Perceived labour-pain and parity are not determinants of tokophobia amongst birthing mothers: A cross-sectional study

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Abstract

Background: Maternal health experts opine that poor control of labour-pain could result in traumatic childbirth experience which could lead to tokophobia.

Aim: This study examined the association between perceived labour-pain and tokophobia amongst mothers who had normal vaginal birth in University of Port Harcourt Teaching Hospital Nigeria.

Methods: A cross-sectional design was used. A sample size of 218 randomly selected birthing mothers was examined for the study. Fear of childbirth and numeric analogue scale for labour-pain interview questionnaires designed by the research team were used for data collection. Data were collected through face-to-face interview of consenting postnatal mothers at 24–36 h after labour. Collected data were analysed using descriptive and inferential statistics at $P < 0.05$.

Results: About 85.3% of the respondents had severe perceived labour-pain. Only 2.8% of the respondents suffered moderate tokophobia. Occupation was significantly associated with tokophobia ($P = 0.047$) and homemakers (unemployed women) were more likely to suffer tokophobia. Perceived labour-pain, parity and age were not significant determinants of tokophobia ($P > 0.05$).

Conclusion: Severe perceived labour-pain is widespread, whereas tokophobia is not very common in South-Southern part of Nigeria. Tokophobia was predicted by unemployment but not perceived labour-pain, parity and age. Midwives and other obstetric care givers should incorporate mental health services into prenatal care of unemployed women and advocate for adequate analgesia during labour to further reduce perceived labour-pain.

Keywords: Labour, pain, tokophobia, women

INTRODUCTION

Labour-pain is an experience which many birthing women usually undergo in the course of childbirth. It stems from physiological changes that occur in women during childbirth. Nonetheless, not all women experience labour-pain in the same way, manner and intensity.[1] At the peak of labour

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some birthing women may express pain by crying, screaming and stoic-related poise.[2] In certain cultures in Africa, the inability to tolerate labour-pain would signify emotional incompetence.[3] Some mental health experts opine that the stigma that could arise from such societal beliefs could have some impact on a woman's postnatal wellbeing.[4] In addition, some maternal health experts hint that poor control of labour-pain could result in negative and traumatic childbirth experience which could lead to tokophobia.[5]

Tokophobia is a morbid apprehension specific to childbirth. Even when it is considered normal for women to have some reservations regarding the uncertainties of childbirth, morbid fears could prove to be problematic.[6] Some women experience high levels of tokophobia which may be related to prior expectations formed about childbirth.[7] It is envisaged to be responsible for some women wanting to avoid pregnancy and labour regardless of wanting a baby.[8] Some evidence has it that tokophobia could negatively affect maternal wellbeing.[9] It has been documented that unresolved tokophobia is strongly linked to future adverse maternal birth outcome.[10] The remediation of tokophobia may rely on a clear understanding of its aetiology and determinants.

Within the past decade, there has been a growing argument on the aetiology and empirical determinants of tokophobia. Some researchers argue that severe tokophobia results from anticipated intensity of labour-pain for nulliparous women and prior experience of labour-pain for parous ones.[11] Some other researchers refute any link between labour-pain and tokophobia, but suggest an association between previous complicated birth and tokophobia.[6,12,13] In addition, some researchers suggest that parity status is strongly linked to tokophobia.[8,9] Conversely, a few researchers do not support any link between parity status and tokophobia.[11] Based on the fact that majority of the studies on tokophobia were set outside Africa, the need to investigate the nature, aetiology and determinants of tokophobia from the continent's context becomes imperative. This study examined the association between perceived labour-pain and tokophobia amongst birthing mothers in a tertiary hospital in South-Southern Nigeria.

MATERIALS AND METHODS

Design
A cross-sectional design was used for the study.

Study area
The study was carried out in the obstetrics unit of University of Port Harcourt Teaching Hospital (UPTH), Rivers State, Nigeria. It is a tertiary hospital located about 22 km from the Port Harcourt International Airport.

Target population
All 833 third trimester pregnant women (28–39 weeks) registered with UPTH obstetrics unit as at January13, 2020.

