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Consequences and Explanatory Factors of Late Start to Prenatal Consultation by Pregnant Women at the MAZIBA Reference Health Center, in the Democratic Republic of Congo

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Abstract

Introduction**:** It is undeniable that the NPC plays a crucial role in the development process of nations; "because maternal and neonatal deaths, which hinder economic growth and cause global losses in productivity, can be avoided thanks to ANC, which is all the more effective if it is early and regularly repeated. This consultation effectively contributes to avoiding "complications of pregnancy and its consequences, which are a major challenge for the health of women of childbearing age; and the leading global cause of morbidity, disability and mortality in this target, especially in developing countries. This research seeks to determine the repercussions and explanations explanations of the beginning late arrival of women to prenatal consultation. ***Method*****:** This study is quantitative of the cross-sectional descriptive correlational type, carried out at the MAZIBA health and maternity center, more precisely in the Bonhomme district, in the commune of Matete, city of Kinshasa, in the Democratic Republic of Congo, during the period from January 29 2022 to April 8, 2023. It used the survey method, combined with the interview technique and a survey questionnaire as the data collection instrument. ***Results*****:** The late onset of CPN remains a major public health issue in the study region. The late arrival of pregnant women at the CPN is influenced by different variables such as neglect, fatigue, distance, lack of financial means, high cost of care, poor reception, lack of space, lack of chairs or benches. The consequences linked to late arrival at the ANC are on two levels: the consequence for the pregnant woman and for the fetus. In the pregnant we obtained an average of 18.7% and 31.3% in the fetus. This study demonstrated that there is a significant statistical relationship between It also appears that there is a significant statistical relationship between personal, socio-economic, organizational, cultural factors and the consequences in the fetuses (p = 0.00. P=0.01, and p=0.00). ***Conclusion*****:** Thus, healthcare professionals have the opportunity to provide ongoing education on the importance of starting prenatal care visits early to avoid adverse pregnancy outcomes, taking into account all the elements mentioned.

Keywords: Consequences, Explanatory Factors, Price, Prenatal Consultation, Pregnant Women, Democratic Republic Of Congo.

INTRODUCTION

Prevention, early detection and management of complications that could affect the health of the mother and the unborn child are the objectives of prenatal care, which supports the woman and her loved ones throughout the pregnancy. Pregnancy techniques, very different in Western countries where they have been present since the early 1900s, have been exported to developing countries without questioning their usefulness in reducing the numerous maternal and perinatal mortalities and morbidities experienced by these countries (WHO, 2017).

Although developing countries have invested in antenatal care, supported by hopes placed in the "risk approach", which has led to the relative success of antenatal care (ANC) among women in Africa, most of pregnant women always reserve the right to do ANC at the beginning of their pregnancy (Bienvenu NSITA ZAYA-NSITA *et al.*, 2023). At the same time, maternal and neonatal deaths have not decreased, and have even increased in some countries. However, over a period of at least twenty years, ANC and family planning were often the only truly planned measures for women's health, even if their aim was primarily to reduce child mortality (Say L, Chou D, Gemmill A *et al.*, 2014).

In 2020, around 800 women died daily from unavoidable illnesses related to pregnancy and childbirth. Almost every two minutes, a maternal death occurred in 2020. From 2000 to 2020, the number of maternal deaths per 100,000 live births decreased by approximately 34% globally. In 2020, low- and middle-income countries recorded almost 95% of maternal deaths (World Health Organization, 2023).

However, ANC continues to play an essential role in the African context, especially as its very high use by women constitutes a unique opportunity for contact with health services. It is essential to take advantage of this situation in order to implement scientifically demonstrated effectiveness measures. According to Memisa (2023), specific scientific research and recent literature reviews now make it possible to present more appropriate CPN content.

Most women in industrialized countries receive prenatal care and deliveries under the supervision of trained medical personnel, and in the event of complications, they have access to emergency care. Unfortunately, in developing countries, there are still difficulties in supporting women in prenatal consultations and during childbirth, which leads to a significant increase in maternal mortality rates (Sogoba Robert, 2010).

