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ORIGINAL ARTICLE

# Sexually Assaulted Females On Their Sexual Debut: Reproductive Health Matters

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## ABSTRACT

**Background**: Previous studies which have examined reproductive health matters or sexual relationships have reported on the general population, adolescents, commercial sex workers, minors, university students, young adults, women, teenage mothers and males, but little is known about such issues among females who were sexually assaulted on their first sexual encounter. The present study seeks to elucidate information on reproductive health matters regarding those who were sexually assaulted on their first sexual encounter; and factors which influence their current method of contraception. **Methods**: The sample for this research was 747 women of reproductive age. A descriptive, cross-sectional design was employed for this study. Multiple logistic regressions were utilized to model the factors which explain the current contraceptive usage of the sample. **Result**: Ten in every 100 females of reproductive age in Jamaica have been raped; and about 15% of the men did not use a condom. Four variables emerged as the statistically significant predictors of the current contraceptive usage in this sample: age at first sexual initiation (OR = 1.16, 95% CI = 1.03 – 1.31); frequent church attendees (OR = 0.43, 95% CI = 0.25 – 0.77); number of pregnancies that resulted in live births (OR = 1.26, 95% CI = 1.05 – 1.52); and shared sanitary conveniences (OR = 0.55, 95% CI = 0.31 – 1.00). **Conclusion**: The ordeal which was identified by the current study is usually committed by close associates and family members, suggesting that many rapes are under-reported by females and as such, something must be done to address this silent killer.

**Key words**: Reproductive health matters, forced into first sexual encounter, sexual assault, reproductive ages, females

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## Introduction

Previous studies which have examined reproductive health matters and/or sexual relationships have reported on the general population, adolescents, commercial sex workers, minors, university students, young adults, women, teenage mothers and males,[1-12] but little is known about such issues among females who were sexually assaulted on their sexual debut. While a plethora of research exists on the value of some information, which has been used to guide policy formulation, pertinent information on reproductive health matters

regarding those who were sexually assaulted is missing from the literature. Moreover, this paucity of research in the developing nations denotes that little information is known about the pertinent issue, which could enhance policy formulation and future research.

The Caribbean region is experiencing the second highest prevalence of HIV infection in the world behind South Africa, [11],[13],[14] indicating that inconsistent condom usage is a cause of this high mortality.[15] Previous studies have found that condom usage, particularly the use of latex condoms, can reduce HIV infection by at least 80%,[16],[17] indicating that condom usage can prevent sexually transmitted infections.[16-19] While this may be optional for some women, those who are raped (or sexually assaulted) most often, do not have the luxury of a choice in insisting that their attackers use a condom. Forced sexual encounters sometimes result in unwanted pregnancies, abortions, psychological challenges (guilt, depression, fear, frustration and withdrawal), HIV/AIDS, and other sexually transmitted infections (herpes, gonorrhoea, Hepatitis B, et cetera).

Rape, or sexual assault, is a sexual activity involving two or more individuals in which one partner is brought into the encounter against his/her will. Sexual assault is not limited to women, but the individual (male or female) is physically or otherwise forced into sexual relations against his/her will. Sexual assault is not only a social problem, but Amar postulated that it is a public health issue.[19] Within the context of inconsistent condom usage and the increasing risk of sexually transmitted infections, forced sexual experience is therefore, a public health concern. Another issue is the percentage of women who have had this experience during their lifetime. According to Luce and colleagues, about 1 in every 3 women has experienced sexual violence during her lifetime, and women are more at risk than men. [20] They continued that some particular groups are more vulnerable to this practice. These include adolescents, children, 'persons with substance abuse problems', commercial sex workers, the poor or homeless, and people who are incarcerated.

According to Luce and colleagues, [20] the treatment for those who have been sexually assaulted ranges from immediate to long-term care. They outlined that "Immediate care includes the treatment of injuries, prophylaxis for sexually transmitted infections, administration of emergency contraception to prevent pregnancy, and the sensitive management of psychological issues. Presentations to the family physician may include self-destructive behaviours, chronic pelvic pain, and difficulty with pelvic examinations," [20] and these could include long-term psychophysical problems. Sexual assault on a woman, therefore, is a violation of female sexuality, human rights and sexual autonomy. In order to address this rights violation, some countries subscribe to the aforementioned notion that rape or sexual assault is a crime, which requires that it be reported to the local police. Rape also includes having a sexual relationship with a minor (in Jamaica, individuals under 18 years of age), which denotes that a minor under the law cannot consent to have sexual intercourse with another individual.

