Reproductive behavior of women from a rural community in Tefé, Amazonas, Brazil

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Abstract. The objective of this descriptive and retrospective study was to delineate the reproductive profile of women living in a rural community of Tefé Municipality, Amazonas State, Brazil. The target audience included women (n = 10), aged 18 years and older, living in the Agrovila community, rural area, distant 13.2 km from the center of Tefé. All participants were interviewed, individually, based on a questionnaire designed exclusively for the present study. The results of the descriptive analyzes indicated that the interviewees reached the menarche between 13 and 17 years old, and the first pregnancy occurred during adolescence, between 14 and 16 years old. Half of the women interviewed reported regular use of contraceptive methods regularly. However, the average number of children per woman was 4.6 children. All women reported prenatal care in all pregnancies. However, 50% reported complications during pregnancy; while 20% had one or two miscarriages due to eclampsia. These data point to the need to improve prenatal consultations, raise awareness about the risks of eclampsia for maternal health, as well as the creation of reproductive health programs that recognize the social and cultural conditions of isolated Amazonian communities.

Keywords: Early pregnancy; Eclampsia; Contraceptive methods; Prenatal care; Maternal and childcare.

Until 1960, the Brazilian population experienced a continuous and gradual growth (IBGE, 2002, Wong et al., 2009; Flores, 2015). This was believed to be related to social, behavioral and economic factors, among which the decrease in child mortality and increased female fertility stood out (Wong et al.,

2009; Flores, 2015). In that period, the fertility rates, calculated by the Instituto Brasileiro de Geografia e Estatística (IBGE), was over six children per woman (IBGE, 2002; Wong et al., 2009; Flores, 2015). However, by the following decade, the Brazilian population's growth rate decreased due to birth control pills associated with the entrance of women in the active workforce (IBGE, 2002; Flores, 2015). In addition, the economic transition, from a rural economy to an industrial-oriented one, also collaborated to that end (IBGE, 2002). The changes in the socioeconomic and cultural features of the Brazilian Society at that time contributed to the decrease in the women per children ratio (IBGE, 2002).

The demographic transition that took place between 1960 and 1970, was observed in all major urban centers in the southeast and southern regions. On the other hand, the north and northeastern regions continued to exhibit higher birth rates, with ratios such as 6.4 to 8.2 children per woman (IBGE, 2002). The high ratio is connected to the lack of socioeconomic development, poor education and limited access to healthcare and other state-provided services. Nowadays, this is only a reality for isolated communities, far away from major urban centers (Ruzany et al., 2012; Gama et al., 2018).

In the State of Amazonas, the largest in the northern region, only nine out of 62 municipalities, are connected to the state capital by land (Magalhães, 2019). This scenario compromises the development of municipalities that are distant from the capital, since boat travelling can last weeks. According to National Demographic Census 2010, 70% of Amazonas' countryside does not possess adequate investments in sensitive urban infrastructure (Brasil, 2004; Boas and Oliveira, 2016). This is further aggravated in rural or Riverside communities. In those places, the lack of

social and economic development significantly reduces the human quality of life (Silva and Silva, 2009; Gama et al., 2018).

Most of the population studies concerning the reproductive profile of women are concentrated in the major urban centers of the country (Soares and Schor, 2013). Therefore, there is little or no information about such behavior when it comes to Riverside communities or municipalities isolated from large cities (Gama et al., 2018). The lack of studies on the subject casts a shadow on the healthcare needs of women who live in those places and have higher fertility rates (Moura, 2005; Cella and Marinho, 2017). Thus, it becomes of paramount importance to understand the socioeconomic factors that lead to higher fertility rates, in order to project public policies on healthcare that meet the needs of those women (Moura, 2005; Wong, 2009; Cella and Marinho, 2017). In this context, the present study analyzed the fertility rates of women living 13.2 km from the urban center of Tefé, Amazonas.

Tefé is a municipality located in the middle-Solimões region, with an estimated population of 59.849 inhabitants (50.7% men and 49.3% women). The urban population represents 88% of the total, while the remaining 12% lives in rural areas (IBGE, 2010). The connection between the urban center and the rural communities is made by two roads known as Estrada da Agrovila (Figure 1a) and Estrada da EMADE. At Estrada da Agrovila are located Agrovila's and Maranata's rural communities; while at Estrada da EMADE the Vila da EMADE's and Pavão's rural communities can be found (Rodrigues, 2011). Agrovila's rural community stands out due to its proximity to the urban center (Figure 1b), and also by its commerce and basic educational infrastructure (IBGE, 2010).

