

## **SOCIODEMOGRAPHIC AND FAMILY CHARACTERISTICS OF PREGNANT ADOLESCENT IN MALANJE, ANGOLA**

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**Abstract:** Around 16 million adolescent pregnancies case are registered annually in the world, with a higher incidence in Sub-Saharan Africa, where Angola has one of the highest adolescent fertility rates. Teenage pregnancy has biological, psychological, and economic consequences and may be associated with sociodemographic and family issues. This study aims to describe the characteristics of pregnant teenagers in the municipality of Malanje. From the 2nd of August to the 5th of October 2022, a survey was carried out among 137 adolescents, assisted for the first time, in antenatal consultation in Health Centers in the municipality of Malanje. Primary data were analyzed using the SPSS program, version 27.0, to calculate the absolute and relative frequency, mean, and standard deviation. Pregnancy was more frequent in adolescents aged 17 years (26.5%; 17.4 ±1.2), living in peri-urban areas (89.8%), with up to primary education (57.7%; 6.9 ±2.4), without planning (59.9%). Most pregnancies occurred in medium-sized families (65.7%; 7.1±2.9), headed by a man (52.6%), engaged in agriculture or qualified work (31.4%). Most pregnant adolescents are from families with a history of early pregnancy (69.3%) and some psychological aggression or behavioral punishment (81.8% or 51.9%) before becoming pregnant. In Malanje municipality, teenage pregnancy is a worrying public health problem highlighted by the poor family structure, low education, and peri-urban residence; however, it needs more studies.

**Keywords:** Adolescent pregnancy, Angola, Family, Malanje, Sociodemographic

## INTRODUCTION

Adolescence is the transition period (10 to 19 years) from childhood to adulthood.

(1) At this stage of development, a woman

may experience pregnancy due to her vulnerability to risky behavior. Generally, these behaviors result from the biological, cognitive, social, psychosocial, and emotional changes characteristic of the phase.<sup>(2,3,4)</sup> Around 16 million adolescent women worldwide become pregnant annually. This phenomenon is more frequent in low- and middle-income countries.<sup>(5)</sup> The number of births per 1.000 women aged 15 to 19 years is higher in Africa (102.1/1.000), America (49.9/1.000), and (26.1/1.000) Southwest Asia.<sup>(6)</sup> Adolescent mothers are at increased risk for eclampsia, puerperal endometritis, and systemic infections, and their babies are more prone to low birth weight and prematurity.<sup>(7)</sup> These outcomes increase adolescent and neonatal morbidity and mortality.<sup>(8)</sup> In short, adolescent pregnancy is a global public health problem and a multiple-consequence phenomenon with the highest incidence on the African continent.

Adolescent pregnancy may be associated with or more frequent in certain sociodemographic conditions. A study in Nepal shows that early pregnancy is associated with age, marital status, and adolescent academic level.<sup>(9)</sup> In two studies carried out in the south of Angola, pregnancy was more frequent in adolescents at the end of their phase, living in rural areas, with low education, and living in a de facto union.<sup>(10,11)</sup> A study in Sunyani- Ghana, demonstrated that adolescent pregnancy is associated with socioeconomic status, where most adolescent pregnant had low class.<sup>(12)</sup> As well as the sociodemographic issues mentioned, the family is an essential element in the approach to early pregnancy. There is evidence of a greater probability of early initiation of sexual life in adolescents from single-parent families, highlighting the importance of family structure in adolescent growth. Most pregnant teenagers are from families with large sizes, divorced parents,

poor functionality, low parental education, and low or medium-low socioeconomic status.<sup>(13,14)</sup> The problem of teenage pregnancy appears to require a multidisciplinary effort for its prevention.

