



Original Contributions

Suicidal Behaviour in South Africa and Bangladesh: A Review of Empirical Work

Anisur Rahman Khan¹

Institute for Social and Health Sciences, University of South Africa; Masculinity and Health Research Unit, South African Medical Research Council-University of South Africa; and Department of Sociology, East West University, Dhaka, Bangladesh

Kopano Ratele

Institute for Social and Health Sciences, University of South Africa; Masculinity and Health Research Unit, South African Medical Research Council-University of South Africa

Rebecca Helman

Institute for Social and Health Sciences, University of South Africa; Masculinity and Health Research Unit, South African Medical Research Council-University of South Africa

ABSTRACT

Suicidal behaviour is as significant a public-health concern in the global South as it is worldwide. In this article we offer a review of studies on suicidal behaviour in two countries in the global South – one in Asia (Bangladesh) and one in Africa (South Africa). A total of 20 South African and 16 Bangladeshi articles published between 2008 and 2018 were selected using PubMed and Google Scholar databases. Only empirical, research-based articles with an explicit focus on the prevalence and causes of suicide in both countries were screened and selected for this review. The review confirms that in both countries suicidal behaviour tends to be higher among certain younger age groups and people of low socio-economic status. In South Africa, non-fatal suicide attempts are more evident among females, whereas fatal suicidal

¹ Please direct all correspondence to: Anisur Rahman Khan, Department of Sociology, East West University, Dhaka-1212, Bangladesh; Email: arkhan@ewubd.edu



behaviour is more common among males. In Bangladesh, both fatal and non-fatal suicidal behaviour are more evident among females than males. Mental-health-related problems are prominently reflected as strong factors associated with suicidal behaviour in South African literature, while social factors such as marital disharmony, violence, and family problems pervade the Bangladeshi literature. From studying the extant literature, we propose that while large-scale surveys and observatories are needed, it is equally necessary for researchers to conduct more in-depth qualitative research, specifically taking into account gender, to have a richer and more nuanced appreciation of the psychosocial issues and socio-cultural contexts of suicidal behaviour. Comparative, transnational research between the two countries is also recommended. The development of national and subnational databases and surveillance systems, the extension of mental-health support, reduction of gender and economic inequalities, and promotion of social cohesiveness are some of the critical intervention strategies necessary to prevent suicidal behaviour in both South Africa and Bangladesh.

Keywords: Suicidal behaviour; factors; prevalence; South Africa; Bangladesh

INTRODUCTION

Suicidal behaviour is as major a contributor to the burden of disease in the global South as it is beyond the South (Naidoo, Naidoo, & Naidoo, 2015; World Health Organization [WHO], n.d.). It is considered a serious public-health concern with far-reaching social, emotional and economic consequences. Globally, it is estimated that close to 800 000 people die by suicide every year (WHO, 2014, 2017, 2018a; Naghavi, 2019). The World Health Organization (n.d.; 2018b) estimates that around 80% of suicides are committed in low and middle-income countries. Suicide was the 17th leading cause of death in 2015 (WHO, n.d.). Available indicators suggest that for each adult who dies by suicide, between ten and thirty people attempt suicide (WHO, 2014; Michel, & Gysin-Maillart, 2015; Bachmann, 2018).

Suicidal behaviour occurs throughout the lifespan. Although apparently rare, suicide occurs even among children under 15 years old, worldwide (Kölves, & De Leo, 2014), but in all countries suicide is rare among children below 12 (Williams, & Mark, 2001; Kelleher, & Chambers, 2003). By contrast, suicide is reported to be the second leading cause of death in those between 15 and 29 years old (WHO, 2014: WHO, 2017). Globally, males are more likely to commit suicide than females (Curtin, Warner, & Hedegaard, 2016; Demir, 2018). However, women make more suicide attempts than men (Vijayakumar, 2015; Player et al., 2015; Rivers, 2014; Schrijvers, Bollen, & Sabbe, 2012).



Despite the global estimates, the exact rate of suicide may vary, as many countries do not have any standardised methods of collecting information on suicide. The quality of data also varies from country to country (Bagley, Shahnaz, & Simkhada, 2017). Unlike data on completed suicide, no country in the world provides statistical data on attempted suicide or other suicidal behaviour (Bachmann, 2018). Therefore, relating the national trends of completed suicide to those of attempted suicide is difficult (Bertolote, & Fleischmann, 2005). Suicide rates tend to be underreported owing also to weak surveillance systems, poor case-recording, lack of resources, stigmatisation, misattribution or misclassification, the criminalisation of suicide, inaccurate ascertainment, and socio-cultural or religious sanctions. Despite all these complexities, most countries show either a steady or an escalating trend in the rate of suicide (WHO, 2013; Chen, Wu, Yousuf, & Yip, 2012; Schlebusch, & Burrows, 2009).

Compared to Europe and North American countries, less comprehensive data on suicide is available for Asian countries. Data-related weaknesses notwithstanding, suicide is of grave concern in Asia due to its vast population and the relatively high suicide figures (from available data) compared to Western countries (Yip, 2008). Studies indicate that more than half of the global suicides (around 60%) take place in Asia (Chen et al., 2012; Maniam, 2012; Värnik, 2012; Vijayakumar, 2015). Notably, according to the 2016 Global Burden of Disease Study, a handful of Asian countries, namely China, Japan and India, together account for about 44.2% of the global suicide mortality (Naghavi, 2019; Beautrais, 2006; Värnik, 2012). Roughly 60 million people are affected by suicide or attempted suicide in Asia every year (Beautrais, 2006; Vijayakumar, 2015). Despite the severity and pervasiveness of suicide in the region, suicide receives relatively less attention in Asia than in European and North American countries. Therefore, the problem of suicide in Asia may be even more serious than the numbers show (Hendin, 2008; Wu, Chen, & Yip, 2012).

