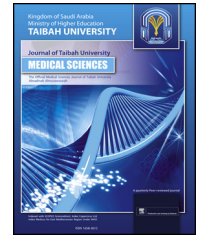Taibah University

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Original Article

Evaluation of obstetric outcomes for women in commuter versus non-commuter marriages: A comparative study

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الملخص

مقابل 3146.4 ± 1645.79) أقل وذات دلالة إحصائية بين النساء في زواج "رحالة العمل" اللاتي يعشن وحدهن مقارنة مع اللاتي يعشن مع آخرين.

أهداف البحث: تحديد النتائج التوليدية للنساء في زواج "رحالة العمل" (عندما يكون أحد الزوجين في منزل الأسرة بينما يسافر الآخر للعمل في مدينة أو دولة أخرى) مقارنة بالنساء في الزيجات العادية، وكذلك تأثير العيش مع آخرين على النتائج التوليدية بين النساء في زواج "رحالة العمل".

الاستنتاجات: ارتبط زواج "رحالة العمل" بنتائج توليدية ضائرة ولكن يبدو أن العيش مع آخرين يساهم في تقليل هذه النتائج الضائرة.

الكلمات المفتاحية: زواج "رحالة العمل"؛ نتائج التوليد؛ نتيجة الحمل؛ الاحتياجات غير الملباة

طرق البحث: تم إجراء دراسة مقارنة مستقبلية، متعددة المراكز، بين مراجعات عيادة متابعة الحمل في زواج "رحالة العمل" (160 امرأة) والزواج العادي (160 امرأة). بعد أخذ الموافقة، تم متابعة المراجعات ومراقبتهن من بداية متابعتهن في العيادة حتى ستة أسابيع بعد الولادة. قياس النتيجة الأولية: النتائج التوليدية (الإجهاض، دخول المستشفى المرتبط بمرض ما قبل الولادة، عمر الحمل عند الولادة، ارتفاع ضغط الدم الناجم عن الحمل، سكري الحمل، ووزن الولادة). قياس النتيجة الثانوية: تأثير العيش مع آخرين على نتائج التوليد. تم تحليل البيانات باستخدام مربع كاي أو اختبار تي حسب الاقتضاء.

Abstract

Objectives: The study aims to determine obstetric outcomes for women in commuter marriages (CoMs) compared to women in non-CoMs, as well as the influence of living-in-companions on the obstetric outcomes.

النتائج: كان الشريك المتنقل هو الزوج (151؛ 94.4٪) بسبب نقل العمل (76؛ 47.5٪) أو العمل الجديد (60؛ 37.5٪). كان هناك ارتباط ذو دلالة إحصائية بين زواج "رحالة العمل" وكل من التأخير قبل الحمل الأول (27 مقابل 15)؛ متوسط عمر الحمل الأعلى (22.19 ± 7.7 مقابل 19.86 ± 6.93)؛ دخول المستشفى المرتبط بمرض ما قبل الولادة (39 مقابل 19)؛ الولادة المبكرة (54 مقابل 11)؛ وانخفاض الوزن عند الولادة (26 مقابل 8). كان متوسط عمر الحمل عند الولادة (35.10 ± 2.53 مقابل 38.00 ± 2.38) ووزن الولادة (2445.0 ± 749.37

Methods: A prospective, multicentre, comparative study was conducted among antenatal clinic attendees in CoMs (160 women) and non-CoMs (160 women). Following consent, participants were recruited and monitored from antenatal booking until six weeks postpartum. The primary outcome measure was the obstetric outcomes (miscarriages, antenatal illness-associated hospital admissions, gestational ages at delivery, pregnancy-induced hypertension, gestational diabetes, and birth weights), while the secondary outcome measure was the influence of living-in-companions on the obstetric outcomes, which was measured by comparing the outcomes in women with those without living-in-companions. Data analysis was conducted using chi-square and t-tests, as applicable; a $p < 0.05$ was significant.

