ASSOCIATION BETWEEN SINGLE-PARENT FAMILY STRUCTURE AND AGE OF SEXUAL DEBUT AMONG YOUNG PERSONS IN JAMAICA

DANIEL C. OSHI[1], JORDAN MCKENZIE, MARTIN BAXTER,
ROYELLE ROBINSON, STEPHAN NEIL, TAYLA GREENE,
WAYNE WRIGHT AND JEORGHINO LODGE

Faculty of Medical Sciences, University of the West Indies, Kingston, Jamaica

Summary. There is a high and increasing proportion of single-parent families in Jamaica. This has raised concerns about the potential impact of single-parent families on the social, cognitive and behavioural development of children, including their sexual relationships. The aim of this study was to investigate the association between being raised in a single-parent family and age of sexual debut among young people in Jamaica. The study was cross-sectional in design, and based on a multi-stage sampling procedure. The study was conducted in July/September 2016. The study sample comprised 233 respondents (110 males and 123 females) aged from 18 to 35 years (mean 26.37 years; SD 5.46). Respondents completed a self-administered questionnaire with questions on socio-demographic characteristics, family structure, sexual debut and current sexual behaviour. Ninety-seven (41.7%) respondents grew up in single-parent families. A total of 201 (86.3%) had had sex (102 males and 99 females). Their mean age of sexual debut was 15.51 years (SD 3.41). Sixty-five (32.3%) had early sexual debut (<16 years). Respondents from single-parent families were more likely to have had early sexual debut (56.9%; $n = 37$) compared with those from two-parent families (43.1%, $n = 28$; $p = 0.004$). Only 44.6% ($n = 29$) of those who experienced early sexual debut used a condom during their first sexual encounter compared with 73% ($n = 100$) of those who had a later sexual debut (≥16 years; $p = <0.001$). A single-father family structure was a significant predictor of early sexual debut (AOR 5.5; 95% CI: 1.1–25.8). The study found a significant association between single-parent family structure and age of sexual debut.

Introduction

Over the past 50 years, various countries and regions of the world have seen increasing disintegration of traditional family structures (composed of a married couple and their biological children) with a concomitant steady increase in single-parent families

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[1] Corresponding author. Email: dannyoshi@yahoo.com

(Organization for Economic Cooperation and Development [OECD], 2011; Amato *et al.*, 2015). In the Caribbean, and more specifically, Jamaica, this trend has also been observed. Indeed, it has been postulated that single-parent families have replaced traditional family structures to a large extent in Jamaica. Such families often fail to provide children with the support and assistance they need (Hill, 2011). About 45% of all Jamaican households are headed by females (Planning Institute of Jamaica, 2002, cited in Hill, 2011). A single-parent family is defined in this study as 'a parent co-residing with their child(ren) in the absence of their partner'. Thus, a single parent can be a single father or a single mother (Vespa *et al.*, 2013).

This demographic and social change has prompted researchers to seek to understand its potential consequences. The problems associated with single-parent families could be examined from the perspective of those experienced by the single parents themselves, including poverty/low socioeconomic status (OECD, 2011), by wider society (Hill, 2011) and by the children raised in single-parent family structures (Chen & Escarce, 2008; Amato & Patterson, 2017).

Initiation of sexual intercourse is a major milestone in the life of adolescents and youth. When this occurs at an age when an individual is not mature enough or cognitively able to properly handle the context under which it takes place (regarded as 'early sexual debut') it may have significant negative consequences. These include drinking and smoking, as well as a failure to use a condom during first sexual intercourse (Kim & Lee, 2012; Odimegwu & Somefun, 2017), smoking, truancy and poor academic performance (Peltzer, 2010), pregnancy and sexually transmissible diseases (Wisnieski *et al.*, 2013). Early sexual debut has been defined variously by different researchers, as engaging in sexual intercourse: before age 15 years (Peltzer, 2010; Allen *et al.*, 2013); before age 16 years (Valle *et al.*, 2005; Kim & Lee, 2012); and before age 19 years (Odimegwu and Somefun, 2017). However, in this study, in keeping with the Jamaican national definition of age of consent (which is 16 years), early sexual debut is defined as experiencing sexual intercourse before 16 years, while later sexual intercourse is defined as that occurring at 16 years or older. Accordingly, diversity in age of sexual debut has been reported by researchers in various countries and regions. In the very few studies done in the Caribbean region, Allen *et al.* (2013) reported that more than 50% of their respondents experienced early sexual debut (defined in their study as before 15 years). A study using a nationally representative sample in Nigeria found that the median age of sexual debut was 16 years for females and 17 years for males (Odimegwu & Somefun, 2017), while another study in the western part of Nigeria found a mean age of 19.08 years (Adanikin *et al.*, 2016). Valle *et al.* (2005) reported that 25% of their study respondents in Oslo, Norway, had early sexual debut (before 16 years).

