





High Rates of Suicide and Violence in the Lives of Girls and Young Women in Bangladesh: Issues for Feminist Intervention

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Abstract: Deaths by suicide in Bangladesh have an atypical sex ratio, with higher rates in females than in males—a characteristic shared with several countries in Southern Asia. Reasons for this are explored in this paper. An examination of the social structure of Bangladesh suggests that girls and women are subjected to higher rates of sexual and physical violence compared with males, especially in rural and urban slum areas. This violence is often linked to the enforced marriage of young girls to older men. A systematic review of 24 studies on suicide and suicidal behaviors in Bangladesh has shown that suicide death rates are exceptionally high in younger women, at a rate of about 20 per 100,000, more than twice the rate in males aged less than 49. In girls aged 15 to 17, the estimated suicide rate is 14 per 100,000, 50% higher than in males. Because of problems in obtaining systematic data on deaths by suicide, these rates are likely to be underestimates. Extreme poverty and lack of education have been recorded as factors in deaths by suicide, although there are methodological problems in reaching such conclusions. We speculate that some of the "suicides" (especially those using poison) may in fact be cases of murder. A dowry system (not sanctioned by Islam) is thought to be a major cause of family poverty, and violence experienced by young girls. In proposing solutions, we argue the case (as Muslims) for the support of an Islamic feminism which urges better support for girls growing up in extreme poverty.

Keywords: Bangladesh; adolescent suicide; female suicide; self-poisoning; gender violence; Islam; poverty; Islamic feminism

Every year on September 10, World Suicide Prevention Day is an opportunity to raise awareness and increase literacy on a highly complex and wide-reaching global health problem. WHO estimates that around 800,000 people die by suicide every year, but this number is likely to be just the tip of the iceberg: for reasons that include the stigma shrouding suicide in many cultures, the lack of adequate vital registration systems, or even the arduous administrative steps that go with the registration of a self-inflicted death, many suicides remain undetected or are routinely misclassified. Regardless of the limitations in the available data, suicides are without doubt among the top 20 causes of death worldwide, and the second leading cause of mortality among people aged 15–29 years, with great variations by region and population group. Perhaps surprisingly but also worryingly, close to 80% of suicides are thought to occur in low-income and middle-income countries (LMICs), where fewer public health resources and reduced access to mental health services limit prevention efforts. Editorial Lancet Global Health (Lancet 2017).

1. Introduction: Why Are Suicide Death Rates in Bangladeshi Females So High, Compared with Those in Males?

The World Health Organization, in issuing periodic information on completed suicide (WHO 2014, 2017), offers a warning to those who try and interpret the data presented on 183 world nations. The quality of the information on suicide rates (that is, the reliability and validity of the rates of suicide submitted by different countries) is not guaranteed by the WHO. Actual rates may vary according to methods of case finding, which differ according to medico-legal systems, and cultural views concerning suicide, of contrasted countries. For this reason, Silverman and De Leo (2016) advocate much greater international co-operation in standardizing the terms used in deciding whether a death has been caused by suicide, including an agreement between different national jurisdictions of whether such a death is suicide, beyond reasonable doubt.

Where systems of deciding cause of death are carried out systematically, by a legally-trained forensic pathologist following clear legal guidelines—as in, say the Medical Examiner systems in Europe and North America—there is reasonable certainty that most deaths by suicide are counted. However, in developing countries where registration of births and deaths is not standardized, and where stigma, both social and religious, is attached to the act of suicide, estimates emerging from national governments may seriously underestimate the rate of deaths by suicide (Pritchard and Amanullah 2007; Colucci and Lester 2012).

Given this reservation, we approach the WHO data on international rates of suicide with caution, including the rate of suicide (especially that of youth suicide) in Bangladesh, a country in which we have a particular interest. However, Wasserman et al. (2005), in their review of international data on youth suicide, draw on WHO data for only 90 countries for whom reliable data seemed to be available: Bangladesh was not one of those countries.

Table 1, drawn from WHO (2017) data for 183 countries which reported on the numbers of deaths by suicide for the year 2015, gives rates by gender for the most populous Western nations (i.e., those in whom a majority of the population are of European-ancestry), and of countries in Asia with populations of more than five million. This group contains the leading nations in which the male to female suicide rates are, unlike those of the Western nations (in which the ratio is about three male suicides for every one female suicide), much closer to parity (in Wasserman et al.'s 90-country comparison, the average male rate was 10.4 per 100,000, and the female rate was 4.1). From the WHO (2017) data, Bangladesh has the *highest* ratio of female to male suicides of any world nation, followed by China, Pakistan, Nepal, and India. Sri Lanka has one of the highest recorded suicide rates for males in any country with a population exceeding 5 million.

As Jordans et al. (2014) conclude from their scoping review of suicide in South Asia, rates are high compared with the rest of the world, but methods of case-recording are underdeveloped. This bias in statistical reporting most likely means that deaths by suicide are *undercounted* in developing countries. "False positives"—recording a suicide death when it did not occur—seems unlikely. We do, however, discuss below the possibility that in Bangladesh, an unknown number of murders of young women are actually disguised as suicide.

This paper reviews the literature on suicide (and other forms of violent injury and death) in Bangladesh, searching for indicators of why, compared with males, the suicide rate in young Bangladeshi females is so high. We do so on the assumption that surveillance systems for recording causes of death in Bangladesh are not well-developed, and because of the stigma which attaches to self-killing in a mainly (89%) Muslim nation, suicide is almost certainly underreported (Canetto 2015). We have, therefore, to look in detail at studies which have been published on suicidal behaviors in Bangladesh, for clues.