Figure 1. Pictures of the rural área of Tefé/AM. (a) distance between Agrovila's rural community and the municipality's urban center (Google Maps). (b) Agrovila's rural community.

This retrospective and descriptive study was conducted in March 2019, using house to house inquiry. The methodological approach was based on the use of a standardized list of questions made exclusively for women above 18 years old, resident of the rural area of Tefé/AM. To determine the size of the sample, the Epi-Info program was used (version 3.5.1), while the method of selection of the participant women was made randomly (Cordeiro and Freitas, 2016). Women lacking pregnancy history were excluded from the study.

The sociodemographic information included marital status (single, married, divorced), self-declared ethnicity (Negroid, Caucasian and mixed race), education stage (primary education, secondary education and higher education), religion profile and economic activity. To analyze the reproductive health, maternal information was collected (age at menarche and first pregnancy), and also information concerning the pregnancy (overall number of pregnancies, number of pregnancies concluded, number of interrupted pregnancies, occurrence of pregnancy related diseases, prenatal healthcare and exams, type of delivery, gestational age, contraceptive methods). The descriptive analyzes were conducted using the program EpiInfo (version 3.5.1). The investigative protocol was approved by the Research Ethics Committee from Amazonas State University, in the Decision nº 2.895.249, from July 15th, 2018. All the participants signed a document declaring to be willing to take part in the current research.

Ten women from Agrovila's rural community participated. Their age ranged from 25 to 54 years. Most were married, mixed race and had up to 8 years of formal education (primary education). They were farmers; public servants or self-employed workers. Regarding to the religious profile, half of them were catholic and half were protestants (Table 1).

Table 1. Sociodemographic profile of the women living in the Agrovila Community, rural area of Tefé-AM, 2019.

Variables	Descriptors	Number of individuals	%
Actual age	20 - 29 years	1	10%
	30 - 39 years	5	50%
	≥ 40 years	4	40%
Marital Status	Single	1	10%
	Married	8	80%
	Divorced	1	10%
Ethnicity	Mixed race	6	60%
	Negroid	1	10%
	Caucasian	3	30%
Educational stages	Primary education	2	20%
	Secondary education	7	70%
	Higher education	1	10%
Religion profile	Catholic	5	50%
	Protestants	5	50%

The reproductive health of women from Agrovila's rural community was based on maternal (Table 2) and pregnancy data (Table 3). The interviewed women reached sexual maturity from 13 to 17 years old. Its occurrence is related to the woman's healthcare condition. According to the Brazilian Federation of Gynecology and Obstetrics, the first menstruation usually happens between 10 and 16 years old, the average age being 12,3 (Cabral, 2014).

When evaluating the standard age of the first pregnancy, it was observed that it usually happened during adolescence. This leads to the conclusion that the sexual life of the said women started precociously, between 14 to 19 years old. An epidemiological and descriptive study at the Vila Maringá rural community, Municipality of Maués-AM, indicated that local women reached maternity at 13 to 19 years, on average. The authors attributed the said phenomenon to the lack of information and access to birth control methods (Silva and Silva, 2009). Other studies conducted elsewhere in Brazil also pointed out the high occurrence of pregnancy amongst teenagers, and associated it to the lack of proper education and access to healthcare (Borland and Jorge, 1999; Costa et al., 2001; Busanello et al., 2009; Ruzany et al., 2012).

Table 2: Maternal indicators included in the reproductive profile analysis of women living in the Agrovila Community, rural area of Tefé-AM, 2019.

Variables	Descriptors	Number of individuals	%
Age at menarche	between 13 - 14 years	5	50%
	between 16 - 17 years	5	50%
Age at first pregnancy	14 - 17 years	4	40%
	18 - 19 years	3	30%
	≥ 20 years	3	30%

Regarding gestational indicators (Table 3), all respondents underwent prenatal care at the community's basic health unit. Information on the number of prenatal consultations was not considered valid, as all respondents reported having had more than 20 prenatal/pregnancy consultations. This fact may indicate a possible lack of knowledge about what a prenatal consultation is. According to Dias (2014), adequate prenatal care is essential for early identification and control of gestational diseases such as gestational diabetes and eclampsia, as well as monitoring fetal growth. Therefore, the success of prenatal care is not only linked to the number of consultations, but the quality of care (Gama et al., 2001; Piccinini et al., 2012).