Regarding the association between single-family structure and age of sexual debut, Adanikin *et al.* (2016) found that being raised in a single-parent family was significantly associated with early age of sexual debut. Goldberg *et al.* (2017) observed that girls were more likely to initiate sex early if raised by a single parent, and noted that parental union stability (as evidenced by a two-parent family) had a protective effect against early sexual debut in the United States.

Other important reported factors that apparently influence age of sexual debut include source of sex information (Onyeonoro *et al.*, 2011) and substance abuse (Meeks Gardner *et al.*, 2007; Dhanookdhary, 2010). In Jamaica, as well as the wider

Caribbean region, there is a paucity of empirical evidence on the relationship between the sexual behaviour of young people and the family structure in which they grew up.

The present study concentrated on the sexual issues associated with being raised in single-parent families, with a specific focus on age of sexual debut in the context of Jamaican society, where about 45% of families are reported to be single-parent families (Planning Institute of Jamaica, 2002, cited in Hill, 2011). This research was undertaken to generate concrete evidence that may guide programme development and policymaking on the sexual and reproductive health of young people in the country and the region.

Methods

Study population

The study was a cross-sectional, descriptive, population-based, questionnaire survey among young residents of the Kingston and St Andrew (KSA) Parishes in Jamaica. According to the 2011 national census, the population of the two parishes was 662,426 in 2011 (Statistics Institute of Jamaica [STATIN], 2011). The target population consisted of those between the ages of 18 and 35 who were resident in Kingston and St Andrew at the time of the study (July to September 2016).

Sampling procedure

The sample size was computed using the formula:

$$N = [Z^2 p(1-p)]/d^2$$

where $N =$ sample size to be determined; $p =$ prevalence of adolescents and youth who initiated sexual intercourse early, determined anecdotally to be 50% (0.5), as no local data were available on this; $d =$ margin of error, chosen to be 0.05 (on the basis that the researchers would accept a 5% margin of error); and $Z =$ a critical value, appropriate for 95% confidence interval. The result of the computation was a sample size of 384 respondents. This was reduced to 250 because of scarce resources. As stated in the limitations paragraph in the Discussion section, it was reasoned that the multistage sampling technique would minimize any bias that would have arisen because of the small sample size.

A multistage sampling technique was applied. At the national level, of the three counties in Jamaica, namely Cornwall, Middlesex and Surrey, simple random sampling was used to select one county – Surrey. This county has four parishes: Kingston, Portland, St Thomas and St Andrew. Among the four parishes, simple random sampling was used to select Kingston and St Andrew. Kingston and St Andrew together have 29 postal codes (postal areas), and these were used as the next sampling units. Through simple random sampling, eleven postal codes were drawn. These were: Central Sorting Office, General Post Office, Port Royal, Windward Road, Constant Spring, Cross Roads, Hagley Park, Half-Way-Tree, Liguanea, Mona and Meadowbridge, after which supermarkets/homes were drawn. In the supermarkets and homes that were randomly drawn, consecutive sampling of 18- to 35-year-olds was done until the sample size was complete.

The questionnaire and its administration

The initial questionnaire consisted of 38 closed-ended and open-ended questions. In a pre-test, the instrument was presented to ten individuals within the target population who were not included in the main study. The questionnaire was then revised and in its final draft consisted of 47 closed-ended and open-ended questions.