Table 1 is divided into halves: the most populous Western nations (i.e., those with a majority of population of European origin), in the top half, and the Asian countries with populations of more than five million in the bottom half. The Western nations show a consistent pattern of suicide rates in males, at more than 2.5 times those in females. In contrast, the countries with the world's highest female to

male suicide ratio (Bangladesh, Nepal, India, and Pakistan) tend to form a contiguous cluster in Asia, while China shows the unique pattern of a relatively high rate of deaths by suicide in both genders. South Korea and Japan also display a particular pattern, with very high rates in males, which are more than double the rate in females. Sri Lanka stands out as a puzzling case with very high rates in males.

Country	Males, Rate per 100,000	Females, Rate per 100,000	M:F Ratio of Suicide per 100 K (Rank Out of 183 Nations)
USA	19.5	5.8	3.54 (134)
Canada	15.3	5.6	2.73 (68)
Germany	13.9	4.5	3.08 (79)
France	19.0	5.9	3.22 (95)
UK	11.7	3.3	3.66 (148)
Australia	15.3	5.6	2.73 (68)
Bangladesh	5.3	6.6	0.80 (1)
China (PRC)	7.7	9.6	0.80 (2)
Pakistan	2.5	2.4	1.04 (3)
Nepal	8.2	8.5	1.32 (4)
India	17.9	14.3	1.26 (5)
Cambodia	17.9	8.5	2.10 (7)
Myanmar	5.9	3.3	1.79 (6)
Malaysia	9.5	3.4	2.79 (69)
Japan	21.7	9.2	2.38 (21)
Sri Lanka	58.7	13.3	4.23 (160)
Indonesia	4.5	1.6	2.81 (75)
Vietnam	11.3	3.4	3.22 (85)
South Korea	36.1	13.3	2.69 (66)

Table 1. World Health Organization (WHO) Data on Suicide Rates by Gender, Selected Countries, 2015.

Bangladesh is not one of the countries in which a well-established medical examiner or coroner system adjudicates on causes of suspicious death, so the rates published by the World Health Organization (WHO 2007, 2017) are likely to be underestimates of rates in both genders. There have been, however, a number of specific studies which have estimated suicide rates in regions, or in special populations in Bangladesh, published during the past three decades, allowing us to offer estimates of rates of death by suicide (Shahnaz et al. 2017).

2. Deaths by Suicide in Asia

Suicide is a major public health problem in Asia, where the suicide rate exceeds the global average, despite problems of underestimated rates in low-to-middle-income (LMIC) countries (Chen et al. 2012; Beautrais 2006). In Asia, suicide rates are higher in the South Asian region (Jordans et al. 2014). In Sri Lanka, the rate is exceptionally high, at more than 35 per 100,000 population (Krug et al. 2000; Khan and Reza 2000). Similar high rates of suicidal deaths have been observed in Nepal, with rates of 25 per 100,000, with the rates for men and women being 30 and 20 per 100,000. These are estimates from locally-based research, and greatly exceed the 'official' WHO ratet has been further observed that unmarried women aged 10–24 years are at most risk of suicide in Nepal (Simkhada et al. 2015).

In most high-income countries, mortality reporting systems are well-established, but this aspect of health surveillance is generally not adequately addressed in public health systems in LMICs (Mashreky et al. 2013). Suicide deaths mainly occur at home, and indeed some deaths may be unreported, so information about cause of death in official statistics is often absent or unreliable. In some rural areas or regions of LMICs, suicide data are not available, and if available, their validity may be questionable, especially when a suicide attempt is illegal, and self-killing offends religious values (Khan 2005; Jordans et al. 2014; Varnik 2012). It is likely that in LMICs, the actual rate of deaths by suicide is significantly higher than the recorded one, while that in developed countries, with their

Source of Data: Age-Adjusted Suicide Rates World Health Organization (WHO 2017).

well-developed coroner and medical examiner systems, is more likely to be accurate. If that is the case, reported differences in rates between developed and developing countries may be much higher than currently estimated.

3. The Cultural Context of this Review—Bangladesh

Bangladesh is a densely populated country, with 166 million people living in an area of 147,570 sq. km., bordered by India, a small border with Myanmar, and access to the ocean via river deltas. Most (89%) of the people are nominally Muslim; the second largest religious affiliation is Hinduism. More than 70 percent of the population live in rural areas (BBS 2014). Income inequality is high and increasing (Lewis 2011; Matin et al. 2014; Nuruzzaman 2017). 31 percent, or around 43 million adults, in the lowest income sector live in extreme poverty, with incomes equivalent to \$2 a day, or less. Poverty is associated with poor maternal and child health, and the health gap between economically advantaged and economically poor children in terms of stunted growth in children is actually increasing (Huda et al. 2017). Tropical monsoons and frequent floods and cyclones inflict heavy damage on infrastructure and agriculture almost every year. Drowning is a major cause of death (Hussain et al. 2000; Alam et al. 2014; Alonge et al. 2017).

A patriarchal social system is dominant. Women are subordinated to men both within the household, and in society at large, often in contradiction of Qur'anic, Sunnah, and Sharia principles (Chowdhury 2016; Hashmi 2000). These culture-based (rather than religious-based) normative structures surround the unequal treatment of female children and women. Gender inequality and discrimination against women is a common (but rarely discussed) factor in Bangladesh society (Parveen 2007). Early marriage of female children is a major problem. Nearly two-thirds of girls are married before the age of eighteen and in many rural areas, more than a quarter of girls are married before they reach fifteen, the highest proportion of child marriages in South Asia (Islam et al. 2016). Effective legislation to prevent the marriage of very young girls is lacking (Dearden 2017). The practice of child marriage is perpetuated by poverty, linked with a traditionally patriarchal society in rural areas, and in the rural-to-urban migrants living in slum dwellings in cities (Hossain 2010).

