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Determinants of the Frequency of Prenatal Consultations among Women Giving Birth in the Maternity Wards of the Commune of Agbangnizoun (Zou), Benin

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Abstract

Antenatal care is a safe way to prevent pregnancy-related health problems, difficult deliveries and even further to anticipate low birth weight [1]. But pregnant women, especially in Africa, do not attend antenatal clinics as recommended by the WHO. The general objective of this study was to study the norm in terms of Antenatal Consultation (ANC) frequency as well as the determinants of the frequency among women who gave birth in the maternity hospitals of Agbangnizoun. Our research was a cross-sectional, descriptive, retrospective and quantitative type, which was carried out among 335 women in Agbangnizoun, Benin from 1 February to 3 April 2020 (3 months), in order to find out the general or specific characteristics of women that we associate with the frequency of prenatal consultation. At the end of the study, we found that 60%, 68% and 15% of the surveyed population had received ANC in the first, second and third trimesters, respectively. Ethnicity, income level of spouses over the three trimesters as well as the level of their knowledge and overall practice of ANC are determinants of the frequency of prenatal consultation.

Keywords

Determinants, Frequency, Prenatal Consultation, Agbangnizoun, Zou, Benin

1. Introduction

Pregnancy is a precious time in a woman's life. However, during this gestational

period, many complications can arise for a variety of reasons. These include pre-eclampsia, gestational diabetes, antepartum haemorrhage, etc. These complications are a serious threat to women's lives, and account for 25% of maternal deaths worldwide [2]. And in 2018, statistics reported by the WHO reveal that every day, about 830 women worldwide die during pregnancy or childbirth, and of these, about 99% of these deaths are in Sub-Saharan Africa [3] [4]. Even if this rate is decreasing, it is still frightening and overwhelming. For this to happen, the pregnant woman must have access to care. Ensuring a stable gestational period and a good delivery is obviously possible through effective, rigorous and repeated prenatal consultation. This is a significant step for the health of the mother and child in that it is the best and most accessible way of observing the evolution of the pregnancy in the woman in order to prevent risks to her health and that of the child she is expecting. It is, therefore, during regularly repeated ANC that we can prevent problems for pregnant women and babies. For the pregnant woman, going for a prenatal consultation is a vital choice to be made, an important decision to be taken during the gestation period to achieve and maintain a good prognosis for the birth. In this respect, Benin's health system policy has expanded the availability of maternal care at the local level. According to the demographic and health survey, [5] carried out in 2017-2018, 83% of women, *i.e.* more than four out of five who have given birth in the last five years, have received prenatal care. This survey also states that this high rate hides disparities in that in urban areas (Cotonou), 95% of women received antenatal care compared to 79% in rural areas. This is a remark that Dakpahossou and Mousse [6] did not fail to make in his study.

Moreover, going to the prenatal consultation once is not synonymous with success in terms of prevention of maternal and child health. The WHO recommends that all pregnant women make at least four antenatal visits at regular intervals, the first of which should begin before the 16th week of pregnancy, *i.e.* at the beginning of the fourth month. According to the Health Demographic Survey No. 5 (EDS-V) [5], among women who had a live birth in the 5 years preceding the survey, 52% had made at least the 4 recommended visits. And since 2001, there has been no increase in this percentage but rather a downward trend, the percentage has gone from 61% in 2006 to 58% in 2011-2012 and to 52% in 2017-2018 throughout the country. This rate is 75.7% in the Department of Zou, the department with the highest score, particularly in terms of the use of prenatal care over the last five years preceding the survey (96.7%), but also in terms of compliance with the WHO recommendation. But is this sufficient to speak of a trend toward effective antenatal coverage? The latter does not only imply efforts by the government to raise the level of functioning of health facilities alone, but also those of the population. Indeed, Benin, like Africa, has a high rate of maternal and infant deaths, while at the same time, it has low levels of use of modern prenatal care despite the existence of health facilities in each district. All this has motivated us to study the frequency of prenatal consultations among women who have given birth in the maternity wards of the commune of Agbangnizoun

(Zou, Benin) and determine the factors that may influence this frequency.

2. Methodology

The present study was conducted in the commune of Agbangnizoun, Zou Department in Benin. It was of a descriptive and analytical cross-sectional type. Our sampling technique was that of Saclo (2018), which we summarise here:

She had done a multi-stage sampling. In the first stage, she used simple random sampling to select three public maternity hospitals out of the ten in the Commune. She conducted a survey from 24 to 25 July 2018 on the number of births of low-weight children over a period of six months, in the birth registers of these three maternity hospitals. According to the reports of these maternities that she read beforehand, there had been about 30 Low Birth Weight (LBW) newborns over a period of 6 months, or 60 for one year, the number of low-birth-weight newborns in the three maternities sampled. This case size was too small, and she decided to retrospect over 2 years to obtain 120 cases of LBW newborns. In the 2nd stage, she did an exhaustive sampling of low-birth-weight children born between 1 April 2016 and 31 March 2018 from the birth registers of the three maternity hospitals. In total, she had 121 low birth weight babies. For each case of LBW found in the registers, she selected from the same register three cases of normal birth weight (control case), two born just before the LBW case and one born just after the LBW case. She obtained three times 121, *i.e.* 363 cases of normal birth weight. In total, she obtained 484 newborns, *i.e.* approximately 384 mothers. She obtained information from the register on the cases and controls and their parents (date of birth of the cases, their weight, their residence, the name of the mother, the age of the mother, the occupation of the parents, etc.). In the third stage, an exhaustive sampling of all the villages identified during the record-keeping in each of the three selected maternity hospitals was carried out. The retrospective survey in the maternity hospitals thus enabled her to organise the cross-sectional survey in the villages surveyed. It is this last sampling of parents that enabled us to conduct our survey.

