

Does Marriage Explain Murders in a Society? In What Way is Divorce a Public Health Concern?

Paul Andrew Bourne^{*1}, Angela Hudson-Davis², Charlene Sharpe-Pryce³, Jeffery Clarke⁴, Ikhalfani Solan⁵, Joan Rhule⁴, Cynthia Francis⁴, Olive Watson-Coleman⁶, Anushree Sharma⁷, Janinne Campbell-Smith⁸, Topaz Allen⁹

¹Socio-Medical Research Institute, Jamaica

²Capella University, USA

³Department of History, Northern Caribbean University, Mandeville, Jamaica

⁴University of Technology, Jamaica

⁵Department of Mathematics and Computer Science, South Carolina State University, USA

⁶Southern Connecticut State University, USA

⁷IIS University, Jaipur, India

⁸Cable and Wireless Company Limited, Jamaica

⁹Bank of Nova Scotia, Jamaica

ABSTRACT: Introduction: Like medicine, public health practitioners seek to understand causes of mortality, practices of humans and issues that can change population conditions, in order to preserve and care for life. The murder pandemic has been such in Jamaica that the World Bank sponsored a qualitative study on crime in urban areas in Jamaica in the late 1990s to provide a platform to guide policy intervention and programmes. As a result this study will fill the gap in the literature by providing the evidence to support that divorce and marriage are public health concerns from the perspective of murders. **Objective:** To evaluate the role of divorce and marital relationships on murders. **Materials and methods:** The data for this study are taken from various Jamaica Government Publications. The period for this work is from 1950 through 2013. Data were recorded, stored and retrieved using the Statistical Packages for the Social Sciences (SPSS) for Windows, Version 21.0. The level of significance that is used to determine statistical significance is less than 5% (0.05). Ordinary least square (OLS) regression analyses and curve estimations were used to determine models and best fitted models. **Results:** On average, annually, 523 Jamaicans are murdered (± 484), with there being 9,531 marriages ($\pm 22,747$) and 904 divorces (± 468). Logged marriage rate and divorce rate are factors of murder rate, with both independent factors accounting for 82.2% of the variability in the murder rate. Both factors are positively correlated with the murder rate, with the divorce rate accounting for most of the variance in the murder rate ($R^2 = 79.2\%$). **Conclusion:** Death can be extremely devastating to families, however, murder among married couples can severely disrupt the lives of both families along with any children from such relationship.

Key words: Deaths, homicides, mortality, murder; divorce, marital relationship, partner-homicides, public health, sexual relationship

INTRODUCTION

The issue of death is a longstanding concern of demography, public health, actual science and medicine. This fascination with death accounts for many human inquiries, which have led to the discovery and use of penicillin, technology, scientific revolutions, public health practices and documentaries on human life including life expectancy (Bourne, Solan, Sharpe-Pryce et al., 2014). Bourne et al. opined that "Dating back to John Graunt, mortality was among the first area in the study of population phenomenon as it provided an insight into the life expectancy, health status and future population characteristic", which holds a key importance of mortality in public health. Like medicine, public health seeks to understanding causes of mortality, practices of humans and issues that can change population structure, in order to preserve and care for life. It is for those reasons that the issues of chronic non-communicable diseases have become public health concerns.

It is empirically documented that chronic non-communicable diseases account for 60% of all human death in the world, making

chronic non-communicable diseases (CNCD) of major concern to medical as well as public health professionals (World Health Organization, 2005; United Nations Secretary-General Ban Ki-moon, 2010; World Health Organization, 2008). The matter is even more devastating in low-to-middle income nations (i.e., developing countries) as 4 in every 5 deaths occur in developing nations (World Health Organization, 2008; Bourne, Francis, Sharpe-Pryce et al., 2014). The Caribbean, like many nations such as sub-Saharan Africa, has been experiencing the CNCDs pandemic (Unwin, Setel, Rashid et al., 2001; Hospedales, Samuels, Cummings et al., 2011). Jamaica, which is the largest English-speaking Caribbean nation, records about 50% of deaths yearly due to CNCDs, with the rate being greater for females than males (Bourne, Francis, Sharpe-Pryce et al., 2014). A study by Bourne et al. (Bourne, McGrowder, & Crawford, 2009) discovered that most human deaths in Jamaica were among people 60+ years and that roughly 50% are due to CNCDs (Bourne, Francis, Sharpe-Pryce et al., 2014). The results explain why many studies have and continue to examine diseases, particularly CNCDs, among the elderly population, which is equally the same across the Caribbean (Callender, 2000; Morrison, 2000; Baldwin et al., 2013; Burroughs Peña et al., 2012; Ferguson et al., 2011).