While the reporting of sexual violence against women is important, [21] there are other issues which cannot be omitted in the gamut of events. These issues include reproductive health behaviour, and future contraceptive usage among women who were sexually assaulted on their first sexual encounter. Studies have examined the human immunodeficiency virus post-exposure prophylaxis (HIV PEP) in women post sexual assault, [22] and rightfully so, as well as the ethical issues in data collection, [23] and intimate partner sexual violence, [24] but little is known about the current reproductive health practices of sexually assaulted women, and the factors which account for their present use of contraceptives. This study therefore, seeks to elucidate information on reproductive health matters regarding those who were sexually assaulted on their first sexual encounter, as well

as the factors which influence their current method of contraception.

## Method

### Sample

Since 1997, the National Family Planning Board (NFPB) has been collecting information on women (aged 15-49 years) in Jamaica regarding contraceptive usage and/or reproductive health. In 2002, the Reproductive Health Survey (RHS) collected data on women aged 15-49 years and men aged 15-24 years. The current study extracted the sample of only women (aged 15-49 years), who reported having been sexually assaulted on their sexual debut. The sample was 747 women, [25] and this represents a study population of 10.4% of the surveyed females (7,168).

The Statistical Institute of Jamaica (STATIN) provided the interviewers and supervisors, who were trained by the McFarlane Consultancy, to carry out the survey. The interviewers administered a 35-page questionnaire. The data collection began on Saturday, October 26, 2002 and was completed on May 9, 2003. The data was weighted in order to represent the population of women who were aged 15 to 49 years in the nation. [25]

## Procedure

Stratified random sampling was used to design the sampling frame from which the sample was drawn. Using the 2001 Census sector (or sampling frame), a three-stage sampling design was used. Stage 1 was the use of a selection frame of 659 enumeration areas (or enumeration districts - EDs). This was calculated, based on the probability proportion to size. Jamaica is classified into four health regions. Region 1 consists of Kingston, St. Andrew, St. Thomas and St. Catherine; Region 2 comprises Portland, St. Mary and St. Ann; Region 3 is made up of Trelawny, St. James, Hanover and Westmoreland, with Region 4 being St. Elizabeth, Manchester and Clarendon. The 2001 Census showed that region 1 comprised 46.5% of Jamaica, as compared to Region 2, 14.1%; Region 3, 17.6% and Region 4, 21.8%. [25]

Stage 2 saw the clustering of households into primary sampling units (PSUs), with each PSU constituting an ED, which in turn consisted of 80 households. The previous sampling frame was in need of updating, and so this was carried out between January 2002 and May 2002. The new sampling frame formed the basis upon which the sampling size was computed for the interviewers to use. Stage 3 was the final selection of one eligible female, and this was done by the interviewer on visiting the household.

## Measures

**Socio-demographic variables:** The socio-demographic information consisted of age, area of residence (1 = semi-urban, 0 = other; 1 = rural, 0 = other, and urban area is the reference group); employment status (0 = unemployed, 1 = employed); frequent church attendance (0 = otherwise, 1 = at least once per week); shared sanitary conveniences (0 = no, 1 = yes); and social class (1 = middle class, 0 = other; 1 = upper class, 0 = other, lower class is the reference group). Religiosity was evaluated from the question “With what frequency do you attend religious services?” The options ranged from at least once per week to only on special occasions (such as weddings, funerals, christenings, et cetera). Crowding was the total number of persons in a dwelling (excluding kitchen, bathroom and verandah). Age was the number of years a person was alive up to his/her last birthday (in years). Age of first sexual intercourse was measured from “At what age did you have your first intercourse?” Education was measured from the question “How many years did you attend school?” Marital status was measured from the following question “Are you legally married now?”, “Are you living with a common-law partner now? (that is, are you living as man and wife now with a partner to whom you are not legally married?)”, “Do you have a visiting partner, that is, a more or less steady partner with whom you have sexual relations?”, and “Are you currently single?”