The questionnaire was divided into the following sections: social and demographic characteristics, family structure, sexual debut and current sexual behaviour. The demographics section contained questions/items on age, sex and family structure. The close-ended question segments asked questions about family structure, sexual debut and current sexual behaviours. The final section was a single open-ended question.

The questionnaires were administered to 250 respondents; a 100% return rate was achieved because the researchers waited on the spot for the respondents to complete the questionnaires and hand them back. Questionnaires were self-administered. Completion of each questionnaire took approximately 35 minutes. Of the 250 questionnaires distributed, 233 were used in the data analysis while seventeen were discarded due to incomplete responses.

Inclusion and exclusion criteria

Participants were only eligible to complete the questionnaire if they were within the age range 18–35 years and if they were at the time residing in the Kingston and St Andrew areas. Those who did not meet these criteria were excluded from participating in the study.

Variables and statistical analysis

In keeping with the Jamaican national definition of age of consent (which is 16 years), 'early sexual debut' was defined as experiencing sexual intercourse before the age of 16, while 'later sexual intercourse' was defined as this occurring at 16 years or older.

Univariate analysis was carried out on each variable to obtained frequencies and percentages for categorical variables and mean/median (SD/interquartile range) for continuous variables. Differences in proportions between sub-groups were computed. Level of significance was set at $p < 0.05$. Multivariate analysis using binary logistic regression was done to determine whether single-parent family structure was a risk factor for early sexual debut, and to assess for other factors associated with early sexual debut among the respondents. All analyses were done using SPSS version 21 (IBM Corporation, Armonk, NY, USA).

Results

Characteristics of the study sample

Of the 233 respondents, 47.2% (110) were male. The age of respondents ranged from 18 to 35 years, with a mean of 26.37 years (standard deviation [SD]: 5.46). By socioeconomic background, 65.2% (152) of the respondents grew up in a middle-class family setting, while 31.3% (73) grew up in a lower-class setting. Only 3.4% (8) of all respondents felt that they were raised in an upper-class family setting (not shown in any

Table 1. Family structure and relationship characteristics of 18-
to 35-year-olds in Jamaica, July–September 2016, $N = 233$

Variable	n (%)
Family structure during upbringing	
Both biological parents	111 (47.6)
Birth mother & stepfather	18 (7.7)
Birth father & stepmother	1 (0.4)
Single mother	84 (36.1)
Single father	13 (5.6)
Other	6 (2.6)
Age when family became single-parent family	
0–5 years	59 (60.8)
6–10 years	18 (18.6)
11–20 years	20 (20.6)
Circumstances that led to single-parent family	
Death of a parent	15 (15.5)
Divorce	14 (14.4)
Separation	27 (27.8)
Migration	8 (8.2)
Parents never lived together	18 (18.6)
Unsure of reason	14 (14.4)
Other	1 (1.0)
Relationship with single parent	
Very bad	2 (2.1)
Bad	4 (4.1)
Okay	17 (17.5)
Good	23 (23.7)
Very good	51 (52.6)
Relationship with other parent	
Non-existent	26 (26.8)
Very bad	9 (9.3)
Bad	9 (9.3)
Okay	24 (24.7)
Good	17 (17.5)
Very good	12 (12.4)

table). Eight-four respondents (36.1%) grew up in single-mother families while thirteen (5.5%) grew up in single-father families (Table 1).

Two hundred and one respondents (86.2%) had had sexual intercourse. A significantly higher proportion of males (95%) than females (80.5%) had initiated sexual intercourse ($p = 0.007$). The mean age of sexual debut was 15.51 years (SD: 3.41). Among the 201 respondents who had initiated sex, 32.3% (65 respondents) had their first sexual intercourse before the age of 16, i.e. had early sexual debut (not shown in any tables).