The occurrence of vaginal births was reported by 80% of respondents. In these cases, births occurred at the parturient's residence and under the assistance of experienced midwives. This peculiarity was also observed in women from the Tomorrow community, located in the Mamirauá-AM Sustainable Development Reserve (Moura, 2009). According to Moura (2008), women in the community prefer home births to maintain proximity to their family during and immediately after childbirth. Therefore, the predominant occurrence of home birth shows a cultural pattern of Amazonian women living in rural and/or isolated locations.

As for gestational age, 70% of births occurred between 37 and 41 weeks of gestation. This index is below that calculated for the urban region of the municipality of Tefé/AM, which was 93.07% for the period from 2006 to 2012 (Cella and Marinho, 2017). In this context, the high rate of preterm births is of concern and points to the urgency of improving prenatal care protocols, considering the social and cultural specificities of the Rural Community of Agrovila-AM.

Regarding the number of children born alive, it was observed that most of the interviewees have four or more children. This number is considered high when compared to the fertility rate of 1.9 children for women living in Brazilian capitals (Pereira et al., 2014). The reproductive profile of Amazonian women living in isolated or rural areas exhibits high levels of fertility, especially among younger people. However, the significant number of children/women found in this rural community may be underestimated, since 20% of respondents reported one to two miscarriages due to eclampsia. This data emphasizes the importance of prenatal care for pregnant women and babies. In fact, consultation and follow-up examinations during the development of pregnancy are essential for the protection and prevention of adverse events, allowing the identification and clinical management of appropriate interventions on potential obstetric risk factors (Brazil, 2006; Basso et al., 2012).

Regarding contraceptive methods, half of the interviewees reported adopting some type of conception prevention strategy. The main contraception strategies included male condom use (10%), oral/injectable contraceptives (20%) and home teas (20%). Homemade contraceptive teas are widely practiced in women in isolated communities. Previous studies conducted in Amazonian (Silva and Silva, 2009; Wong, 2009) and indigenous (Pereira et al., 2014) communities indicated the use of alternative methods, such as the use of natural teas, to prevent conception. Knowing traditional conception control practices, such as the use of natural herbal teas, is critical for healthcare professionals. From this information it is possible to understand reproductive health standards, and thus establish indicators and strategies for control and prevention of reproductive health, considering the cultural traditions of Amazonian women.

Noteworthy in the present study is the high percentage of women who do not use any type of contraceptive method. Importantly, one of the concerns perceived by women regarding reproductive health is related to the number of children. This social behavior in which families are large has also been reported in previous studies (Moura, 2009; Pereira et al., 2014; Cella and Marinho, 2017). In these cases, prenatal care becomes essential to guide the minimum intergenerational period. According to the Brazilian Society of Gynecology and Obstetrics Guidelines, women should consider an 18-month period between pregnancies in order to ensure proper development of future pregnancies (Cabral, 2014).

Table 3. Gestational indicators included in the reproductive profile analysis of women living in the Agrovila Community, rural area of Tefé-AM, 2019.

Gestational Indicators	Descriptors	Number of individuals	%
Type of delivery	Vaginal births	8	80%
	Cesarean section	2	20%
Gestational age	37 and 41 weeks of gestation	7	70%
	Up to 37 weeks of gestation	3	30%
Number of children	2 children	1	10%
	3 children	3	30%
	> 4 children	6	60%
Interrupted pregnancies	Positive	2	20%
	Negative	8	80%
Contraceptive methods	Condom use	1	10%
	oral/injectable contraceptives	2	20%
	Home Teas	2	20%

In conclusion, our results point to the need to improve prenatal consultations, raise awareness about the risks of eclampsia for maternal health, as well as the creation of reproductive health programs that recognize the social and cultural conditions of isolated Amazonian communities.

Acknowledments

Conflicts of interest

Authors declare no conflict of interests.

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