The evaluation of the contraceptive method came from the question “Are you and your partner currently using a method of contraception? …”, and if the answer was yes, the question was asked, “Which method of contraception do you use?” The age at which the person began using the contraception was evaluated from, “How old were you when you first used contraception? Area of residence was measured from “In which area do you reside?” The options were rural, semi-urban and urban. The current sexual status was measured from “Have you had sexual intercourse in the last 30 days?” Gynaecological examination was evaluated from “Have you ever had a gynaecological examination?” Pregnancy was assessed by “Are you pregnant now?”

Sexual assault was any sexual activity (genital, oral, or anal penetration) between two or more people, in which one person had not given consent (against their will or involvement).

## Statistical Analysis

Statistical analyses were conducted by the Statistical Packages for the Social Sciences (SPSS) for Windows, Version 16.0 (SPSS Inc; Chicago, IL, USA). Descriptive statistics were performed on the socio-demographic variables of the study population; and Chi-Square correlations were used to show the bivariate relations involving the categorical variables. A multiple logistic regression model was conducted to explain the factors which accounted for the current contraceptive usage among the females of reproductive age, who were sexually assaulted on their first sexual encounter. The independent variables which were included in the regression model, were the age of the respondents, their years of schooling, crowding, the age of first sexual initiation, frequent church attendance, employment status, the number of sexual partners, the number of pregnancies that resulted in live births, the number of abortions, pelvic inflammatory disease or urinary tract infections, shared sanitary conveniences, area of residence, and marital status. The dependent variable of the logistic regression model was the current method of contraception of the study population.

Where collinearity existed ($r > 0.7$), the variables were entered independently into the model to determine those that had to be retained during the final model construction. [26] To derive the accurate tests of statistical significance, we used the SUDDAN statistical software (Research Triangle Institute, Research Triangle Park, NC), and this was adjusted for the survey’s complex sampling design.

## Results

[Table/Fig 1] presents the socio-demographical characteristics of the study population (n = 747): the mean age of the respondents was 32.0 years (SD = 8.6 years), and 41.1% were employed.

**[Table/Fig 1]: Socio-demographic characteristics of the study respondents, n = 747**

| Characteristic | n | % |
|---|---|---|
| **Shared sanitary convenience with other household** | | |
| No | 567 | 76.5 |
| Yes | 174 | 23.5 |
| **Employment status** | | |
| Employed | 307 | 41.1 |
| Unemployed (including students) | 440 | 58.9 |
| **Main source of financial support** | | |
| Partner | 28 | 48.3 |
| Other | 30 | 51.7 |
| **Marital status** | | |
| Legally married and living with partner | 131 | 17.5 |
| Common-law | 222 | 29.7 |
| Visiting | 230 | 30.8 |
| Married but not living with partner | 34 | 4.6 |
| Not currently in union | 130 | 17.4 |
| **Sexually assaulted** (without a condom used) | | |
| Yes | 427 | 85.1 |
| No | 75 | 14.9 |
| **Area of residence** | | |
| Urban | 104 | 13.9 |
| Semi-urban | 224 | 29.6 |
| Rural | 422 | 56.5 |
| **Socioeconomic class** | | |
| Lower | 241 | 32.3 |
| Middle | 318 | 42.6 |
| Upper | 188 | 25.1 |
| **Years of schooling** Median (range) | 12.0 (Range = 2 to 29) | |
| **Age** median (range) | 32.0 yrs (8.6 yrs) | |
| **Crowding** median (range) | 2 person (1 – 2 person) | |

[Table/Fig 2] shows information on the fertility of the study population. Almost 4 percent of the study population had an abortion, 20.3% had a miscarriage, 7.6% had still births and 84.5% had live births.