*Correspondence regarding this article should be directed to: paulbourne1@gmail.com

Jamaica, like the rest of the Caribbean, has been experiencing a murder pandemic since the 1990s (Bourne, Blake, Sharpe-Pryce et al., 2012). This resulted in many Caribbean scholars researching the matter to gain a better understanding of its tenets, and to present the outcome, which can be used to effect policy changes (Gray, 2003; Griffith, 2004a; 2004b; 19. Harriott, 2003). The murder pandemic has been of such significance in Jamaica that in the late 1990s, the World Bank sponsored a qualitative study to assess the crime in the urban areas in Jamaica, which would provide a platform to guide policy intervention and programmes (Levy, 1996). Instead of a reduction in murders post-the-1990s in Jamaica, murders have exponentially increased to triple digits (Planning Institute of Jamaica, 1970-2014). Although there has been a reduction in violent crimes, overall murders have been on the rise. In fact, while collectively CNCDS causes more deaths than murders in Jamaica on disaggregating the deaths by CNCDS, murder rates are greater than deaths caused by diabetes mellitus, hypertension, ischaemic heart diseases, diseases of the respiratory system, malignant neoplasm of the prostate, and malignant of the breast, combined (Statistical Institute of Jamaica, 1970-2014). It is not surprising, therefore, that Bourne et al. (Bourne, Solan, Sharpe-Pryce et al., 2012; Bourne, Pinnock, & Blake, 2012), in two separate studies, proposed that murder should be recognized as a public health concern in the Caribbean, particularly Jamaica.

In the two studies that Bourne and colleagues (Bourne, Solan, Sharpe-Pryce et al., 2012; Bourne, Pinnock, & Blake, 2012) carried out none of them examined divorce and marriage as possible explanations for murders. Instead, both works evaluated the economics of murder leaving a gap for other research. An extensive search of the literature revealed that a model has been established on marriage and mortality including divorce, which dates back to the 1922 (Spurgeon, 1922) and others in later years (Waters & Wilkie, 1987; Waters, 1984). However, this denotes that the survival model, which is critical to health research, includes marriage and divorce. Those studies set the stage for inclusion of murder and marriage in the mortality discourse (Shackelford, 2001). Using national data on homicide in United States, Shackelford (Shackelford, 2001) established that women who are married or in a common-law union (i.e., in a sexual relationship) were nine times more likely to be murdered by their partner than single women.

Despite this fact, there are a plethora of studies that found a positive correlation between being married (i.e., in a legal and sexual union) and well-being (Smith & Kington, 1997; Moore, Rosenberg, & McGuinness, 1997). A study conducted by Cohen and Wills (Cohen & Wills, 1985) found that perceived support from one's spouse increases well-being, which was also supported by the study done by Smith and Waitzman (Smith & Waitzman, 1994). However, on the other hand Ganster et al. (Ganster, Fusilier, & Mayers, 1986) reported that support from family members and friends was related to low health complaints. Koo, Rie and Park's (Koo, Rie, & Park, 2004) findings revealed that being married was a 'good' cause for an increase in psychological and subjective well-being in old age. Smith and Waitzman (Cohen & Wills, 1985) offered the explanation that in marriage wives would dissuade their husband from particular risky behaviors such as the use of alcohol and drugs, and ensure that they maintain a strict medical regimen coupled with proper eating habit, which had already been established by Ross et al. (Ross, Mirowsky, & Goldstein, 1990) and Gore (Gore, 1973). However, this practice might not be so among unmarried couples.

In an effort to contextualize the psychosocial and biomedical health status of a particular marital status, one demography cited that the death of a spouse meant a closure to daily communication and shared activities. This may lead to depression that could negatively

affect the well-being of the remaining partner, even more-so among the elderly who would have had a greater investment in that relationship (Delbés, & Gaymu, 2002). Deblés and Gaymu (Delbés, & Gaymu, 2002) pointed to a paradox within this discourse as "... this is not observed among men". To provide a holistic base to the argument, we will provide a quotation from Delbés and Gaymu perspective that reads "The widowed have a less positive attitude towards life than married people" (Delbés, & Gaymu, 2002), which is not an unexpected result. Clearly marital status, particularly people in legal and sexual unions, is brought into the mortality discourse in public health, demography, actual and medical science field. However, a study by Shackelford showed that spousal relationship is directly associated with homicides. Such a finding speaks to the issue of violence in intimate (i.e., spousal murders) and not murders caused by robbery, rapes, or break-ins, and that the breakdown of marriages (i.e., legal separation or divorce) are highly likely to result in increased murders, which have not previously been brought into the public health discourse. On the other hand, Wiltsey (Wiltsey, 2008) examined many risk factors associated with intimate partner homicides and/or general violence, with some being suspect unemployed; the husband demanding sexual intercourse; victim having a child in the home from a previous sexual partner; separation after living together; prior threats with a weapon; abuser access to a gun; and prior threats to kill. Within the context that murder is a public health phenomenon in the Caribbean, with murders being greater than some of the well-studied CNCDS in Jamaica, there is no doubt that legal separation or divorce must be addressed in the public health literature in the Caribbean, especially in Jamaica. Therefore, the study of the causes of homicides, especially among married couples, must be of value to health discourse as these would provide pertinent information for policy formulation and thinking in public health. As a result, this study will fill the gap in the literature by providing the evidence to support the reason that these are public health issues.