3.1. The Dowry Issue and Violence Imposed on Females

Considering the issue of "dowry payments" offers an important case study in our understanding of how Bangladesh, a nominally Muslim nation, has not absorbed Qur'anic values with regard to the rights of women. *The Fiqh of Marriage*, the body of law derived from Qur'an and Sunnah (the latter referring to how Qur'anic principles are reflected in the life and teachings of Prophet Muhammad) is clear and unambiguous (Ghaanim al-Sadlaan 1999). Surah 4 *Women*, of The Qu'ran clearly states (verses 4 and 24) that the dower is a gift from the groom (or his father) *to* the bride, minimally of goods worth about £20 (at today's values), or any larger amount that the groom can afford to give. Even on divorce, a wife will never have to repay this; and after divorce, the groom is obliged to maintain his former wife and her children at the same level she enjoyed during marriage. This Islamic law of marriage is largely ignored in Bangladesh (Chowdhury 2010, 2016).

For very poor families, female children are often considered to be an economic burden. Thus, for families living in extreme poverty, marrying daughters to older men is often a survival strategy, albeit one imposed by male hegemony. However, dowry payments (from the female's family to the husband, the *opposite* of what Islamic law requires) are common in Bangladesh (Chowdhury 2010, 2016), but payments required are lower when girls are younger (the closer a girl's age is to her eventual fertility, the higher the cost of the dowry required—for the husband, feeding a fertile wife and enduring the inconvenience of her child will devalue her as a chattel of labor, and makes her a poor bargain). Younger, pre-fertile girls are sold more cheaply to older men (whom the child has never met before) as chattels, servants, and domestic and sexual slaves, as goods to be traded in one of the many legal brothels of Bangladesh, or to be internationally trafficked into a brothel in India or elsewhere (Blanchet 2005, 2010; Bagley et al. 2017a).

Despite Qur'anic principle specifically forbidding the killing of infant girls because they would be an economic burden, female infanticide does occur (Blanchet 2008). However, rates of female infanticide seem to be lower in Bangladesh than in another Islamic nation, Pakistan (Miller 1984; Grant 2017; Bagley et al. 2017a).

In Bangladesh, the Qur'anic principle of the dower is often *completely reversed*. Patriarchy has such power that men claim (with no knowledge of Arabic, or of Qur'anic teaching) that Islam requires that the dowry should be paid by the woman's family to her new husband (Chowdhury 2016). This theological falsehood is mixed with Hindu customs (in nominally Muslim households, in which the 'money child' is referred to as Laxmi, after a Hindu goddess bringing wealth and good fortune (White 2017)). Average levels of these 'reverse dowries' are unknown, but often involve considerable sums, forcing poor families to obtain loans from BRAC, the rural development bank—loans which are purportedly for agricultural development (Lewis 2011).

Sometimes an impoverished family will agree to pay the new husband the dowry in instalments, after the marriage takes place. If the family defaults, then violence may be inflicted upon the child bride. Amnesty International (2011) issued a special report on violence and denial of civil liberties in Bangladesh, and scanned newspaper reports and other records for cases in which violence occurred because of dowry non-payment: they located 3434 cases of violent abuse, 21 of them resulting in the girl's death. Using this and other data, they reach an approximate estimate of two deaths per 100,000 young women at risk, each year, because of dowry-based violence. One recorded death involved a girl of 17 whose 34-year-old husband forced her to swallow a bottle of household cleanser. This alerts us to the possibility that some of the cases of "suicide" involving ingestion of poisons in young women (discussed below) may in fact be cases of murder. (Murders because of unpaid dowry debt are more frequent in India, where it is common for husbands to require payment from their bride's family (Wyatt and Masood 2010)).

3.2. The Rape of Girls and Adolescent Females

It is relevant in painting this picture of the lives of girls and women in Bangladesh to draw on the findings on the rape and attempted rape of girls aged less than 18 in a sample of 61 rural wards (average population, about 3000 in each ward) in parts of Bangladesh served by the Bangladesh Rural Advancement Committee (BRAC) (Fattah and Kabir 2013). Formal complaints to the village administration included 706 reports of rape or attempted rape of a child or adolescent (aged 7 to 17) over a three-year period. The authors acknowledge that this number is likely to be an underestimate, since complaints rarely led to a criminal prosecution, except in the four percent of cases in which the girl was murdered by her rapist(s). In eight percent of cases, the girl or adolescent was gang raped, and in four percent of cases, the girl subsequently killed herself. The majority of victims were aged 15 or less, reflecting the fact that married adolescents were infrequent victims: by age 15, most girls in rural Bangladesh were married. Although the focus of the research was in rural areas, the authors offer some evidence that the frequency of these rapes—which reflect an ethos of male entitlement to sexual access, without fear of penalty—is high in urban areas too. The majority of perpetrators were unmarried adolescents and men, aged less than 25. The data from this study do not allow us to calculate risk rates for rape in young girls, but can say that these penetrative assaults were at the most serious end of the sexual abuse spectrum, and greatly exceed the one per cent prevalence of child rape we have inferred from the world literature (Sawyerr and Bagley 2017). The often-public setting of these violent assaults must, we infer, create a climate of fear amongst young girls. The cultural factors underlying the frequency of these rapes are said to be male hegemony in a patriarchal culture, in which males assume the right to have sexual access to any powerless female they choose, without fear of penalty.