**[Table/Fig 2]: Fertility issues of study**

**population**

| Characteristic | n | % |
|---|---|---|
| **Currently pregnant** | | |
| Yes | 35 | 4.7 |
| No | 703 | 94.1 |
| Not sure | 9 | 1.2 |
| **Ever been pregnant** | | |
| Yes | 626 | 87.9 |
| No | 86 | 12.1 |
| **Want to be pregnant** | | |
| Yes | 93 | 12.4 |
| No | 35 | 4.7 |
| Did not respond | 619 | 82.9 |
| **Currently sexually active** (in last 30 days) | | |
| Yes | 467 | 37.5 |
| No | 280 | 62.5 |
| Number of pregnancies that resulted in live births median (range) | 3 (1 – 11) | |
| Number of pregnancies that resulted in still births median (range) | 0 (0 – 3) | |
| Number of pregnancies result in miscarriages median (range) | 0 (0 – 4) | |
| Number of abortions median (range) | 0 (0 – 2) | |
| **Reason for abortion (last abortion)** | | |
| Pregnant threaten life | 7 | 30.4 |
| Could not afford to have a child | 7 | 30.4 |
| Did not want the pregnancy (respondent) | 3 | 13.0 |
| Partner did not want the pregnancy | 1 | 4.3 |
| Other | 5 | 21.7 |
| **Age at first menarche** Median (Range) | 13.0 years ( 8 – 19 yrs.) | |
| **Age at first sexual intercourse** Median (Range) | 16.0 (8 – 33 yrs.) | |

[Table/Fig 3] examines the last pelvic examination, Pap smear, pelvic inflammatory disease, and urinary tract infection. Almost 32% of the study population had never done a Pap smear and 46% had never had a pelvic examination.

**[Table/Fig 3]: Pelvic examination, Pap smear, pelvic inflamatory disease and urinary tract infection**

| Characteristic | n | % |
|---|---|---|
| **Pelvic examination** | | |
| Yes | 343 | 45.9 |
| No | 402 | 53.8 |
| Don't remember | 2 | 0.3 |
| **Last pelvic examination** | | |
| 0 - < 12 months | 142 | 41.4 |
| 1 - < 2 years | 80 | 23.3 |
| 2 - < 3 years | 31 | 9.1 |
| 3+ years | 82 | 23.9 |
| Don't remember | 8 | 2.3 |
| **Pap smear** | | |
| 0 - < 12 months | 165 | 22.1 |
| 1 - < 2 years | 96 | 12.9 |
| 2 - < 3 years | 74 | 9.9 |
| 3+ years | 166 | 22.2 |
| Never did | 242 | 32.4 |
| Don't remember | 4 | 0.5 |
| **Pelvic inflamatory disease or urinary tract infection** | | |
| Yes | 152 | 20.3 |
| No | 595 | 79.7 |
| **Pelvic inflamatory disease**, yes | | 3.3% |
| **Urinary tract infection**, yes | | 18.3% |

[Table/Fig 4] shows information on the knowledge, method and practice of contraceptive usage of the study population. Almost 46% indicated that they always used a condom with a steady partner, as did 17.2% of those with a non-steady partner.

**[Table/Fig 4]: Knowledge and practice of contraceptive usage of study population**

| Characteristic | n | % |
|---|---|---|
| **Ever used a method of contraception** | | |
| Yes | 713 | 95.4 |
| No | 34 | 4.6 |
| **Currently using a method of contraception (during last sexual encounter)** | | |
| Yes | 504 | 67.7 |
| No | 241 | 32.3 |
| **Method of contraception to prevent pregnancy (first method)** | | |
| Tubal ligation | 101 | 21.9 |
| Vasectomy | 1 | 0.2 |
| Injection | 80 | 17.3 |
| Pill | 94 | 20.3 |
| Emergency contraceptive | 1 | 0.2 |
| IUD or coil | 6 | 1.3 |
| Withdrawal | 28 | 6.1 |
| Rhythm | 2 | 0.4 |
| Condom | 149 | 32.3 |
| **Method of contraception to prevent STIs (second method)** | | |
| Tubal ligation | 4 | 1.6 |
| Vasectomy | 1 | 0.4 |
| Injection | 48 | 18.6 |
| Pill | 69 | 26.7 |
| Emergency contraceptive | 2 | 0.8 |
| IUD or coil | 3 | 1.2 |
| Withdrawal | 17 | 6.2 |
| Rhythm | 0 | 0.0 |
| Condom | 114 | 44.2 |
| **Frequency of condom usage (steady or main partner)** | | |
| Always | 94 | 45.9 |
| Most times | 84 | 41.0 |
| Seldom | 22 | 10.7 |
| Never | 5 | 2.5 |
| **Frequency of condom usage (non-steady partner)** | | |
| Always | 35 | 52.2 |
| Most times | 13 | 19.4 |
| Seldom | 0 | 0.0 |
| Never | 19 | 28.4 |

Almost 93% of the study population who were forced into their first sexual encounter were aged 15-19 years, 6% were aged 20-24 years, 0.8% were aged 25-29 years and 0.3% were aged 30-34 years old.