Table 2 shows the distribution of respondents by early and later sexual debut, stratified by key social and demographic variables. Respondents who had early sexual debut were statistically significantly more likely to have been raised in a single-parent

family than in a two-parent family ($p = 0.004$). There were no significant associations between the economic status of the family during respondent's childhood, the level of strictness in the home, first source of sex information, parents' explanation of sex, substance use during first sexual intercourse and age of sexual debut. However, there was a significant association between age of sexual debut and use of a condom during first sexual intercourse ($p < 0.001$) (Table 2).

Multivariable regression analysis

Gender was found to be an independent predictor of early initiation of sexual intercourse. As a single predictor, in the absence of other explanatory variables (risk factors), being male was associated with 3.1 times the odds of experiencing early sexual debut compared with being female (crude odds ratio [COR]: 3.1; 95% confidence interval [CI]: 1.7–5.8). This relationship was modified when other predictor variables were put into the logistic regression model. Thus, in the presence of other predictor variables, male respondents had 2.5 times the odds of initiating sexual intercourse early compared with their female counterparts (adjusted odds ratio [AOR]: 2.5; 95% CI: 1.3–5.1).

On considering family structure as a predictor of early sexual debut, using the two-birth-parent family as the reference category, none of the other forms of two-parent families (birth mother/stepfather, birth father/stepmother) significantly predicted early sexual debut, either singly or in the presence of other predictor variables. Interestingly, being raised in a single-mother family was weakly protective against early sexual debut as a single predictor variable in the regression model (COR: 0.5; 95% CI: 0.2–0.9); however, this effect disappeared in the presence of other predictor variables in the model (AOR: 1.7; 95% CI: 0.8–3.6). Similarly, the single-father family structure was observed to be a weak protective factor against early sexual debut as a single variable in the model (COR: 0.2; 95% CI: 0.0–0.7), but in combination with other variables turned out to be a risk factor (AOR: 5.5; 95% CI: 1.1–25.8). Other variables, including first source of sex information, family socioeconomic status, substance abuse at first sex and whether parent(s) explained sex, were not found to be risk factors for, or protective factors against, early sexual debut (Table 3).

Discussion

This study revealed that there was a relatively high prevalence of single-parent families in Jamaica in 2016. This is consistent with an earlier report by the Planning Institute of Jamaica 2002 (cited in Hill, 2011), which suggested that a high proportion of Jamaican households are female-headed (single-mother families). The social and behavioural consequences of these changing family dynamics are presently a source of worry and a subject of discussion in the public domain. Such psycho-social problems/behaviours include early onset of sexual intercourse, teenage pregnancy, poor social adaptive functioning and low self-esteem (Hill, 2011), and have also been noted in other societies (Chen & Escarce, 2008).

In societies in which gendered social norms in sexual relationships mean that society turns a blind eye to men's sexual behaviour before/outside marriage, males tend to initiate sexual intercourse early (Kreager *et al.* 2016). On the other hand, such norms may drive females to

Table 2. Timing of sexual debut by socio-demographic characteristics of 18- to 35-year-olds in Jamaica, July–September 2016