Similar to Asia, data on suicide in African countries is poor. Therefore, the full extent of the burden of suicidal behaviour, incidences and patterns of suicidal behaviour remain unknown in Africa. Official figures are available for only 15% of Africa's population and less than 10% of African countries (Mars, Burrows, Hjelmeland, & Gunnell, 2014). Estimations of suicide in most African countries, with a few exceptions (Okpaku, Ukoli, & Nzerue, 2010), are constrained by the lack of systematic data-collection (Mars et al., 2014; Burrows, Hjelmeland, & Gunnell, 2014; Wasserman, & Wasserman, 2009). Hence, suicidal behaviour among Africans are not well understood (Mars et al., 2014; Schlebusch, 2004, 2012).

According to the WHO (2016), the average suicide mortality rate in Africa is 7.4 per 100 000 of the population, compared to the global average of 10.6/100 000. Despite the lower average global rate, a few African countries show a higher trend than the global rate. Lesotho has the highest average suicide mortality



rate (21.2/100 000 population). Some other countries with higher than average suicide rates include Equatorial Guinea (16.4), Cote d'Ivoire (14.5), Swaziland (13.3), Cameroon (12.2), South Africa (11.6), Cape Verde (11.3), and Zimbabwe (10.7). The lowest rate is evident in Sao Tome and Principe, with 2.3 per 100 000 of the population.

DEFINITION OF KEY TERMS

There are inconsistent uses and descriptions of 'suicidal behaviour' (Schlebusch, 2005; Klonsky, May, & Saffer, 2016). In this article, 'suicidal behaviour' refers to a series of components (emotions, cognitions and actions) cohering around the desire to kill oneself (Bantjes, & Kagee, 2013; Shahnaz, Bagley, Simkhada, & Kadri, 2017). 'Suicidal behaviour' therefore includes not only acts of completed suicide, but also feelings, ideas, thoughts, and attempts at suicide (Schrijvers, Bollen, & Sabbe, 2012; WHO, 2014). The term 'suicidal completions' refers to acts of persons that led to their death (Bantjes, & Kagee, 2013). 'Suicide attempts' refers to acts of persons who attempt suicide but unexpectedly survive (Sheindman, 2004). 'Suicidal ideation' refers to a preoccupation with suicide (Santos, Marcon, Espinosa, Baptista, & Paulo, 2017).

Suicidal behaviour can also be categorised as fatal and non-fatal: acts that result in death are fatal, whereas those that do not result in death are non-fatal. Non-fatal suicides may also be referred to as attempted suicide, parasuicide and deliberate self-harm (Burrows, & Schlebusch, 2008). It must be noted that suicidal intention (whether explicit or implicit) is often difficult to establish, as it is surrounded by uncertainty or even concealment (Mars et al., 2014; WHO, 2014).

BRIEF OVERVIEW OF THE PROBLEM OF SUICIDAL BEHAVIOUR IN SOUTH AFRICA

South Africa, a middle-income economy marked by sharp socio-economic inequality and marked poverty across race, gender and urban-rural divides, had a population of nearly 58 million people in 2018 (Statistics South Africa, 2018). Around 35% of people live in rural areas and 65% in urban areas (Hearn, Shefer, Ratele, & Boonzaier, 2018). Under apartheid laws, the people of South Africa were officially categorised into four racial groups: African or Black, Coloured, White, and Indian or Asian. Despite the dismantling of apartheid in 1994, these categories continue to be used as defining characteristics in politics, social life and research.



Suicidal behaviour is a significant public-health problem in South Africa (Khuzwayo, Taylor, & Connolly, 2018). It must be noted that because of apartheid policies – prior to 1994 and the advent of democracy for all races – suicide statistics were not accurately and consistently reported for all racial and ethnic groups, due to the perverse and discriminatory politics of the country (Botha, 2012; Kazi, & Naidoo, 2016). Reliable figures on suicidal behaviour have remained elusive, even after 1994 (Bantjes, & Kagee, 2013). Nevertheless, suicide is estimated to be one of the three leading causes of unnatural death (Kazi, & Naidoo, 2016; Schlebusch, 2012) and to account for 10% of unnatural deaths (Schlebusch, 2012; Mars et al., 2014). Research suggests that suicide rates in the country range from 11.5/100 000 to 25/100 000 of the population, and that the estimated fatal (completed suicide) to non-fatal (suicide attempts, plans and ideation) ratio is 1:20. Fatal suicidal behaviour occurs predominantly in males, with an estimated female to male ratio of 1:5. Non-fatal suicidal behaviour is more evident in females, with an estimated female to male ratio of 3:1 (Schlebusch, 2012).

A limited number of large sources of reliable, quality data on suicidal behaviour are available in South Africa. Some examples of large data-sets are those of the South African Stress and Health (SASH) study, the Durban Parasuicide Study (DPS) and the National Injury Mortality Surveillance System (NIMSS). All of these are, however, characterised by numerous obvious problems. None of them is up to date. The SASH was a large-scale, population-based, nationally representative study of mental disorders among adults. However, the suicide data collected was restricted to suicide attempts, plans and ideation. The data is now 14 years old. The DPS was limited to the Durban area. Introduced in 1999 with the aim of collecting regular, accurate and comprehensive data on injury-related deaths, including completed suicidal behaviour (Medical Research Council & University of South Africa's Safety and Peace Promotion Research Unit, 2013a, b), the NIMSS is ongoing and has the potential of providing quality, timely data on suicide. The surveillance system is, however, plagued by numerous problems. These include the fact that it does not provide information/data on all of the country, and only collects data on completed suicides. There are no reports after 2011. Despite these limitations of coverage, a number of studies have used NIMSS and SASH data.