When the study population was asked "Have you ever in your lifetime been sexually assaulted?, 84.6% reported yes. And the individual(s) who carried out this activity was/were husband(s), 17.3%; visiting partner(s), 8.7%; boyfriend(s), 30.6%; friend(s), 18.3%; casual acquaintance(s), 11.7%; mother's partner(s), 1.6%; fathers, 0.3%; and other relative(s), 9.3%, and 2.2% were gang raped . The majority of the study population was sexually assaulted once, 47.8%; followed by 2-5 times, 31.4%; 6-10 times, 5.4%; 11+ times, 9.9% and not sure, 5.4%. Furthermore, almost 85% of those who were raped, stated that this occurred at their first sexual initiation, and 6.3% of the sample were commercial sex workers (being paid for sexual encounters).

By using logistic regression analyses, four variables were found to emerge as the statistically significant predictors of the current contraceptive usage in this sample [Table/Fig 5]: age at first sexual initiation (OR = 1.16, 95% CI

= 1.03 – 1.31); frequent church attendees (OR = 0.43, 95% CI = 0.25 – 0.77); number of pregnancies that resulted in live births (OR = 1.26, 95% CI = 1.05 – 1.52); and shared sanitary conveniences (OR = 0.55, 95% CI = 0.31 – 1.00).

**[Table/Fig 5]: Logistic regression: Variables of current method of contraception (during last sexual encounter)**

| Characteristic | β coefficient | Wald statistic | Odds ratio | CI (95%) |
|---|---|---|---|---|
| Age of respondents | -0.04 | 2.93 | 0.97 | 0.93 - 1.0 |
| Years of schooling | -0.03 | 0.31 | 0.97 | 0.87 - 1.0 |
| Crowding | 0.32 | 0.76 | 1.37 | 0.67 - 2.7 |
| Age at first sexual initiation | 0.15 | 5.60 | 1.16** | 1.03 - 13 |
| Frequent church attendance | -0.84 | 8.24 | 0.43** | 0.25 - 0.7 |
| Employment status ( 1= employed) | 0.32 | 1.40 | 1.38 | 0.81 - 2.3 |
| Number of sexual partners in last 30 days | 0.14 | 0.03 | 1.15 | 0.22 - 5.9 |
| Number of pregnancy that resulted in live birth | 0.23 | 5.93 | 1.26* | 1.05 - 1.5 |
| Pelvic inflammatory disease or urinary tract infection | -0.49 | 2.67 | 0.61 | 0.34 - 1.1 |
| Shared convenience (1 = yes) | -0.59 | 3.87 | 0.55* | 0.31 – 1.0 |
| Semi-urban | 0.41 | 1.08 | 1.51 | 0.69 - 3.2 |
| Rural | 0.35 | 0.95 | 1.43 | 0.70 - 29 |
| †Urban | | | 1.00 | |
| Middle class | 0.07 | 0.05 | 1.08 | 0.58 - 2.0 |
| Upper class | 0.55 | 1.53 | 1.73 | 0.73 - 4.1 |
| †Lower | | | 1.00 | |
| Number of abortion | -0.41 | 0.89 | 0.35 | 0.29 - 1.5 |

Model $\chi^2 = 30.59$, P = 0.006
-2 Log likelihood = 376.44
Nagelkerke $R^2 = 0.119$
Hosmer and Lemeshow goodness of fit $\chi^2 = 4.04$, P = 0.854
Overall correct classification = 76.3%
Correct classification of cases of self-reported having urinary tract infection or pelvic inflamatory disease = 97.5%
Correct classification of cases of not having urinary tract infection or pelvic inflamatory disease = 8.0%
†Reference group
*P < 0.05, **P < 0.01, ***P < 0.001

This model had a statistically significant predictor power (Model $\chi^2 = 30.59$, P = 0.006; Hosmer and Lemeshow goodness of fit $\chi^2 = 4.04$, P = 0.854), and correctly classified 76.3% of the sample.

