [1]. Their objectives are to prevent, detect early and manage complications that may affect the health of the mother and child to be born but also to accompany the mother and her relatives throughout the pregnancy [2].

A lot of investments in prenatal care have been made in developing countries, supported by hopes placed in the "risk approach". So much was invested that PNC has a real success with women in West Africa. In urban areas, 90% of pregnant women have at least one PNC and 80% have at least three [2]. In addition to the routine PNC, an updated antenatal care approach called refocused PNC or focused PNC has been introduced. It focuses on the quality of antenatal cares rather than their number.

In Benin, the authorities have taken a number of actions, including the implementation of free preventive care, such as the Expanded Program on Immunization (EPI), the subsidy for PNC activities, the Refocused Prenatal Consultations (RPNC) and staff training. According to the 2011-2012 Demographic Health Survey conducted in Benin [3], 86% of pregnant women undergone prenatal consultations

performed by trained staff in 86% of the cases. At the same time, maternal and neonatal mortality didn't decreased [4]. Our study therefore proposed to evaluate the quality of the RPNC of the KGS health zone.

Patients and Study Methods

This is a prospective and evaluative study carried out from March 20th to May 25th, 2017 in twelve health centers at the Kandi-Gogounou-Segbana health zone (KGS) in northern Benin.

The study population was midwives and pregnant women receiving at Refocused Prenatal Consultations (RPNC). Sampling is systematic with extensive recruitment. We included all midwives practicing in the study area and all pregnant women received by these midwives at one of the twelve public health centers of the KGS health zone during the study period.

The main variable of the study was the quality of refocused prenatal consultation. This quality was measured according to criteria 1,2,3,4,5,6,7,8,9 and 10 taken from documents of the norms, procedures and standards of the PNC in Benin [5] (Table 1). Criteria 1 to 10 were identified as discriminatory and the quality of antenatal care was dependent on it.

Criteria 1	Greeting the patient, asking for the reason of her presence and providing her with a seat were all done by the service provider.
Criteria 2	The pregnancy term was specified against the date of the last periods or by using ultrasound; the probable date of delivery was calculated.
Criteria 3	During each consultation: blood pressure and the temperature of the patients were taken; the search for mucous pallor and the urinary strip test for glycosuria and albuminuria were performed and interpreted correctly.
Criteria 4	The weight, the check for abnormal weight change of the pregnant woman and the screening for an edema in the legs were realized.
Criteria 5	All aspects of the obstetrical examination (breast examination, measurement of the uterine height, research of fetal pole, research and counting of fetal heart sound, speculum examination, vaginal examination and pelvic assessment in the third trimester) were realized.
Criteria 6	At the end of the examination: a general conclusion about the status of the pregnant woman was made; the prognosis of pregnancy was specified; the pregnant woman was informed of the results of the examination.
Criteria 7	Rhesus (Rh) factor identification and blood type confirmation, level of hemoglobin, syphilitic serology and voluntary HIV testing were all requested.
Criteria 8	Iron and Folate supplementation, Mebendazole deworming and the pregnant woman's tetanus vaccination were carried out.
Criteria 9	A good intermittent preventive treatment of malaria with supervised intakes has been done in the absence of contraindication.
Criteria 10	The pregnant woman got counseling on nutrition, awareness of the danger signs and the use of the (long-lasting insecticide-treated nets) LLITNs, a delivery plan and an appointment.

Table 1: Definition of the quality criteria of the refocused PNC in Benin [5].

Data collection was done using a personal interview sheet and observation grid developed for this purpose. A documentary review from the maternal card and the health record of each pregnant woman at the end of the consultation completed the interview sheet. A gesture is validated when it is done. Each of the components of a criteria is considered good if the calculated score is $\geq 80\%$ and unsatisfactory in the opposite case. The collected data are entered with the EXCEL version 2013 software. The data analysis was done using the software SPSS 20 and Epi info 3.5.3.

Results

At the end of our study, we recruited 200 pregnant women in the twelve health centers in the KGS health zone. These pregnant women were received in the various health centers by fourteen midwives.

Socio-demographic profile of pregnant women

About half of pregnant women (48.7%) were between 25 and 35 years, with a not negligible proportion under 25 years old (40.0%). The average age was 26.31 ± 6.62 years with extremes of 14 and 46 years (Table 2). The pregnant women of the study were dominated by housewives (65.5%), Muslim women (53.0%). They were mostly out of school (62.5%) and lived in rural areas (60.5%).

	Effective (n=200)	Percentage (%)
Age (year)		
Less than 25	82	41.0
25-35	95	47.5
35 and over	23	11.5
Occupation		
Household	131	65.5
Pupil/student	18	9.0

Shopkeeper	25	12.5
Official	6	3.0
Artisan/seamstress/dressing	20	10.0
Religion		
Christian	86	43.0
Muslim	106	53.0
Animist	8	4.0
Level of education		
Unschooling	125	62.5
Primary	43	21.5
Secondary	24	12.0
Superior	8	4.0
Middle of residence		
Urban	79	39.5
Rural	121	60.5

Table 2: Socio-demographic profile of pregnant women.