In the DRC, taking prenatal consultation into consideration constitutes a real challenge for pregnant women, particularly when they are still adolescents. However, it is essential to take it into consideration in order to allow the caregiver and the baby's mother to understand the baby's development in the mother's womb. Late-term antenatal care has been subject to financial and geographic challenges, but the impact of economic factors on care-seeking has not been clearly established. While some research has shown a statistical correlation between early care and socioeconomic status, others have not found a correlation between these two factors. In developing countries, it is common for women to neglect the benefits of health care.

Early antenatal care and utilization of antenatal services are enhanced through maternal education, which is an effective and consistent means. While late visits have been linked to higher birth rates. This may be because women who have already had a pregnancy are less likely to believe that pregnancy requires medical supervision.

Late arrival at the ANC by pregnant women and late recourse to prenatal care constitute a limiting factor in monitoring the pregnancy and therefore a potential risk factor for maternal death. The mother's life is endangered by three types of delay according to a WHO/UNICEF report (1996; Mafuta & Kayembe, 2011), the first delay is the request for care, the second is going to the nearest health facility and finally the delay in receiving good quality care. Some factors such as negligence, fatigue, irresponsibility of the husband, traditional practice, high cost of care, etc. Push women to start prenatal consultation late and this has consequences on the life of the pregnant woman and the fetus.

During our various clinical and community experiences, we have sadly noticed that pregnant women do not start ANC until the first trimester, each with their own origins.

It is for this reason that we are studying as part of this research a series of files of the activities of women at the prenatal consultation at the MAZIBA reference health center in order to determine the consequences and the explanatory factors of the late start of women at the prenatal consultation prenatal consultation.

METHODOLOGY
2.1 Presentation of the Field of Inquiry
Our study was carried out at the MAZIBA health and maternity center, more precisely in the Bonhomme district, in the commune of Matete, city of Kinshasa, in the Democratic Republic of Congo, during the period from January 29, 2022 to April 8, 2023.

2.2 Target Population of the Study and Sample
The target population is made up of pregnant women attending the prenatal consultation service at the MAZIBA health center, the monthly average number of which is 70 to 100 women.

And to constitute the sample, the following inclusion criteria were considered**:** being a pregnant woman; having attended CPN at the MAZIBA health center at the time of our study; be present on the day of the investigation; and freely agree to answer the survey questions.

So, 80 women who had voluntarily consented were selected to be part of the sample.

2.3 Data Collection
This study is quantitative of the cross-sectional correlational descriptive type.

This study used the survey method, combined with the interview technique and a survey questionnaire as the data collection instrument.

2.4 Processing Method and Data Analysis

The data collected in this study were analyzed using SPSS version 22.0 software. In this study, we used the so-called univariate analysis which consisted of describing the characteristics of our study population and the bivariate analysis with the use of the Chi-square test to elucidate the relationships between variables.

2.5 Ethical Considerations

Given the non-existence of a structure or research ethics committee at the time of the in order to obtain prior authorization, the research project was submitted to confirmed researchers for prior evaluation. And to respect some ethical procedures in research, we guaranteed the anonymity of the results and we kept them. A good climate reigned throughout our discussions. Carrying out this study was possible after obtaining informed consent from the subjects to be investigated. Participation in the study was voluntary.

RESULTS

3.1 Varied Analysis: Information on Sociodemographic Characteristics

Table 1: Distribution of respondents according to their age group

frequency Age group	Effective n=80	%
16-26 years old	41	51
27-37 years old	36	45
38 years and over	03	4

The table above shows that the majority of respondents, 51%, are aged 16 to 26, followed by those whose age varies between 27 to 37, 45%.

Table 2: Distribution of respondents according to parity

Frequency Parity	fi=80	%
Primiparous	44	55
Multiparous	11	14
Large multiparous	25	31

It emerges from this table that more than half of our respondents, i.e. 55%, have already given birth once and 31% of (large multiparous women) have had more than 6 deliveries.

Table 3: Distribution of respondents according to occupation

Frequency Occupation	n =80	%
Unemployed	43	54
Student	17	21
Resourceful	20	25

It appears from this table that 54% of the respondents do not have any occupations.