MATERIALS AND METHODS

The data for this study are taken from various Jamaica Government Publications including the 2011 Census of Population & Housing report for Jamaica; the Demographic Statistics (Statistical Institute of Jamaica, 1970-2014), and the Statistical Department of the Jamaica Constabulary Force (JCF) (Statistical Department, Jamaica Constabulary Force (JCF), 2000-2011). Demographic Statistics provided data on mortality, population, and deaths, and the Statistical Department of the Jamaica Constabulary Force murder data. The period for this work is from 1950 through 2013. Data were recorded, stored and retrieved using the Statistical Packages for the Social Sciences (SPSS) for Windows, Version 21.0. The level of significance that is used to determine statistical significance is less than 5% (0.05). Ordinary least square (OLS) regression analyses and curve estimations were used to determine models and best fitted models. Prior to the use of the OLS, the researchers test for normality of the variables (i.e., linearity and skewness including Durbin-Watson test). The validity of the data are relatively high as these have been tested and modified owing to previous studies (McCaw-Binns et al., 1996; McCaw-Binns et al., 2002; Mathers et al., 2005). We also tested for the likelihood of Type I and Type II Errors, by using one-tailed and two-tailed test of significance.

Operational Definition

Death is the absence of life or the permanent departure of life after birth (Bourne et al., 2014; Bourne et al., 2012).

Murder is the number of people who are unlawfully killed (i.e., a crime causing death without a lawful justification) within

a particular geo-political zone (i.e., excluding police killings or homicides) (Bourne, Pinnock, & Blake, 2012).

Mortality means the total number of deaths that occurred within the population for a particular period, which is usually per year. The quality of mortality statistics in Jamaica is relatively good as research conducted by McCaw-Binns and her colleagues (McCaw-Binns, 1996; McCaw-Binns, 2002) established that in 1997, the completeness of registration of mortality was 84.8%; in 1998 it was 89.6%. The quality of completeness of mortality registration has been established by the World Health Organization (WHO), ICD classification (Mathers et al., 2005). A completeness of 70-90% is considered to be medium quality while more than 90% is considered high quality data. Within the context of the WHO's classification, death statistics in Jamaica is medium quality and is relatively close to being high quality. In keeping with the completeness of mortality data the Statistical Institute of Jamaica (STATIN) (Statistical Institute of Jamaica, 1970-2014) has adjusted the information to reflect the 100 completeness of mortality figures (Bourne, Solan, Sharpe-Pryce et al., 2014).

Divorce: The legal dissolution of a marriage (or legal separation of the marital union).

Marriage: According to the STATIN, a marriage is "The act, ceremony or process by which the legal relationship of husband and wife is constituted" (Statistical Institute of Jamaica, 1970-2014), which is how the term is used in this paper.

This paper will test the following hypotheses:

Marriage influences murders

Events associated with divorce lead to murders

The slope of the marriage rate, divorce rate and murder rate is a linear function

RESULTS

Table 1 presents information on the descriptive statistics of murders, marriages and divorces for Jamaica for 6 decades and three years (i.e., 1950-2013). On average, 523 Jamaicans are murdered annually (± 484), with there being 9,531 marriages ($\pm 22,747$) and 904 divorces (± 468). Furthermore, the average number of people that die on an annual basis was 14,917 \pm 1,301. On average, 7 divorces occur annually for every 100 marriages. A summary of murder, mortality and other issues of this study are presented in the Annex.

Annual murder rate in Jamaica is best fitted by a quadratic function, which accounts for 87.8% of the data points compared to a linear function which explains 85.2% of the data points (Figure 1). With there being a 2.6% more explanation of the data points with a polynomial function, annual murders can be modeled using a linear equation.

Figure 2 depicts data points of annual marriage rate in Jamaica, with fitted linear and non-linear functions. With the quadratic function accounting for 63.6% of the data points, it is better fitted with this function than a linear one that explains 46.4%.