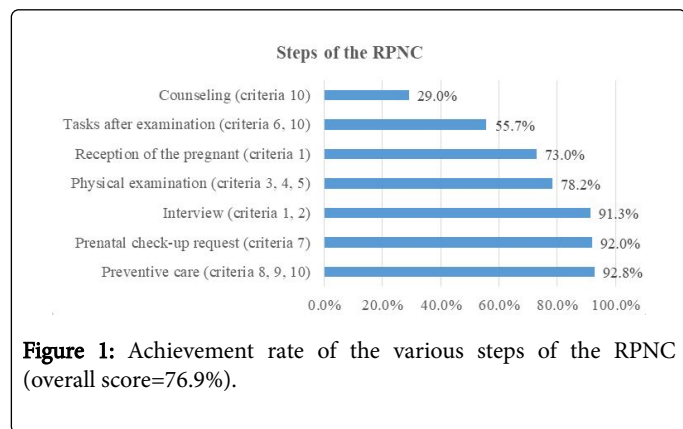
Practice of refocused NPC step by step

Overall, the quality of the RPNC practice was unsatisfactory with a score of 76.9%. The observation rate for each stage of this prenatal consultation is as follows:

Reception of the pregnant women

The practice of step was observed according four items of criteria 1 (preparation of service, prepared aseptic device, greeting, giving seat)

with an average score of 73.0% (Table 3 and Figure 1). Giving a seat and greeting were the most observed, respectively in 98.0% and 91.0%.



Interview or interrogation

The quality of interview was evaluated according one item of criteria 1 (request for complaints) and two items of criteria 2 (Date of last menstrual period, probable delivery date calculation). The practice of this step was observed on average in 91.3% (Table 3 and Figure 1). Request was the most observed with 100%.

	Effective (n=200)	Percentage (%)
Criteria 1		
Preparation of the service	100	50.0
Prepared aseptic device	106	53.0
Greeting of the pregnant	182	91.0
Request for complaints	200	100.0
Gives a seat to the pregnant	196	98.0
Criteria 2		
DDR* request for the term of pregnancy	174	87.0
Probable delivery date calculation	174	87.0
Criteria 3		
Taking blood pressure	200	100.0
Taking the temperature	110	55.0
Looking for pallor of the mucous membranes	200	100.0
Urine strip test performed	116	58.0
Criteria 4		
Weight gain	182	91.0
IMO** search	196	98.0
*Date of the last menstrual period; **IMO: Edema of the lower limbs		

Table 3: Distribution of pregnant women according to criteria 1,2,3 and 4.

Physical examination

Physical examination was evaluated on thirteen items by criteria 3,4 and 5 with an average score of 78.2% (Figure 1). Speculum examination (21.0%) and pelvic exam (38.0%) in third trimester are often not performed (Tables 3 and 4).

Tasks after examination

This step was evaluated by the items of criteria 6 and one item of criteria 10 (appointment given) with an average score of 55.7% (Figure 1). At the end of the clinical examination, midwives practically did not synthesize (41.0%) and pregnancy prognosis (21.0%) (Table 4).

	Effective (n=200)	Percentage (%)
Criteria 5		
Breast examination	144	72.0
Measurement of uterine height	200	100.0
Research of fetal poles	194	97.0
Auscultation of fetal heart sounds	176	88.0
Speculum examination	42	21.0
Vaginal touch	198	99.0
Pelvic exam in third trimester	76	38.0
Criteria 6		
Conclusion made at the end of the exam	82	41.0
Prognosis of pregnancy appreciated	42	21.0
Gestante informed of the results of the examination	138	69.0
Criteria 7		
Prenatal check-up request		
Blood group	198	99.0
Blood count	178	89.0
Syphilitic serology (TPHA,VDRL)	172	86.0
HIV serology	194	97.0
Toxoplasmosis, Rubella serology	130	65.0
Obstetrical ultrasound	172	86.0

Table 4: Distribution of pregnant women according to criteria 5, 6 and 7.

Prenatal check-up

The prenatal check-up was evaluated according criteria 7. The practice of this step was observed on average in 92.0% (Figure1). The recommended paraclinical examinations were requested in the majority of the cases with a rate varying between 65.0% and 99.0% (Table 4).

Preventive care

The preventive care was evaluated according the three items of criteria 8, the only item of criteria 9 and one item (impregnated mosquito net) with an average score of 92.8% (Figure 1). Iron supplement/folic acid (100%), deworming (97.0%) and vaccination against tetanus (94.0%) was more observed (Table 5).