As mentioned in the first paragraph, Africa has the highest adolescent fertility rate compared to other continents. The sub-Saharan Africa region is most affected, with about 101 births per 1,000 adolescent women in 2021.<sup>(15)</sup> In 2020, Angola was among the countries with the highest rate (163/1,000) in this region.<sup>(16)</sup> In the same year, about 35% of adolescent girls (15-19 years old) in this country already had at least one pregnancy.<sup>(17)</sup> In 2012, an editorial of the Voice of America Channel pointed to Bie, Huambo, Lunda Sul, and Malanje as the most vulnerable provinces for early pregnancy;<sup>(18)</sup> however, there is a gap in knowledge of the adolescent pregnant profile and the possible factors linked to the phenomenon in these provinces due to the scarcity of available studies. This study aims to describe the socio-demographic and family characteristics of pregnant teenagers in the municipality of Malanje in Angola. The descriptive approach to a specific phenomenon or population is the first element in the chain of scientific evidence.<sup>(19)</sup> Therefore, this picture of pregnant adolescents in Malanje may be a trigger for understanding the phenomenon and formulating future research hypotheses.

## METHODOLOGY

It is a descriptive extract from the study of teenage pregnancy, carried out in the context of a doctorate in public health. A quantitative survey was carried out by form, in which primary and retrospective data were collected in the municipality of Malanje, affecting the Health Centers of Cahala, Canambua, Catepa I, Maxinde II, and Ritondo, from August 2 to October 5, 2022. The municipality of Malanje is located in the plateau region of Malanje

province and is composed of Malanje municipality (headquarters), Cambaxe, and Ngola-Luiji, making a total of 5 urban, 22 peri-urban, and 212 rural locations. According to the last population census in 2014, this municipality has around 506.847 inhabitants, in a universe of 93.8 men for every 100 women, where 23% of the population is teenagers.

Malanje population has agriculture and commerce as the main economic activities to generate income, and the public sector is the principal employer. The municipality has a total of 183 education schools (93 primary schools, 66 in the 1st cycle of secondary education, and 24 in the 2nd cycle of secondary education) and three institutions for higher education. Currently, the municipality accounts for 37 functional health units (36 primary and one secondary), of which 12 have antenatal care. In the first semester of 2022, approximately 2.170 adolescent women in this municipality had their first antenatal consultation, 98.2% were women aged between 15-19 years.

## POPULATION AND SAMPLING TECHNIQUE

For this purpose, the population are pregnant adolescent women residing in the municipality of Malanje. The sample consisted of 140 pregnant adolescents. This sample was calculated using a  $Z_{1-\alpha/2}=1,96$ ;  $Z_{1-\beta}=0,84$  adding 10% of non-response rate.<sup>(14,20)</sup> This was a single-stage cluster sample. First, five health centers (sample units) were selected by lottery; then, all eligible pregnant adolescents (sample elements) who attended the centers during the study period made part.

The study included all pregnant adolescents aged 15-19 living in the municipality of Malanje and observed in antenatal care from the five health centers. Of these, adolescents assisted in return prenatal consultations, those with a personal history of pregnancy, and those who did not accept to be part of the

study were excluded.

## **DESCRIPTION VARIABLES**

The descriptive variables comprises sociodemographic (age, area of residence, marital status, adolescent's education level, literacy, and pregnancy planning) and family characteristics (type of family, sex, marital status, head of the household's education level, and occupation, family size, family history of early pregnancy, psychological aggression, behavioral punishment, physical violence, severe physical violence).

## **DATA COLLECTION PROCEDURE AND INSTRUMENTS**

A team of 10 inquirers realized the survey (5 nursing students and five 1st year clinical psychology students). They were recruited and trained in the completion of forms and ethical principles of scientific research. The inquirers were duly equipped, identified, and distributed in non-fixed pairs in the five health units. They collected primary and retrospective data. An exhaustive review of the existing literature allowed the construction of a form for data collection. This instrument has open and closed questions distributed in blocks according to the groups of variables under study. In addition to the form, the Parent-Child Conflict Tactics Scale was used to assess domestic violence. The original scale consists of 18 items and two subscales (psychological abuse; physical violence) and has an intra-observer reliability (kappa) greater than 0.75 for conceptual equivalence, semantic, and psychometric properties when used in multiple populations.<sup>(21)</sup>In this study, the scale was translated and adapted to assess psychological aggression, behavioral punishment, physical violence, and severe physical violence, as dichotomous outcomes (yes or no). The scale and form were tested in a pilot study, and adapted to the local

population; the maximum completion time is 7 minutes for the form and four for the scale.