White (2017) offers valuable ethnographic data from a Marxist-feminist analysis, arguing that male hegemony forms a class-for-itself (males), who retain and acquire wealth and power by their often-violent control of, and theft from, women (a theft which also involves frequent sexual assaults

6 of 17

upon the dignity of children and adolescents). But White also gives examples of devout Muslim families who refused to pay a reverse-dowry for their daughters on marriage.

3.3. Rural-to-Urban Migration

Rural-to-urban migration of the very poor is common, with millions living in makeshift dwellings on the periphery of cities (Das 2000; Islam et al. 2008; Hossain 2010). These slums are marked by extreme poverty, lack of clean water and waste management, malnutrition, and high rates of disease and early death. Social integration is poor, education and school buildings are lacking, and religious socialization in basic values is often absent, since there are rarely mosques or madrassas (schools for religious instruction) in these slum areas. According to the ethnographic work of Das, lives are marked by pre-Islamic rituals grounded in despair and fatalism. Islam forbids the sacrifice of female children, but one means to family survival is to sell female children to one of the many urban brothels (Das 2000; Blanchet 2008; Bagley et al. 2017a). Up to two percent of the country's population of girls and women aged 10 to 30 are employed in these legal 'brothel villages' in which mortality (including that by suicide) is high (Bagley et al. 2017a). "Children's rights" in these slum areas may only be "imagined" (Blanchet 2008): a better picture, a comprehensive possibility of meeting children's needs, is described by the policy-oriented anthropologist (White 2007).

There are not many studies which have made systematic comparisons of the millions of shanty town dwellers at the edge of Bangladesh's main cities, with non-migrant groups. In part, this is due to the sheer physical difficulty of entering such areas, and finding co-operative adults to interview. Available studies suggest that mental and physical health of children and adolescents in such areas is significantly worse than in both rural and stable urban dwellers (Mullick and Goodman 2005; Islam 2008). Almost certainly, the disadvantages experienced by girls and women in rural areas pertain in urban slums, probably to a greater extent than in any other part of Bangladeshi society (Islam 2008). The picture of life in these slums is of "a civilization breaking down." Child mortality in these areas is twice the rate in more stable and urban areas, and the prostitution of children is one of the ways for adults to survive (Bagley et al. 2017a).

4. Suicidal Behaviors and Violent Deaths in Bangladesh

Suicide is one of the major causes of death in young adult females in Bangladesh (Mashreky et al. 2013); indeed, a well-conducted epidemiological study, such as that by Mashreky and colleagues, does lead us to conclude that the actual rate of deaths by suicide is much higher than that published in the WHO (2017) overview. Although the officially estimated average rate of suicide in Bangladesh is between 5 and 7 per 100,000 per year, the rate in adolescents (15–19 years) from local studies (e.g., Ahmed et al. 2004; Mashreky et al. 2013; Alonge et al. 2017) is much higher: at least 17 per 100,000 in males, and 23 per 100,000 in females up to the age of 49. These figures are likely to be an underestimate, since many of these deaths occurred in rural areas where procedures for legal and medical surveillance of premature deaths are not well-developed. "Bangladesh is an Islamic country and socially and religiously suicide is stigmatizing, therefore suicide deaths might be hidden by the family." (Mashreky et al. 2013). This idea is supported by Canetto (2015) international survey of suicide rates in women in Muslim countries.

It is notable that contrary to the global pattern, the suicide rate for females in all age groups is higher than in males in Bangladesh (Mashreky et al. 2013; Alonge et al. 2017). Adolescent females (10–19 years) were found to be the most vulnerable, with the rate of suicide of above 20 per 100,000 in rural areas, resembling age-sex specific suicide death rates in Nepal (Simkhada et al. 2015). The suicide rate in Bangladesh is 17-fold higher in the rural population than in urban areas (Mashreky et al. 2013), apparently reflecting the greater incidence of extreme poverty in rural areas.

Mental illness and depression is widely cited as a potential correlate or risk factor for suicide in developed countries, and up to 90 percent of suicides are said to be linked to depression, substance abuse, or psychosis (Vijayakumar 2004; Gjelsvik et al. 2017). However, this link may in part be

artefactual, in that a verdict of "suicide" may be reached only after *prima facie* evidence of mental disorder is available (Kreitman 1977; Shrivastava et al. 2012; Gjelsvik et al. 2017). But since in many other LMICs, such as Bangladesh, mental health is not prioritized by government (with only 0.5% of total health expenditure allocated to mental health and there being no specific mental health authority in that country), construing suicide as a sequel of mental illness may not dominate the conceptual frameworks of officials designating cause of death.

In LMICs, only some four percent of doctors and two percent of nurses are trained in mental health care (WHO 2007). The situation in Bangladesh is not likely to be any better. In the general population and at the governmental level, being psychiatrically ill is likely to be a highly stigmatized status, associated with shame for the family, and neglect by health and social services. The extreme despair which drives the individual to self-killing may be linked to unrecognized or untreated endogenous illnesses (e.g., clinical depression or psychosis); or it may have psychosocial causes within the social system, such as the very low status of girls and young women, and the frequent violence and forced marriage at a very young age within families whose overwhelming problems are those caused by extreme poverty (Ahmed et al. 2004; Nahar et al. 2015).

5. A Scoping Review of Literature on Suicide in Bangladesh

We summaries here a scoping review of the available literature on suicide, summarizing relevant studies published up to January 2017. For details of this methodology, and for a fuller account of findings, the reader is referred to Shahnaz et al. (2017). The objectives of that review were to explore rates of suicide deaths from suicide, and the correlates and presumed causes of such behaviors, in order to develop a model of public health research and prevention. This type of review aims to contextualize existing knowledge, setting it within a practice and policy context, and making recommendations for health care service delivery and evaluation (Anderson et al. 2008).