Table 4: Distribution of respondents according to marital status

Marital status	n=80	%
Bachelor	30	37
free Union	32	40
Brides	17	23

This table tells us that 40% of the respondents are in a common-law union, and then 37% are single, while 23% are married.

Table 5: Distribution of respondents according to level of education

Level frequency instruction	n=80	%
Graduate	6	7
State diploma	59	74
Humanitarian level	9	**12**
Primary	6	7

We see in this table that 59 respondents, or 74%, have a state diploma.

3.2 Information on Factors Associated with Late Arrival at ANC

Table 6: personal factors

Frequencies Factors	n=80	%
Neglect	53/80	66
Lack of information on ANC	08/80	15
Tiredness	59/80	74
Motherhood experience	25/80	31
Occupation in other work	01/80	2
lack of events	03/80	5

This table shows us that 74 of the respondents do not reach the ANC due to fatigue, 66% of the respondents are negligent, 31% have ANC.

Table 7: organizational factors

Frequencies Factors	n=80	%
Bad reception	30/80	66
Lack of space	50/80	15
The session lasts	55/80	74
Lack of chairs or benches	28/80	31

This table shows us that 68.75% of respondents claim that the session lasts, 62.5% of respondents say that there is a lack of space; 37.5 of the respondents say that there is a bad reception and finally 35% of the respondents complain about the lack of chairs (benches).

Table 8: Cultural factors

Frequency Factors	n=80	%
The shame of a single woman	13/80	16.0
Hidden pregnancy	32/80	40.0
Unexpected pregnancy	36/80	45.0
Lack of decision	11/80	14.0
Shame for my age	20/80	25.0
Shame of my friends or colleagues	16/80	20.0
Irresponsibility of the author	42/80	52.0
Traditional practice	07/80	9.0

It emerges from this table that 52% of the respondents declared that the late arrival is due to the irresponsibility of the person responsible for the pregnancy, 45% of the respondents think that this is due to an unexpected pregnancy, 20% of the respondents that

this is due to shame from friends or colleagues; and finally 14% of respondents have lack of decisions.

Table 9: Socio-economic factors

Frequency Factors	n=80	%
Lack of financial means	65/80	81.25
High cost of care	40/80	50.0
Average	54.2/80	65.62

This table shows that 81.25% of respondents had a lack of financial means, 50% of respondents declared the high cost of care.

3.3 Distribution of the Consequences of Late Start at the ANC

Table 10: Consequences of late start of ANC in pregnant women

Consequences for the pregnant woman	n=80	%
Unrecognized genital and urinary infection	20/80	25.0
Unrecognized hypertension	05/80	6.2
Unrecognized gestational diabetes	07/80	8.7
Development of malaria	15/80	18.7
Ignorance of healthy lifestyle during pregnancy	45/80	56.2
Abortion	10/80	12.5
Hemorrhage	04/80	5.0

This table shows us that 56.2% of respondents were unaware of healthy lifestyle during pregnancy,

however 25% had genital infections as a result and 18.7% developed malaria.

Table 11: Consequences in relation to the fetus

Frequency Factors	n=80	%
Fetal suffering	30/80	38.0
BCF absent	42/80	53.0
MF absent	33/80	41.0
The malformation	33/80	41.0
Unknown fetal position	43/80	8.0
MIU	06/80	7.0

It appears from this table that 53% of respondents have absent BCF, 41% of respondents do not feel any movements, 38% have fetal distress, 8%

have the position of the fetus unknown and finally 7% have an MIU.

3.4 Bivariate Analysis

Table 12: Relationship between personal factors and consequences for the pregnant woman

Consequences for the pregnant woman / Personal factors	Genital & urinary infection				Meaning
	Yes	No	x^2	P value	
Neglect	20 25%	60 75%	$13,585^2$	0.001	S
Lack of information on ANC	Hypertension		48.0002	0.00	S
	5 6.2%	75 93.8%			
Fatigue	Gestational Diabetes		$2,730^2$	0.22	S
	7 8.8%	73 91.2%			
Motherhood experience	Development of malaria		36,772	0.00	S
	15 18.8%	65 81.2%			
	Ignorance of hygiene				
Lack of clothes	during pregnancy		0.929	0.33	S
	45 56.2%	35 43.8%			

Overall, we found that there is a significant statistical relationship between personal factors and the

consequences on late participation in ANC by the pregnant woman.