Sample
The total sample size determined for the study was 225. The Cochran formula for sample size calculation for cross-sectional studies was used: $N_s = \{[Z^2 \times P(1-P)] \div e^2\}$;[14,15] N_s = minimum sample size; Z = 1.96; P = Pooled prevalence for tokophobia 0.883 from O'Connell *et al*.;[9] e = precision of 5%. The calculated minimum sample was 158. To control threat of attrition, the minimum sample size was increased by 30% using the formula: $N_f = [n_s/(1-0.3)]$;[16] where N_f = final sample size. A final sample size of 225 was hence computed which was about 27% of the target population.

Sampling
Simple random sampling technique was used for enrolment of respondents. A total of 225 different registration numbers of the registered 3rd trimester pregnant women were randomly drawn/generated using the random number function on MS Excel computer programme (Microsoft Inc., USA). The respondents were enrolled when they were in their 3rd trimester of pregnancy.

Instrument
A 15-item fear of childbirth and numeric analogue scale for labour-pain interview questionnaires designed by the research team were used for data collection. Section A had 5 items which extracted sociodemographic information. Section B had 9 items which assessed fear of childbirth using an interval scale (possible total minimum score 9 and maximum 27). It was graded as non-morbid (9–15), moderately morbid (16–21) and highly morbid (22–27). Section C had 1 item which measured in ratio scale the perceived pain during labour using a numeric analogue scale (min 0 and max 5). It was graded as: no pain (0–0.9), mild pain (1–1.9), moderate pain (2–2.9), high pain (3–3.9) and severe pain (4–5.0).

Validity of instrument
The instrument was submitted to five midwifery researchers who scored each interview item as relevant (1) or not-relevant (0). Agreement between raters was calculated. Item validity index was ≥0.8 for all items and content validity index was 0.92, so the instrument was considered valid.[17]

Reliability of instrument
The instrument was pre-tested on 20 postnatal women who had given birth in UPTH in the month of December 2019. Twenty copies of the instrument were numbered from 1

to 20, then administered verbatim by the research team 24–36 h after childbirth. Collected data were analysed using Guttman split-half correlation statistics. Reliability index of 0.801 and 0.835 for fear of childbirth and perceived labour-pain domains were computed, so the instrument was considered reliable.[17]

Data collection

After the enrolled 3rd trimester pregnant women (respondents) had given birth, data were collected from each consenting postnatal mother (24–36 h after childbirth) between 3rd February and 30th April, 2020. Face-to-face interview-style data collection method was employed. Their responses were immediately documented by trained research assistants.

Data analysis

Collected data were summarised with descriptive statistics. Fisher's exact test was used for test of hypotheses at 5% level of significance. Data analyses were done with SPSS version 21 (IBM Chicago, IL, USA).

Ethical considerations

The protocol of this study was approved by the University of Port Harcourt Research Ethics Committee (Protocol Clearance Number: UPH/CEREMAD/REC/MM69/010). Informed consent was obtained from respondents after explanation of the aim of the study. Their anonymity was ensured throughout the study and all collected data were utilised as approved.

RESULTS

A total of 218 copies of the instrument were completed. The study suffered some attrition as three enrolled women had C-section and four others gave birth outside UPTH, and so were not interviewed to limit variation in quality of care received by respondents (attrition rate 3.1%). All 218 completed questionnaires were subjected to data analysis. Table 1 shows the socio-demographics of respondents; their mean age was 28.1 ± 4.7 years old. More than half (55%) were multiparous and about 43% were civil servants. Table 2 shows the perceived labour-pain amongst the respondents; 85.3% had severe perceived labour-pain (mean 4.7 ± 0.7). Table 3 shows tokophobia amongst the respondents; 97.2% had non-morbid tokophobia (mean 10.4 ± 1.5). Only 2.8% suffered moderate tokophobia (score range 16–21). Table 4 shows determinants of tokophobia; perceived labour-pain, parity status, age and educational level were not significant determinants of tokophobia ($P < 0.05$). Nevertheless, occupation was significantly associated with tokophobia ($P = 0.047$) as homemakers were more likely to suffer tokophobia.