Searching on title and keywords, 85 studies were primarily selected, of which on consultation 44 were duplicates across databases. From abstract screening, 36 articles were selected for reading of the full text; however, the full text was not available for 3 articles. The remaining 33 articles were read and their quality assessed. Of these, 10 articles failed to meet quality assessment and inclusion criteria, while 23 articles were finally selected for the review.

These 23 studies were based either on community or hospital area populations. Ten were cross-sectional, with six of these 10 carrying out follow-up work with similar populations at later points in time. One review of some earlier literature review was found. Community or population-based studies were predominant in 14 out of 23 studies.

5.1. Prevalence of Suicidal Ideation and Attempts

All but one of the five studies which estimated prevalence were conducted in rural areas. One study investigated six countries including Bangladesh, examining both urban and rural populations (Ellsberg et al. 2008). Three studies included women of "reproductive age" (15–49 years). One study observed that amongst ever-married women in Bangladesh, 21 percent who experienced sexual and/or physical violence in their lives (compared with 7% who did not) reported that they had considered committing suicide (Shahnaz et al. 2017). These findings clearly implied that the experience of physical and sexual violence contributed to suicidal ideation amongst younger women. Naved and Akhtar (2008) investigated possible reasons behind suicidal ideation in women aged 15 to 49, and reported that 12 percent of ever married women (in their stratified random sample of 2702 individuals in rural and urban areas) reported the experience of suicidal ideas and thoughts in their lifetime—5 percent in the previous month, a much higher proportion than in women in other developing countries considered. In this study, women who reported physical violence by their husbands were twice as likely to say they had thoughts about killing themselves. These findings are consonant with the cross-cultural work of Ellsberg et al. (2008).

5.2. Completed Suicide in Community and Population-Based Studies

Ten studies which sampled community populations identified deaths by suicide. Six of these were conducted only in rural areas, with the rest at the national level including both urban and rural areas.

A study in rural areas of North-West Bangladesh observed that in women aged 15 to 49, 5.7% of all deaths were attributed to suicide (Labrique et al. 2013). Another study which included nearly 62,000 women (15+) of "reproductive age" from 70 villages in 10 rural districts (Ahmed et al. 2004), found that women were more than twice as likely to commit suicide than men (4.2% of all deaths in men, versus 8.9% in women).

Higher suicide rates were also found amongst women (13 versus 8 per 100,000) in an earlier study of Ahmed et al. (2004), which included data from 1982–98 in a rural area (Matlab) in Bangladesh. For the period 1976–86 in the same rural area, Fauveau and Blanchet (1989) had observed that 4.9% of deaths among non-pregnant women at age 15–44 years were due to suicide, while 4.1% of post-partum deaths in the same age group were attributed to the same cause. However, suicide amongst women was mostly concentrated (54%) in the group aged 15–19 years.

From the national level studies, we conclude that women were significantly more at risk of death by suicide than were men, usually at more than twice the rate in males of similar age. These various Bangladeshi studies confirm the inverse ranking in gender ratios, i.e., more suicide deaths for females than for males (Beautrais 2006).

Research by Mashreky et al. (2013) showed, furthermore, that suicide as a cause of death was 17 times higher in rural than in urban areas. Younger females in rural areas were particularly likely to die from suicide compared with adolescents in other countries (22.7 per 100,000 of females aged less than 20 in rural Bangladesh).

A comparative analysis of two national level surveys of Bangladeshi females aged 10 to 49 by Nahar et al. (2015) compared data for the years 2001 and 2010, and estimated the prevalence of deaths by suicide to be 23 and 16 per 100,000 in the two years compared, which indicated a decrease in suicide in the younger female population. On historical data, the *Health Science Bulletin* of ICDDR,B (2003) reported that during 1983–2002 in two sub-districts in rural areas of South-West Bangladesh, the suicide rate for all ages was 39.6 per 100,000 per year; amongst those less than 40 it was higher, at 42.0 per 100,000. These are higher rates than those estimated by Nahar et al. (2015), and may reflect more careful case finding and diagnostic techniques concerning causes of death in rural areas. Another reason for a lowered suicide rate could be the lack of availability, in later years, of the most lethal pesticides (Gunnell et al. 2017; Chowdhury et al. 2017).

5.3. Possible Factors Underlying Suicide

Some of the studies calculating suicide prevalence have investigated, explored, or speculated about the causes and factors underlying these deaths. These studies have described 'emotional stress due to family quarrel' as the most common factor of aetiological significance (but these were usually *post hoc* speculations based on information given by the deceased's relatives, without comparison with non-suicidal controls). Thus, Feroz et al. (2012) reported that 'emotional stress due to family quarrel' was frequent (in 60%) in the lives of people who later killed themselves. But again, how this was measured, and the lack of any comparison populations makes this a tentative speculation concerning aetiology. Using the deceased's relatives as sources of information may elicit rationalizations from people who feel covertly guilty about the death of a family member. The second most common cause claimed by several studies was poverty.

Three other studies found 'emotional stress due to family quarrel' as the most commonly alleged cause, with relatively high frequencies (50.7%, 65.5%, and 57%) (Chowdhury et al. 2011; Reza et al. 2014; Feroz et al. 2012). 'Suicidal death in any relative' (23.0% and 48.7%), 'marital disharmony' (49.3%, 46.9%, and 41.7%), and 'previous attempts at suicide' (43.3%) were also reported as prevalent causes or factors associated with suicide in several studies (Reza et al. 2014; Feroz et al. 2012).