## Discussion

There are some significant findings which emerged on the current reproductive health practices of women aged 15-49 years, who had been sexually assaulted in Jamaica. Fifty-two out of every 100 cases of the study population always used a condom, which was substantially greater than that for Jamaican women of the reproductive age group (13 out of every 100), and 68 out of every 100 women who were sexually assaulted, currently used a method of contraception, as compared to 64 out of every 100 women in the reproductive age group [27]. Despite those positive reproductive health decisions of the women who were sexually assaulted in the past, public health practitioners and policy makers must implement policies which would address the lower age of the sexual debut for such women (median age = 16.0 years), than the women of the reproductive ages of 15-49 years (median age = 17.0 years).

Statistics from the Jamaican Ministry of Health noted that in 2006, 1,509 cases of sexual assault/rape were seen at the accident and emergency departments at public hospitals, of which 94% were females. [28] Of the females who had been sexually assaulted/raped, 85.8% were between 5 and 29 years of age. The current research provides clarity regarding those who were sexually assaulted in Jamaica, and their reproductive health choices. Furthermore, this study revealed that for 93% of the women who were sexually assaulted, the act occurred in their adolescent years (15-19 years old). It can be extrapolated from the findings that there is under-reporting of rapes, as fewer victims attended hospitals than those who reported being sexually assaulted. This is not atypical, as a study by Jones [29] postulated that this is a worldwide phenomenon. However, Boxley et al. [30], by using information from the US Select Committee on Children, Youth and Families in 1990, postulated that between 20 and 50% of rapes occurred against adolescents. Although the current study and that of Boxley and colleagues were in different periods, and possessed some problems for effective comparison, more rapes which were perpetrated against women, occurred during their adolescent years in Jamaica. In 1996, the statistics on American teens (16-19 years) noted that they were three and a half times more likely than the general population to be victims of rape, attempted rape or sexual assault. [31]

Another issue which emerged in this research, which must be addressed by policy-makers, is the typology of the individuals who commit the sexual act against women on their first sexual

encounter (in adolescent years) and the fact that the majority of perpetrators do not use a condom. While some of the positives which emerged in the present work about reproductive habits, suggested that women who had coerced sex (raped, forced, experienced any form of sexual violence) in Jamaica on their sexual debut had a higher degree of particular reproductive health activities; 1 in every 4 of them have reported suffering from a pelvic inflammatory disease or a urinary tract infection, which indicates that there are profound psychosocial matters (shame, anger, guilt, and depression) which arise from sexual violence against women, in particular adolescents.

The forced sexual initiation of adolescent women in Jamaica and their subsequent reproductive health practices and choices, coupled with sexually transmitted infections, in particular HIV disease, [32] suggests that those realities must be addressed by public health practitioners, as they point to a public health concern for the currently vulnerable adolescent females, and the future psychosocial challenges that will arise. Although the number of women in the study population who have reported forced sexual initiation, is lower than that in Lima, Peru, (40%); Bamenda, Cameroon (37.3%); nine Caribbean nations (47.6%); Ghana (21.0%, three urban towns); and South Africa (28.4%, Transkei), but greater than that in the United States (9.1%), [33] the reality of increasing incidences of suicide with this experience, means that we cannot allow close relatives, associates and family members (men) to continue to rape adolescent females; policies must be geared towards preventing those bad experiences and bringing the perpetrators to justice.

Besides the prevention of sexual violence against women, arresting the perpetrators and addressing the mental health of the victims, policies should be directed towards reducing gender, income and area-of-residence inequality, as these account for the vulnerability of the females to such gruesome practices. Those social factors, coupled with the biological factors and the trauma of sexual violence against a woman, will produce mental health issues in raped victims, if they are left unaddressed. The fact that 'Mental health is a part of public health', [34] indicates that the psychological status will influence their reproductive health choices, and that public health departments need to understand these new findings. Statistics from the Jamaican Ministry of Health [28] showed that 130 people attempted suicide and were treated at public hospital accident and emergency departments in 2006, of which 77.6% were females. While we cannot state the percentage of cases that were as a result of sexual violence, 80.8% of the females who attempted suicide in 2006 were aged 10-29 years, 26.3% of the females who had AIDS in the same period were aged 10-29 years, and 75% of the females who were treated for sexual assault in accident and emergency departments in public hospitals in Jamaica in the same period were of the same age cohort.[28] Furthermore, statistics from the Jamaican Ministry of Health revealed that in 2006, 15% of the females who were sexually assaulted (or raped), were less than 10 years of age,[28] thus indicating that sexual debut by assault is a public health concern, and from the current findings, it was known that the perpetrators were men who knew their victims.