Characteristic	Early sexual debut (<16 years) n (%)	Later sexual debut (≥16 years) n (%)
Gender		
Male	45 (69.2)	57 (41.9)
Female	20 (30.8)	79 (58.1)
Total	65 (100.0)	136 (100.0)
$\chi^2 = 13.132$; df = 1; $p < 0.001$		
Family structure during upbringing		
Both biological parents	24 (36.9)	73 (53.7
Birth mother & stepfather	4 (6.2)	12 (8.8)
Birth father & stepmother	0 (0.0)	1 (0.7)
Single mother	29 (44.6)	40 (29.4)
Single father	8 (12.3)	4 (2.9)
Other	0 (0.0)	6 (4.4)
Total	65 (100.0	136 (100.0)
$\chi^2 = 17.312$; df = 5; $p = 0.004$		
Family socioeconomic status		
Lower	23 (35.4)	41 (30.1)
Middle	40 (61.5)	90 (66.2)
Upper	2 (3.1)	5 (3.7)
Total	65 (100.0)	136 (100.0)
$\chi^2 = 0.566$; df = 2; $p = 0.753$		
Parents explained sex		
Yes	38 (58.5)	75 (55.1)
No	27 (41.5)	61 (44.9)
Total	65 (100.0)	136 (100.0)
$\chi^2 = 0.196$; df = 1; $p = 0.658$		
Substance abuse at first sex		
Yes	3 (30.0)	7 (70.0)
No	62 (32.5)	129 (67.5)
Total	65 (100.0)	136 (100.0)
$\chi^2 = 0.026$; df = 1; $p = 0.871$		
Strictness in the home		
Not strict	1 (1.5)	1 (0.7)
Carefree	2 (3.1)	5 (3.7)
Fairly strict	23 (35.4)	41 (30.1)
Strict	24 (36.9)	50 (36.8)
Very strict	15 (23.1)	39 (28.7)
Total	65 (100.0)	136 (100.0)
$\chi^2 = 1.213$; df = 4; $p = 0.876$		
First source of sex information		
Media	15 (23.1)	35 (25.7)
Parents	9 (13.8)	35 (25.7)
Friends	30 (46.2)	47 (34.6)
Teachers	7 (10.8)	15 (11.0)
Other	4 (6.2)	4 (2.9)
Total	65 (100.0)	136 (100.0)
$\chi^2 = 5.652$; df = 4; $p = 0.227$		

Table 2. *Continued*

Characteristic	Early sexual debut (<16 years) n (%)	Later sexual debut (≥16 years) n (%)
Condom use at first sexual intercourse		
Yes	29 (44.6)	100 (73.5)
No	36 (55.4)	36 (26.5)
Total	65 (100.0)	136 (100.0)
$\chi^2 = 15.993$; df = 1; $p < 0.001$		

be more discrete in their affairs, and so, even if they initiated sexual intercourse early, would be very likely to give responses that are socially acceptable when filling in a questionnaire. This proposition is informed by the high and increasing proportion of females who have children outside marriage, as found in this study and corroborated by previous reports (Hill, 2011). It should be mentioned, however, that sexual and reproductive behaviours are complex, and therefore an increasing proportion of women having children before/outside marriage does not necessarily mean that they had an early sexual debut.

This study reported a low prevalence of condom use among respondents who started sexual intercourse early. Odimegwu and Somefun (2017) also reported a low prevalence of condom use at sexual debut among female adolescents in Nigeria. This is also consistent with the study of Kim and Lee (2012), who found that early sexual debut was significantly associated with non-use of condoms. This raises concerns about the risks of contracting sexually transmitted infections, including HIV, as well as the risk of teenage pregnancies, which have been documented elsewhere (Wisnieki *et al.*, 2013). This calls for early commencement and/or strengthening of sex education and assertiveness training. It should be noted, however, that besides knowledge, other factors may influence the use of condoms by children, including their availability and cost and the social stigma associated with their use. However, the current study did not collect data on respondents' reasons for the use or non-use of condoms; this would have provided further insight into the sexual behaviour of the participants.

Similar to the present findings, Goldberg *et al.* (2017) found that children raised by single parents were more likely to have early sexual debut than children raised in two-parent families. They further postulated that single-parent families lacked the stability to exert the social control needed to reduce the likelihood of children's early sexual debut. Hill (2011) opined that many single parents are unable to provide adequate social support for their children. Their position aligns with that of Zito and De Coster (2016), who hypothesized that family instability and single parenthood introduce a laissez-faire parenting attitude, and predispose children to early sexual debut. On the other hand, in this study, the majority of the respondents who had a later sexual debut were raised in two-parent families. This finding corroborates earlier studies that posited that the two-parent family structure provides greater social stability, social control and closer monitoring of children, thus serving as a protective factor against early sexual debut (Mendle, 2009; Guo *et al.*, 2012; Goldberg *et al.*, 2017).