Table 13: Relationship between organizational factors and consequences for the pregnant woman

Consequences for the pregnant woman Organizational factors	Genital and urinary infection				x^2	P value	Meaning
	Yes		No				
Bad reception	20	25%	60	75%	40,960 ^{2}	0.00	S
Lack of space	Hypertension				1,721	0.19	S
	5	6.2%	75	93.8%			
Duration of the session	Diabetes	gestational			2,075	0.15	S
	7	8.8%	73	91.2%			
Lack of chairs or benches	Development of malaria				6,697	0.01	S
	15	18.8%	65	81.2%			

When we look at our table, a statistical relationship emerges between poor reception, lack of chairs and the consequences of late arrival at the CPN for the pregnant woman (P=0.00; P=0.01).

Table 14: Relationship between cultural factors and consequences of late start of ANC in pregnant women

Consequences for the pregnant woman Cultural factors	Genital & urinary infection				x^2	P value	Meaning
	Yes		No				
Shame of a single woman	20	25%	60	75%	41,914	0.00	S
Hidden pregnancy	Hypertension				5,556	0.01	S
	5	6.2%	75	93.8%			
Unexpected pregnancy	Gestational Diabetes				7,099	0.008	S
	7 8.8% 73 91.2%						
Lack of decision	Development of malaria				49,255	0.00	s
	15 18.8%		65 81.2%				
Shame of my friends	Ignorance of healthy living				13,413	0.00	s
	45 56.2%		35,143.8%				
irresponsibility of 1 author	Abortion				8,278	0.004	s
	10	12.5%	70	87.5%			
Traditional practice	Hemorrhage				32,704	0.00	s
	4	5%	76	95%			

Overall, we found that there is a significant statistical relationship between cultural factors and the consequences on late participation in ANC by the pregnant woman (p=0.00).

Table 15: Relationship between socio-economic factors and consequences of late start of ANC in pregnant women

Consequences for the pregnant woman Factors socio-economic	Genital & urinary infection				x^2	ddl	P value	Meaning
	Yes		No					
Lack of financial means	20	25%	60	75%	4,622	1	0.03	S
High cost of care	Unrecognized hypertension				3,413	1	0.06	S
	5	6.2%	75	93.8%				
Distance	Unrecognized gestational diabetes				1,908	1	0.16	S
	7	8.8%	73	91.2%				
Suffering	Development of malaria				6,252	1	0.01	S
	15	18.8%	65	81.2%				

We note the statistical existence between the lack of financial means, suffering and the consequences of late arrival at the CPN (P = 0.03; P = 0.01).

Table 16: Relationship between personal factors and consequences of late onset of ANC in fetuses

Consequences in the fetus Personal factors	Fetal suffering				x^2	ddl	P value	Meaning
	Yes		No					
Neglect	30	37.5%	50	62.5%	22,097	1	0.002	S
Lack of information on ANC	Absent heart sound				6,065	1	0.00	S
	42	52.5%	38	47?5%				
Fatigue	absent fetal movement				17,751	1	0.00	s
	33	41.2%	47	58.8%				
Motherhood experience	Malformation				48,324	1	0.00	s
	33	41.2%	47	58.8%				
Lack of clothes	Unknown fetal position				1,097	1	0.29	**
	43	53.8%	37	46.2%				

It appears that there is a significant statistical relationship between personal factors and the

consequences of late arrival at ANC in the fetus (P=0.00; P=0.01; P=0.00 & P = 0.00)

Table 17: Relationship between organizational factors and consequences of late onset of ANC in the fetus

Consequences in the fetus Organizational factors	Fetal suffering				x^2	ddl	P value	Meaning
	Yes		No					
Bad reception	30	37.5%	50	62.5%	75,790	1	0.00	S
Lack of space at the CPN	Absent heart sound				49,738	1	0.00	S
	42.	52.5%	38	47.5%				
Duration of the session	absent fetal movement				23,116	1	0.00	S
	33	41.2%	47	58.8%				
Lack of chairs or benches	Malformation				57,679	1	0.00	s
	33	41.2%	47	58.8%				

It follows from this table that there is a significant statistical relationship between organizational factors and in the fetus (P = 0.00).