BRIEF OVERVIEW OF THE PROBLEM OF SUICIDAL BEHAVIOUR IN BANGLADESH

Bangladesh is one of the most densely populated countries in the world, with a population of approximately 165 million (Bangladesh Bureau of Statistics [BBS], 2015). Despite the severity of suicide and it being a criminal offense, there is no surveillance or nationwide monitoring mechanism and no countrywide survey



or comprehensive database specifically recording suicidal behaviour (Bagley et al., 2017; Khan, Ratele, Arendse, Zahidul, & Dery, 2020; Salam et al., 2017; Shahnaz et al., 2017; Shah, Sajib, & Arafat, 2017; Reza et al., 2017). There is also a paucity of empirical research on suicidal behaviour (Shahnaz et al., 2017; Arafat, 2016; Mashreky, Rahman, & Rahman, 2013). Police records, the media, courts hospitals, forensic settings and studies on selected populations are the major sources of information available in Bangladesh (Reza et al., 2017; Chowdhury et al., 2018; Shah et al., 2018). The Bangladesh Health and Injury Survey (BHIS) (2005) and the survey conducted for the Saving of Lives from Drowning (SoLiD) project are the two widest-ranging sources for suicidal-behaviour-related data. Three publications that have documented the findings of these two surveys are included as part of this review.

It should also be kept in mind that suicide figures are likely to be underestimated in Bangladesh, because suicide is a criminal offence (Shahnaz et al., 2017; Choudhury, Rahman, Hossain, Tabassum, & Islam, 2013). Moreover, as a Muslim-dominated state, suicide is religiously and culturally stigmatising (Mashreky et al., 2013; Begum et al., 2017). Therefore, it is difficult to obtain accurate information on suicidal behaviour in Bangladesh.

Data from the Bangladesh Health and Injury Survey (BHIS) in 2005, the first community-based survey exploring the epidemiology of injury-related information, including fatal suicide, in 12 districts, shows that suicide is the fourth leading cause of injury-related death in Bangladesh. More than 10 000 people die due to suicide every year in Bangladesh. The average rate of suicide in Bangladesh is 7.3 per 100 000 of the population per year (Mashreky et al., 2013). The rate of suicide was found to be 17-fold higher in the rural population than in the urban population (Mashreky et al., 2013).

The SoLiD Baseline Census in 2013, which covered approximately 1.2 million people from the rural areas of 5 districts, found an average rate of death by suicide of 14 per 100 000 of the population per year. This survey estimates that about 168 suicides occur in the country every day (Alonge et al., 2017; Salam et al., 2017).

It should be noted that the Bangladesh Health and Injury Survey (BHIS) of 2005 is now 14 years old and only data on fatal/completed suicide was collected. Although the SoLiD Baseline Census 2013 included both fatal and non-fatal suicidal behaviour, this survey only represents rural areas.



RATIONALE OF THE STUDY

Given the relative lack of synthesised work on suicide in both Asia and Africa, the present article presents a review and comparative analysis of recent empirical literature available on suicidal behaviour in one country in Asia and one in Africa, namely Bangladesh and South Africa. As an African case, there is a comparatively large number of empirical studies on suicidal behaviour available on South Africa. The opposite is true for Bangladesh, where suicide research is relatively new and limited. Scant research has been conducted before 2008. In contrast to South African studies, suicide research initiatives in Bangladesh still tend to focus on the basic information such as prevalence and risk factors, with very limited variability. The review is thus intended to present an overview of the empirical research available in both contexts, as well as to highlight gaps and possible directions for future work on suicide in South Africa and Bangladesh.

SCOPE OF THE STUDY

While we would want to go farther, it must be noted that the scope of the study was limited to two basic indicators – the *prevalence* of and *factors* associated with suicidal behaviour – due to the fact that whilst the South African literature is broader, including issues such as masculinity, the Bangladeshi literature focuses predominantly on these two issues. In order to create a comparative framework, only South African studies focusing on these two issues were therefore included in the review. By ‘prevalence’ we mean the rates of suicide among the population in general, as well as among certain groups of the population (e.g., different age groups, genders, races/ethnicities, and groups of differing socio-economic status). By ‘factors associated with suicide’ we mean the causes (such as individual, social and contextual aspects) shown to be related to suicidal behaviour. The time-span for this review is 10 years (2008 to 2018), mainly because the field of suicide studies is relatively new in Bangladesh. In order to create a comparative review, studies from South Africa prior to 2008 were not considered.

OBJECTIVES OF THE STUDY

The review had five key objectives: i) to explore the prevalence of suicidal behaviour in both countries, ii) to identify the key factors associated with suicidal behaviour in both countries, iii) to present a preliminary comparison of the prevalence of and factors associated with suicidal behaviour in the two countries, iv) to identify implications for future research, and iv) to suggest prevention interventions.



METHODOLOGY

An electronic search for journal articles was conducted via PubMed and Google Scholar. The three key inclusion criteria were that articles (i) had to have been published from 2008 to 2018; (ii) had to be based on empirical research (as opposed to theoretical pieces, letters, editorials, reviews, content analyses, records, etc.); and (iii), had to be published in English. The following search terms were used to locate the articles: “suicide/suicidal behaviour in Bangladesh”, “suicide/suicidal behaviour in South Africa”, risk factors/causes of suicide/suicidal behaviour in Bangladesh/South Africa”, “prevalence/overview”+“correlates of suicide/suicidal behaviour Bangladesh/South Africa”, “epidemiology of suicide/suicidal behaviour in Bangladesh/South Africa”, “mental disorder”+“suicide/suicidal behaviour in Bangladesh/South Africa”, “male/female suicide/suicidal behaviour in Bangladesh/South Africa”. Both qualitative and quantitative studies were included in the review.

After an initial inspection of the abstracts and titles, a total of 40 full-text articles were downloaded on South Africa and 30 on Bangladesh. The full-text articles were then read and assessed against the eligibility criteria (prevalence and factors) of the review. In this process, ineligible articles, duplicates, editorial notes, content analyses, reviews and highly clinical and technical papers were removed. Book chapters, conference proceedings and dissertations were also not considered for inclusion. Ultimately, the review was based on 38 articles, made up of 20 articles from South Africa and 18 from Bangladesh. Key information of the reviewed articles is presented in Annexures A (South Africa) and B (Bangladesh).

