

Knowledge, acceptability and utilization of epidural analgesia in antenatal clinic attendees at UNIOSUN Teaching Hospital (UTH), Osogbo, Osun State.

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Abstract

Background/Objective: Labour pain is perceived as the most harrowing and agonizing event of a woman's life. Efforts at reducing the pain and making the event less stressful have predated modern obstetric practice. Epidural analgesia has provided effective pain relief in labour for over three decades. Delivery with epidural analgesia is routine for willing parturients in the developing world, however ignorance, cost as well as lack of qualified personnel has made this to be out of reach of the average Nigerian mother. The aim of this study was to assess level of awareness, acceptability, previous utilization and willingness to utilize epidural analgesia in labour following health education.

Subjects/Methods: This cross-sectional study was carried out in the antenatal clinic of UTH, Osogbo. Health education on events of labour and methods of analgesia available was provided to all antenatal clinic attendees between September 2021 and March 2022, following which a semi-structured purpose designed, and self-administered questionnaire was administered to 415 of these women who consented to participate in this study.

Results: The mean age of the respondents was 32.57 ± 4.42 years and mean parity of 1.73 ± 0.96 . 70.8% reported that labour pain was severe. 41.7% were aware of epidural analgesia before the health talk. 3.6% of our subjects had utilized epidural in their last confinement. However, only 47.7% expressed a wish to utilize epidural analgesia in labour.

Conclusion: Awareness of epidural analgesia in study population was passable at 40% however willingness to utilize it was less than average despite health talk and reassurance by their attending obstetric team.

Key words; labour pain, epidural analgesia, awareness, knowledge, acceptability, utilization

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Connaissance, acceptabilité et utilisation de l'analgésie épidurale chez les participants à la clinique prénatale à l'hôpital d'enseignement UNIOSUN (uth), Osogbo, état d'Osun

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Résumé

Contexte général de l'étude/Objectif de l'étude: La douleur du travail est perçue comme l'événement le plus déchirant et le plus angoissant de la vie d'une femme. Les efforts visant à réduire la douleur et à rendre l'événement moins stressant ont précédé la pratique obstétricale moderne. L'analgésie péridurale a fourni un soulagement efficace de la douleur pendant le travail pendant plus de trois décennies. L'accouchement avec analgésie péridurale est courant pour les parturientes consentantes dans les pays en développement, mais l'ignorance, le coût ainsi que le manque de personnel qualifié ont rendu cela hors de portée de la mère nigériane moyenne.

Le but de cette étude était d'évaluer le niveau de sensibilisation, d'acceptabilité, d'utilisation antérieure et de volonté d'utiliser l'analgésie péridurale pendant le travail après une éducation sanitaire.

Méthode de l'étude: Cette étude transversale a été réalisée à la clinique prénatale de l'UTH, Osogbo. Une éducation sanitaire sur les événements de travail et les méthodes d'analgésie disponibles a été dispensée à toutes les participantes à la clinique prénatale entre septembre 2021 et mars 2022, après quoi un objectif semi-structuré et un questionnaire auto-administré ont été administrés à 415 de ces femmes qui ont consenti à participer à cette étude.

Résultat de l'étude : L'âge moyen des répondants était de $32,57 \pm 4,42$ ans et la parité moyenne de $1,73 \pm 0,96$. 70,8% ont déclaré que la douleur du travail était sévère. 41,7 % connaissaient l'analgésie péridurale avant l'entretien sur la santé. 3,6% de nos sujets avaient eu recours à la péridurale lors de leur dernier accouchement. Cependant, seulement 47,7 % ont exprimé le souhait d'utiliser l'analgésie péridurale pendant le travail.

Conclusion: La connaissance de l'analgésie péridurale dans la population de l'étude était passable à 40 %, mais la volonté de l'utiliser était inférieure à la moyenne malgré les discussions sur la santé et le réconfort de l'équipe obstétricale présente.

Mots-clés: Douleur du travail, analgésie péridurale, prise de conscience, connaissance, acceptabilité, utilisation

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INTRODUCTION

Labour pain is reportedly the most harrowing and agonizing event of a woman's reproductive life.^{1,2} Perceived severity of labour pains vary among parturients, however majority agree that it is about the most severe pain they had experienced. It contributes significantly to maternal request for caesarean birth^{3,4}.