Table 18: Relationship between cultural factors and consequences of late onset of ANC in the fetus

Consequences in the fetus Cultural factors	Fetal suffering				x^2	ddl	P evolves	Meaning
	Yes		No					
shame of single woman	30	37.5%	50	62.8%	22,785	1	0.00	S
Hidden pregnancy	Fetal heart sound				45,132	1	0.00	S
	42	52.5%	38	47.5%				
Unexpected pregnancy	absent fetal movement				64,922	1	0.00	S
	33	41.2%	47	58.8%				
Lack of decision	Malformation of the fetus				15,462	1	0.00	S
	33	41.2%	47	58.8%				
Shame of friends	Unknown position of the fetus				14,962	1	0.00	S
	43	53.8%	37	46.2%				
Irresponsibility of the author	MIV				3,990	1	0.04	s
	6	7.6%	74	92.5%				

We note the existence of a significant statistical relationship between cultural factors and consequences in the fetus (P = 0.00)

Table 19: Relationship between socio-economic factors and consequences of late onset of ANC in fetuses

Consequences in the fetus Factors Socio-economic	Fetal suffering				x^2	ddl	P value	Meaning
	Yes		No					
Lack of financial means	30	37.5%	50	62.5%	9,195	1	0.002	S
High cost of care	Absent heart sound				68,622	1	0.00	S
	42	52.5%	38	47?5%				
Distance to CPN service	absent fetal movement				21,703	1	0.00	S
	33	41.2%	47	58.8%				
Suffering	Malformation				21,703	1	0.00	S
	33	41.2%	47	58.8%				

We note the existence of a significant statistical relationship between socio-economic factors and the consequences of late arrival at ANC in fetuses (P=0.00).

4. DISCUSSION

This study noted that most of our respondents were aged between 16 to 26 years with 51% followed by those from 27 to 37 years with 45%. These results corroborate with MICS (2013) and Manyong a Kadiamba Vicky *et al*., (2024) who worked respectively on the demographic and health survey and on the CPN, each reports that several young people whose age is between 15 and 24 are already sexually active, this is the age at which each young girl seeks to be his household.

Considering parity, 55% of our respondents were primiparous, with regard to occupation 54% of our respondents were unemployed, that is to say housewives. These results are related to the socio-economic situation of the country where most of the population does not work, but a paid occupation constitutes a factor in a person's development. 40% of our respondents are in a common-law union, what most people call "yaka". tovanda » only 23% are married, this result further confirms the work of Christian Asambingasa Agoli, Lina M. Piri Piri, Dikamba Nelly (2012) who worked on prenatal care in the DRC who concluded that the socio-economic conditions of the DRC make it difficult for young people to marry.

As for the level of education, 74% of women have a D6 level, i.e. state diploma. This is what El Housni (2016) says in his study in MOROCCO, which at the first reading of the results, it is clear that the population which has education will adopt positive maternal health behavior.

Regarding the factors associated with late arrival at the CPN, some factors are cited at a high threshold, these are negligence 66%, fatigue 74%, 67.7% women spoke socio-economic factors including distance, lack of financial means, high cost of care, etc. The woman who has a formal job and who earns money regardless of the irresponsibility of the perpetrator can save money and follow CPN without problem. 53.5% of our respondents mentioned organizational factors such as poor reception, lack of space, lack of chairs or benches. These factors led to a late start to ANC and these results corroborate with those of MAYUNDA (2018). Elsewhere Ouologuem & Andialou (2023) noted that the age of 20 years and over (OR: 2.48, 95% CI: 1.71-3.59), Coming from the rural area (OR: 1.89, 95% CI: 1.27-2.82), insufficient basic medical coverage (OR: 2.30, 95% CI: 1.51-3.49), multiparity and high multiparity (OR: 2.34, 95% CI: 1.53-3.58), lack of knowledge of the period of the start of the 1st CPN (OR: 4.29, 95% CI: 2.87-6.41) were some factors associated with the delay in the 1st CPN. N'Dri Kouamé Mathias *et al*., (2023) also showed that the level of education (OR=0.02 [0.07-0.62], p=0.005), knowledge of the period of the first prenatal consultation (OR= 2.87 [1.22-6.75], p=0.015) and knowledge of the role of prenatal consultation in malaria prevention (OR=3 [1.26-7.10]) were associated with delays in the first prenatal consultation.