Annually, the rate of divorce per 100 marriages in Jamaica is captured in Figure 3. Using squared R value, the divorce rate per 100 marriages is best fitted by a quadratic function, with divorce rate

Table 1.
Descriptive statistics for murder, marriages and divorces and rates of murder, marriage and divorce: 1950-2013.

Details	Descriptive statistics
Murders	523 \pm 484; 95%CI: 394-653
Marriages	9,531, range=22,747 (29,155-6,408)
Mortality	14,917 \pm 1,301; 95%CI: 14,591-15242
Divorces	904 \pm 468; 95%CI: 779-1029
Murder rate per 100,000 mid-year population	22.7 \pm 18.0; 95% CI: 18.0 – 27.3
Marriage rate per 10,000 mid-year population	58.9 \pm 19.3; 95%CI: 5.4 – 6.4
Mortality rate per 10,000	72.18 \pm 17.15; 95%CI: 67.81 – 76.55
Divorce rate 100,000 mid-year population	41.5 \pm 17.3; 95%CI: 37.6 – 45.9
Divorce rate per 100 annual marriages	7.21 \pm 2.13; 95%CI: 6.68 – 7.75

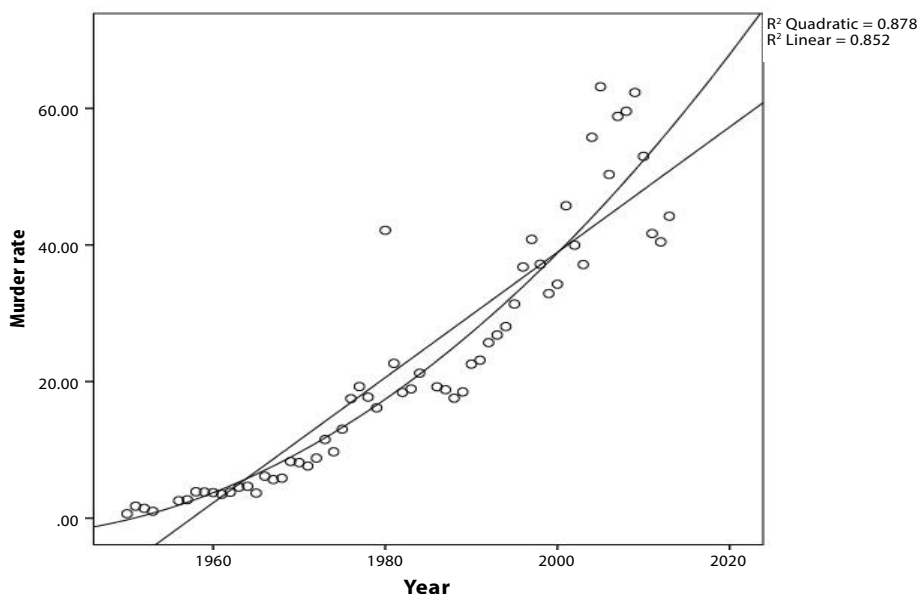


Figure 1.
Annual Murder Rate, 1950-2013.