Pain management is an important component of active management of labour and strategies for pain control in labour include pharmacological and non-pharmacological methods. Pharmacological methods include Nitrous oxide (Entonox –mixture of inhaled nitrous oxide and oxygen in 1:1), non-opioids analgesics (NSAID, Antispasmodics, Paracetamol, Sedatives), opioids and epidural analgesia. Nonpharmacological methods include-continuous one to one support by the care provider, prenatal information, Music, Aromatherapy, Acupuncture and Acupressure, Birthing balls and postures, transcutaneous electrical nerve stimulation (TENS), water immersion and hypnosis.

Epidural analgesia is regarded by both the Royal college of Obstetricians and Gynaecologists (RCOG) and American College of Obstetricians and Gynaecologists (ACOG) as the gold standard for labour pain with tremendous patient satisfaction reported^{5,6}. It is widely as accepted as being superior to no analgesia or other forms of analgesia in Labour⁷. It is widely available in Nigeria. Anozie et al reported 77.8 % availability in Nigeria hospitals with 100% knowledge among obstetricians⁸. Despite being available, the awareness of epidural analgesia amongst the populace is still low in the country at 20.9-53.6% as reported by various authors⁹⁻¹¹ despite expressed wish for pain free labour¹². Unfortunately, utilization is even lower, a study conducted at FETHA by Anozie et al¹¹ reported awareness level of 43.3% with utilization level of 7.5% and that by Olaleye et al¹⁰ at Wesley guild hospital reported awareness level of 53.6% with utilization level of 7.3%. This reduced uptake and utilization contrasts with reports from the developed countries like United State of America and United Kingdom where virtually all women are aware and uptake is about 60-80%^{5,6}. What is responsible for this reluctance to embrace epidural analgesia despite decades of availability?

Mothers have purportedly associated epidural analgesia with increased risk of caesarean section, assisted vaginal delivery, chronic back pain and prolonged labour¹³. In

reality outcome of labour is dependent on physiologic as well as psychological factors and epidural analgesia has been shown to be safe for both mother and baby.

To our knowledge, the level of utilization of epidural analgesia in labour has not been determined in our centre despite its availability and continued relevance. Therefore, this study aims at assessing level of knowledge, acceptability, and utilization of epidural analgesia in labour among pregnant women attending the antenatal clinic of Uniosun Teaching Hospital, Osogbo.

Therefore the study aimed at assessing the knowledge, acceptability, and utilization level of epidural analgesia in labour among pregnant women attending UniOsun Teaching Hospital Osogbo

MATERIALS AND METHOD

This cross-sectional study was conducted in the antenatal clinic of UTH between September 2021 and March 2022. Health talk on labour and types of analgesia available was provided to all patients who attended the clinic during the study period. 415 participants who gave informed consent were consecutively recruited. This sample size was determined using Sample size formular (Daniel's formular) for prevalence $< 10,000$. $N = Z^2 PQ/D^2$ ¹⁴. We calculated sample size N based on prevalence of awareness (p) of 43.3% from a previous study¹⁰, D is the maximum allowable error margin set at 5% (0.05), while Z is a constant for normal standard deviation which is 1.96 at 95% confidence interval. Allowing for 10% attrition rate, sample size of 414.7 approximately 415 was calculated.

Ethical clearance was obtained from Osun State University, Ethics and Research Committee.

Knowledge of those who were aware of epidural analgesia was classified into good, fair, and poor based on their score in a set of seven questions on epidural analgesia. Those who had a score of at least 5, 4 or 3 were classified as having good, fair, and poor knowledge respectively.⁹

Level of acceptability/willingness to utilize epidural analgesia was assessed after giving brief but concise health talk on epidural analgesia in labour followed by the question “would you consider epidural analgesia when you are in labour?” These women either answered yes or no to this question. Previous use of epidural analgesia was also recorded as utilization.

Inclusion criteria are booked pregnant women who had previous vaginal deliveries

irrespective of the outcome. Their consent was duly sought.

Excluded from this study were unbooked patients, patients in labour and primigravid mothers.

Instrument

The instrument for data collection was a purpose designed, semi-structured, self-administered questionnaire. The questionnaire is divided into 7 sections: Socio-demographic characteristics, perception of pregnant women on labour pain, awareness on obstetric analgesia, awareness on epidural analgesia, knowledge, acceptability, and utilization of epidural analgesia in labour.

