

FEATURES OF MOTHERHOOD IN A POPULATION OF MOZAMBIQUE: IDENTIFICATION OF FACTORS ASSOCIATED WITH TEENAGE MOTHERHOOD

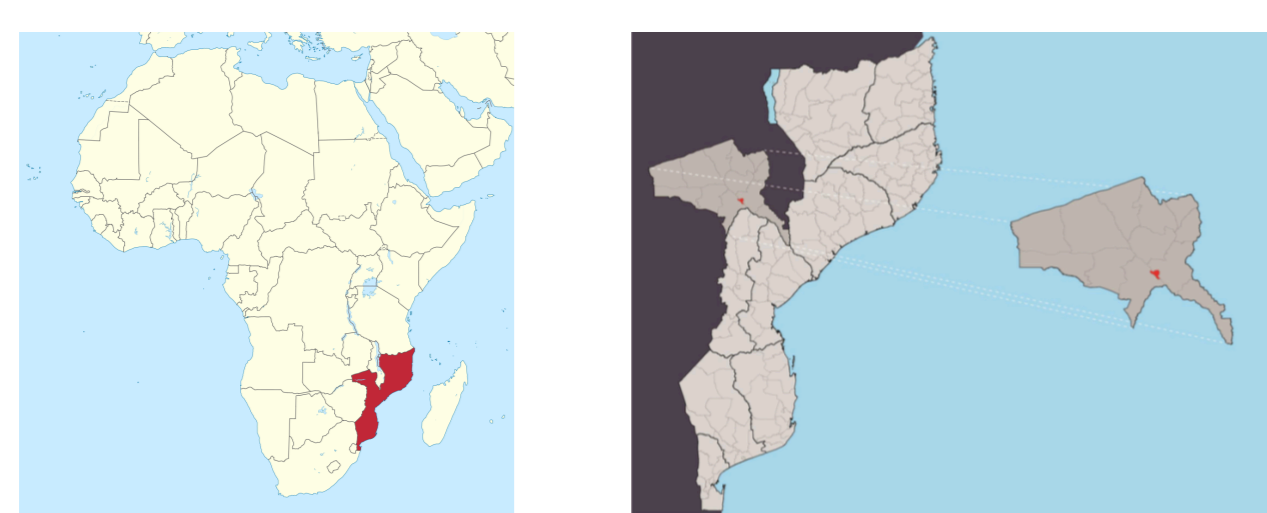
Author: Ester Saavedra Sanjuán Pedro Saavedra Santana, Gloria Gonzalez Azpeitia, Loida Maria Garcia

INTRODUCTION

Mozambique is a country located in southern Africa and has an estimated population of 29.7 million of people [1] and the 45% of the population is aged less than fifteen years old [2]. The number of physicians in the National Health System in Mozambique is approximately 7.23 physicians per 100,000 inhabitants [3], putting Mozambique in position of one of the worse countries according to the World Health Organization (WHO).

This is why an international cooperation project named ULPGC-UniZambeze arised. The University of Zambeze, in city of Tete, did not dispose of enough qualified medicine professors who could insure the medical students' formation, because of the scarcity of specialist doctors abled to teach the second cycle program subjects. The project follows the old aphorism "do not give them fish, teach them how to fish".

Province of Tete is located in the center of the country, and is part of Mozambique's rural areas. In 2014 its population was estimated in 2.418.581 habitants [2]. The capital, city of Tete, had in 2013 an estimated population of 198 thousand habitants [4].



Mozambique and Province of Tete

TEENAGE MOTHERHOOD IN MOZAMBIQUE

Pregnancies in teenage motherhood are considered to be high risk due to the potential adverse outcomes to both the mother and the newborn. Mozambican women often start childbearing at a young age and have a high fertility rate of 5.2 deliveries [5]. The United Nations Population Fund (UNFPA) [1] estimated an adolescent birth rate of 167 per 1.000 women aged 15 - 19 years old (2006 - 2015); in Tete, 38.2% gave childbirth before 18 years old and 7.9% before 15 years old did. In 2011 in Mozambique, fertility was higher in the age groups 15-19 and 20-24. The adolescent birth rate in low-income countries is five times higher than that in high-income countries and more than double the rate in middle-income countries. In some countries, including Mozambique, the traditional customary practice of "child marriages" contributes to these risks.

