CORRELATION BETWEEN THE LEVEL OF EDUCATION IN PREGNANT WOMEN AND PERINATAL AND OBSTETRIC MORBIDITY IN TETE (MOZAMBIQUE)

UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA
Facultad de Ciencias de la Salud

Authors: Isabel Pérez Guerra, Gloria González Azpeitia

Pedro Saavedra Santana, Loida Maria Garcia Cruz,

Alba Gonzalez Gonzalez

1. INTRODUCTION

Maternal or obstetrician morbidity is defined as "any health condition attributed and/or aggravated by pregnancy and the delivery of birth that has a negative impact in the woman's well being and even could cause her death".
The WHO differentiates according to cause, dividing them between direct or indirect: direct obstetrician causes are those that occur by complications during pregnancy; and indirect obstetrician causes are those that come from pathologies previous to pregnancy or that worsened during pregnancy itself.
Avoidable maternal morbidity is one of the most sensitive indicators of social and gender injustice in the world. Maternal maternity figures are clearly different according to continent, country and region.
Perinatal morbidity is defined as any condition derived from an illness or traumatism that happens during the perinatal period affecting the physical and mental wellbeing of the individual. Perinatal morbidity is closely related to an effective neonatal and maternal care during the whole pregnancy, childbirth and afterbirth period.
It is known the impact of social-demographic factors on obstetrician and perinatal morbidity.

2. OBJECTIVE

The purpose of the study is to analyze if is there a direct relationship between the lack of schooling of the mother and obstetrician and perinatal morbidity at "Hospital Provincial de Tete", Mozambique.

3. MATERIAL AND METHODS

Study area
This study was done at Tete's Provintial Hospital. Tete province is found on the northern part of the central region of Mozambique. Choosing the Tete Province (Mozambique) as study area was established in accordance to the existing specific cooperation agreement between Universidad de Las Palmas de Gran Canaria (ULPGC, Las Palmas University) and the Facultad de Ciencias de la Salud de la Universidad de Zambeze (UniZambeze) signed in 2011.

Study design
A transversal study was performed where 257 women who gave birth in the dilation room of the Provincial Hospital of Tete during the period of time that goes from 16th of July to the 26th of September, 2018.

Data collection
Data collection took place within the period of time from the 16th of July to the 26th of September of 2018 via fulfillment of survey (Anex); survey that gathered information on personal and obstetric history and also sociocultural aspects from the pregnant women.

Inclusion and exclusion criteria
Women gestating multiple pregnancy were excluded to study the variables, including only women who were gestating a lone embryo in order to avoid potential bias within the study. Due to this, the final sample of the study comprises a total of 235 women with gestation. Lastly, command of the portuguese language was considered as a fundamental variable to value level of schooling. It is considered that those mothers who can speak and understand portuguese language must have learnt it at school, thus, showing that they have been schooled and educated. Women who did not want to participate in the study as well as those ones where data collection was not possible were excluded from the study.

5. CONCLUSIONS

-Education level of the pregnant women is a predictor of a lower risk of obstetrician and perinatal complications.
-Gestation control was significantly (p=0.007) lower in the illiterate pregnant women.
-Average height of the newborn was significantly (p=0.020) less in the illiterate mothers newborns.
-Stillbirths frequency was significantly (p=0.020) greater amongst illiterate pregnant women.
-The multivariate analysis showed that factors with independent association with the maternal schooling were the newborn height (OR = 1.186 per cm; 95% CI = 1.070-1.315), and electrical energy (OR = 9.729; 95% CI = 3.397-27.869).
-Schooling can be an accessible, efficient and effective tool for possible interventions that could strategize the literacy of pregnant women and be able to contribute to a better maternal-infantile health level.

ABSTRACT

Introduction: Perinatal and obstetric morbidity are matters of interest for public health and they have a very important impact when it comes to evaluate healthcare services and quality of life of a certain population. Also, intervention in environmental factors may be recognized along with the standard physiological factors that influence this matter. It is relevant the amount of recent studies in this area that highlight the influence of socioeconomic factors in perinatal and obstetric morbimortality.

Objective: To analyze if is there a direct relationship between the lack of schooling of the mother and obstetrician and perinatal morbidity at "Hospital Provincial de Tete", Mozambique.

Methodology: Cross-sectional study in which where evaluated 235 pregnant women.

Results: The average height of the newborn was significantly less in the unschooled mother's newborns (p=0.0020). The literate mother group, presented significantly better living conditions.

Conclusions: Education level of the pregnant women is a predictor of a lower risk of obstetrician and perinatal complications. Factors with independent association with the maternal schooling were the newborn height and electrical energy.

4. RESULTS

The number of women included in the study with one gestation was 235. From these sample, 191 (81,28%) had been schooled, and the other 44 (8,72%) left were not.

Table 1. Characteristics of the gestations.