Data analysis

The independent variables include socio-demographic variables such as Age, parity, educational status while the outcome variables include awareness and knowledge of epidural analgesia, acceptability, previous utilization of epidural analgesia.

The data obtained was analysed using IBM SPSS statistics version 25 (IBM Corp; Armonk, NY, USA). Continuous variables such as age and parity were summarized as means. The results including knowledge, utilization, acceptability, and awareness of epidural analgesia were presented in frequency tables, charts, and percentages. Chi-square was used to test the association between utilization, knowledge, awareness, and acceptability of epidural analgesia. Logistic regression analysis was used to show relationship between age and utilization and acceptability of epidural analgesia. Level of statistical significance (p value) was set at 5% (0.05).

RESULTS

A total of 415 women filled the questionnaires. They were health educated in groups but answered independently. Table 1 shows the demographic data of the respondents. Their mean age was 32.57 ± 4.42 while mean parity was 1.73 ± 0.96 . Married women constituted 99.5% and 88.4% of these women had tertiary education. Expectedly 90.2% (374) of these women were Yoruba.

Labour pain was reported as very severe by 177(42.7%) (Table 2). Among these, 173 (41.7%) were aware of epidural analgesia in labour and 256 (58.3%) were not aware.

Figures 1 and 2 show women's opinion of severity of labour pains and types of analgesia

known to them. Figure 3 shows the knowledge of epidural analgesia was poor in 43.4%, fair in 41.0% and good in 15.6% of the respondents.

Table 3 shows 198/415 (47.7%) were willing to use epidural analgesia in their labour. The reasons cited for declining epidural analgesia include wish for natural labour in 76/160 (47.5%), exorbitant cost of epidural analgesia 37/160 (23.1%), fear of side effects 36/160 (22.1%), cultural reason 5/160 (3.1%), religious reason 4/160 (2.5%) and bad experience of others 2/160 (1.3%).

Prior utilization of epidural analgesia was in 3.6% (15/415). 11 of these 15 (73.3%) women who had used epidural analgesia before would use it again in their next labour. This is shown in Table 4.

Association between age, level of education, occupation was found to be statistically significantly in relation to knowledge of epidural analgesia. (Table 5) Table 6 shows the association between utilization of epidural analgesia and demographic factors. Level of statistical significance p value was set at 5% (0.05); age, tribe and occupation had p values 0.002, 0.001 and 0.002 respectively.

DISCUSSION

According to ACOG⁵, all parturients are entitled to analgesia and their request is enough consent. Women undergoing labour under supervision of a Physician should not be denied analgesia unless a particular method is contraindicated upon which other methods can be considered⁶. We studied Knowledge, awareness, acceptability, and utilization of epidural analgesia in this population of predominantly well-educated women (88.4% had tertiary education). The proportion of our subjects (41.7%) who knew about epidural analgesia is comparable with reports from earlier studies from Nigeria^{8,9}. This is probably due to similar population of women studied. This is however lower than the over close to 70% knowledge and utilization reported in the more developed countries^{6,14,15}. This differential in perception is directly traceable to consistent education about pain management in labour during the antenatal period and availability^{6,15}.

Despite the relatively high knowledge base, previous utilization was still surprisingly low at 3.6%. This is comparable to a previous study conducted in Nigeria by Ezeonu et al⁸ who reported a utilization level of 7.5% and 7.3% reported by Olaleye⁹. This is probably due to the added cost of care and fear of side effects. Fear of

side effects and cost were the commonest reasons cited for decline this procedure in our trial. This is like findings relatively more affluent countries^{16,17}. This is surprising considering that over 80% of our subjects had tertiary education which should ideally translate to higher earning power.

Sociocultural belief about need to persevere in labour was a significant reason for declining EA and this in tandem with earlier studies in Nigeria and Africa that reported that beliefs about labour are not usually congruent with level of education^{12,13}. Could this be due to the highly religious nature of Nigerians as well as the extended family system which means parents have significant influence on the choice of labour practices of their daughters and daughters-in-law?