Unpublished data from the records of Mozambican Association for Family Development (AMODEFA) indicate that from 2010 to 2016 a total of 70,895 women had an induced abortion in this clinic, of which 43% were aged 15 to 24. [8]

The control of pregnancy is also minor in adolescents. Only around 60 % of deliveries occur at health facilities. It is a common practice to attend the first antenatal care (ANC) visit after completion of the first trimester. Women access health services only in the advent of illness. Elders advise pregnant women to use traditional methods to guarantee positive pregnancy outcomes.

Pizzol et al [6] relate the Human Immunodeficiency Virus (HIV) prevalence rate is 4-5% amongst adolescents and 25% among women 25 years and older.

In Mozambique, pre-eclampsia and eclampsia constitute the third major cause of maternal death in the country [12]. Annually 62,000 to 77,000 women and 500,000 infants die as a result of the Hypertensive Disorders of the Pregnancy (HDP) worldwide.

In relation to the newborns, Bacci et al [7] refer that the prevalence of low birthweight (< 2500 g) corresponding to women under 19 is of 21.7%, while among older women is 15.5%.



Mozambican teenage women

AIMS

The purpose of the research is to identify the factors associated with the teenage motherhood. For this aim, we used a dataset corresponding to 821 pregnant women who gave delivery in the maternity section of the Provincial Hospital of Tete.

MATERIAL AND METHODS

This study was realized in the Tete Provincial Hospital, in City of Tete. It was carried out in the maternity service, among the dilatation and puerperium rooms.



Tete Provincial Hospital. Dilatation rooms.

This is a cross-sectional study in which 821 pregnant women, aged 13 to 45 years old, from Tete (Mozambique) were included. A woman was considered as teenager when her age was less than 20 years. Data was collected through cumplimentation of a survey which collected information about personal and obstetric history of women, their actual gestation follow-up, the events around the delivery and the newborn characteristics. A written informed consent was provided to the women before delivery.

For statistical analysis: univariate analysis, multivariate logistic analysis and additive models for the age effects (Figure 2) were set up.

MOTHER'S VARIABLES	DELIVERY VARIABLES	NEWBORN'S VARIABLES
Age	Number of pregnancies	Newborn's weight
Body Mass Index	Control of Pregnancy	Apgar 1 minute score
Arterial Hypertension	Episiotomy	Neonatal Respiratory Distress
Human Immunodeficiency Virus	Hypertensive Disorders of Pregnancy	Newborn death
Previous abortions		

RESULTS

From the 821 women, 255 (31.1%, 95% CI = 27.9% - 34.2%) were adolescents. The **body mass index** (BMI) was significantly lower in teenage mothers ($p = 0.001$). **Arterial hypertension** was significantly lower in the teenage mothers ($p = 0.011$). The prevalence of **HIV** infection was 12.5% (95% CI = 10.3% - 14.8%). This result is consistent with the published data of the population of Mozambique for the period 1999-2012 (see figure 1). However, this prevalence was significantly lower in adolescents (4.8% vs 16%; $p < 0.001$).