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Results: The commuting partners were males in the majority (n = 151; 94.4%), due to work-transfer (n = 76; 47.5%) or new employment (n = 60; 37.5%). There was a statistically significant association between CoM and delay before index pregnancy (n = 27 vs. 15; $p = 0.047$), higher mean gestational age at booking (22.2 ± 7.70 years vs. 19.9 ± 6.93 years; $p = 0.005$), higher antenatal illness-associated hospital admission (n = 39 vs. 19; $p = 0.004$), preterm delivery (33.8% vs. 6.9%; $p = 0.001$), and low birth weight (16.3% vs. 5.0%; $p = 0.001$). The mean gestational age at delivery (35.1 ± 2.53 years vs. 38.0 ± 2.38 years, $p = 0.001$) and birth weight (2445 ± 749 vs. 3146 ± 1646 g, $p = 0.043$) were lower and statistically significant among women in CoMs without than among those with living-in-companions.

Conclusion: CoM was associated with adverse obstetric outcomes; however, living-in-companions appeared to ameliorate these adverse outcomes.

Keywords: Commuter marriage; Marriage; Obstetric effect; Pregnancy complications; Pregnancy outcome; Unmet needs

Introduction

Commuter marriage (CoM) refers to a relationship in which one of the partners lives in the family home while the other shuttles between the family residence and another address in another city or country.[1−4] Globally, workers' mobility has increased as they relocate to places where jobs are available[1] in response to wage differences and due to a willingness to relocate.[2,3] For some individuals, migration may not be possible due to immigration and labour laws, pattern and type of job availability, opportunities for setting up families in a new environment, and the means to facilitate this movement. For such individuals, commuting becomes a substitute for migration, making the decision on where to live dependent on economic benefits.[5] CoM has been associated with a desire for self-expression, personal satisfaction, financial benefits, and independence.[6] However, it has been linked to unfavourable psychological, social, and family life disruptions,[7−10] although available data are limited.

A literature search revealed no article that specifically evaluated the effects of CoM on pregnancy outcomes; this raises concern about pregnant women's experiences in such marriages. Evidence that fills this knowledge gap may provide a scientific approach to counselling couples and aspiring couples on planning for pregnancies and ensuring family stability and cohesion. Thus, we hypothesise that CoMs will exert negative effects on pregnant women and pregnancy outcomes that are similar to those reported for non-pregnant women and their families. This is a pilot study to evaluate obstetric outcomes for women in CoMs compared to those for women in non-CoMs, as well as the influence of living-in-companions on those outcomes.

Materials and Methods

Study setting

This was a multicentre study at four public health facilities (two tertiary, two secondary facilities) in Ilorin, north-central Nigeria. These hospitals have a full complement of medical consultants (obstetricians, neonatologists, anaesthesiologists, and haematologists), nurses, and other supportive staff. A full range of services, from antenatal clinic, antepartum, intrapartum, and postpartum to neonatal and surgical services, is available at the study sites.

Study design

This is a prospective, comparative study.

Study participants

The participants comprised pregnant women who presented to book index pregnancy at the study sites' booking clinics. The women were categorised into those in CoMs and those in non-CoMs.

Inclusion and exclusion criteria

Pregnant women who presented for booking at the antenatal clinic, consented to participate in the study, and were willing to continue care until six weeks postpartum were included in the study. However, non-pregnant women and pregnant women who were unwilling to deliver at the study sites or keep the six-week postnatal visit schedule were excluded from the study. To exclude confounding variables, the participants were matched for age to reduce the effect of maternal age, while those with higher risk pregnancy, defined as the presence of chronic medical disorders (hypertension, diabetes mellitus, chronic renal disease, HIV infection, and haemoglobinopathy) or previous unexplained intrauterine foetal death, were excluded from the study.

Sample size determination

The sample size was calculated using a formula for sample size for a comparative study[10]:

$$n = \frac{z^2 pq}{d^2}$$

n = sample size
z = standard normal deviation (a constant, which is 1.96 at a 95% confidence interval)
p = prevalence of CoM in the study area, as 26.3%[11] = 0.26
d = observed difference at a 5% level of significance = 0.05
$q = 1 − p = 1 − 0.26 = 0.74$

$$n = \frac{1.96^2 \times 0.26 \times 0.74}{(0.05)^2} = 295$$

With provision for a 10% attrition rate, the minimum sample size was $295 + 29 = 324$.