Epidural analgesia was acceptable to less than half of the respondents 198/415 (47.7%). While, in the study of Ezeonu et al level acceptability was 70%⁸, while Al Sumi reported acceptability rate of 28.6%¹⁶. This difference may be related to ethnicity of the two populations since majority of our population were Yorubas. Religion does not appear to play a role as our population had comparable population of Muslims and Christians. However, Al Sumi et al¹⁶ studied a predominantly Muslim population while Ezeonu⁸ studied predominantly Igbo Christians. One of the most important reasons for declining this intervention was cost of the procedure and fear of side effects, this is congruent with report from Al Sumi¹⁵.

The source of information on epidural analgesia was mainly from the nurses (115/173; 66.5%), this may be because they spend more time with these antenatal clinic attendees and provide them with health talks to wards achieving the goal of health baby to a happy mother as well as other task shifting and task sharing roles. This further highlights the contribution of nurses and midwives in safe motherhood. Studies have shown that shared decision making in the request for epidural is associated with maternal satisfaction¹⁷.

Age, tribe, and occupation were statistically significantly associated with utilization of EA in our study population. It is also significant that 75% of those who had utilized epidural analgesia were willing to repeat it in subsequent deliveries. This is in keeping with findings from earlier studies^{8,9,15,18}. The willingness to use EA in women who have had it before further reinforces that EA is safe for both mothers and babies as shown in earlier studies¹⁹.

Limitations and Recommendations: The major limitation to this study is that it is a hospital-based study, therefore knowledge and utilization in the community may not be so high as women who present for care in hospitals are known to have more insight. We did not determine the household income of these women but rather used their level of education as an indirect assessment of their cost of living.

A qualitative study may be carried out to assess reasons why patients may accept or not accept epidural analgesia in labour.

We recommend that both nurses and Physicians provide health talk on management of labour and benefits of epidural analgesia to encourage more women to utilize this service. Also, intervention to reduce cost such as coverage of EA by the National Health Insurance Scheme has the potential to make labour more bearable for more women in our environment.

CONCLUSION

Labour pain causes anxiety in most pregnant women. Epidural analgesia is a safe means of making labour a pleasant experience. Improved knowledge about safety and availability of epidural analgesia enhances acceptability while subsidized cost has the potential to improve utilization.

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Table 1 Demographic Data

Variable	Frequency	Percentage
Age group		
21-30yrs	141	34.0
31-40yrs	258	62.2
41-50yrs	16	3.8
<i>Mean ± SD</i>	32.57± 4.42	
Marital status		
Married	413	99.5
Separated	2	0.5
Religion		
Christians	167	40.2
Muslim	248	59.8
Tribe		
Yoruba	374	90.2
Igbo	18	4.3
Hausa	10	2.4
Other	13	3.1
Educational level		
No formal education	2	0.5
Primary	8	1.9
Secondary	38	9.2
Tertiary	367	88.4
Parity		
1-2 children	334	80.5
3-4	76	18.3
5 and above	5	1.2
<i>Mean ± SD</i>	1.73±0.96	
Occupation		
Civil servant	180	43.4
Trader	163	39.3
Housewife	18	4.3
Unemployed	44	10.6
Others	10	2.4
Place of birth		
Home	1	0.2
Mission house	12	2.9
Health centre	23	5.5
Maternity centre	13	3.1
Private hospital	141	34.1
General hospital	70	16.9
Teaching hospital	151	37.3