## **DATA ANALYSIS**

Variables Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) version 27.0. Descriptive statistics were used for absolute and relative frequencies. Kolmogorov-Smirnov test checked sample normality at a significance level of 0.05. Although the continuous data does not obey a normal distribution, were calculated the mean and standard deviation, because the means were almost equal to the medians. Although the continuous data do not follow a normal distribution, for comparability effect, the mean and standard deviation were calculated, because the means were almost equal to the medians. The results are presented in graphs and tables with the help of Microsoft excel.

## **ETHICAL ASPECTS**

The study was approved by Agostinho Neto University's the Independent Bioethics Committee of the Faculty of Medicine (Deliberation N.º 23/2022). All study participants received consent ( $\geq 18$  years) or assent (under 18 years) informed. In addition, the guardian of adolescents under 18 years got informed consent. These documents are explicit about the research's objectives, risks, benefits, and beneficiaries. The study ensured compliance with the ethical principles of human dignity, transparency, beneficence, autonomy, justice, and confidentiality.

## **RESULTS**

The survey allowed the data collection to describe the study participants regarding their sociodemographic and family exposition before getting pregnant. Initially, the sample had 140 participants. Of this number, three incomplete questionnaires were excluded, making a total of 137(97.9%) valid and analyzed forms.

Variables	(N=137)	
	n	%
<b>Marital status</b>		
Single	120	87.6
De facto union/ married	17	12.4
<b>Residence place</b>		
Urban	4	2.9
Peri-urban	123	89.8
Rural	10	7.3
<b>Adolescent's education level (complete)</b>		
1st cycle of secondary or above	31	22.6
Primary	79	57.7
None	27	19.7
<b>Literacy</b>		
Yes	120	87.6
No	17	12.4
<b>Planned pregnancy</b>		
Yes	55	40.1
No	82	59.9

N: number of participants; n: frequency; %: percentage

Table n.1: Sociodemographic characteristics of pregnant adolescents in the municipality of Malanje, Angola

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## SOCIODEMOGRAPHIC DESCRIPTION OF THE PARTICIPANTS

From 137 participants, the mean age was 17.4 years (SD = 1.2), ranging from 15 to 19 years; Most participants were 17 (n=36; 26.3%) and 18 years old (n=35; 25.5%), while a smaller part (n=9; 6.6%) was up to 15 years old (Figure n.1).

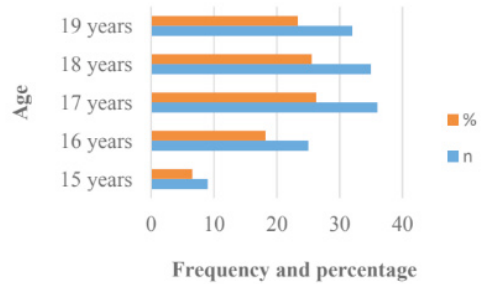


Figure n.1: Adolescent age

A considerable number (n=17; 12.4%) of the participants lived in a de facto union or were married, and the vast majority (n=120; 87.6%) were single, as seen in Table n.1. As for the area of residence, there was a higher frequency (n=123; 89.8%) of pregnant adolescents in peri-urban places, followed by rural areas (n=10; 7.3%). The last school class completed with approval ranged from none to the 12th grade, and the average of school class successfully completed was 6.9 grades (SD=2.4); Most participants (n=79; 57.7) had completed primary education, and a smaller number (n=27; 19.7) had not completed any academic level, but approximately 87.6% of the participants knew to read and write. It was found that about 59.9 of the participants did not plan the pregnancy.

## DESCRIPTION OF THE PARTICIPANTS' FAMILY STRUCTURE

Concerning family structure, a relatively high number of participants (n=47; 34.3%) lived in nuclear families, and the second minority (n=28; 20.4%) lived in non-parental families. The average number of people per household was 7.1 people (SD=2.9), ranging from 2 to 20 people; 90(65.7%) of the families were of medium size, and 72(52.6%) were headed by men (Table n.2). From 137 participants, approximately 27.7% reported that their head of household completed the 1st cycle of secondary education or more, and

the vast majority (n=67; 48.9%) did not know the head of household's level of education.