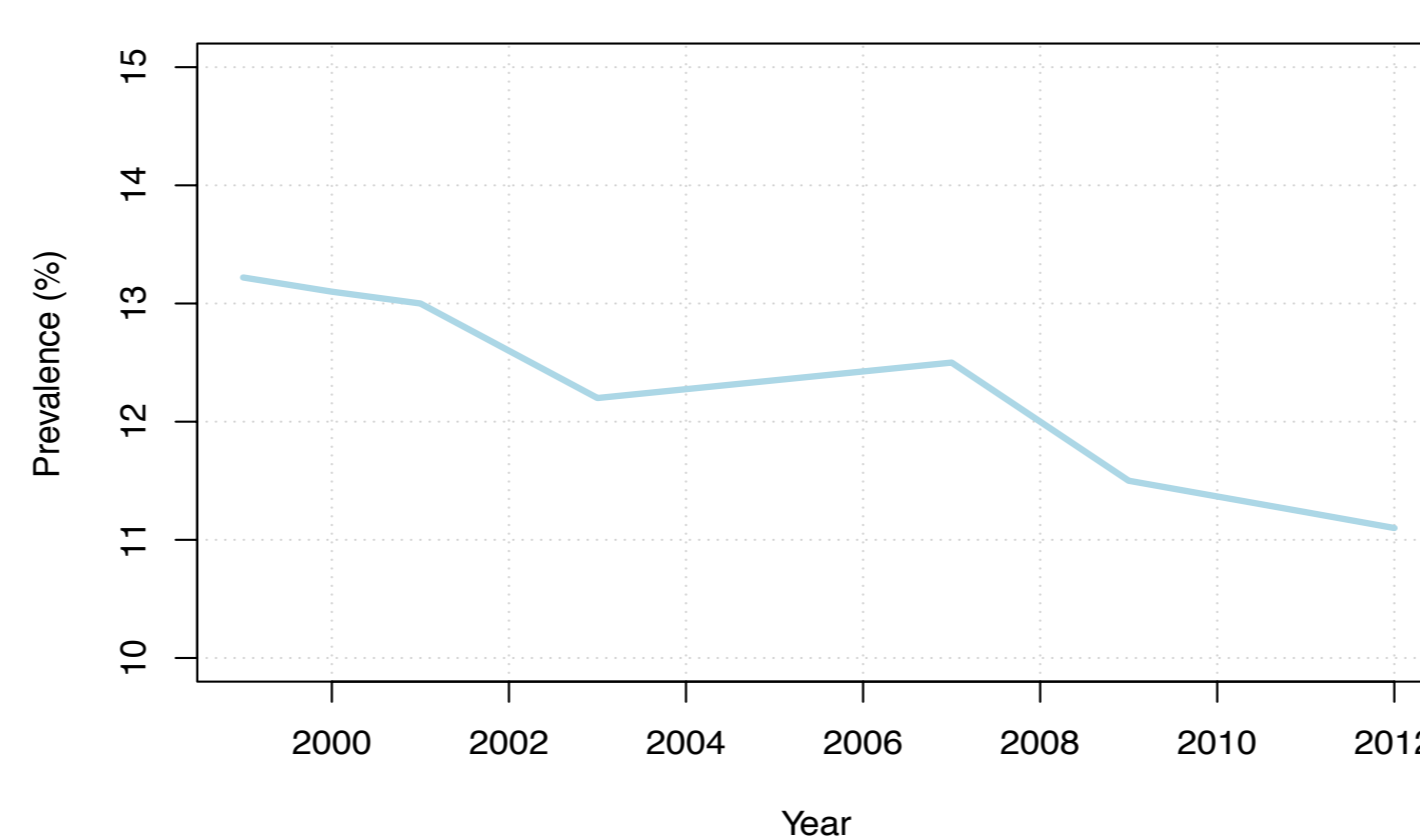


Figure 1. Evolution of HIV prevalence in Mozambique

The prevalence of **previous abortions** in teenage mothers was 6.7% while in women over 20 years was 20.7%, being the difference statistically significant ($p < 0.001$). The median of **number of pregnancies** was higher among adult women (3 vs 1; $p < 0.001$). **Control of pregnancy** was significantly lower for adolescents (42.6% vs 63.0%; $p < 0.001$). **Episiotomy** was more frequent in teenagers (14.7% vs 3.4%; $p < 0.001$). The median of **birth weight of adolescent mother's babies** was significantly lower (2.9 kg vs 3 kg; $p < 0.001$). Also, the median of **Apgar 1-m score** of the infants of teenage mothers was lower (8 vs 9; $p = 0.047$). The **neonatal respiratory distress** (NRD) was more frequent in the infants of teenage mothers (9.7% vs 4.6%; $p = 0.007$).



Newborn with nasal cannula

Multivariate analysis showed that the factors with independent association with the **teenage motherhood** were the **number of pregnancies** (OR per unity = 0.057; 95%CI = 0.033 - 0.098), the **previous abortion** (OR = 5.889; 95%CI = 2.365 - 14.661) and **control of pregnancy** (OR = 0.290; 95% CI = 0.173 - 0.488).

In those women who have only had a previous pregnancy, such pregnancy resulted in abortion in 39.5% of adolescents compared to 13.6% in the opposite group. **Respiratory distress** was not included in the model, but this is attributable to the strong association of this variable with **previous abortions** (OR = 0.102; 95% CI = 0.014 - 0.744). **Apgar 1-m score** was neither included, but now is due to its association with the control of pregnancy ($p < 0.001$).