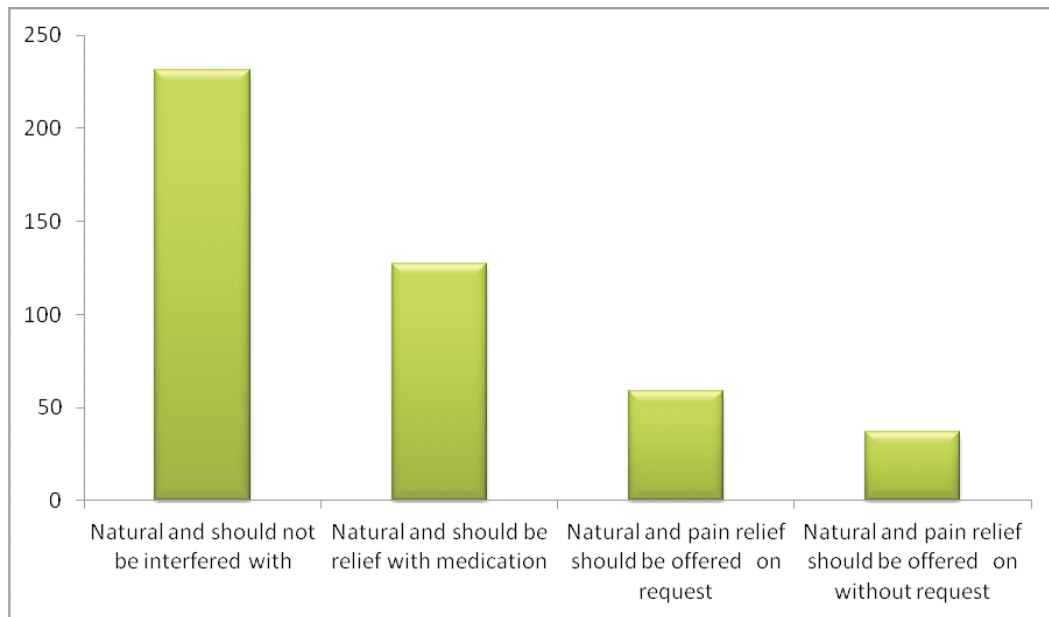


Figure 1: showing respondents views about Labour pain

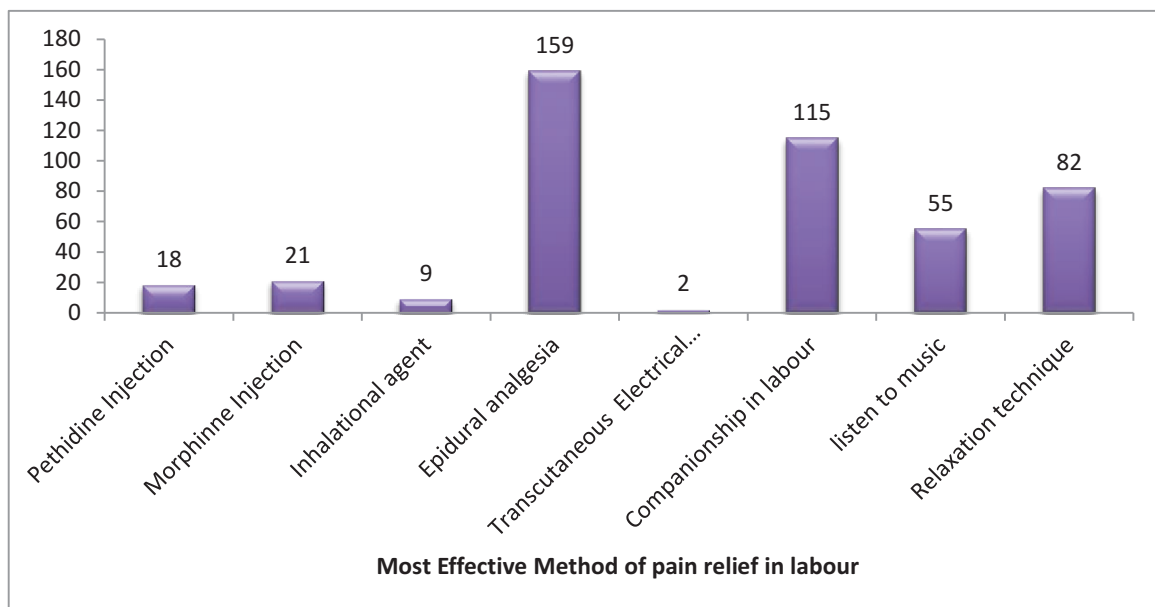


Figure 2: showing type of analgesia that respondents were aware

Table 2 Awareness on Epidural Analgesia in Labour

Variable	Frequency	Percentage
Have you heard about Epidural Analgesia		
Yes	173	41.7
No	256	58.3
Where did you hear about Epidural Analgesia in labour		
Antenatal clinic	123	29.6
Labour ward	24	5.7
Book/Newspaper	14	3.4
Home	0	1.0
Radio/Television	4	0
Internet	8	2.0
Hearing it for the first time	256	61.7
Who told you about Epidural analgesia in labour		
Nurses	115	27.7
Doctor	39	9.4
Friend /relation	19	4.6
Do you know that UniOsun Teaching hospital offers the epidural analgesia in labour?		
Yes	119	68.8
No	0	
I don't know	54	31.2