Infertility was also identified as a possible causal factor in suicide (Ahmed et al. 2004). In impoverished families, the role of the young wife must focus on adequate performance in providing her husband with 'good food, good sex, and good children'. "Failure" in such role performance can have serious consequences. Divorce and expulsion from the family home by husband is one possibility; severe physical punishment is another; voluntary or involuntary death occurs at the extreme end of this spectrum of sexist maltreatment (Rashid 2006).

5.4. Methods of Suicide

Mashreky et al. (2013) found in a national survey that 78% of suicides among males, and 50% among females, had used either hanging or self-poisoning to kill themselves. This study found that pesticide was the most frequently used poison (in 80%). In this study, by hanging themselves, 19% of males and 41% of females died by suicide. A community-based study in a rural area by Feroz et al. (2012) observed that hanging was the most common method (62.5%), followed by poisoning (31.2%). Rail and road injuries (deliberately standing or jumping in the path of trains or traffic) accounted for 6.2% of completed suicide events. A comparative analysis of two national surveys in 2001 and 2010 found that poisoning was the most common method (68.2%), followed by hanging (19.7%), in the first year of focus (Nahar et al. 2015). In 2010, poisoning, while being the most common method, was used less often (53.1%), while hanging was increasingly common (40.6%). Given that drowning is the most common cause of "accidental death" in a country with many waterways and frequent flooding (Ahmed et al. 2004; Alam et al. 2014; Alonge et al. 2017), it is surprising that so few officially recorded suicides have used this method. The possibility remains that numbers of such drowning deaths are actually suicide, but are not recorded as such. Or it could be as some suicidologists have observed (e.g., Colucci and Lester 2012) in cross-cultural work on suicide, that for some, suicide is a symbolically aggressive act, and slow or spectacular methods (poisoning, hanging oneself within the household) have important symbolic significance, unlike being "just another drowning death".

5.5. Socioeconomic Variation in Suicide, Suicide Attempts, and Suicidal Ideation

Some of the studies reviewed measured rates of suicide according to socioeconomic differences. Variables identified have been educational level, socioeconomic status, and income level. Feroz et al. (2012) found that 45.7% of the people who committed or attempted suicide belonged to the least educated class, compared with 37.1% in the lower middle class, with the fewest (17.2%) in the middle and upper-class (these estimates did not calculate rates according to the populations at risk in each educational or socioeconomic category).

In the work of Feroz et al. (2012), families with low incomes (less than 5000 Taka, or less than about \$60 a month) had the highest rates of suicide. Socioeconomic status, measured by a composite score of earning capacity, housing status, and possession of essential and luxury goods in the family, identified a clear socio-economic gradient in completed and attempted suicide cases: 68.4% of such cases occurred in the lower classes, compared with 7.3% in those in the 'upper class'. No data are available on differential methods and motives in suicide, according to social class criteria.

Reza et al. (2014) observed that 80.5% of all suicide cases were from lower (<3000 Taka i.e., < about \$30 per month) or lower-middle (3000–5000 Taka per month) income groups. Through a national survey in 2003, Mashreky et al. (2013) observed that the majority of suicide victims (55.0%) were found to be economically very poor, with a monthly family income of less than \$50 a month; and 14% of the suicide victims' family members earned less than \$25 a month. The same study found also that illiteracy was a strong correlate of suicide (42% of the suicide victims were illiterate).

The studies reviewed suggest a clear possibility that chronic poverty, associated with poorer education and illiteracy, is a significant risk factor for suicide in both genders. Despite some methodological problems in these studies, we feel that it is safe to conclude that completed suicide rates are significantly higher in the very poorest groups, and these economic circumstances may be of aetiological significance.

6. An Additional, Confirmatory Study

Since this scoping review was undertaken, focusing on literature published up to January 2017 (Shahnaz et al. 2017), a further comprehensive study of fatal and non-fatal injury outcomes in Bangladesh has been published (Alonge et al. 2017). In the same issue of *Lancet Global Health* for August 2017 Gunnell et al. (2017) review available studies cross the world on the effects of banning the most noxious pesticides on suicide rates. The majority of the 38 studies reviewed show clearly that removing noxious pesticides from legal sale (as defined by the WHO) does result both in the reduction of the numbers who die by this method of suicide, and in an overall reduction in actual suicide rates. Chowdhury et al. (2017) report that Bangladesh passed laws between 1998 and 2007 banning sale of the most noxious pesticides, resulting not only in a reduction of deaths using this method, but in a net reduction of about 10 percent in the actual suicide rate (the lack of availability of the most lethal pesticides). This finding could account for the decline in deaths by suicide in Bangladesh reported in the earlier work of Chowdhury et al. (2011).

The team led by Alonge et al. (2017) conducted sample surveys with 1.7 million adults living in 453 villages in rural areas of Bangladesh, and asked respondents (in June to November 2013) about any deaths and serious injuries occurring in their household in the previous 6 months. Judgements were then made by trained interviewers using a structured questionnaire about the nature and causes of each serious injury and death (no external validity or reliability data were available, so these accounts could have been underestimates of rates of suicide).

Suicide was found to be a leading cause of injury-related deaths in those aged 15 to 24, with more than 50% of such deaths occurring in females. "Drowning" accounted for 38.3% of all "injury deaths", but was rarely reported as a form of suicide.