There was the same frequency (n=43; 31.4%) of adolescents whose head of household had a professional occupation and agriculture, while 4(2.9%) participants lived in a family whose head had no occupation (Figure n.2). The vast majority (n=95; 69.3%) of the participants have a family history of teenage pregnancy, and 5(3.6%) do not know whether the phenomenon exists in their family.

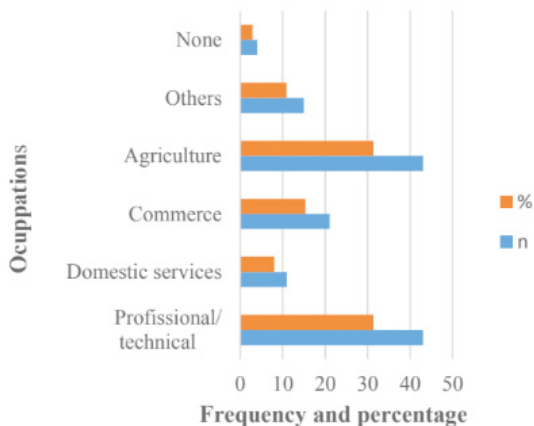


Figure n.2: household head or guardian's occupation.

When exploring the aspects related to violence between parents and adolescents, 81.8% of the participants experienced some psychological aggression in the last 12 months and (n=70; 51.9%) suffered some behavioral punishment. On the other hand, 122(89.1%) did not suffer severe physical violence and 88(64.2%) did not expose to any act of physical violence in the last 12 months (Table n.2).

## DISCUSSION

The mean age of the participants in the present study did not differ from the findings in the studies carried out in the municipalities of Huambo<sup>(11)</sup> and Lubango.<sup>(18)</sup> But the mean age in the present study was higher than other studies in Huambo<sup>(10)</sup> and Benguela.<sup>(13)</sup> The

mean age difference between this study and the two mentioned studies may be explained by the extremes of inclusion age used for both. The desire to get pregnant becomes more concrete as the adolescent's age increases, which explains why the phenomenon is more frequent in late adolescence.<sup>(22)</sup> In addition, pregnancy in early adolescence offers more risk and costs; therefore, the social criticism of this phenomenon may depend on the teenager's age.<sup>(23)</sup>

As in other studies in Angola, this survey accounted for the vast majority of single participants, and the de facto union was the most common union type for adolescents who lived with their partners.<sup>(13,18)</sup> These results also agree with the studies carried out in Brasilia-Brazil<sup>(24)</sup> and Annapolis-Brazil.<sup>(25)</sup> In contrast, another study had 7.1% married adolescents, whereas 1.8% lived in a de facto union.<sup>(11)</sup> Another different result comes from the study on prevalence and factors associated with AG in Northeast Ethiopia. Of the total 147 pregnant adolescents in the study, 75.5% were married.<sup>(26)</sup> Marriage differs from a de facto union because it involves a ceremony own in the Angolan context.<sup>(27)</sup> Due to the economic impact and cultural factors, the de facto union is the main form of the constitution of families in Angola.<sup>(28)</sup> It is worth remembering that in addition to being a civil and religious act, marriage is primarily a cultural act in Angola. The marriage of minors is seen as a destructive phenomenon in the world; therefore, the civil and religious teenage marriage are uncommon. In Angola, Teenage marriages are more frequent in rural areas, which may suggest a possible association between adolescent pregnancy, residence place, and socioeconomic conditions.<sup>(29,30)</sup>

In Angola, most pregnant adolescents live in rural and peri-urban areas and have a low level of education.<sup>(31)</sup> In a study carried out in Lubango, 55% of pregnant teenagers