Study procedure

All pregnant women at each antenatal booking clinic were informed about the study during a health education session, and those who were willing to participate were screened for eligibility using the study criteria. Informed consent was obtained from eligible women who were recruited into the study. The participants were categorised into two groups of either CoM or non-CoM, based on their family experiences. The average attendance at the booking clinic was 80 pregnant women; recruitment was over a 12-week period, while a maximum of 30 women were recruited at each booking clinic. All the participants were followed up through pregnancy and delivery, until 6 weeks postpartum. A total of 324 pregnant women were recruited into the study; however, 320, comprising 160 women in CoMs and 160 in non-CoMs, completed the study and were included in the analysis.

For the purpose of this study, a CoM refers to one in which one of the partners resides in the study area while the other resides in another city or country but commutes intermittently to visit the family home.[1–4]

Identification numbers from 1 to 320 were generated for the study; at recruitment, the participants were assigned the lowest available number and categorised into the CoM and non-CoM groups by the recruiting officer. However, the research team members involved in the follow up were blinded from the participants' group categorisation until at the end of the study.

Sampling method

The balloting method was used to recruit the participants.

Study outcome measures

The primary outcome measure was the obstetric outcomes (miscarriages, antenatal illness-associated hospital admissions, gestational age at delivery, pregnancy-induced hypertension, gestational diabetes, and birth weights). The secondary outcome measure was the influence of a living-in-companion on the obstetric outcomes, which was measured by comparing the outcomes for women with those for women without living-in-companions.

Statistical analysis

Data analysis was performed using Statistical Package for Social Sciences (SPSS, software version 21.0, IBM Chicago, IL, USA); frequencies were expressed as percentages, comparisons were drawn utilising the chi-square test or t-test, as applicable, while a p-value < 0.05 was significant.

Results

Compared to those in non-CoMs, women in CoMs were younger (95.0% vs. 83.8%; $p = 0.001$) and mostly Primigravida (36.2% vs. 21.3%; $p = 0.001$); they and their partners had higher levels of tertiary education, (73.1% vs. 50.6%; $p = 0.001$) and (73.1% vs. 56.8%; $p = 0.001$), respectively, which were statistically significant (Table 1).

Commuting partners were mostly male (n = 151, 94.4%), mainly due to job-related transfers (n = 76, 47.5%) or new employments (n = 60, 37.5%). Commuting partners lived in rented apartments (n = 87, 54.4%), visited their families weekly (n = 37; 23.1%), fortnightly (n = 44; 27.5%) or monthly (n = 61, 38.1%), while 12.5% of the women in CoMs lived alone (Table 2).

There were more frequent occurrences of delay before index pregnancy (16.9% vs. 9.4%, $p = 0.047$), a higher mean gestational age at booking (22.19 ± 7.70 years vs. 19.9 ± 6.93 years, $p = 0.005$), and more illness-related hospital admissions in index pregnancies (24.4% vs. 11.9%, $p = 0.004$) among women in CoMs, all of which were statistically significant (Table 3).

CoM was associated with preterm delivery (33.8% vs. 6.9%, $p = 0.001$), longer mean duration of labour

Table 1: Bio-social characteristics of commuter and non-commuter marriages (n = 160).