Suicide death rates in males were: 10–14, 2 per 100,000; 15–17, 9 per 100,000; 18–24, 2 per 100,000. In females, suicide death rates were:

10-14, 4 per 100,000; 15-17, 14 per 100,000; 18-24, 9 per 100,000.

Overall, death from suicide in younger males (10–24) occurred in 5 per 100,000 of those at risk; and in younger females (10–24) at the rate of 9 per 100,000. These rates are much higher in both males and females, than those given in earlier WHO data (Wasserman et al. 2005), and in the WHO (2017) world comparisons. In these figures, the male:female imbalance (compared with Western data) is even more marked than that implied by WHO (2017). Hanging was the most frequent form of death from suicide in this Bangladeshi study (in 59%), followed by poisoning, usually from household substances, in 31%. Thus, although highly toxic pesticides are now rarely available to individuals, self-poisoning from bleach, ammonia, and other available substances in the household is still widely used as a method of suicide. Indeed, using "less toxic" substances is likely to lead to a more lingering and painful death than a substance such as paraquat. Sixty percent of all suicides occurred in or close to the domestic dwelling.

No structural correlates of rates of accidental and violent death and injury are given in this study, and we look forward to further reports from this valuable dataset.

7. Summary and Review of Findings, and Proposals for Intervention

The main findings from this overview suggest that girls and young women (who often enter marriage prior to age 18 (Islam et al. 2016)) aged 15–29 years, in rural and urban slum areas of Bangladesh are particularly at risk for suicide, compared with males of similar age. Girls aged 10 to 14 (including some who were already married) also had high rates of suicide, compared with most other countries in which younger adolescents aged 10–14 have been identified as having much *lower*

rates of completed suicide than older individuals (Hawton and O'Connor 2012). This self-killing of Bangladeshi girls occurred both prior to or soon after their being married to older men.

These adolescents also had an unexpectedly high death rate from violence that was *not* self-inflicted, an indicator of the very vulnerable status of these individuals whose levels of formal schooling were minimal, and who lived in impoverished families (Varnik 2012). Another possibility is that some of these young women were in fact murdered, or were required by others to kill themselves, crimes passed off as suicide Ronsmans and Khlat 1999; Amnesty International 2011).

Such young women often had experience of violence imposed first by their family, and then by their spouse, with the addition of sexual violence imposed on immature females. One study found that following marriage, adolescents were physically abused by both their original families, and their new husband, so that levels of abuse actually increased after marriage (Ahmed et al. 2004).

It was suggested by some studies that lower socioeconomic status in terms of lack of income, education, or assets were significant antecedents of suicidal behavior (Reza et al. 2014; Feroz et al. 2012; Mashreky et al. 2013). However, further studies are required to arrive at definitive conclusions about social factors in the aetiology of suicidal behaviors (Nahar et al. 2015).

It is clear from the research that most cases of completed suicide occur in rural areas, and unlike studies undertaken in developed countries, females outnumber males in completed suicide. These young women are poorly educated or are illiterate, live in families enduring extreme and chronic poverty, in which the status of females is low, and in which violence against women is common. The evidence suggests that married women aged 15–29 years with experience of physical and sexual violence, and living in rural areas, constituted the most vulnerable segment of the population for suicidal behavior.

We note with interest the work of Ronsmans and Khlat (1999), which was not included in the studies in the scoping review of studies on suicide, since they conflated "unintentional deaths" in women aged 15 to 49 into a single rate, including deaths from suicide, murder, and failed abortions. They argue that these three kinds of death (particularly common in teenagers) are linked within a poverty-afflicted rural culture, in which unwanted females and unwanted children and/or pregnancies are sometimes subjected to extreme violence, including forced abortions, forced suicides, or becoming a victim of murder. There is a need here for qualitative and ethnographic studies on the social meanings of 'suicide', and other forms of death, and of the empowerment of women.

Compared to many other world countries, Bangladesh experiences a considerable difference in the prevalence of gender-related suicide, with the unusual manifestation of suicide prevalence being much higher in females. Young girls both before and after 'child marriage', and younger married women, contribute disproportionally to Bangladesh's suicide rate, and these rates of self-harm and self-killing appear to reflect both physical and sexual violence imposed by family and spouse (Feroz et al. 2012; Ahmed et al. 2004; Ronsmans and Khlat 1999; Hadi 2005). Sometimes, this abuse is extended to effectively "selling" a young girl into bondage, which may result in brothel servitude, or sexual trafficking to another country (Das 2000). There may, according to our ethnographic work, be cases of "hidden suicide" within these brothels.

8. Development of a Public Health Prevention Model

First of all, the wretched status of female children, adolescents, and young women in rural Bangladesh (and in the slum dwellings on the periphery of cities into which many of the rural poor migrate) compared with that of males cannot be overstated. The case for an Islamic feminism in Bangladesh has been eloquently argued by Hashmi (2000) in *Women and Islam in Bangladesh: Beyond Subjection and Tyranny*. Hashmi begins with a quote from the Qur'an: "And for women are rights over men similar to those of men over women." (2:228)—that is, Islam properly observed, guarantees women equality with men, except under Qu'ranically prescribed instances: a woman for instance will inherit a smaller amount of a family's property. The same Qur'anic verse establishes the *duties* of men with regard to their spouses. But in rural Bangladesh, a woman will likely inherit nothing despite her

Shariah law entitlement, with all property being claimed by those in the male line, whenever there is wealth or property to leave. Hashmi ends his study of Bangladeshi women with the gloomy conclusion: "... patriarchy has been the main stumbling-block towards the empowerment of Bangladeshi women. The marriage of convenience between patriarchy and popular Islam has aggravated the situation." (p. 209).