Table 1: Sociodemographic profile of respondents (*n*=218)

Variable	Categories	*F* (%)	Mean±SD
Age (years)	20-29	113 (51.8)	
	30-39	99 (45.4)	
	40-49	6 (2.8)	
	Mean age		28.1±4.7
Marital status	Married	218 (100)	
Educational level	Primary	9 (4.1)	
	Secondary	100 (45.9)	
	Tertiary	109 (50.0)	
Parity status	Primipara	98 (45.0)	
	Multipara	120 (55.0)	
Occupation	Trading	41 (18.8)	
	Farming	15 (6.9)	
	Homemaker	68 (31.2)	
	Civil servant	94 (43.1)	

SD: Standard deviation

Table 2: Perceived labour-pain amongst postnatal mothers (*n*=218)

Variable	*F* (%)	Mean±SD
Perceived labour pain (0-5)		
No pain (0.0-0.9)	-	
Mild pain (1.0-1.9)	-	
Moderate pain (2.0-2.9)	24 (11.0)	
High pain (3.0-3.9)	8 (3.7)	
Severe pain (4.0-5.0)	186 (85.3)	
Mean		4.7±0.7

SD: Standard deviation

Table 3: Tokophobia amongst postnatal mothers (*n*=218)

	Categories	*F* (%)	Mean±SD
Tokophobia			
Lack of confidence talking about childbirth	Low (score 1)	194 (89.0)	
	Undecided (score 2)	19 (8.7)	
	High (score 3)	5 (2.3)	
Lack of happiness talking about childbirth	Low (score 1)	199 (91.3)	
	Undecided (score 2)	19 (8.7)	
Lack of relaxed feelings talking about childbirth	Low (score 1)	212 (97.2)	
	Undecided (score 2)	6 (2.8)	
Afraid when talking about childbirth	Low (score 1)	182 (83.5)	
	Undecided (score 2)	30 (13.8)	
	High (score 3)	6 (2.8)	
Tense when talking about childbirth	Low (score 1)	182 (83.5)	
	Undecided (score 2)	28 (12.8)	
	High (score 3)	8 (3.7)	
Lonely when talking about childbirth	Low (score 1)	175 (80.3)	
	Undecided (score 2)	27 (12.4)	
	High (score 3)	10 (4.6)	
Deserted when talking about childbirth	Low (score 1)	195 (89.4)	
	Undecided (score 2)	22 (10.1)	
	High (score 3)	1 (0.5)	
Abandoned when talking about childbirth	Low (score 1)	196 (89.9)	
	Undecided (score 2)	13 (6.0)	
	High (score 3)	9 (4.1)	
Lack of excitement when talking about childbirth	Low (score 1)	185 (84.9)	
	Undecided (score 2)	18 (8.3)	
	High (score 3)	15 (6.9)	
Summary			
Tokophobia based on sum score	9-15 (non-morbid)	212 (97.2)	
	16-21 (moderate)	6 (2.8)	
	22-27 (morbid)	-	
Tokophobia based on Sum score	Mean		10.4±1.5

SD: Standard deviation

Table 4: Determinants of Tokophobia (*n*=218)

Variable	Tokophobia based on sum score, *F*		Df	Fisher	*P*	Interpretation
	9-15 (non-morbid)	16-21 (moderate)				
Perceived labour-Pain						
Moderate pain	24	-	2	1.89	0.390	Not significant
High pain	8	-				
Severe pain	180	6				
Parity status						
Primipara	95	1	1	1.92	0.230	Not significant
Multipara	115	5				
Age (years)						
20-29	110	3	2	0.20	0.904	Not significant
30-39	96	3				
40-49	6	-				
Educational level						
Primary	9	0	2	1.18	0.555	Not significant
Secondary	96	4				
Tertiary	107	2				
Occupation						
Trading	41	-	3	7.964	0.047	Significant
Farming	15	-				
Homemaker	63	5				
Civil servant	93	1				

Decision rule: *P*<0.05=significant

DISCUSSION

This study found that most of the respondents had severe perceived labour-pain (85.3%, mean = 4.7 ± 0.7). This finding was in line with a study which noted that 84.5% of women perceived severe labour-pain (mean 6.6 ± 2.3 primipara and 6.7 ± 2.1 multipara).[5] The similarity in findings was expected since both studies utilised the numeric scale for assessing labour-pain. This study was also supported by another study that found that 61.7% women perceived severe pain during childbirth and reported 91 out of a maximum score of 100 on the McGill Pain Questionnaire Scale.[18] This finding would suggest a need for more adequate analgesia for women during childbirth.