Clearly, the fact that "Coerced sex may result in sexual gratification on the part of the perpetrator, though its underlying purpose is frequently the expression of power and dominance over the person assaulted"[33], denotes that a multifaceted approach is needed to address the current realities of females who are poor, who live in rural areas, are unemployed, uneducated, mentally and physically challenged, economically vulnerable, and those who are forced into prostitution and the trafficking of people for sexual exploitation. Poverty and other social factors reduce the sexual autonomy of females, as well as they remove their sexual rights. The fact that 'A female should have dominion over her body and her sexuality',[35] denotes that public health needs to integrate this into the social justice of reproductive health

matters for raped victims. As this will provide a perspective that will guide how policies are fashioned in the future, data are collected from raped victims, and reported by all stake-holders. The challenges of the policy-makers go beyond the afore-mentioned, as an understanding of power, money and autonomy are important in national policies and programmes, these being the key factors in understanding the reproductive health and rights of women,[36] and the sexual violence against them.

Sexual violence against women, poverty, income-and-gender inequality, power, and mental health issues such as depression, planned suicide, attempted suicide, loneliness, feelings of guilt and low interest or pleasure in usual activities [37], account for contemporary reproductive health practices. It is for these reasons that public health intervention and programmes must take a multifaceted approach in understanding sexual violence and the reproductive health of the sexually assaulted, thus providing an outreach for those victims. Wilks et al.'s study revealed a significant statistical association between the gender of Jamaicans (aged 15-74 years) and the feelings of guilt/worthlessness (females, 11.4%; males, 8.6%).[37] We can extrapolate and juxtapose on Wilks et al.'s study, based on the current research, that sexual violence against females during their adolescent years by close friends, relatives and family members accounts for some percentage of women expressing a sense of guilt and/or worthlessness in Jamaica. Empirical evidence exists, that shows a strong statistical correlation between health and future economic growth,[38] which encapsulates the devastating effects of sexual assault on future productivity. In the light of this reality, the future challenges of the public health departments are, to address the social inequality and psychological issues which have arisen, reduced sexual autonomy, and the future depletion of health and economic growth owing to sexual violence.

Amar postulated that "Forced sex is a public health issue affecting many college-going women."[19] The sexual practices, reproductive health matters, demographic characteristics of sexually assaulted victims, and the factors which accounted for contraceptive use among the study population, indicated that Amar's work extended to women who were sexually assaulted on their sexual debut. According to Wilks et al.,[37] 75% of the Jamaican women (aged 15-74 years) used a contraceptive method, as compared to 68% of the women in this study population. Another reproductive health disparity between Wilks et al.'s work and the study population was the frequency of sexual encounters, which were 58.4% and 37.5%, respectively. In 2002, the contraceptive prevalence for females (aged 15-49 years) in Jamaica was 66% and this was 68% for females who were sexually assaulted. Another issue which emerged from the current research is that, the earlier, a female had sexual intercourse (sexual assault); she is 1.2 times more likely to currently use a method of contraception. Embedded in this, is the latent psychological fear of sexual intercourse, and how this influences the reproductive health choices of the sexually assaulted victims. The reproductive health disparity between the study population and the females of reproductive age, is the fact that as the latter cohort becomes older, they are 2% less likely to use a method of contraception, [39] while this was not a factor for the former cohort. The present work demonstrates the importance of the public health concern regarding sexual assault against women in Jamaica. With more number of women in Jamaica being sexually assaulted during their adolescent years than in the United States, [31] this reinforces the potency of the public health dilemma in Jamaica and the need to urgently address the problem.

Is there is different socialization of sexually assaulted females who shared sanitary conveniences? From Bourne et al.'s work, [39] which found that female Jamaicans of the reproductive age group, who were currently sexually active (had sexual intercourse in the last 30 days) were 2.3 times more likely to use a contraceptive method, it can be assumed that females who had the experience of being

sexually assaulted in the past, who shared sanitary conveniences with other households, would be more likely to use a method of contraception. This, however, was not the case in the current work, which found that sexually assaulted females who shared sanitary conveniences with other households were 45% less likely to currently use a method of contraception. There are unresolved issues which emerged from these findings, and this requires immediate research and public health intervention. Another issue which must be addressed is that, 'How many sexually assaulted women are reporting that they were raped'?