In the rural-urban slums described in the ethnographic accounts of Das (2000) and Hossain (2010), there is profound poverty, and the absence of schools, mosques, and madrassas (religious schools). Unremitting malnutrition, lack of medical care, and starvation-level employment means that "unwanted" females (including girls of 12 or younger) may be sold either for sex-trafficking, or for use in one of the many brothels which exist in every city of Bangladesh.

We have proposed a public health model for preventing suicide which, first of all, reflects existing epidemiological data and the identified risk factors. It is clear that any program must be focused firstly on girls and women, and their rights in an Islamic society. This also means the initiation of programs of education for both adolescent females and males. In elaborating this approach, we have proposed a demonstration project in a rural area of Bangladesh, which will be contrasted with a "control" district of similar demographic and socioeconomic status (Shahnaz et al. 2017). Combining this with an approach used in The Philippines (Bagley et al. 2017b) of giving financial support for secondary school students to a parent (conditional upon the student continuing to attend secondary education) would mean that the pressures for adolescents to forgo education because their employment or marriage was necessary to support an impoverished family would no longer prevail. We argue that the students in the focus secondary institutions should receive an adequate education in Muslim citizenship, the universal values of Islam in which students absorb the high ideals of daily living of respect and equality between genders prescribed by the Qur'an and the Sunnah.

9. Suicide Prevention in Bangladesh: National Initiatives

Our proposed national model, which would run in parallel to the experimental program outlined above, reflects programs of suicide prevention which have been offered and evaluated in other cultures (Hawton et al. 2016; Zalsman et al. 2016) and includes both general and specific interventions (e.g., counselling and mental health support following a suicide attempt).

The epidemiological data from the above review suggest that married women and adolescents aged 10 to 29 years who experience physical and sexual violence from husband, and from their family in rural areas are significantly at risk for suicide, suicide attempts, and suicidal thoughts. 'Consciousness building' for young women should be considered as an important approach, concerned with how women of all ages recognize and resist the male hegemony which imposes violence (and suicidal despair) on women (Parveen 2007). This can also be approached through educational programs in secondary schools, not only in the schools involved in the proposed experimental study. But the reality is that free basic schooling is available only at the primary level. Many parents cannot afford to keep a child in secondary schooling, and household duties, marriage, and basic-level employment are the fate of many young adolescents.

For those who have already left education, telephone help-lines are an interesting possibility, given the ubiquity of mobile phones, even in very poor families in rural areas. A national helpline has been established in Bangladesh for communication to an online support service for those who are enduring stress, despair, and suicidal thoughts—but this new initiative is not well-publicized, or well-funded, and the professional quality of the help offered is unknown. Such helplines are well-established in many countries, but deserve better research evaluation and are well-researched (Hawton 2005; Zalsman et al. 2016). This telephone helpline could be publicized through TV advertisements, given that most individuals in rural areas are able to watch TV programs, albeit in a communal space. TV is another possibility of giving the message (in brief information programs) of the righteousness of treating girls and women with the respect they deserve in an Islamic culture. Internationally, the dilemma is whether to advocate cross-national movements to improve data collection (and international action) on behalf of disempowered women—versus local action campaigns on behalf of women (Raj 2017). While we would like to see both movements going forward, at the present time we perceive the most utility in localized campaigns such as that which have been advocated in Bangladesh with regard to commercial sexual exploitation of girls (Bagley et al. 2017a).

In sum, on the basis of the knowledge derived from this literature review, our knowledge of Bangladeshi culture, and our commitment to the ideals of Islam, we suggest that more research in both urban and rural areas should be conducted, which can form the basis for monitoring new prevention programs aimed at reducing suicidal behavior in Bangladesh, and for raising the consciousness and status of women to that promised by Islam. Although most of the research reviewed was conducted with rural populations (who are easier to access than the often chaotically organized dwelling places of city dwellers), there are no reasons to suppose that violence and self-harm (including deaths from suicide) have a lower incidence in girls and women in the urban poor. Nor can we assume that Islamic values have greater hold in urban areas.

We emphasize that Wasserman et al. (2005) international survey of youth suicide called for more prevention work on "these needless deaths". While there have been advances in program development in more affluent countries (Zalsman et al. 2016), in low- and middle-income countries there seems to have been little progress, and in Bangladesh none at all. Vijayakumar (2004) described the task confronting suicidologists in developing countries as "urgent". It remains so (Lancet 2017). Novel approaches such as those we propose in rural Bangladesh, and in its city slums may be unconventional; they may not work, but they are worth trying—as for example a novel program of income support for rehabilitation of high school girls pulled into commercial sexual exploitation was successful in another developing country (Bagley et al. 2017b).

Finally, we respond to a reviewer's comment on an earlier draft of this paper: that we should address the issue of ending the chronic structural problems of Bangladesh imposed by neoliberal policies, which may be responsible for the huge differences in income between a small ruling elite, and the large majority who remain, desperately poor from generation to generation. These problems have been addressed in detail by Nuruzzaman (2017) who analyses data for different periods of time to show that the high proportion of adults who survive on less than 1800 calories a day (25% of the population) has not decreased, and poverty levels in many areas of Bangladesh are increasing. This is attributed to the influence of an international neoliberal economic agenda, which has required that since the early 1980s, in return for international aid from the IMF and other bodies, Bangladesh must maintain a free market economy which ensures a passive workforce that remains perpetually poor.

It is this chronic poverty, we contend, which allows a culture of male dominance and subordination of girls and women, to thrive. Since we cannot change these structural problems, we offer localized public health initiatives, and the strengthening of women's Islamic voices.

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