PREVALENCE OF SUICIDAL BEHAVIOUR IN SOUTH AFRICA: POPULATION-RELATED VARIABLES

Employing the NIMSS data, Bantjes and Kagee (2013) estimated that between 2002 and 2008 the average annual prevalence of suicide in South Africa was approximately 13.25 per 100 000 of the population, accounting for approximately 9.6% of all unnatural deaths. The NIMMS data also suggest that suicidal data represent a gendered practice as 80% completed suicides in South Africa were by males. Completed suicide is estimated to be 4 times more prevalent in men than women (Bantjes, & Kagee, 2013).

The first South Africa-wide research on non-fatal suicidal behaviour (the SASH) was conducted between January 2002 and June 2004 on a sample of 4351 adults (18 years and above). It was estimated that the



lifetime prevalence rates of suicide ideation, plans and attempts were 9.1%, 3.8% and 2.9% respectively (Joe, Stein, Seedat, Herman, & Williams, 2008a; Joe, Stein, Seedat, Herman, & Williams, 2008b).

The prevalence of suicidal behaviour has been found to be higher among certain groups of the population, including women, adolescents and young adults, black and Coloured people, and people of low-socioeconomic status.

Engelbrecht, Blumenthal, Morris, & Saayman (2017) analysed records at the Pretoria Medico-Legal Laboratory and found that of the people who had died by suicide 76.4% were men and 23.6% were women. Victims fell in the age range between 14 and 88 years, with the highest number of victims falling within the age groups of 21 to 30 years, and 31 to 40 years. In terms of racial categorisation, 447 (46.7%) were black, 477 (49.8%) were white, and 33 (3.5%) victims were Coloured or Asian.

In the SASH project, Joe et al., (2008a; 2008b) found that women tend to attempt suicide twice as often as men (3.8% vs. 1.8%). In terms of racial categorisation, Coloured South Africans had the highest lifetime prevalence of suicide attempts (7.1%), followed by Indians (2.5%), blacks (2.4%), and whites (2.4%). The risk of attempted suicide was found to be higher in the age group 18 to 34.

A study conducted among Grade 10 students in 16 rural schools in the KwaZulu-Natal province revealed that 222 students (12.6%) had made plans to attempt suicide during the previous 12 months and 261 (14.8%) had actually attempted suicide (Khuzwayo et al., 2018). The researchers found that female students are at higher risk of both planning suicide and suicide attempts (Khuzwayo et al., 2018).

Among secondary rural and urban school adolescents (aged between 12 and 18) in the Free State province, the lifetime prevalence of suicide plans was 18.3% for females and 7.7% for males (Mashego, & Madu, 2009). The lifetime prevalence of suicide attempts and attempts in the past two weeks were 14.8% for females and 4.2% for males. Another study among adolescents between 10 and 18 years in the Western Cape and Mpumalanga provinces reported much lower rates of suicide attempts (2.2% for boys and 4.1% for girls), suicide planning (3.0% for boys and 6.3% for girls), and suicidal ideation (5.6% for boys and 8.5% for girls) (Cluver, Orkin, Boyes, & Sherr, 2015).

A study among students at the Universities of Pretoria (UP), Cape Town (UCT) and the Free State (UFS) found a high prevalence of suicidal ideation (32.3%) and suicide attempts (6.9%) among the students (Van Niekerk, Scribante, & Raubenheimer, 2012).



Some studies have shown that younger (ages 18 to 34), female, and less educated South Africans are at higher risk of suicide attempts (Joe et al., 2008a; 2008b). These studies suggest an intersection of population variables. However, study among male and female tuberculosis patients found that suicidal ideation was more prevalent among women and suicide attempts more prevalent among men (Peltzer, & Louw, 2013).

FACTORS ASSOCIATED WITH SUICIDAL BEHAVIOUR IN SOUTH AFRICA

Fifteen studies included in this review focused on the various factors associated with suicidal behaviour in South Africa. Physical and psychological illnesses, social and interpersonal factors, and gambling have been found to be associated with an increased risk of suicidal behaviour. Research highlights that suicidal behaviour is higher among patients suffering from both physical and psychological illness. Some studies report a dual effect of psychological and physical illness. One study in rural Mpumalanga by Rodriguez, Cook, Peltzer and Jones (2017) found higher rates of suicidal ideation among pregnant women who were HIV-positive, compared to pregnant women who were HIV-negative. Approximately 39% of the HIV-positive women experienced suicidal ideation. Peltzer and Louw (2013) reported that being a TB re-treatment patient, psychological distress, PTSD symptoms, harmful alcohol use, chronic illness, and having a sexually transmitted infection (STI) were associated with suicide ideation and attempts.

Fourteen percent (14%) of Xhosa men and women (115 men and 22 women) diagnosed with schizophrenia and schizoaffective disorder from hospitals and community treatment centres in the Cape Town Metropolitan area reported attempting suicide (Lückhoff, Koen, Jordaan, & Niehaus, 2014). The most common psychiatric symptoms reported during the most serious suicide attempts were psychosis, followed by depression. Cannabis use, substance abuse or dependency and lifetime bizarre behaviour were also risk factors for suicidal behaviour (Lückhoff et al., 2014). One study found that respondents with at least one DSM-IV disorder were four times more likely to attempt suicide and respondents with three or more disorders were eight times more likely to attempt suicide and to develop suicidal ideation than those with no psychiatric disorder (Joe et al., 2008a). A study by Khasakhala et al. (2011) found that 61% of the respondents who considered killing themselves at some point in their lifetime reported having a prior DSM-IV disorder. They also found a strong association between the onset of mental disorders and suicidal planning (64%) and attempts (70.3%).

Vawda (2014) found higher levels of depression, perceived stress and hopelessness, peers' suicidal ideation and anger to be strongly associated with various suicidal behaviours among the Grade 8 students in a school



in Durban. In their study on suicide attempts in Durban hospitals, Naidoo et al. (2015) found that a large number of the participants (63.8%) were suffering from varying levels of depression, indicating that depression is an important co-morbidity risk factor in suicidal behaviour. Most of the participants in their study were female, single, of a younger age group, unemployed, and of a low education and low-income level. Bantjes, Kagee and Saal (2017) found that common mental disorders were significantly associated with suicidal ideation among HIV patients. For example, individuals with depressive mental disorders were approximately 5.5 times more likely to report suicidal ideation.