This study found that very few of the respondents suffered moderate tokophobia (2.8%), which implies that tokophobia is a rarity amongst the studied population of South-Southern Nigeria. This deduction did not corroborate an Irish study that found that prevalence of tokophobia ranged from 37.9% to 50.4%.[9] The disparity in findings between respondents examine in both studies could be explained by the underlying social and cultural factors that are present alongside the natural process and pain of childbirth. In addition, this finding was not supported by a Malawian study which found that 41% of postnatal women reported moderate tokophobia.[12] The dissimilarity in findings could be connected to differences in method of data collection utilised in the study. The Malawian study employed a self-report instrument for data collection, whereas this study collected data through interview. In the presence of illiterate respondents, a self-report instrument could generate inappropriate responses that may not give a reliable representation of the phenomenon in question. On the other hand, interview as used in this study might have stimulated Hawthorne effect, a situation where respondents change their behaviour with the aim of impressing the interviewer.

This study found that unemployed women (homemakers) were more likely to suffer moderate tokophobia ($P = 0.047$), which would suggest a need for the integration of mental health services into prenatal care for unemployed women. This finding corresponded with a study in Malawi that reported that unemployment was significantly associated with a higher level of fear of childbirth/tokophobia ($P = 0.001$).[12] In addition, this finding partially contradicted two previous studies which reported that employed women had greater odds of tokophobia, but essentially suggested an association between occupation and tokophobia.[19,20] Furthermore, this finding completely contradicted a Turkish study which hinted that being unemployed (homemaker) was not significantly associated with tokophobia.[11] The equivocal results from previous studies regarding the link between unemployment and tokophobia may require more rigorous examination to elicit an understanding of such associations amongst women in South-Southern Nigeria.

This study found that perceived labour-pain, parity status, age and educational level were not significant determinants of tokophobia ($P > 0.05$). This finding was in line with two studies that found no independent significant association between age, parity and tokophobia.[11,12] The correspondence in findings was not surprising since

the studies utilised a cross-sectional research design to describe a snapshot in time of the phenomenon. On the contrary, this finding did not agree with an Indian study which found a significant association between parity and tokophobia.[8] This discrepancy in findings was expected as the studies differed in sampling strategy. The Indian study utilised consecutive sampling technique which is a non-probability sampling method. Non-probability sampling could result in a largely skewed sample as it does not offer equal chance of selection to all members of the target population. Furthermore, this finding did not concur with a Portuguese study which found that parity was a determinant of tokophobia but not perceived labour-pain.[21] The dissimilarity in findings could be due to the longitudinal design used in the Portuguese study. Longitudinal design enables multiple snapshots of data collection which may play a more validatory role.

Limitation of the study

The major limitation of this study is the design. This study utilised a cross-sectional design which has the limitation of poor control of confounding variables such as type and strength of analgesia deployed by clinician and skill of caregiver. The fore mentioned may have threatened the conclusion validity of this study as it imposed a fair chance of committing type 1 error. An experimental design could have been more appropriate for a study of this nature.

CONCLUSION

The prevalence of tokophobia is very low in South-Southern Nigeria. Tokophobia was found to be significantly predicted by occupation (unemployment), but not perceived labour-pain, parity and age of women. Meanwhile, severe perceived labour-pain seems widespread. Midwives and other obstetric care givers should integrate mental health services into prenatal care for unemployed women and advocate for adequate analgesia during labour to further reduce perceived labour pain.

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Conflicts of interest
There are no conflicts of interest.

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