Variables	Commuting (n = 160)[a]	Non commuting (n = 160)[a]	χ^2	p-value
Age				
≤35	152 (95.0)	134 (83.8)		
>35	8 (5.00)	26 (16.2)	10.7	0.061
Level of education				
None	0 (0.00)	8 (5.00)	8.21	0.004*
Primary	5 (3.10)	29 (18.1)	19.0	0.001*
Secondary	38 (23.8)	42 (26.3)	0.27	0.605
Tertiary	117 (73.1)	81 (50.6)	17.2	0.001*
Occupation				
Students	37 (23.1)	16 (10.0)	9.97	0.002*
Unemployed	20 (12.5)	17 (10.6)	0.26	0.599
Civil servant	31 (19.4)	45 (28.1)	3.38	0.066
Self employed	62 (38.8)	75 (46.9)	2.16	0.142
Private employer	10 (6.2)	7 (4.4)	0.56	0.455
Gravidity				
1	55 (34.4)	29 (18.1)	15.2	0.001*
2–4	93 (58.1)	97 (60.6)	0.21	0.649
≥5	12 (7.5)	34 (21.3)	18.7	0.001*
Parity				
0	58 (36.2)	34 (21.3)	8.79	0.003*
1	27 (16.9)	41 (25.6)	3.66	0.055
2–4	74 (46.3)	77 (4.8)	0.11	0.736
≥5	1 (0.6)	8 (5.0)	5.60	0.018*
Previous miscarriage				
0	128 (80.0)	124 (77.5)		
≥1	32 (20.0)	36 (22.5)	0.30	0.585
Partners occupation				
Students	14 (8.8)	5 (3.1)	4.53	0.033*
Unemployed	1 (0.6)	0 (0)	1.00	0.316
Civil servant	52 (32.5)	53 (33.1)	0.01	0.905
Self employed	82 (51.2)	87 (54.4)	0.31	0.575
Private employer	11 (6.9)	15 (9.4)	0.67	0.413
Partners' level of education				
None	1 (0.6)	6 (3.8)	3.65	0.056
Primary	12 (7.5)	20 (12.5)	2.22	0.136
Secondary	30 (18.8)	43 (26.9)	3.00	0.083
Tertiary	117 (73.1)	91 (56.8)	9.29	0.002*

[a] Numbers presented in table are frequencies (percentages).
*Significant at the 95% confidence level.

Table 2: Commuting history of couples in commuter marriages (n = 160).

Parameter	n	%
Commuting partner		
Male	151	94.4
Female	9	5.60
Reason for commuting		
Schooling	24	15.0
Job transfer	76	47.5
New employment	60	37.5
Commuting destination		
Local	155	96.9
Abroad	5	3.10
Duration of commuting		
<1 year	47	29.4
1−2 years	68	42.5
>2 years	45	28.1
Relationship of index pregnancy to commuting		
Before	92	57.5
During	68	42.5
Where commuting partner lives		
Rented apartment	87	54.4
Sharing with a friend	73	45.6
Frequency of visit by commuting partner to the family		
Weekly	37	23.1
Fortnightly	44	27.5
Monthly	61	38.1
2−3 months	11	6.90
Holidays or leave	7	4.40
Visit to the commuting partner by partner at home		
Yes	108	67.5
No	52	32.5
Last visit to the commuting partner		
1 Week	38	23.8
2 Weeks	24	15.0
3 Weeks	15	9.40
≥4 Weeks	83	51.9
Who is living with female partner at home?		
Alone	20	12.5
Siblings/friends	38	23.7
Children	19	11.9
House help and children	21	13.1
Mother and children	30	18.8
Mother-in-law and children	32	20.0

Table 3: Past obstetric history of women in commuter and non-commuter marriages.

Parameter	Commuter (n = 160)[a]	Non-commuter (n = 160)[a]	χ^2/ t-test	p-value
Previous pregnancy				
Yes	105 (65.6)	131 (81.9)	10.9	0.001*
No	55 (34.4)	29 (18.1)		
Inter-pregnancy interval				
≤6 months	14 (8.8)	28 (17.5)	1.71	0.190
6−12 months	22 (13.8)	24 (15.0)	0.70	0.404
13−18 months	14 (8.80)	23 (14.4)	0.37	0.543
19−24 months	29 (18.1)	19 (11.9)	8.03	0.004*
≥25 months	21 (13.1)	42 (26.2)	2.88	0.089
Outcome of last pregnancy				
Miscarriage	12 (7.50)	16 (10.0)	0.02	0.876
Voluntary termination	3 (1.90)	2 (1.30)	0.52	0.472
Delivered the baby	90 (56.2)	113 (70.6)	0.02	0.876
No previous pregnancy	55 (34.4)	29 (18.1)	8.34	0.001*
Any delay before this pregnancy				

Table 3 (*continued*)