Luce et al. opined that "Sexual assault is under-reported, and more than half of all assaults are committed by someone who is known to the survivor."[20] The close relationship between the victims and the perpetrators is such that public health practitioners need to implement sensitization programmes for mothers to use as a benchmark in the observation of sexual violence against their adolescent or younger children and family members, close friends and other relatives. This study highlighted a public health problem which was more graphic than the description offered by Luce et al, as it found that almost 70% of the cases were perpetrated by individuals who were well known to the women in Jamaica (husband, visiting partner, boyfriend, friend, mother's partner and father). The under-reporting of sexual assault cases therefore, should not come as a surprise to people, as the victims must weigh the consequences of their reporting, with the reality of the social challenges that this may have on the family, associates and relatives. Other rationales for the under-reporting of rape cases are guilt, shame, sexually transmitted infections, sexual exposure to Hepatitis B, HIV/AIDS, and unwanted pregnancy, that can account for the victim's unwillingness to come forward after the sexual encounter, and these can have long-term consequences on the individual.

The next traumatic experience of many of these raped victims is the additional guilt of abortion. Abortion in Jamaica is illegal, unless it endangers the life of the mother. Within this context, abortion is a social taboo, and females who have to use this service must carry with them the biological reality as well as the psychosocial guilt of the experience. Some 3.1% of the study population had undergone an abortion, and only 30.4% indicated that this affected their lives. Furthermore, some of the women in this study have even had as many as two abortions. Irrespective as to whether those cases were a result of rape, these females require psychiatric care and social support from the society. This is within the Jamaican reality of the dependency of females on males for financial assistance, as in 2005, the labour force participation for males was 73%, as compared to 55% for females, and the unemployment rate for the latter group was 15.8%, as compared to 7.6% for the former cohort. [32] The challenges faced by many women in Jamaica throw light on the reality of the males' economic supremacy, intimidation and vetoing powers over females, even over their own sexuality, sexual autonomy and social justice, with respect to their sexuality and rights. Public health specialists and policy-makers need to be cognizant of the intimidator's power over the victims, and within the context of the economic power of males and the degree of financial support wielded by them, measures must be instituted to address sexually assaulted victims. These must include prohibition and strategies to encounter intimidation, sexual exploitation and socioeconomic independency.

## Conclusion

In summary, the factors which account for contraceptive use among women of the reproductive age group, ie 15-49 years, who have been sexually assaulted, are significantly different from those which affect other women of the reproductive age group, thus suggesting that policies on reproductive health matters for the former group should be different from that of the latter group. Women of the reproductive age group, whose first sexual encounter was a sexual assault, are clearly held hostage by friends, family, relatives and close associates. Although

the sexual violence psychologically scars its victims, the findings which emerged from this study highlight that they had significant reproductive health, in contrast to that of the non-raped females. Thus, the current research provides invaluable information upon which policies, initiatives and programmes can be fashioned, to address the present reproductive health realities of women who have been sexually assaulted in Jamaica.

Sexual violence against women, in particular, sexual assault during their first sexual initiation, means that sexual autonomy is no longer a choice for those individuals. As such, researchers in the Caribbean need to study the health-seeking behaviour, disease typology, mental health, quality of life, satisfaction with life, self-actualization, image of self and current promiscuity of those who were sexually assaulted during their first sexual encounter, in order to understand how policies can be integrated into public health programmes for these women. Finally, forced sexual initiation and coercion during childhood constitute a violation of a female's sexual autonomy and reproductive health rights, as well as psychological innocence, which cannot be rectified merely by the prosecution of the perpetrators and immediate psychophysical trauma care, but also by introducing ongoing programmes throughout their entire lives.

## Disclosures

The authors report no conflict of interest with this work.

## Disclaimer

The researchers would like to note that while this study used secondary data from the Reproductive Health Survey, none of the errors in this paper should be ascribed to the National Family Planning Board, but to the researchers.

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