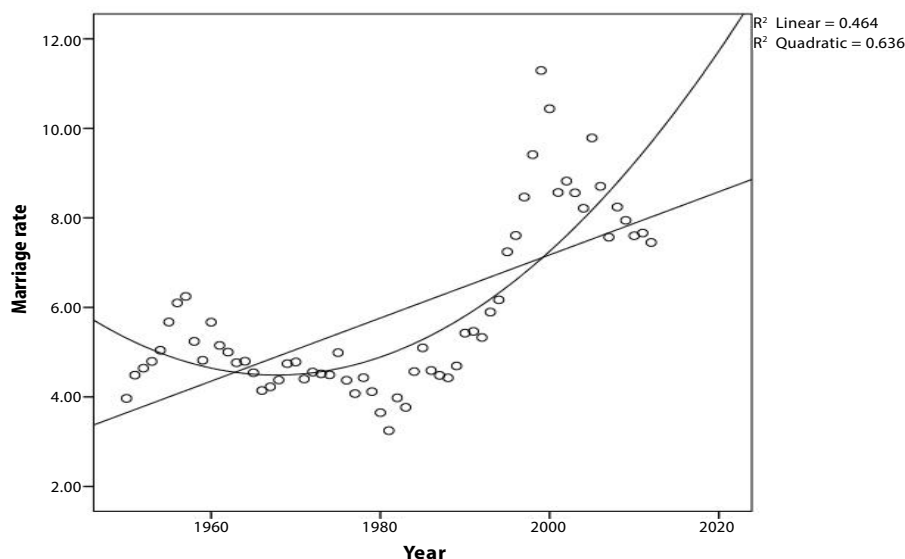


Figure 2.
Annual Marriage Rate, 1950-2013

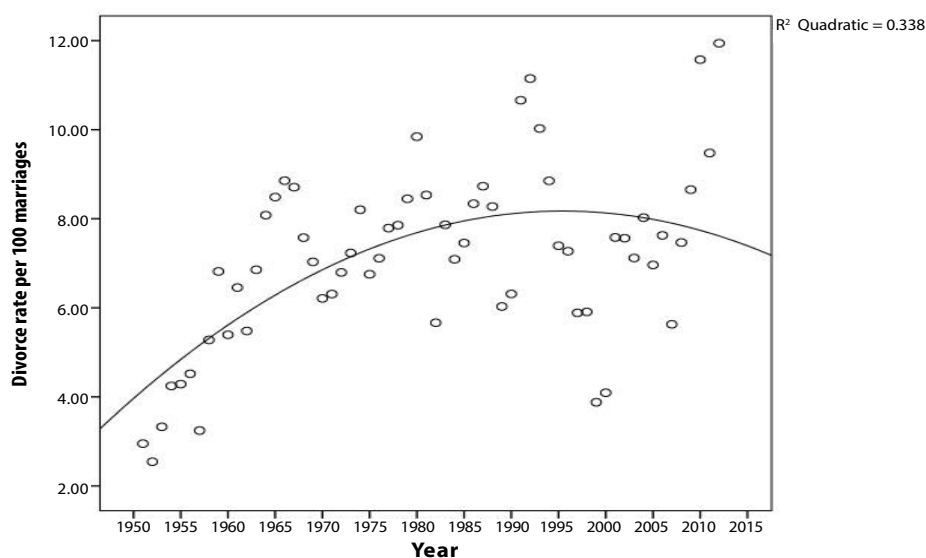


Figure 3.
Annual divorce rate per 100 marriages, 1950-2013.

per 100 marriages have been declining since about 1995 with a few exceptions.

A strong direct statistical correlation existed between 1) murder rate and marriage rate ($r_{xy} = 0.723$, $P < 0.0001$), and 2) murder rate and divorce rate ($r_{xy} = 0.803$, $P < 0.0001$; Table 1.1), with a moderate one occurring between marriage and divorce ($r_{xy} = 0.675$, $P < 0.0001$). Even, when the correlations were tested at the 2-tailed level of significance the values were relatively the same (Table 1.2), which was testing for the likelihood of Type I and Type II Errors.

Table 2 presents an OLS regression of murder by lnmarriage and divorce rates. Logged marriage rate and divorce rate are factors of murder rate, with both independent factors account for 82.2% of the variability the murder rate. The both factors are positively correlated with the murder rate, with the divorce rate accounting for most of the variance in the murder rate ($R^2 = 79.2\%$).

DISCUSSION

This research is a timely one as it highlights some significant gaps in the existing literature with regards to the risk of murder for Jamaicans who are in legally co-habiting relationships and the potential fatal consequence of their separations. In Shackelford's

research, he indicated that "women in cohabitating relationships are nine times more likely to be murdered than those in a marital relationship" (Shackelford, 2001). Previous studies have narrowly focused on deaths caused by chronic non-communicable diseases or violent crimes and not marriages, legal separation and murders (World Health Organization, 2005; Bourne, 2014; Unwin, 2001; Hospedales, 2011; Abdulkadri, 2009; Ferguson, 2011; Bourne, 2012a; Bourne, 2012b). However, this is the first time that there is special examination of the association between murder and divorce and marriage. This current research found that between 1950 and 2013, strong statistical direct correlation emerged between murder and divorce, and that divorce contributes more to murders than marriages.

There are still outstanding questions related to the causes of murders in Jamaica and how they could have been prevented. The present study found that divorce and marriages are explanations of the murder phenomenon in Jamaica. With this work showing positively strong correlations between 1) murder and marriage rates and 2) murder and divorce rates, it means that both separation of sexual unions and co-habitations are directly related to murders. The dissolutions of marriages are not only a social issue, it is a health issue as they could result in deaths. Such findings provide

Table 1.1.
Correlation matrix of murder, marriage and divorce rates, 1950-2013.

		Murder rate	Marriage rate	Divorce rate
Pearson Correlation	Murder rate	1.000	0.723	0.803
	Marriage rate	0.723	1.000	0.675
	Divorce rate	0.803	0.675	1.000
Sig. (1-tailed)	Murder rate	.	<0.0001	<0.0001
	Marriage rate	<0.0001	.	<0.0001
	Divorce rate	<0.0001	<0.0001	.
N	Murder rate	63	63	63
	Marriage rate	63	63	63
	Divorce rate	63	63	63

Note: Divorce rate denotes the divorce rate per 100,000 population

Table 1.2.
Correlation matrix of murder, marriage and divorce rates, 1950-2013.