Being raised in a single-mother family was found to be a weak protective factor against early sexual debut. It is not clear why this should be so, but, more importantly,

Table 3. Multivariable logistic regression analysis of factors associated with early sex initiation (<16 years) for 18- to 35-year-olds in Jamaica, July–September 2016

Variable	*n* (%)	Early sex initiation *n* (%)	COR (95% CI)	AOR (95% CI)
Total	201	65 (32.3%)		
Gender				
Female (Ref.)	99 (49.3)	20 (30.8)	1	1
Male	102 (50.7)	45 (69.2)	3.1 (1.7–5.8)	2.5 (1.3–5.1)
Family structure				
Both birth parents (Ref.)	101 (50.2)	26 (40.0)	1	1
Birth mother & stepfather	19 (9.5)	6 (9.2)	0.8 (0.3–2.1)	1.5 (0.5–4.8)
Birth father & stepmother	2 (1.0)	0	—	—
Single mother	64 (31.8)	27 (41.5)	0.5 (0.2–0.9)	1.7 (0.8–3.6)
Single father	9 (4.5)	6 (9.2)	0.2 (0.0–0.7)	5.5 (1.1–25.8)
First source of sex information				
Media (Ref.)	50 (24.9)	15 (23.1)	1	1
Parents	44 (21.9)	9 (13.8)	0.6 (0.2–1.5)	0.5 (0.2–1.5)
Friends	77 (38.3)	30 (46.2)	1.5 (0.7–3.2)	1.2 (0.5–2.9)
Teachers	22 (10.9)	7 (10.8)	1.1 (0.4–3.2)	1.3 (0.4–4.4)
Family socioeconomic status				
Lower (Ref.)	64 (31.8)	23 (35.4)	1	1
Middle	130 (64.7)	40 (61.5)	0.8 (0.4–1.5)	0.9 (0.5–1.9)
Upper	7 (3.5)	2 (3.1)	0.7 (0.1–3.9)	0.5 (0.1–3.3)
Substance abuse at first sex				
Yes (Ref.)	10 (5.0)	3 (4.6)	1	1
No	191 (95.0)	62 (95.4)	0.9 (0.2–3.6)	0.5 (0.1–2.3)
Parent explained sex				
Yes (Ref.)	113 (56.2)	38 (58.5)	1	1
No	88 (43.8)	27 (41.5)	1.5 (0.6–2.0)	1.6 (0.8–3.3)

Ref.: reference category; COR: crude odds ratio; AOR: adjusted odds ratio.

the effect was lost in the presence of other predictor variables. The single-father family structure was also observed to be a weak protective factor for early sexual debut. The reason for this finding is unclear. The researchers surmise that it might be due to the usual fear of fathers as figures who exert discipline. But this fear seems to disappear in the presence of other factors. There might be a number of reasons for this; one may be related to single fathers not regularly providing mentorship, guidance and social control to their children, which would have helped to reduce the inclination for early sexual debut. Though arguable, it is possible that not having a wife may predispose men to spending less time at home. Time away from home may constitute loss of opportunity to exert social influence on their children. In other words, single fathers may be likely to provide less supervision and social influence compared with fathers in stable two-parent families. Though no recent similar studies were found to compare this finding with, a study in the United States, back in the year 2000, reported that children who grew up in single-father households had an increased risk of experiencing early sexual intercourse (Santelli *et al.*, 2000).

This research is important in a number of ways. First, it systematically investigated the association between being raised in a single-parent family and sexual debut in Jamaica, thus providing empirical evidence that will be useful in programme planning and policy formulation regarding sexual and reproductive health of young people in Jamaica, and perhaps the entire Caribbean region, and other countries/regions with similar social and cultural contexts. Second, it is timely, coming at a time when the family structure in Jamaica is undergoing rapid change, from the traditional two-parent family to single-parent families. However, the study also has its limitations, the most important of which is the small sample size, which was due to resource limitations. It was based on a self-administered questionnaire, and so was prone to recall bias and social desirability bias. In addition, the study was cross-sectional in design so causality could not be inferred, and the study was limited to assessing the associations between sexual debut and selected variables.

In conclusion, this study found a significant association between being raised in a single-parent family structure and age of sexual debut among young people in Jamaica. Programmes on sexuality and reproductive health should take this into consideration and health education should start early for young persons, with prioritization of children, adolescents and young persons from single-parent families.

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