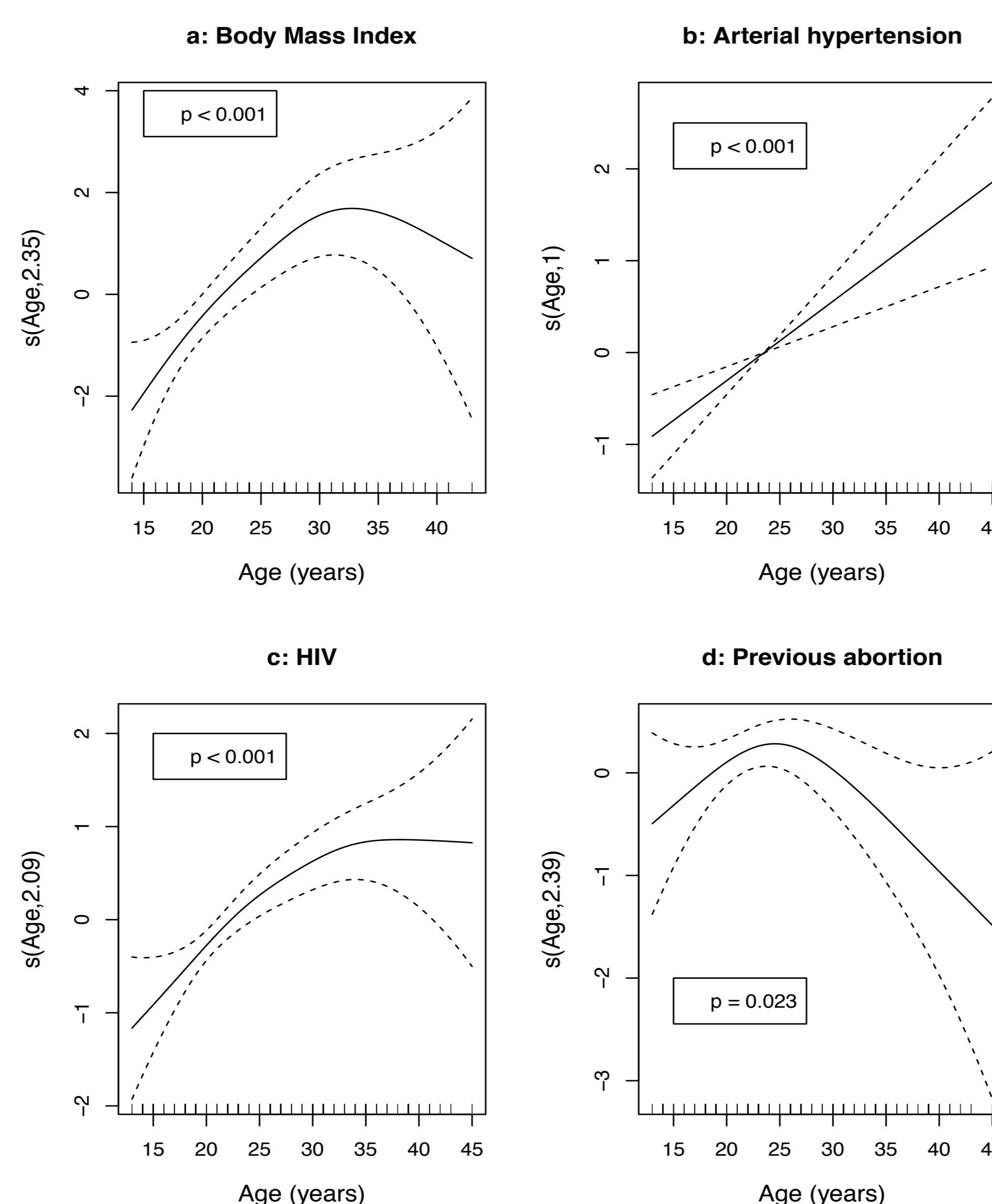


Figure 2: Effect of the mother's age on several factors corresponding to her history. Previous abortion was adjusted by the number of pregnancies.

ABSTRACT

Aims. To identify the factors associated with the teenage motherhood in Tete (Mozambique).

Methods. This is a cross-sectional study in which 821 pregnant women were included. Of these, 255 were under 20 years old and were considered teenage mothers.

Results. Multivariate analysis showed that the factors with independent association with the **teenage motherhood** were the **number of pregnancies** (OR = 0.066; 95%CI = 0.040 - 0.110), the **mean arterial pressure** (OR per unity = 0.985; 95%CI = 0.973 - 0.997) and the **previous abortion** (OR = 4.419; 95%CI = 1.931 - 10.112).

Conclusion. Adolescents are physiologically ill-prepared to cope with the burden of pregnancy, and are more susceptible to having perinatal complications.