		Marriage rate	Murder rate	Divorce rate
Marriage rate per 10,000	Pearson Correlation	1	0.729**	0.656**
	Sig. (2-tailed)		< 0.0001	< 0.000
	N	64	62	63
Murder rate	Pearson Correlation	0.729**	1	0.799**
	Sig. (2-tailed)	< 0.0001		< 0.000
	N	62	62	61
Divorce rate	Pearson Correlation	0.656**	0.799**	1
	Sig. (2-tailed)	< 0.0001	< 0.000	
	N	63	61	63

**Correlation is significant at the 0.01 level (2-tailed).
Divorce rate is per 100,000 of the mid-year population

Table 2.
Ordinary Least Square (OLS) of murder by Inmarriage rate and divorce rate, n = 59.

Detail	Unstandardized Coefficients		Standardized Coefficients	t-statistic	P value	95% CI		R ²
	B	Std. Error	Beta			Lower	Upper	
Constant	-33.510	8.217		-4.078	<0.0001	-49.965	-17.055	
Inmarriage rate	17.314	6.149	0.291	2.816	0.007	5.002	29.627	0.030
Divorce rate	0.626	0.108	0.600	5.800	<0.0001	0.410	0.841	0.792

Dependent variable: Murder rate
F [2, 57]=62.862, P <0.0001
R²=0.822

us with the base to argue about the separation-health phenomenon. The reality is, at the onset (i.e., signs) of trouble in marriages or sexual relationships; there should be public health intervention programmes to address deaths arising because of homicides and not allow marriages to disintegrate into divorce.

Bourne et al. (Bourne, Hudson-Davis, Sharpe-Pryce et al., 2014) found a negative statistical association between the sex-ratio and mortality (Pearson's correlation coefficient = -0.621, P = 0.012), which denotes that there are more female deaths than that for males. Another study found that "the direct relationship between 1) murder and the exchange rate ($r_{xy} = 0.924$, P < 0.0001), 2) inflation and poverty ($r_{xy} = 0.834$, P < 0.0001), 3) exchange rate and health-care seeking behavior (HSB), $r_{xy} = 0.854$, P < 0.0001. On the other hand, a moderate direct statistical correlation existed between the exchange rate and mortality ($r_{xy} = 0.663$, P = 0.006), health-seeking behaviour (i.e., HSB) and mortality ($r_{xy} = 0.650$, P = 0.001) and mortality and HSB ($r_{xy} = 0.650$, P = 0.00) (Bourne, Hudson-Davis, Sharpe-Pryce et al., 2014). In addition, a relatively weak positive association indicates that murder is an economic phenomenon; death is greater for those who seek medical care than those who do not; murder goes hand-in-hand with the economic milieu, suggesting that there is an economic-public health issue unfolding during times of economic downturn that extends beyond the social issues surrounding the murders. The issue that arises now is, at what point are women more at risk for murder and how can these risk factors be mitigated.

The current findings did not specify the rate the murders by the genders and whether murders were specifically linked to those that were in a committed relationship, marriage separations that are not legally defined or sexually active marriages. It is more likely that females may be twice as likely to be murdered by their spouses, however, the data did not provide that information. The age and socioeconomic status of those that are murdered by their spouses would also be helpful in determining if the murders are more likely to occur among those of a lower educational level or socioeconomic status. However, as noted by Shackelford (Shackelford, 2001), it appears that females in a co-habiting relationship are in much greater danger of being murdered by their male partners than married females, and these murders are reportedly committed by males at a higher rate than females. National studies conducted in the United States showed that approximately three women are murdered by their husband or boyfriends each day (Connecticut Coalition Against Domestic Violence, 2013). Although no study has been done in the Caribbean on spousal murders, Shackelford's (Shackelford, 2001) research provide some basis for interpreting the number of spousal murders in Jamaica in the last decade, especially the last one half decade.