Parameter	Commuter (n = 160)[a]	Non-commuter (n = 160)[a]	χ^2/ t-test	p-value
Yes	27 (16.9)	15 (9.40)	3.95	0.047
No	133 (83.1)	145 (90.6)		
Gestational age at booking				
1st trimester	21 (13.1)	38 (23.8)	6.01	0.014*
2nd trimester	88 (55.0)	97 (60.6)	1.04	0.308
3rd trimester	51 (31.9)	25 (15.6)	11.7	0.001*
Mean ± SD	22.2 ± 7.70	19.9 ± 6.90	2.84	0.005*
Antenatal illness-associated hospital admission				
Yes	39 (24.4)	19 (11.9)	8.42	0.004*
No	121 (75.6)	141 (88.1)		
Did husband follow you to hospital during index pregnancy				
Yes	92 (57.5)	103 (64.4)	1.59	0.208
No	68 (42.5)	57 (35.6)		

[a] Numbers presented in table are frequencies (percentages).
*Significant at the 95% confidence level.

Table 4: Labour delivery and postpartum events among commuter and non-commuter marriages.

Parameter	Commuter (n = ??)	Non-commuter (n = ??)	χ^2/t-test	p-value
Gestational age at delivery				
<37	54 (33.8)	11 (6.9)	35.697	0.001*
37−40	91 (56.9)	142 (88.8)	41.06	0.001*
41−42	15 (9.3)	7 (4.3)	3.124	0.077
Mean ± SD	37.64 ± 2.58	38.51 ± 1.44	−3.718	0.001*
Who accompanied you to the hospital				
Alone	6 (3.8)	7 (4.5)	0.094	0.759
Husband	58 (36.3)	120 (75.0)	50.029	0.001*
Mother	22 (13.8)	10 (6.2)	4.833	0.028
Mother-in law	25 (15.6)	3 (1.9)	18.635	0.001*
Neighbour	18 (11.3)	10 (6.2)	2.396	0.122
Sibling	33 (20.6)	10 (6.2)	13.871	0.001*
Onset of labour				
Spontaneous	151 (51.4)	143 (89.4)		
Induction	9 (34.6)	17 (10.6)	2.679	0.102
Mode of delivery				
Vaginal: Spontaneous	109 (49.1)	113 (70.6)		
Vaginal: Instrumental	2 (40.0)	3 (1.9)	0.162	0.687
Caesarean: Elective	9 (45.0)	11 (6.9)		
Caesarean: Emergency	40 (54.8)	33 (20.6)	0.604	0.437
Augmentation of labour				
Yes	64 (52.0)	59 (36.9)		
No	96 (48.7)	101 (63.1)	0.330	0.566
Mean duration of labour (Mean ± SD)	11.60 ± 6.27	10.01 ± 3.22	2.406	0.017*
Birth weight				
<2500	26 (76.5)	8 (5.0)		
≥2500	134 (46.9)	152 (95.0)	10.7	0.002*
Mean placenta weight (g)	562 ± 142	527 ± 93.0	−1.37	0.172
Birth weight to placenta ratio (Mean ± SD)	5.28 ± 1.11	5.91 ± 0.65	−6.09	0.001*
Estimated blood loss (ml)				
Estimated blood loss	499 ± 399	397 ± 243	2.52	0.012*
Puerperal complications				
Fever	7 (77.8)	2 (1.3)	3.18	0.074
Delayed onset of lactation	58 (71.6)	23 (14.4)	18.4	0.001*
Inadequate quantity of breast milk	15 (68.2)	7 (4.4)	2.81	0.093
Use of breast milk substitute	35 (72.9)	13 (8.1)	10.9	0.001*
Duration of admission, in days				
Mean ± SD	2.91 ± 2.50	2.34 ± 1.81	2.34	0.020*

Numbers presented in table are frequencies (percentages) or mean ± SD.
*Significant at the 95% confidence level.

Table 5: Comparison of pregnancy outcome among women in commuter marriage who lived alone and those with companions.