Social and interpersonal factors have also been identified as important facilitators of suicidal behaviour. For example, Shilubane et al. (2014) found a strong correlation between behavioural (forced sexual intercourse, bullying and physical violence by the partner) and psychosocial (lack of social support and negative feelings about the family) factors and suicidal ideation among 591 school-going (Grades 8 to 11) adolescents (male and female) in four districts of the Limpopo province. This study also explored a small positive correlation between suicidal ideation and having experienced financial problems. Importantly, depression was found to be a mediating factor between psychosocial and behavioural risk factors and suicidal ideation. Rodriguez and colleagues (2017) found that suicidal ideation was strongly associated with intimate partner violence and stigma among women who were HIV-positive. Cluver et al. (2015) discovered that childhood adversities such as parental death, abuse and violence increased suicide attempts threefold and suicide planning fivefold. Moreover, food insecurity was also noted to be associated with increased suicide attempts and planning.

The high rates of completed/fatal suicides among men have been explained in relation to social-cultural norms. A qualitative study based on the case analyses of 52 fatal suicides (75% men vs 25% women) in a village in Bushbuckridge, Mpumalanga province, found that investment in dominant masculine positions was the major antecedent to male suicide. Men tend to take their own lives as a means of escape when they find that their masculinity is in crisis. These crises were evident in the form of sexual and financial failure, illness and insanity, and stigmatisation (Niehaus, 2012). A study with a racially mixed group of 13 young university students from the Western Cape found that the failure to attain and practice traditional masculine hegemonic masculinity produced feelings of disconnectedness, displacement and marginalisation in men. Feeling invisible, thwarted belonging, and feelings of shame give rise to self-destructive behaviour and self-injurious acts (Bantjes, Kagee, & Meissner, 2017). Meissner and colleagues (2016) reported that suicide is a goal-directed behaviour that provides men with a means of control, asserting power, communicating and making themselves visible; it is a way of demonstrating masculinity by compromising personal well-being. In contrast to men, women may engage in suicidal behaviour in response to being

dominated by men. Subordination in the family, disturbed conjugal lives, as well as the experience of mistreatment and violence by men are some the factors related to masculine domination that lead to women's suicidal behaviour (Niehaus, 2012).

Stein, Pretorius, Stein and Sinclair (2016), in turn, explored the association between suicidality and pathological gambling (PG), with a sample of 92 treatment-seeking gamblers who called the South African National Responsible Gambling Programme's (NRGP) gambling helpline. It was found that a history of a comorbid psychiatric disorder, depression and a family history of psychiatric disorders are associated with the risk of suicide among pathological gamblers. At the same time, increased severity of gambling also correlated significantly with the severity of suicidality.

PREVALENCE OF SUICIDAL BEHAVIOUR IN BANGLADESH: POPULATION-RELATED VARIABLES

The prevalence of suicidal behaviour in Bangladesh has been found to be higher among women, adolescents and young adults, and members of lower socio-economic groups. The prevalence of suicide has also been found to be higher among people living in rural areas. Using information on completed suicide cases in some rural areas of the Hobiganj district, Ara, Uddin & Kabir (2016) found that 35% percent of people who died by suicide were male and 65% percent were female. The BHIS found that the rate of suicide per 100 000 of the population was 6.5 for men and 8.2 for women (Mashreky et al., 2013). A study conducted at a hospital in the Dinajpur district found that 70% of 20 suicide cases analysed were committed by women (Choudhury, Rahman, Hossain, Tabassum, & Islam, 2013). In a community-based survey among pregnant women in a rural sub-district of eastern Bangladesh, Gausia, Fisher, Ali and Oosthuizen (2009) reported that 14% of the women experienced suicidal ideation. However, the SoLiD Baseline Census reported only a slightly higher tendency of suicidal behaviour in women, compared to men (Alonge et al., 2017; Salam et al., 2017).

The BHIS reported that among the 10-to-19 and 20-to-29-year age groups the rates of suicide were found to be 11.3 and 11.7 per 100 000 of the population respectively (Mashreky et al., 2013). Similarly, the SoLiD Baseline Census found that the risk of both fatal and nonfatal suicidal behaviour was higher among adolescents (15 to 17 years) and young adults (18 to 24 years). Suicide was reported to be the leading cause of injury deaths in adolescents aged 15 to 17 years (33%) and young individuals aged 18 to 24 years (26%) (Alonge et al., 2017; Salam et al., 2017). Choudhury and colleagues (2013) observed that it was higher in the age group 20 to 35 years (60.0%). A cross-sectional study of 71 cases of completed suicide in the



Jhenaidah district revealed that 42.3% of the victims belonged to the age group 18 to 27 years (Kamruzzaman, & Hakim, 2016). Ara, Uddin and Kabir (2016), in turn, found that out of 40 completed suicide cases, the highest prevalence was evident in the age group between 20 and 29 years (30%). Referring to a sample of 56 patients from the Suicide Prevention Clinic situated at a medical university in Dhaka city, Shah, Sajib and Arafat (2018) noted that most of the patients were below 25 years, and the majority were students. Death by suicide was found to be significantly higher in rural than urban areas, and the highest rate of suicide was found among rural females – 15.5/100 000 of the population per year (Mashreky et al., 2013). About 9% of rural women and 26% of urban women with suicidal ideation reported attempting suicide (Naved, & Akhtar, 2008).

With regard to suicide attempts, a cross-sectional study carried out at a private hospital in Dhaka with 44 patients admitted after a suicide attempt found that 43.2% survivors were from the age group up to 20, followed by 31.8% from the age group between 21 and 30, and the majority were females (Qusar et al., 2009). Another study conducted with 38 survivors of suicide attempts at Dhaka Medical College Hospital reported that most of the individuals were females (55.3%), and that most fell into the age group between 20 and 45 years (Halim, Nargis, & Hasan, 2016).