Furthermore, Tadele of manual labor , Nigusu Getachew , Kelemu Fentie , Démuma Amdisa (2022), they also agree that forty-eight percent of pregnant women started their first ANC late. Primary education level (AOR = 0.242; 95% CI, 0.071-0.828) and university degree or higher were associated with late first ANC. Mothers who had an unplanned pregnancy were associated with a late first ANC. Level of primary education (AOR = 0.142; 95% CI, 0.040-0.511), mothers having had an unplanned pregnancy (AOR = 11.290; 95% CI, 4.109-31.023), time taken to reach health facility longer than sixty (60) minutes (AOR = 8.285; 95% CI, 2.794-24.564) and insufficient knowledge of ANC services (AOR = 4.181; 95% CI, 1.693-10.348). On the other hand, Relwende Barnabe YAMEOGO (2023) showed that attitude (OR= 0.50; p=0.026), subjective norms (OR=2.20; p<0.001), perceived behavioral control (OR=0.30; p = 0.002) as well as gestational age (OR=2.80; p=0.003) and marital status (OR=19.20; p=0.006) were positively and significantly associated with late CPN1.

The consequences linked to late arrival at the ANC are on two levels: the consequence for the pregnant woman and for the fetus. In the pregnant we obtained an average of 18.7% and 31.3% in the fetus. These results lead us to say that late arrival at the CPN has more consequences in the fetuses because the latter can enter into suffering without the mother noticing. We noted in our investigation that this delay can also lead to this that the BCF as well as the MF is absent as well as the position of the fetus is unknown therefore, the mother evolves with a pregnancy of which she does not know the outcome. On the other hand, she herself can develop genital and urinary infections (25% of cases) and hemorrhage or abortion (12.5% of cases). For Ouologuem & Andialou (2023) the first prenatal consultation must be carried out in the 1st trimester of pregnancy. If it is late, it constitutes a factor limiting the effectiveness of prenatal consultations and does not allow the pregnant woman to benefit from the advantages linked to it.

This study demonstrated that there is a significant statistical relationship between personal factors (poor reception, lack of chairs and the consequences of late arrival at the CPN in the pregnant woman) and the consequences on late start at the CPN by the pregnant woman (p=0.00 and p=0.01). Our respondents confirmed to us that health center providers do not welcome pregnant women; our results are in the same direction as the Hermès Karemere studies *et al*., (2015) which showed that poor reception was one of the negative behaviors of certain health workers.

It also emerges that there is a significant statistical relationship between personal, socio-economic, organizational, cultural factors and the consequences in the fetuses (p = 0.00. P = 0.01, and p = 0.00). The lack of financial means, the high cost of care, the poor reception, the lack of chairs, the irresponsibility of the author have an influence on the fetus and lead to certain consequences in the fetuses.

CONCLUSION

The late onset of CPN remains a major public health issue in the study region. The late arrival of pregnant women at the CPN is influenced by different variables such as neglect, fatigue, distance, lack of financial means, high cost of care, poor reception, lack of space, lack of chairs or benches.

The consequences linked to late arrival at the ANC are on two levels: the consequence for the pregnant woman and for the fetus. In the pregnant we obtained an average of 18.7% and 31.3% in the fetus.

This study demonstrated that there is a significant statistical relationship between It also appears that there is a significant statistical relationship between personal, socio-economic, organizational, cultural factors and the consequences in the fetuses (p = 0.00. P=0.01, and p=0.00).

Thus, healthcare professionals have the opportunity to provide ongoing education on the importance of starting prenatal care visits early to avoid adverse pregnancy outcomes, taking into account all the elements mentioned.

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