

the women were housewives and belonged to the lowest socioeconomic strata.

According to the Ministry of Justice and Human Rights – Intersectoral Commission for the Preparation of National Human Rights Reports Angola still sees a significant difference in terms of minimum wage levels in the different sectors, in addition to verifying the lack of information available to assess whether these minimum wages are sufficient to ensure a dignified life for workers and their families. The informal economy is characterized by precarious working conditions, which include low wages, lack of workers' rights and lack of coverage or social protection [9-13]. The report by the Ministry of Justice and Human Rights lists the employed population from 2009 to 2011, which states that in 2009, 25% of women worked in wholesale and retail trade; in 2010 this number rose to 26.6% and in 2011 this number drops slightly to 25.5%. The unemployment rate among women in 2014 was 24.9% when analyzing this rate by age (36.7%) of unemployed women were aged between 15 and 19 years and 24.3% were aged between 30 and 34 years old, which represent the highest percentage of women in our study. Based on the anthropometric data of the study participants and taking into account the pre-gestational body mass index (BMI), it was observed that although the majority of women in the pre-gestational (62.56%) and gestational (54.97%,) phase were eutrophic, a good representation of pregnant women was overweight (28.07%) and obesity (15.28%), which indicates the need for supervision and nutritional counseling, since excess weight may not be associated with a balanced diet in terms of nutrients, as seen in table 4, 84% consumed all types of food that included carbohydrates, proteins, vitamins, lipids and minerals without restriction, the basis of the diet is centered on the consumption of complex carbohydrates due to the influence of cultural gastronomic habits, most of the pregnant women reported the consumption of a specific carbohydrate made with corn flour or funge (cassava flour pudding) that was usually accompanied by meat or fish that was prepared with palm oil (palm oil) and accompanied with some herb. Although the pregnant women consumed all types of food due to their low purchasing power, they reported that they did not vary their meals but were also limited by the economic factor, which limits the purchasing power of food in quantity and quality. Intersectoral National Human Rights Reporting points out that despite the process of improving social conditions since 2002, Angola still faces major challenges in reducing poverty, unemployment and increasing the unemployment rate and human development. Poverty derives from the situation of deprivation of some dimensions of citizens' well-being, such as limited access to health services, low human capital, inadequate housing, malnutrition of certain goods and services. Regarding the characteristics of maternal nutritional status, a strong and positive correlation was observed between the variable current weight and pre-

gestational BMI (RR=0.9) and current weight and gestational BMI (RR=0.8), like this significant statistical differences with respect to pre-gestational BMI and current weight ($p<0.007$), and between gestational BMI and current weight ($p<0.0003$), which corroborates the pattern of food consumption of the women in the study. The study carried out by Widen et al. (2019) shows that in longitudinal models, HIV-infected women had lower weight ($p=0.003$), fat mass ($p=0.02$), fat-free mass ($p=0.01$), triceps skinfold ($p<0.001$), arm fat area ($p<0.001$) and mean arm circumference ($p=0.001$), but not arm muscle area ($p=0.34$), in all comments. Food insecurity was inversely associated with arm muscle area and mean postpartum arm circumference ($p<0.05$). Of the pregnant women who participated in the study, 131 (76.61%) were aware of their serological status before pregnancy, which can mean a positive advantage, so that most of them (99.42%) took regular antiretroviral treatment (ART) and nutritional supplementation (97.66%) (unpublished data). In the study conducted by Fouche, Niekerk and Plessis (2018) pregnant women infected with HIV 38 (51%) took ART. ART during breastfeeding represents one of four approaches to preventing mother to child transmission (PMTCT) of HIV regardless of CD4+ count (UNAIDS, 2012). In a review study in Sub Saharan-Africa reality, conducted by Nyoni, Sweet, Clark and Ward (2019) identifies correct learning and understanding about infant feeding practices in HIV positive women as a good point to the success in the breastfeeding process. For this to happen, mothers must be educated about the harm caused by HIV transmission through breast milk, since the transmission through breastfeeding still contributes to almost 50% of pediatric HIV infections every year. The mechanism that drives mothers' choice for exclusive breastfeeding is mainly the desire for child survival. But this process occurs best when the woman receives the necessary support from her partner and health professionals during the process and then when it comes time to introduce other foods, and she makes assertive choices that do not harm the child's nutrition. By the other hand, 23.39% of the pregnant women who participated in the study were aware that they were seropositive after pregnancy, showing that interventions is needed and may include better efforts to strength HIV control programs, since there are many pregnant women probably living with HIV even though they are unaware of their own infection.

Conclusion

During the elaboration of the work we could see that the pregnant women who participated in the study have their anthropometric indices measured, but they didn't receive any feedback of such information or nutritional guidance during pregnancy. So, we drew attention to the need to expand nutritional care to HIV-positive pregnant women, through the creation of a scheme of nutritional follow-up throughout the prenatal, by the presence of overweight and obesity in the

women in the study. We also suggest carrying out studies that verify the relationship between nutritional status, associated with adherence to antiretroviral treatment and viral load measurement, as factors that favor breastfeeding by HIV positive women.

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Authors' contributions

Maura Eunice João Filipe contributed to data collection, data analysis, and drafting of the manuscript. Marli Stela Santana supervised the study and participated in the drafting of the manuscript.

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Availability of data and materials

The data sets used and/or analyzed during the current study are available with the corresponding author upon reasonable request.

Consent for publication

The authors consent to the publication of the results.

Conflicts of interest

The author declares no conflicts of interest.

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