	Overall	No	Yes	
	N = 235	N = 44	N = 191	P
				0.154
Age, years	21.7 ± 5.8	20.6 ± 5.6	22.0 ± 5.8	
Age years				0.628
<=19	113 (48.1)	24 (54.5)	89 (46.6)	
VIH	22 (9.7)	2 (5.0)	20 (10.8)	0.382
Syphilis	3 (1.3)	0	3 (1.6)	1
Gestational age	38 (37 - 38)	37 (37 - 38)	38 (37 - 38)	0.092
Type of delivery				0.225
Eutocic	166 (71.6)	28 (66.7)	138 (72.6)	
Cesarean section	62 (26.7)	12 (28.6)	50 (26.3)	
Sucker	4 (1.7)	2 (4.8)	2 (1.1)	
Controlled pregnancy	154 (68.8)	21 (51.2)	133 (72.7)	0.007
Maternal fever during delivery	9 (3.9)	5 (11.6)	4 (2.1)	0.012
Malaria	15 (6.4)	3 (6.8)	12 (6.3)	0.205
Preeclampsia	15 (6.4)	4 (9.1)	11 (5.8)	0.492
Eclampsia	6 (2.6)	1 (2.3)	5 (2.7)	1
Uterine rupture	5 (2.2)	3 (7.0)	2 (1.1)	0.048
Previous placenta	3 (1.4)	1 (2.6)	2 (1.2)	0.454
Hysterectomy	2 (0.9)	0	2 (1.1)	1
Episiotomy	19 (8.4)	3 (6.8)	16 (8.8)	1

Table 2. Characteristics of the newborns.

	Overall	No	Yes	
	N = 235	N = 44	N = 191	P
Height, cm	47.6 ± 4.1	45.6 ± 5.7	48.0 ± 3.6	0.002
Cephalic perimeter, cm	34.4 ± 2.6	34.3 ± 3.2	34.4 ± 2.5	0.722
Low Weight at Birth	45 (19.2)	11 (25.0)	34 (17.9)	0.281
Stillbirth	13 (5.6)	6 (13.6)	7 (3.7)	0.020
Severe neonatal asphyxia	19 (8.2)	7 (15.9)	12 (6.3)	0.060
Reanimation	21 (9.0)	6 (13.6)	15 (7.9)	0.074
APGAR M1	9 (8 - 9)	8 (5 - 9)	9 (8 - 9)	0.011

Table 3. Socio-cultural, demographic and geographic aspects of the pregnancy women

	Overall	No	Yes	
	N = 235	N = 44	N = 191	P
Urban	143 (72.6)	19 (52.8)	124 (77.0)	0.003
Profession				< .001
Student	8 (3.7)	0	8 (4.6)	
Housewife	166 (76.5)	35 (81.4)	131 (75.3)	
Trader	11 (5.1)	1 (2.3)	10 (5.7)	
Farmer	8 (3.7)	7 (16.3)	1 (0.6)	
Teacher	10 (4.6)	0	10 (5.7)	
Other	14 (6.5)	0	14 (8.0)	
De facto couple	70 (70.0)	13 (65.0)	57 (71.2)	0.669
Other children	93 (40.4)	16 (37.2)	77 (41.2)	0.822
Family planning	83 (36.9)	12 (30.0)	71 (38.4)	0.319
Age of menarchy	14 (13 - 15)	14 (13 - 15)	14 (12 - 15)	0.792
Portuguese	179 (77.5)	7 (16.3)	172 (91.5)	< .001

Table 4. Characteristics of the living conditions of the pregnancy women: overall and according to literate mother.

	Overall	No	Yes	
	N = 235	N = 44	N = 191	P
Energy	160 (79.2)	19 (51.4)	141 (85.5)	< .001
Wall materials				< .001
Sugar cane	18 (7.9)	9 (21.4)	9 (4.9)	
Brick	148 (65.2)	26 (61.9)	122 (65.9)	
Clay	13 (5.7)	0	13 (7.0)	
Cement	39 (17.2)	2 (4.8)	37 (20.0)	
Cane	7 (3.1)	3 (7.1)	4 (2.2)	
Other	2 (0.9)	2 (4.8)	0	
Place for excretions				0.004
Open air	29 (12.6)	11 (25.6)	18 (9.6)	
Traditional latrine	72 (31.3)	14 (32.6)	58 (31.0)	
Improve latrine	103 (44.8)	16 (37.2)	87 (46.5)	
Improved lavatory with septic tank	25 (10.9)	1 (2.3)	24 (12.8)	
Others	1 (0.4)	1 (2.3)	0	

Table 5. Multivariate logistic regression for the literate mother

	Coefficient (SE)	P	OR (95% CI)
(Intercept)	-7.948 (2.558)	0.002	-
Height of newborn, per cm	0.171 (0.053)	0.001	1.186 (1.070 ; 1.315)
Electric energy	2.275 (0.537)	< 0.001	9.729 (3.397 ; 27.869)