<i>Variables</i>	<b>(N=137)</b>	
	n	%
<b>Family type</b>		
Nuclear	47	34.3
Extended	22	16.1
Single parent	40	29.2
Non-parent	28	20.4
<b>Family size</b>		
Short (<5 people)	25	18.2
Medium (5-9 people)	90	65.7
Large (≥ 10 people)	22	16.1
<b>Head of household gender</b>		
Male	72	52.6
Female	65	47.4
<b>Head of household's marital status</b>		
Single/widowed	48	35.0
De facto union/ married	89	65.0
<b>Head of household's education level (complete)</b>		
1st cycle of secondary or above	38	27.7
Primary	15	10.9
None	17	12.4
Unknown	67	48.9
<b>Family history of early pregnancy</b>		
No	37	27.0
Yes	95	69.3
Unknown	5	3,6
<b>Psychological aggression</b>		
No	25	18.2
Yes	112	81.8
<b>Behavioral punishment</b>		
No	67	48.9
Yes	70	51.9
<b>Physical violence</b>		
No	88	64.2
Yes	49	35.8
<b>Severe physical violence</b>		
No	122	89.1
Yes	15	10.9

**N:** number of participants; **n:** frequency; **% :** percentage

Table n.2: Family characteristics of pregnant teenagers in the municipality of Malanje, Angola.

had between the 7th and 9th school classes. (18) Contrary to the study in Lubango, pregnancy occurred more (34.7% and 63.7%) in adolescents who had completed primary education in studies realized in Huambo<sup>(11)</sup> and East Africa.<sup>(32)</sup> The results of this study (57.7%) are closer to the last two cited studies and have the same categorization of the variable. As in the existing literature, pregnancy was more frequent in adolescents with a low level of education. It is seen that adolescent pregnancy tends to be more frequent (75.9%; 72.7%) in rural areas in the African context.<sup>(10,32)</sup> This study brings news, about the peri-urban category in the residence place variable. More than 90% of the resident population of Malanje municipality lived in the center commune (Malanje), where most of the neighborhoods are urban and peri-urban, it makes the municipality of Malanje the principal urban center of the province. The peri-urban areas still do not have concrete administrative legislation, but this is where most of the urban population in Angola resides.<sup>(33)</sup> These areas are also called musseques and do not exist only in Luanda, they are subject to some shortcomings in terms of primary services such as energy and water, health, and education.<sup>(34)</sup> Little information was found about teenage pregnancy and peri-urban areas in the literature. The little found shows a difference in sexual behavior and perception of sexuality among adolescents in different areas. Adolescents residing in peri-urban areas tend to be more practical, in urban areas the most liberal, and in rural areas the most conservative and potentially vulnerable.<sup>(35)</sup>

The family structure can influence adolescents' sexual behavior. Early sexual activity and unprotected sex are risk behaviors prevented by the presence of both biological parents or a father figure in the family.<sup>(36)</sup> In the present study, only 0.4% of the participants

made a separation between the adolescents who live with both biological parents and the others, with the majority (50.4%) living with their parents. A very similar result (54.6%) was found in the province of Huambo. (11) These results convey the initial feeling that there was not much difference in the number of cases of teenage pregnancy in households with and without both parents. The other issue arises because there are more records of pregnant teenagers in nuclear families than in extended, single-parent, and one-parent families. Furthermore, in this study, pregnancy occurred predominantly in medium-sized families, and the average number of people per household (7.1 people) was higher than the average in Malanje province (4.6 people) in the last census carried out.<sup>(37)</sup> The high number of children can negatively impact the education to be transmitted to them, as the costs are higher for parents.<sup>(38)</sup>

Often, several studies point to the gender of the head of household or guardian as a determining factor for teenage pregnancy. Although teenage pregnancy occurs predominantly in male-headed households, female-headed female adolescents are more likely to become pregnant.<sup>(39)</sup> Recently, a regional comparison study in Africa showed a higher occurrence of teenage pregnancy in male-headed households, and unlike the first, male leadership increased the risk of early pregnancy.<sup>(40)</sup> Similarly, in the present study, more (52.6%) pregnancies occurred in male-headed households. According to the 2014 population census in Angola, about 62.0% of families were headed by men.<sup>(37)</sup> The present result is worrying because it differs little from the observed minority, which leads to the question of the marital status of the heads of families. Subsequently, it was found in this study that 64.9% of the heads of families in this study are married or live in a de facto union. Although there is no universal agreement, the



male gender is historically associated with the head of the family, and both relative and biological male leadership are good models for children's educational and behavioral discipline.<sup>(41,42)</sup>