The BHIS reported that most suicide victims were poor and illiterate (Mashreky et al., 2013). Another study found that people belonging to the lower class were more likely to commit or attempt suicide (45.7%), followed by 37.1% belonging to the lower middle class, 14.3% from the middle class and 2.9% from the upper class (Feroz et al., 2012). Choudhury and colleagues (2013) identified that out of 20 cases of completed suicide, 55% were people belonging to a low socio-economic group.

As in South Africa, an intersection of population variables are evident in some studies in Bangladesh. For example, younger women (15 to 19 years) were found to be more likely to demonstrate suicidal ideation than older women (Naved, & Akhtar, 2008). Married, less educated people from a lower socio-economic background were found to be prone to suicide (Kamruzzaman, & Hakim, 2016). Another study found that early adult, female, unmarried students were more vulnerable to suicide (Shah et al., 2018). One study noted that younger individuals, females, less educated people, students, substance users, people who are living in nuclear families, and those with a family history of suicide, are more exposed to suicidal ideation (Mali, Akter, & Arafat, 2018).

FACTORS ASSOCIATED WITH SUICIDAL BEHAVIOUR IN BANGLADESH

During the review period of 2008 to 2018, twelve studies analysed the factors associated with suicidal behaviour in Bangladesh. Mental-health problems, psychological distress, and various social, familial and relationship issues have been found to be associated with suicidal behaviour.

Similar to South Africa, mental-health problems have been found to be associated with suicide in Bangladesh. Four studies explored the strong association of mental-health problems with suicidal behaviour. Shah, Sajib and Arafat (2018) categorised the risk factors that are associated with suicidal behaviour under various domains, such as psychiatric, psychological, social, biological, special, and medical. Among the domains, psychiatric factors constituted major risks (30.93%), followed by psychological (29.90) and social (28.87%) factors. Depression was found to be the most common factor in the decision to commit suicide, followed by personality, obsessive-compulsive disorder, anxiety disorders, bipolar depression, and substance-use disorder. In a study among 121 patients receiving psychiatric services at a tertiary teaching hospital, Arafat, Akter and Mali (2018) found that suicidal ideation among the patients was predominantly associated with depression (26.62%), feelings of hopelessness (22.31%) and hallucination (5.79%). In a population-based study in a rural area of the Chandpur district in which 625 individuals took part, Wahlin, Palmer, Sternäng, Hamadani and Kabir (2015) found that suicidal thoughts were very prevalent in the 60+ population living in rural Bangladesh who had depressive symptoms. Qusar et al. (2009) found that the majority of people who attempted suicide (77.3%) were suffering from various psychiatric disorders before the attempts. Gausia et al. (2009) revealed that antenatal depression is a major cause of suicidal ideation. Depression was mostly triggered by problems with family members/husbands and financial constraints.

Social and relationship problems are strongly associated with suicidal behaviour in Bangladesh. Ara et al. (2016) reported that incidences happened because of relational problems (unhappy affairs, family/marital problems) and instrumental problems (financial and unemployment problems, failure in life). Among the risks, love affairs constituted the most important predictor (14.25%). Two other major predictors explored in the study were marital discord (11.17%) and familial disharmony (10.89%) (Ara et al., 2016). Kamruzzaman and Hakim (2016) found conjugal conflict (31%), family problems (16.9%), economic crisis (14.1%) and biological crisis (11.3%) to be some of the major determinants of suicide. Akter, Mali and Arafat (2018) found that the major risk factors of self-harm were familial discord (28.2%), followed by marital disharmony (10.3%), mental disorders (12.8%) and premarital relationship issues (17.9%), among

others. Similarly, Halim et al. (2016) identified the major risks associated with suicide attempts to be family-related troubles (55.3%), followed by poverty 28.9%, wife-battering (10.5%), and so on.

Halim, Khondker, Wahab, Nargis and Khan (2010) examined all the cases reported to two sub-district hospitals in the Naogaon district from March to June 2003, and determined that 71.8% of suicide attempts were due to emotional stress, followed by family violence, disturbed family, social deprivation, stressful events, and health problems. Reza et al. (2013), in a case-controlled study of both males and females in the rural areas of the Chuadanga district, found that the causes of suicidal behaviour included emotional factors such as personal problems and economic hardship, chronic disease, physical problems, familial psychiatric history such as a suicide attempt by any relative, familial suicidal predisposition, marital disharmony, familial conflict, individual factors such as sleeping disturbances, a history of criminal behaviour, and uncertainty about life. Naved and Akhtar (2008) found that domestic violence perpetrated by a husband (physical, sexual and emotional) is a significant precipitating factor for suicidal behaviour. Rural women who are severely physically abused by their husbands are four times more likely, and urban women twice more likely to report suicidal ideation. Gausia et al. (2009) found that physical violence by husbands either during or before a current pregnancy, an unhelpful or unsupportive mother-in-law, and a family preference for a male child, are some of the causes for suicidal ideation among women. A high number (25.4%) of married females reported that conflict with their husbands was a major cause for attempting suicide. Suicide attempts were more evident among adolescent females who married at an early age (Halim et al., 2010). A lack of education has been found to be associated with more suicidal ideation among young women (Naved, & Akhtar, 2008). Therefore, education might act as a protective factor in this population group.

DISCUSSION

This review identified the prevalence of, and factors associated with various kinds of suicidal behaviour in Bangladesh and South Africa. Although the countries are on two different continents and are characterised by cultural and social differences, there appear to be similarities in the prevalence of, and the factors associated with suicidal behaviour. However, there also appear to be clear differences between the two countries. Below we highlight both the similarities and the differences revealed by the review.

Firstly, there are some similarities in terms of the research approaches that have been used in both countries. Both the countries favour a quantitative research approach. Only a few studies in South Africa (e.g. Niehaus, 2012; Bantjes, Kagee, & Meissner, 2017; Meissner, Bantjes, & Kagee, 2016) adopted an exclusively qualitative approach. No exclusively qualitative study was found for Bangladesh. While a few researchers

mentioned using both qualitative and quantitative approaches in their studies (e.g. Gausia et al., 2009; Halim, Nargis, & Hasan, 2016; Ara et al., 2016), the qualitative findings were given minimal attention.