Documentary checks on the daily tabloids in Jamaica (i.e., Jamaica Gleaner and Jamaica Observer) revealed a number of instances in which husbands have murdered their wives (Jamaica Observer, 2013a; Jamaica Observer, 2013b; Jamaica Gleaner, 2010), and homicide in spousal relationships have also being documented

outside of Jamaica (NDTV, 2012; NDTV, 2013; Gorman, 2014; Daly, 1988; Shackelford, 2000). Studies have found that homicides of females in cohabitating unions are greater than for women in marital relationships (Wilson, 1985; Wilson, 1995), which speaks of the intense conflicts in sexual unions when there is separation, especially in cohabitating unions. This disparity in the homicides of females by their male spouses are documented in the literature even in the United States (Shackelford, 2001). According to Shackelford (Shackelford, 2001) "Married women were murdered by their partners at a rate of 13.11 women per million married women per annum, whereas cohabitating women were murdered at a much higher rate of 116.06 women per million cohabitating women per annum. Thus, cohabitating women in the United States incurred about 8.9 times the risk of murder by a partner than did married women" (Shackelford, 2001). As noted in a recent report, the annual cost of domestic violence in the United States is nearly \$6 billion and this cost continues to increase each year (National Center for Injury Prevention and Control, 2003). As there is limited data to demonstrate the cost of domestic violence in Jamaica, and therefore should be considered when deciding on the development of policies and education related to this matter.

This research cannot support or refute the aforementioned realities; but, it has provided empirical evidence that 79.2% of the variability in murder is caused by divorce and that marriages account for 3%. Legal separation is more than a social issue, it is a public health matter as murders in Jamaica are more than deaths caused by diabetes mellitus, hypertension, ischaemic heart diseases, diseases of the respiratory system, malignant neoplasm of the prostate, and malignant of the breast in the last decade (Statistical Institute of Jamaica, 1970-2014).

With legal separation (divorce) and marriages accounting for 82.2% of the variance in murders in Jamaica, the murder pandemic is parceled in the break-down of sexual relationships. We can deduce from this study, by superimposing Shackelford's work (Shackelford, 2001), that males are taking legal separation more than females, which explains why many of the spousal murders have been committed by them (i.e., males). What we have previously collected, in Jamaica, are the separations that are not legally defined (i.e., break-ups of sexual common-law or visiting unions) as this could provide a comprehensive understanding of the murder issue. Legal separation (i.e., divorce), therefore, has more than a psychosocial impact on the psyche of Jamaicans as resulting in mortality and as such must be brought into public health reviews. The reality is, some marriages will conclude in divorce, divorce and marriages will result in murders and people are ineffectively addressing legal separation. Clearly, public health interventions are needed to prior to the legal separation and moreso following the pending spousal separation. The matter of women being murdered by their husbands is not specialized to Jamaica as the matter occurs in other jurisdictions (NDTV, 2012; NDTV, 2013; Gorman, 2014; Daly, 1988; Shackelford, 2000) as well as the United States (Shackelford, 2001), and so the current findings offer insights into a matter that is of global importance. It has already been empirically established that murder is associated with illness (Bourne, 2012), the present work now expands the discourse to include legal separation and murder, marriage and murder and public health concerns of legal separation.

On examination of the many of the studies on homicides in spousal relationships (Shackelford, 2001; NDTV, 2012; NDTV, 2013; Gorman, 2014; Daly, 1988; Shackelford, 2000; Wilson, 1985; Wilson, 1995; National Center for Injury Prevention and Control, 2003; Wilson, 1992), none of them introduced either the linearity/non-linearity in the relationship between homicides and legal separation or evaluate the contribution of legal separation (i.e.,

divorce) and marriage on murders in a society. This research fill the gap in the literature by examining the two aforementioned issues. Unlike the literature that has a gap that relates to contribution of legal separation and marriage on homicides, this study found that marriage explains some of the murders and it plays a secondary role to divorce in murder phenomenon. Shackelford (Shackelford, 2001) had noted that conflicts in sexual relationships are leading to homicides, which explains what obtains in the Caribbean, especially Jamaica. This work goes further to show that it is not only separation that is accounts for some of the murders; marital relationships, which explain homicides in a society. It is now empirically established that a strong statistical correlation existed between marital relationships and homicides; but, when marital relationships and legal separations are combined together in order to examine their influence on homicides, marital unions account for a miniscule effect on murders.