Adolescent guardians' education level data was affected by recall bias (48.9%). This is because it is information from the past and about a third person. This result differs from the existing literature, which states that teenage pregnancy is more frequent within families in which the heads have a low level of education.<sup>(14,43)</sup> Low education or illiteracy limits the participation of parents in the teaching and learning process of their children. In addition, poor education level also conditions work opportunities.<sup>(44)</sup> The relationship between education level and employability is positive; the best academic qualification attracts an excellent job opportunity.<sup>(45)</sup> In the present study, most heads of households were engaged in agriculture and commerce, with agriculture practiced in the same proportion as skilled work. This result is a faithful reflection of the social reality of the Municipality of Malanje, where agriculture and food are the main means of production for the population, and the state is the main employer.

As for the family history of teenage pregnancy, the result of the present study is in line with the existing literature, and adolescent pregnancy occurs more in families with a history of the phenomenon (69.3%). This result is similar to the previous study, where 73% of pregnant teenagers had a sister history of early pregnancy.<sup>(12)</sup> Generally, pregnant teenagers do not achieve high academic aspirations, which puts them at a disadvantage in job opportunities; as a result, adolescent children may grow up in environments of poverty. This situation allows the new generation to repeat the phenomenon. It also happens between sisters. They may be exposed to the same social risks and serves as a model for others.

<sup>(46,47)</sup>

In the present study, psychological aggression and behavioral punishment (81.9% and 51.8%) were the most common mistreatment type suffered by the participants. On the other hand, few adolescents experienced at least one act of physical violence. The preference for acts of punishment rather than violence may depend on the age of the caregiver and the adolescent in question.<sup>(48)</sup> Generally, using aggressiveness makes the caregiver-adolescent relationship less trusting and negatively impacts future planning.<sup>(49)</sup> In the United States, a study showed that about 61.89% of pregnant adolescents suffered at least one act of abuse, and the bivariate analysis found that the risk of getting pregnant is 66% higher for victims of domestic violence in their study.<sup>(50)</sup> Similarly, another study had 76.25% of pregnant adolescents who suffered some act of violence in the family context, but there was no statistically significant difference in the multivariate analysis.<sup>(43)</sup> Both studies differ from the present study. The first is to treat all maltreatment types as a single group; the second considers violence committed by any family member. Despite these differences, there is a clear need for studies of the association between early pregnancy and the different types of mistreatment in the future.

This study is limited to the context of the municipality of Malanje, specifically for primiparous adolescents aged between 15-19 years. Although there is a relatively higher number of respondents in the categories level of complete primary schooling, single-parent family, agriculture, family history of early pregnancy, and psychological aggression, the present study did not allow an analysis of associations between variables to identify relationships and estimate risks. The use of retrospective data allowed the introduction of recall bias in the study on variables such as the guardian's education level and family history

of early pregnancy. It is a study carried out in a context where there is no population base or databases, which somehow caused difficulties in the sample selection technique.

## CONCLUSION

There should be further scaling up of sexual and reproductive health interventions for adolescents in peri-urban and rural areas and promote the access and continuation of school attendance among adolescents. Local speeches on the consequences of early motherhood and the use of contraceptive methods should be frequent because few numbers separate the cases of planned and unplanned pregnancies. In future times, it will be interesting to carry out an association study to evaluate the relationship between teenage pregnancy and family types since there is not much difference in the number of pregnant adolescents coming with or without both parents. In the same vein, the finding that the majority of adolescents have a family history

of early pregnancy allows us to formulate the hypothesis that perhaps there is no difference in family history between pregnant and non-pregnant adolescents. Other studies need to confirm and assess how those family issues can predict the phenomenon in the municipality of Malanje.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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