Another key similarity between the two countries is a lack of exclusive surveys on suicidal behaviour. Although one exclusive survey was conducted on non-fatal suicidal behaviour (SASH) in South Africa, no study has so far been conducted exclusively on suicidal behaviour in Bangladesh.

With regard to suicide prevalence, in both the countries suicidal behaviour is most common among the younger age groups. In South Africa, specific studies noted that the age groups between 18 and 34 years (Joe et al., 2008a; 2008b), between 21 and 30 years (Engelbrecht et al., 2017), and between 16 and 17 years (Khuzwayo et al., 2018) are at higher risk of various suicidal behaviours. On the other hand, in Bangladesh, a few studies noted that the age groups between 10 and 19 years, between 20 and 29 years (Mashreky et al., 2013; Alonge et al., 2017; Salam et al., 2017; Feroz et al., 2012; Ara et al., 2016), between 20 and 35 years (Choudhury et al., 2013), and between 18 and 25 years (Mali et al., 2018) are at higher risk of suicidal behaviour. These findings are consistent with various studies conducted elsewhere. For example, in the US, suicide is the third leading cause of death among teenagers and young adults (Gould, & Kramer, 2001; Cash, & Bridge, 2010). The high rates of suicidal behaviour among the youth have led both Australia and New Zealand to pay increasing public and policy attention to the issue of youth suicide (Beautrais, 2000).

The second important similarity is that females tend to show higher non-fatal suicidal behaviour in both countries. This finding is consistent with other studies conducted elsewhere. For example, Bae, Ye, Chen, Rivers and Singh (2005) in the USA and Kaess et al. (2011) in Germany traced higher rates of non-fatal suicidal behaviour in females. Studies in South Africa confirm that men tend to die more by suicide, whereas studies in Bangladesh confirm that women tend to die more by suicide. The trend of female suicide deaths in all age groups in Bangladesh is contrary to the global trend, since the rates of suicide in most countries are higher among males than females (Mashreky et al., 2013; Alonge et al., 2013; Naghavi, 2019). This Bangladeshi trend of female suicide is comparable with that in some countries/regions extending from the southern parts of India to China, along with a few Pacific islands (Vijayakumar, 2015; Naghavi, 2019). Notably, China is among the very few countries in the world where females commit more suicides than males (Vijayakumar, 2015). This can perhaps be explained by rigid marriage customs and marital relationships, harassment in the workplace, family conflicts, an authoritarian family structure, birth-control policy, and rural-urban inequality, which may promote female suicidal behaviour (Lee, 2014). The South African higher trend of male suicide, on the other hand, is consistent with the global general trend of male suicide (WHO, 2014; Schrijvers et al., 2012; Naghavi, 2019).

Another similarity between the two countries are the rates of non-fatal suicidal behaviour. For example, in the case of South Africa, the prevalence of suicidal ideation is reported to be as high as 39.0% (Rodriguez et al., 2016). In the case of Bangladesh, ideation prevalence rates are reported to be as high as 45% (Wahlin et al., 2015). There are also some similarities between the incidences of completed suicides. For example, according to NIMSS data, the annual prevalence of suicide in South Africa is 13.25 per 100 000 of the population (Bantjes, & Kagee, 2013). According to the BHIS, the annual prevalence of suicide in Bangladesh is 7.3 per 100 000 of the population, but when the rural female suicide prevalence is counted, it goes up to 15.5 per 100 000 of the population (Mashreky et al., 2013), a figure that is quite comparable with the South African context.

In the South African context, psychiatric and psychological factors are found to be strongly associated with suicidal behaviour. A number of studies confirm a range of psychological and psychiatric factors, such as psychiatric disorders and mood disorders, to be associated with suicidal behaviour. Four studies in Bangladesh have also traced psychological or psychiatric factors as important predictors of suicidal behaviour. The relationship between suicidal behaviour and various psychiatric and psychological factors has been well documented in various research works in Asia and Africa and in the global context. For example, the reviews of Mars et al., (2014) on the African continent, Masango et al. (2008) on a global perspective, Vijayakumar (2005) on Asia, and Ahmed et al. (2017), specifically on the South-East Asian perspective, explored psychiatric and psychological factors as significant predictors of suicidal behaviour.

On the other hand, various social factors, such as marital disharmony, marital violence, and family and relationship problems, were found to be more pronounced in Bangladeshi literature than in South African literature. In these cases, women and girls are the most likely victims of suicidal behaviour. Several studies elsewhere have found marital violence/familial discord to be a significant cause of suicidal behaviour. A few recent examples include the studies conducted by Gulliver and Fanslow (2013) in New Zealand, and Dufort, Stenbacka and Gumpert (2015) in Sweden. The review article of Colucci and Montesinos (2013) found that immigrant and ethnic minority women from Africa, South Asia and the Caribbean region living in America and Europe are exposed to violence against women and suicide.

In examining the locations in which the research has been conducted, it is clear that the Bangladeshi studies have been conducted predominantly in rural areas, while in South Africa there is a mix of focus on urban and rural areas. In South Africa, educational-institution and hospital-based studies are also more common. In Bangladesh, there are a few hospital-based studies, but no educational-institution-based study.



The review has also highlighted some unique, but under-researched issues, particularly in the case of South Africa. For example, Niehaus (2012), Meissner et al. (2016) and Bantjes et al., (2017) have explored the implications of hegemonic masculinity, the crisis in gender relations, and renegotiations of masculinity in suicidal behaviour in the South African context. The relationship between gambling and suicidal behaviour is also a unique research focus in South Africa. In particular, considering the fact that men globally commit more suicide than women, a specific research focus is needed on the implications of masculinity in suicidal behaviour in Bangladesh.