	Living alone (n = 20)	Living-in-companion (n = 140)	χ^2/t-test	p-value
Gestational age at delivery (Mean ± SD)	35.1 ± 2.53	38.0 ± 2.38	−5.05	0.001*
Who accompanied you to hospital				
Alone	1 (5.00)	5 (3.60)	0.10	0.753
Husband	7 (35.0)	49 (35.0)	0.00	1.000
Sibling	2 (10.0)	31 (22.1)	1.58	0.209
Mother	3 (15.0)	19 (13.6)	0.03	0.862
Mother-in-law	1 (5.00)	24 (17.1)	1.96	0.162
Neighbour	6 (30.0)	12 (8.60)	8.05	0.004*
Onset of labour:				
Spontaneous	19 (95.0)	132 (94.3)		
Induction	1 (5.00)	8 (5.70)	0.02	0.897
Mode of delivery				
Vaginal: Spontaneous	11 (55.0)	98 (70.0)		
Vaginal: Instrumental	0 (0.00)	2 (1.40)	0.22	0.636
Caesarean: Elective	1 (5.00)	8 (5.70)		
Caesarean: Emergency	8 (40.0)	32 (22.9)	0.39	0.534
Mean duration of labour (Mean ± SD)	9.60 ± 1.68	11.8 ± 6.54	−1.06	0.290
Birth weight (Mean ± SD)	2445 ± 749	3146 ± 1646	−1.87	0.043*
Placenta weight (Mean ± SD)	553 ± 129	563 ± 144	−0.32	0.749
Estimated blood loss (Mean ± SD) (ml)	420 ± 383	509 ± 402	−0.66	0.511
Postpartum haemorrhage	8 (40.0)	50 (86.2)	0.043	0.836
Puerperal complications				
Fever	0 (0.00)	7 (5.00)	1.17	0.280
Offensive lochia	4 (20.0)	22 (15.7)	0.08	0.783
Delayed onset of lactation	10 (50.0)	48 (34.3)	1.43	0.232
Inadequate quantity of breast milk	2 (10.0)	13 (9.30)	0.00	0.975
Use of breast milk substitute	6 (30.0)	29 (20.7)	0.66	0.416
Duration of admission (Mean ± SD) (days)	3.65 ± 1.87	2.81 ± 2.56	1.42	0.159

Numbers presented in table are frequencies (percentages) or mean ± SD.
*Significant at the 95% confidence level.

Table 6: Regression analysis for determinants of obstetric outcomes among participants.

Parameter	Coefficient	Standard error	95% CI	p-value	Beta
Maternal age	−0.458379	0.339026	−0.1125 to 0.0209	0.177	−0.11
Parity	0.183574	0.129823	−0.0719 to 0.4391	0.158	0.12
Previous miscarriage	0.035510	0.205549	−0.3689 to 0.4399	0.863	0.01
Commuter marriage	0.684810	0.240378	0.2118 to 1.1578	0.005	0.16
Antenatal hospital admission	0.198953	0.349055	−0.4879 to 0.8858	0.569	0.03
Onset of labour	0.856177	0.428737	0.0126 to 1.6998	0.047	0.11
Previous pregnancy	−0.416220	0.373041	−1.1502 to 0.3178	0.265	−0.09
_cons	37.314291	1.432957	34.5 to 40.1	<0.001	

Note: The reference (constant) was gestational age at delivery.
Beta: is a coefficient that ranks the influence of the parameters on the outcome of interest. The parameter with the highest value had the greatest influence on the obstetric outcome.

(11.6 ± 6.27 hours vs. 10.0 ± 3.22, p = 0.017), low birth weight (16.3% vs. 5.0%, p = 0.001), lower mean birth weight-to-placenta weight ratio (5.28 ± 1.11 vs. 5.91 ± 0.65, p = 0.001), and higher mean blood loss at delivery (499 ± 399.29 vs. 397 ± 243 ml, p = 0.012), all of which were statistically significant. Puerperal complications, including delays in establishing lactation (71.6% vs. 14.4%, p = 0.001) and use of breast milk substitutes (72.9% vs. 8.1%, p = 0.001), were significantly higher among women in CoMs (Table 4).