Table 3 Acceptability of Epidural analgesia in labour

Variable	Frequency	Percentage
Would you consider Epidural Analgesia in labour		
Yes	198	47.7
No	160	38.6
Undecided	57	13.7
If yes, why (N=198)		
My last experience the pain is unbearable	71	35.8
I want to give a try	72	36.4
Labour must be comfortable	51	25.8
Because good experience of those who had epidural analgesia in labour	4	2.0
If No, why (N=160)		
My culture against it	5	3.1
I want natural labour	76	47.5
Fear of side effects	36	22.5
It is expensive	37	23.1
Religious reason	4	2.5
Bad experience of others	2	1.3

Table 4 Utilization of Epidural Analgesia in Labour

Variable	Yes (%)	No (%)
Did you use epidural analgesia in your last delivery	15(3.6)	400(96.4)
If yes, was it UniOsun teaching Hospital (n=15)	9(60.0)	6(40.0)
If yes, do you want to have it again (n=15)	11(73.3)	4(26.7)
If yes, were you satisfied with the outcome in term of pain relief	13(86.7)	2(13.3)
If yes, would you recommend epidural analgesia for pregnant women	13(86.7)	2(13.3)



Table 5 Association between the socio-demographic data and prior knowledge of Epidural Analgesia. N=173, Level of statistical significance (p value) is set at = 5% (=0.05).

Variable	Poor (%)	Fair (%)	Good (%)	X ² value	p-value
Age group					
21-30yrs	28(37.3)	21(29.6)	10(37.0)	18.044	0.001*
31-40yrs	47(62.7)	50(70.4)	14(51.9)		
41-50yrs	0	0	3(11.1)		
Marital status					
Married	75(100.0)	69(97.2)	27(100.0)	2.907	0.234
Separated	0	2(2.8)	0		
Religion					
Christians	40(53.3)	22(31.0)	13(48.1)	7.717	0.021*
Muslim	35(46.7)	49(69.0)	14(51.9)		
Tribe					
Yoruba	66(88.0)	58(81.7)	24(88.9)	7.821	0.252
Igbo	2(2.7)	5(7.0)	3(11.1)		
Hausa	3(4.0)	6(8.5)	0		
Other	4(5.3)	2(2.8)	0		
Educational level					
Primary	0	2(2.8)	0	10.888	0.028*
Secondary	6(8.0)	0	0		
Tertiary	69(92.0)	69(97.2)	27(100.0)		
Occupation					
Civil servant	24(32.0)	36(50.7)	17(63.0)	24.190	0.0002*
Trader	27(36.0)	25(35.2)	5(18.5)		
Housewife	3(4.0)	0	0		
Unemployed	19(25.3)	10(14.1)	2(7.4)		
Others	2(2.7)	0	3(11.1)		

Table 6. Association between demographic variables and Utilization of epidural analgesia n=415

	Yes (%)	No (%)	Df	X ² value	p-value
Age group					
		Utilization of Epidural			
21-30yrs	2(13.3)	139(34.8)	2	12.524	0.002*
31-40yrs	10(66.7)	248(62.0)			
41-50yrs	3(20.0)	13(3.3)			
Marital status					
Married	15(100.0)	398(99.5)	1	0.075	0.784
Separated	0	2(0.5)			
Religion					
Christians	10(66.7)	162(40.5)	1	0.309	0.578
Muslim	5(33.3)	238(59.5)			
Tribe					
Yoruba	12(80.0)	362(90.5)	3	21.323	0.001*
Igbo	0	18(4.5)			
Hausa	3(20.0)	7(1.8)			
Other	0	13(3.3)			
Educational level					
No formal education	0	2(0.5)	3	2.035	0.565
Primary	0	8(2.0)			
Secondary	0	38(9.5)			
Tertiary	15(100.0)	352(88.0)			
Occupation					
Civil servant	2(13.3)	178(44.5)	4	17.037	0.002*
Trader	10(66.7)	153(38.3)			
Housewife	3(20.0)	15(3.8)			
Unemployed	0	44(11.0)			
Others	0	10(2.5)			