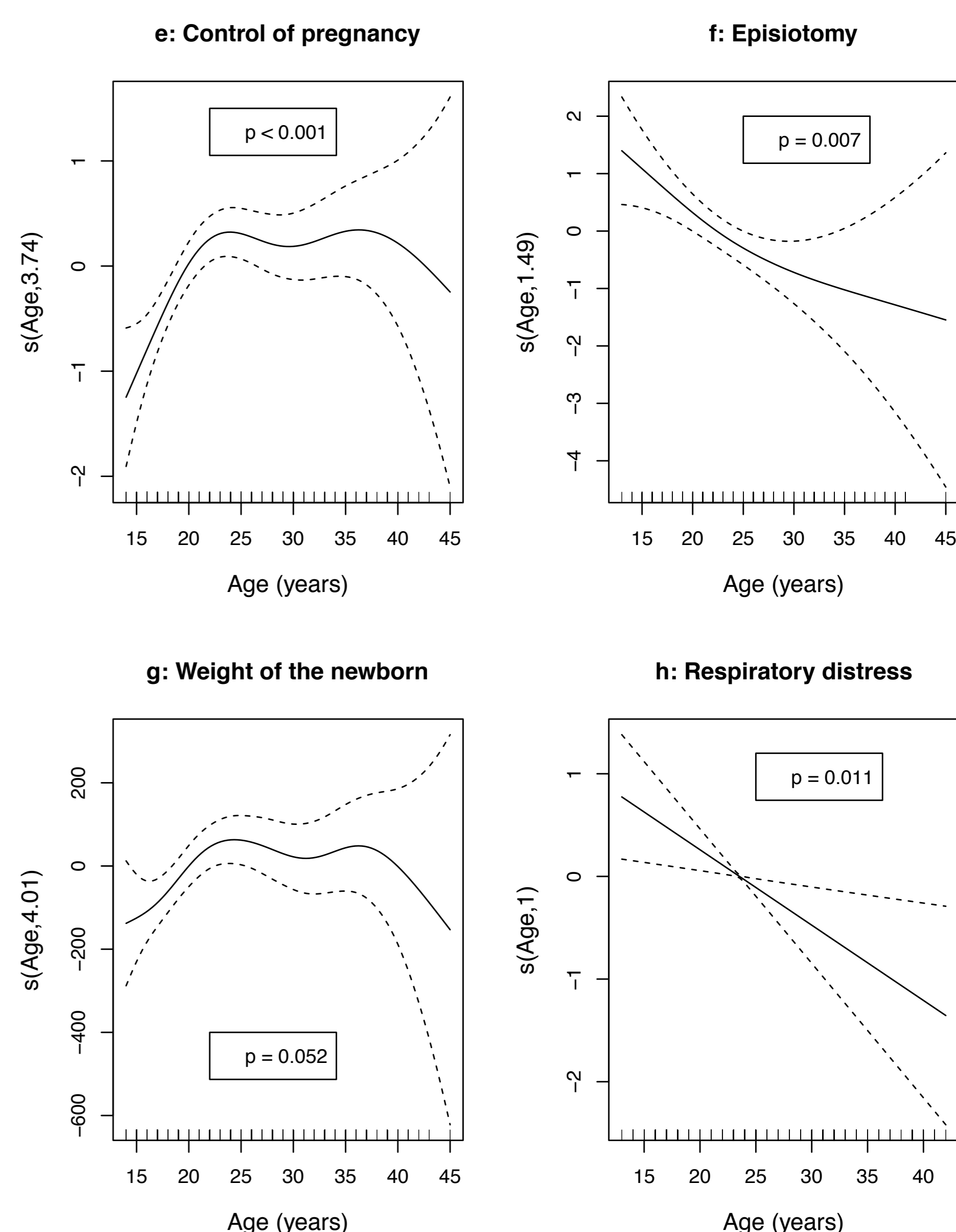


Figure 2: Effect of the mother's age on several factors corresponding to her history. Weight of newborn was adjusted by the week of gestation.

CONCLUSION

Adolescents are generally physiologically poorly prepared to cope with the burden of pregnancy irrespective of their previous obstetric history, and are more susceptible to having perinatal complications. Young maternal age increases the risk for adverse pregnancy outcomes and this finding highlights the need to improve adolescent reproductive health in Tete.

The development of ANC programs and facilitation of early attendance to pregnant adolescents may become a priority to improve adolescent health in Tete. The fact that teenage pregnancy is more susceptible of delivering a newborn with low birthweight, lower Apgar 1-m score and more NRD reinforces the general importance of preventing early childbirths, monitoring teenage pregnant and making an adequate follow-up of pregnancy and delivery for timely intervention.

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