	Effective (n=200)	Percentage (%)
Criteria 8		
Iron Supplement/Folic acid	200	100.0
Deworming	194	97.0
Vaccination (VAT)	188	94.0
Criteria 9		
Chemical prophylaxis of malaria (TPI/SP)	198	99.0
Criteria 10		
Nutritional advice done	58	29.0
Signs of danger explained	86	43.0
Awareness on mosquito nets (MIILD)	148	74.0
Established birth plan	30	15.0
Appointment given	184	92.0

Table 5: Distribution of pregnant women according to criteria 5, 6 and 7.

Counseling/advices

This stage of RPNC was observed in only 29% of cases (criteria 10) (Figure 1). The plan for delivery or birth plan was practically not realized (15.0%) (Table 5).

Discussion

Several authors agree that it is the rigorous application of the RPNC's content by qualified health personnel working in optimal conditions that contribute to the achievement of maternal mortality and neonatal rate reduction. According to a study conducted in Guadeloupe, it has been shown that the number of PNC has little impact on the outcome of pregnancy [6].

In our study, the quality of the RPNC practice was unsatisfactory with a score of 76.9%. Several unsatisfactory steps (Reception of pregnant, physical examination, tasks after examination, counseling/advices) was insufficiently executed. This observation, although noted in Africa, varies from one country to another [4]. In Ethiopia [7], out of 823 pregnant women who received antenatal care, only one-third received prenatal care services of acceptable quality. In Zambia [8], 29% received good prenatal care and only 8% in the first trimester of pregnancy. This echoes the results of a multicenter study [9] that included 7 countries where for almost 14,000 clinical consultations, the quality of care for pregnant women was relatively low: providers performed only half or two-thirds of a minimum set of recommended clinical actions. The chances of receiving all prenatal care interventions increased significantly with higher levels of education and wealth

status [4]. The pregnant women of our study were dominated by housewives (65.5%). They were mostly out of school (62.5%) and lived in rural areas (60.5%). It is often a poor population with financial difficulties, hence the importance of the plan for delivery not to be surprised by expenses. Despite the characteristics of our study population, the plan for delivery or birth plan was practically not realized (15.0%).

Hemorrhage and prematurity continue to be the leading causes of maternal and neonatal morbidity and mortality. The search for risk factors (multiparity, history of abortion, premature delivery, low socio-economic level, etc.), lifestyle (precariousness, stress, overwork) and obstetrical history make it possible to assess the risk and therefore to put in place a more adequate and personalized surveillance.

The placement of the speculum makes it possible to identify the origin and assess the abundance of the bleeding. Moreover, this examination makes it possible to perform cervical cancer screening by inspection associated with visual inspection with acetic acid and visual inspection with lugol. In our study, the speculum was not of it was of weak realization (21%). This finding was also made by Salifou, et al. [10], in 3 main maternity hospitals in northern Benin. The insufficiency of use of the speculum would be the reason.

It was also noted that pelvic examination in the third trimester of pregnancy was not conducted at about 6 pregnant women out of 10 (62%). This situation explains the high rate of obstetric emergencies due to bone disorders in our formations due to the lack of achievement of the prognosis of delivery during the 3rd trimester of pregnancy, with the consequent maternal morbidity caused by uterine rupture and emergency caesarean section [11,12].

Serological examination during prenatal consultations is a good way of early detection of breast tumor. It was lacking in ¼ of the cases. In Morocco [13] more than half (51.5%) of women in a health center said they did not receive a clinical breast examination by health professionals. The health worker is an important player in cancer prevention. These are opportunities missed by health professionals to inform, guide and screen women.

The calculation of the probable date of delivery allows from the date of the last menstrual period or the early ultrasound to avoid the errors of term thus reducing the risks of term overruns or premature deliveries but also prevent non-detection of a delayed growth. In our study, almost all pregnant women (87%) benefited from it. Elsewhere in other Beninese studies, the situation is different [10,14].

The information/education/communication component of antenatal care is an important aspect of programs aimed at reducing maternal and neonatal mortality. This criterion of the RPNC was bad in our study (29%). In Tanzania [15], only 54% of pregnant women were able to cite at least one of the signs that give a hint that a pregnancy might be at risk. The birth plan, the danger signs should be discussed with the pregnant woman in the presence of her husband or a family member to avoid the first delay.

According to Dugas and Salifou, et al., intervention programs aimed at improving health literacy can improve the skills and health knowledge pregnant women have about pregnancy and prenatal care [10,16]. This participatory approach is effective and cost-effective in initiating behavioral and educational changes in mothers and has a positive impact on their attitudes towards health.

Conclusion

This study revealed that the practice of RPNC is unsatisfactory in the health zone of Kandi-Gogounou-Segbana health zone (KGS) in northern Benin. The evaluation of the quality of antenatal care in health facilities is essential to detect deficiencies in the health system. Further study will identify these deficiencies in order to provide corrective measures (continuing education, audits).

Ethical Aspects

The study has been carried out with the approval of administrative authorities at different levels. Confidentiality and anonymity of the data have been respected. Each midwife and each pregnant woman are included after oral consent.

Conflict of Interest

The authors state that there is no conflict of interest.

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