Our study is retrospective, cross-sectional, descriptive and analytical of newborns. It concerns newborns with low birth weight (cases) and newborns with normal weight (controls) born in the period from 1 April 2016 to 31 March 2018 in public maternity hospitals, and their parents in the Commune of Agbangnizoun whom we tracked down and investigated from the birth register. Finally, for the purposes of our survey, we found 335 women out of the total number of those surveyed by Saclo. There was therefore a loss of some of the women surveyed who gave birth between April 2016 and March 2018. The dependent variable is the frequency of prenatal consultations among women who gave birth in maternity hospitals in the commune of Agbangnizoun. The independent variables were general and specific characteristics, namely the knowledge, attitudes and practices of women who gave birth during prenatal consultations. With regard to data processing, we assigned a score out of 20 on each survey form to the an-

swers related to the knowledge, attitudes and practices of each woman surveyed in relation to prenatal consultations in order to determine the quality of these variables respectively. Thus, we followed the following scale: score below 10/20 = poor; 10/20 to 1199/20 = passable; 12/20 to 1399/20 = fair; 14/20 to 1599/20 = good; 16/20 to 20/20 = very good. The data collected as well as the qualities determined after scoring the cards were entered and processed. The relationships between the dependent and independent variables were tested using Pearson's Chi-square test, Yates' test and Fischer's exact test with a significance level of 5%.

3. Results

The majority of our sample was composed of Fon parents (96.1% of deliveries and 97% of spouses). Animism (42.7% of the women and 49.9% of their spouses) was the dominant religion. Almost all the women surveyed were married (99.1%). Most of the women who gave birth were illiterate (56.4%), while most of their spouses had completed lower secondary education (35.2%). A large proportion of the population had a monthly income below the minimum wage (less than 42,500 francs): 98.5% for the women who gave birth and 69.9% for their spouses. The age group most represented among the women who gave birth was between 18 and 35 years (89.85%). 45.07% and 43.88% of the women who gave birth had respectively a fair and poor knowledge of prenatal consultation, as against 0.3% and 0.8% who had respectively a very good and good knowledge. Most of the women who gave birth had a very good attitude towards ANC (73.43%). The evaluation of ANC practices by the women who gave birth revealed that of the 335 women surveyed, 29.55% had very good prenatal consultation practices; 67.46% had fair practices and 2.9% had poor practices. As for the frequency of ANC, 60.3% of the women surveyed underwent ANC in the first trimester; 68.7% underwent ANC in the second trimester and 15.5% underwent ANC twice in the third trimester, as recommended by the WHO.

On the analytical side of our study, it appears that the ethnicity of the women who gave birth influenced the frequency of ANC in the second trimester of the previous pregnancy ($p = 0.006$). The income of the mothers' spouses influenced ANC frequency in each of the three trimesters, *i.e.* $p = 0.004$, 0.017 and 0.000 respectively. In addition, the quality of the knowledge of the women about ANC influenced their ANC frequency in each of the three trimesters, *i.e.* $p = 0.036$, 0.052 and 0.036 respectively. Furthermore, the quality of the overall ANC practices of the women influences their frequency of ANC in each of the three trimesters, *i.e.* $p = 0.000$ respectively.

4. Discussion

The influence of ethnicity on the frequency of prenatal consultation during the three trimesters of pregnancy

In our study, there is no significant association between ethnicity and ANC

frequency in the first and third trimesters. However, for the second trimester of pregnancy, the two variables are significantly associated as $p < 0.05$ ($p = 0.006$). Bagalwa in 2022 in his study found that the ethnicity of the women who gave birth was not significantly associated with ANC [7].

The association between the income of the spouses of women giving birth and the frequency of prenatal visits

In our study, we found that the income of spouses was significantly associated with their partners' ANC frequency in all three trimesters of pregnancy, as $p < 0.05$ ($p = 0.004$ in Q1; $p = 0.017$ in Q2 and $p = 0$ in Q3). Therefore, income is a determinant of ANC frequency in our study.

The association between the quality of knowledge of the women and the frequency of prenatal consultations during pregnancy

The quality of women's knowledge about ANC was significantly associated with the frequency of ANC visits in all three trimesters of pregnancy in the present study ($p = 0.036$ at Q1; $p = 0.052$ at Q2 and $p = 0.000$ at Q3). The quality of women's knowledge about ANC is therefore a determinant of their frequency of ANC. Moulaye in 2023 [8], Tchente Nguefack *et al.* in 2018 [9] and Koné in 2021 [10] found that there is an association between women's knowledge and ANC use ($p < 0.001$).

Distribution of deliveries according to the quality of their overall practices and according to the frequency of prenatal consultations during pregnancy

Our results show that the cross-tabulation between the quality of the overall practice and the frequency of ANC gives a p-value equal to 0.000, identical for the three trimesters of pregnancy. This means that the quality of prenatal consultation practice evaluated in our study through the number of ANCs performed over the three trimesters, with the identification of the place where they were performed, is significantly associated with the frequency of prenatal consultations. We conclude that the quality of overall ANC practice (poor, fair, good, fairly good, very good) determines the frequency of ANC visits.

5. Conclusion

This study highlights some important determinants of the frequency of Antenatal Care (ANC) visits during the three trimesters of pregnancy. Ethnicity, income level of spouses, women's level of knowledge and their overall ANC practice are all factors influencing women's attendance at these essential consultations. It is clear that disparities exist in terms of access and frequency of ANC, which underscores the importance of targeted strategies to improve access to antenatal care. It is crucial to raise awareness among women and their families about the importance of antenatal care, emphasizing the benefits for maternal and fetal health. This can be achieved through information and education campaigns that target specific communities and take into account cultural and ethnic differences.

Conflicts of Interest

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

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