We can conclude that homicides begin before legal separation starts, which suggest that homicides intensify after separation occurs. These realities are similar to unset of chronic non-communicable conditions and how they terminate many human lives. Like chronic non-communicable conditions, separations in sexual unions as well as marriages must be brought into public health as they are account for many of the homicides. With Bourne et al.'s work (Bourne, Francis, Sharpe-Pryce et al., 2014) showing that in 2008, almost 50% of the mortality are owing to chronic non-communicable diseases and murders being in a pandemic state in the Caribbean, especially Jamaica (Bourne, Blake, Sharpe-Pryce et al., 2012), this study uncovered reasons for the homicides, which offer some insights for public health specialists to address the epidemic of murders in the region. The homicide pandemic has continues for decades in the Caribbean because the causes and explanations have not been understand, and now there are empirical findings that can provide a platform for launching public health intervention programmes that can effectively ameliorate the situation in the region. The spousal homicides are need to be brought into the public health sphere in the World, especially the Caribbean, as if the cost of violence against women have been reported in the United States (Max, Rice, Golding et al., 1999) reflect anything to go by, the Caribbean that are experiencing an exponential rise in murder and with the results of the current findings, the opportunity cost of conflicts and separations in sexual unions include 1) lost productivity; 2) the psychological challenges and the resultant increases in demand for health care utilization; 3) increased medical expenditure of the State; 4) switching of resources away from education, et cetera to health care; 5) increased costs of care of children who enter State care because of the murder of their parent(s); 6) increased cost of juvenile care of children who will exhibit antisocial behavior due to the death of a parent(s) and the 7) cost of not having information to make decision. Bourne (Bourne, 2012) having opined that annual murders in Jamaica are more than the annual deaths caused by HIV as well as deaths occurring due to diabetes and hypertension, and with HIV and non-communicable conditions being public health issues, divorce and marriage must be brought into the public health space, especially in keeping with the opportunity cost of conflicts and separations of spouses.

In many of the reported cases where the husbands murdered their wives (Jamaica Observer, 2013a; Jamaica Observer, 2013b; Jamaica Gleaner, 2010; NDTV, 2012; NDTV, 2013; Gorman, 2014; Daly, 1988; Shackelford, 2000), the reasons (risk factors) for the husbands' actions ranged from 1) spouse wanting a dissolution of the relationship (ie. leaving the union); 2) wives wanting to move on with their lives; 3) sexual promiscuity; 4) reproductive health issues, 5) humiliation, 6) early age of first sex, 7) unsatisfied sexual needs, 8) relationship of short duration, 9) lack of stability, 10) and 11) (Wiltsey, 2008; Kouyoumdjian, 2013; Ellsberg, 2008; Shamu,

2011; Koenig, 2004; Abramsky, 2011; Decker, 2009; Gottman, 1993). Those issues resulted in the husbands killing their wives and oftentimes resorting to suicides. While this study did not examine the psychological state of husbands following legal separation; it can be deduced from the present findings that the psychological state of spouses during and after divorce is lower than for those who are in stable and loving marital unions as this is accounted for in the husbands' behaviour to commit murdering their wives and suicides. This study concurs with Mize and Shackelford (Mize & Shackelford, 2008) that divorce results in homicides and we go further to state that 79% of the variability in homicides are explained by legal separation. Divorce, therefore, must be brought into the public health discourse and wider health policy research and actions as it has negative implications for the wellbeing of people. Within the context of the resultant behaviour of people during and after divorce, especially men, policy makers must implement measures that will commence on the onset of conflicts in marital unions, have pre-and-post divorce therapy for couples more so for men and design a pre-evaluation instrument that determines the psychological state of people who are involved in marital problems, particularly divorce, have indicators of the warning signs in marital unions, how to address the warning signs, and design programmes that can lower the rates of marital murders, post-divorce suicides and institute policies that will address deepseated issues that surface before, during and after legal separation. The reality is, marriage and divorce as more than socio-legal happenings; they must be brought into the public health discourse.

CONCLUSION

The current research indicates that separations in marital relationships are accounting for some of the murders and that males in these unions cannot handle the dissolution of their relationships. We can go further to say that if separations and conflicts in sexual unions are effectively managed, it will significantly reduce murder rates. Males in legal unions (i.e., marital relationships) are experiencing legal separation deficiency, which is impacting on their psychological state and this deficiency is expressed in them killing their spouse. The reality is, men are not effectively dealing with conflicts in marital unions, especially when these lead to legal separations. With more sexual unions than cohabitating ones in the Caribbean, with limited to no legal or moral obligation to that partner, the murder rate may be even worst when these separation occurs in marital relationship. Future studies identifying those murders that are directly a results of one partner committing a violent crime against the other will add value to the discourse of crimes and the public health of murders in the Caribbean. This will provide key evidence to effectively implement changes in the current process in order to prevent future murders but also to aid in increasing awareness for women to better protect themselves from such a terminal end.

Death can be extremely devastating to families, however, murder can severely disrupt the lives of both families along with any children from such relationship. While deaths caused by chronic non-communicable diseases separate families because of the loss of life, murder's consequences continue even after burial and its influence can be handed down from one generation to another. In Jamaica, with murders in the last one half decade being greater than many deaths due to chronic non-communicable diseases, divorce and marriage must be brought into the public health discourse as these account for some of the mortality. As separations in sexual unions have a significant mental health issue which is expressed in divorce that has unearth before in the literature. Furthermore, the cost associated with domestic violence prevention and education

must be taken into account with regards to any campaign or policy development and implementation.

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