Among the women in CoMs, 20 (12.5%) lived alone, and had lower mean gestational age at delivery (35.1 ± 2.53 years vs. 38.0 ± 2.38 years, p = 0.001) and lower birth weight (2445 ± 749 vs. 3146 ± 1646 g, p = 0.043) than those with living-in-companions, which were statistically significant (Table 5).

From the logistic regression, the independent and statistically significant determinants of adverse pregnancy outcomes (referenced as preterm delivery) were being in a CoM (95% CI = 0.2118−1.1578; p = 0.005) and onset of labour

(95% CI = 0.0126−1.6998; p = 0.047), while CoM exerted the most important outcome (beta = 0.1601) (Table 6).

Discussion

Globally, CoM is on the increase due to technological advances, a shift in economies, greater emphasis on individual success and autonomy, as well as difficulty in securing jobs in some fields or locations.[6] A CoM prevalence of 26.3% was reported in a study on pregnant women in Nigeria.[11] In this study, commuting partners were male in 94.4% of the cases; this may be due to the societal expectation that a male partner should provide for the family's needs. A previous study reported that 50% of commuting men were in relationships,[12] which further suggests efforts by men to meet this responsibility. Most commuting in this study was due to job transfers or new employment, consistent with reports that economic benefits from wage differentials/structures[11] and a desire to keep current jobs[13] amidst job scarcity motivates the movement of workers. In a Swedish population report,[12] commuters were mostly males with tertiary education working in the private sector, which is similar to this study. Generally, motivations for CoM include pressure to retain current employment in the face of work scarcity, a desire for another job with greater pay, and a search for professional development or self-fulfilment.[8] For commuting relationships, weekly visits by the commuting partners were recommended as ideal[14]; however, in this study, only a quarter of the families regrouped weekly, while approximately one half reunited fortnightly.

Male partners' antepartum and postpartum contributions have been reported to be more beneficial than their intrapartum presence relative to good pregnancy outcomes.[15] This correlates with the significantly higher antenatal illness-related hospital admissions observed among the women in CoMs in this study. This may be explained by the assertion that increased family stress, late booking, antenatal illness-related admissions, and inadequate partner support inhibit effective maternal adaptation to pregnancy, resulting in adverse pregnancy outcomes.[16] The postpartum complications observed among the women in CoMs in this study, including the significant delay in establishing lactation and higher use of breast milk substitutes, corroborate the finding that limited partner support hinders effective maternal adaptation and preparedness to assume postpartum mother roles.[16] While adequate emotional support encourages effective lactation,[17] stress and anxiety inhibit it.[18] To ameliorate the negative effects of CoMs, the family/relationship circle has been identified as a viable alternative source of effective support for affected women.[19] This may explain the better outcomes recorded among the women in CoMs who had living-in-companions in this study compared to those among the women who lived alone.

This is a single-centre study; it is limited in sample size and study location, and therefore the application of its findings to the general population is limited.

Conclusion

This study concludes that women in CoMs are exposed to adverse obstetric sequelae which may be traceable to the type of family setting. They experienced antepartum, intrapartum, and puerperal complications more frequently than those in non-CoMs. However, living-in-companions appear to mitigate these adverse experiences. It is hoped that this study will stimulate research on larger populations to further evaluate the unexplored effects of CoMs on pregnant women and pregnancy outcomes.

The authors recommend further attention through population-based research to better define the effects of CoMs on pregnant women's obstetric outcomes and on their families. Couples in CoMs should explore the potential benefit of a living-in-companion for women to improve the outcomes, while employers should offer necessary assistance to employees who desire to re-unite with their families.

Conflict of interest

The authors have no conflicts of interest to declare.

Ethical approval

Ethical approval was obtained before the commencement of the study from the Ethical Review Committee, University of Ilorin Teaching Hospital, Ilorin, Nigeria, with approval number ERC PAN/2016/03/1505, dated 7th March 2016; informed consent was obtained from all the participants at recruitment into the study.

Authors contributions

ASA, AAF, STF, KTA, BWA and APA: Concept, design, data collection, interpretation, drafting, and approval of final draft. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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