CONCLUSION: FUTURE RESEARCH, PREVENTION AND INTERVENTIONS

Based on the review we present the following four submissions, provocations, and potential lines of questioning, for future research and policy.

Firstly, it is well understood that more empirical research is required both in South Africa and Bangladesh, as the dynamics of suicidal behaviour are manifold and intersect with various dimensions of social identity (including the economy, gender, rural and urban divide, region, age, culture and religion). For both countries, but particularly for Bangladesh, it is imperative not only to diversify the research focus, but also to expand the methodological approaches. Research on suicidal behaviour should not be limited to a positivist epistemology and quantitative methods. While the dominance of quantitative approaches in suicide research in other parts of the world is undisputed (Scourfield, Fincham, Langer, & Shiner, 2012; Fincham, Langer, Scourfield, & Shiner, 2011), qualitative approaches would help to improve our understanding and interpretation of suicidal behaviour in Bangladesh and South Africa, just as it would in other world contexts (Hjelmeland, & Knizek, 2010). In-depth interviews, and ethnographic and auto-ethnographic and life histories can assist in producing meaningful and rich data about economic, cultural, psychological, political and situational factors that contribute to suicidal behaviour (Bantjes, & Kagee, 2013; Mars et al., 2014).

Secondly, researchers from both the countries should explore new areas/aspects of suicidal behaviour. In the context of Bangladesh, where suicide research is relatively new, potential gaps include suicidal behaviour in urban areas, among persons with chronic or stigmatised diseases (e.g., HIV or other sexually transmitted diseases), among young people (specifically students), among different cultural or ethnic groups, and among men. Currently, more than 30% of people live in urban areas in Bangladesh, with urbanisation occurring at a rapid rate (BBS, 2017). Suicide rates are generally higher in urban than rural



areas in most countries of the world (Hirsch, & Cukrowicz, 2014; Ping, 2005) Therefore, exploring the correlates and contexts of suicidal behaviour in urban areas can be a significant topic for research in Bangladesh. The studies included in the review suggest that women commit more suicide than men in Bangladesh, but research on men's suicidal behaviour should not be overlooked. For example, some research in South Africa has postulated a link between men and masculinity and suicidal behaviour (see Bantjes et al., 2017; Meissner et al., 2016; Niehaus, 2012). This could also be investigated in the Bangladeshi context.

Thirdly, although the South African literature is comparatively richer, some of the important areas that have been touched upon by the researchers in Bangladesh could inform future South African research. These include suicidal behaviour among elderly people, in rural areas, and among women facing intimate-partner violence.

And fourthly, researchers in both South Africa and Bangladesh should conduct comparative research on key aspects affecting both countries. Comparative research will not only help to expand the current knowledge base, but is also likely to create more opportunities for experience-sharing and the adoption of appropriate policy interventions.

In the light of the lessons learnt from undertaking this review, in this final section some possible intervention strategies are proposed.

Firstly, in the South African literature, and also to some extent in the Bangladeshi literature, mental-health-related problems were identified as a key cause of suicidal behaviour. Hence, it is suggested that the focus on mental healthcare be intensified in both contexts. Hospitals, community clinics and other community-based organisations need to be much better equipped with the necessary skills and resources to support persons living with mental illnesses.

Secondly, the imperative to develop and maintain a systematic, up-to-date, quality national database on suicidal behaviour is obvious. It would help the concerned stakeholders to measure the risks and adopt appropriate action plans and prevention programmes. Quality and timely national public surveillance systems tied to emergency, on-call counselling support services to people who are suicidal or to people who seek assistance on behalf of their loved ones, family members, colleagues, or friends, are important intervention resources. Few organisations in South Africa are extending emergency support, and those support services must be extended on a national scale. In Bangladesh, where mental-health support

mechanisms are even weaker, the government should be persuaded to develop a national surveillance system.

Thirdly, the review shows that the factors related to suicidal behaviour are multiple and that suicide does not simply stem from psychological or psychiatric factors. Therefore, attention should also be paid to the economic, political, cultural and gender contexts in which suicidal behaviour occurs. Efforts must be made to develop a healthy social and family environment by, for instance, preventing and reducing structural violence, gender-based violence, economic inequality, poverty, and gender inequality. Government and concerned stakeholders have to be made to appreciate that suicidal behaviour is not merely an individual problem, but a social one. This implies working with health and community activists to form a broad coalition for suicide prevention.

Finally, to develop meaningful prevention programmes, intervention strategies must maintain strong interaction with research data, theoretical insights, and recommendations. Such data, insights and recommendations should guide the development and implementation of suicide prevention and treatment interventions.

COMPETING INTERESTS

The authors declare that there are no competing interests.

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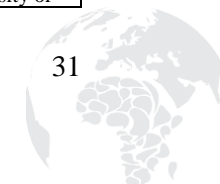
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ANNEXURE A: TWENTY (20) STUDIES ON SUICIDAL BEHAVIOUR IN SOUTH AFRICA (PREVALENCE & FACTORS)

Researcher (s)	Major Theme/Focus	Sample	Research Approach/ Methods/Tools	Key Findings	Field
Bantjes & Kagee (2013)	*Prevalence of suicide	NIMSS 2002-2008 sample	*Analysis of NIMSS data	*Overall prevalence of suicide is 13.25 per 100000 population *Suicide accounts for 9.6% unnatural deaths *Males commit more suicides than females (80% vs. 20%) *Age-group (15-29 years) commit more suicide (35.9%)	* Mortuaries
Joe et al. (2008a) & Joe et al. (2008b)	*Prevalence and causes of suicide ideation, planning and attempts (nonfatal)	*4351 adults (15-44) * Both male and female *All races	*Quantitative * Survey	* Lifetime prevalence rates of suicide ideation, plans and attempts are 9.1%, 3.8% and 2.9% respectively. *Coloured race with the highest prevalence of suicidal attempts (7.1%) & ideation (33.4) * Younger, female, and less educated persons are at higher risk for suicide attempts *Risk for attempted suicide is highest in the age group 18–34 *Females tend to attempt 2 times more than males *DSM–IV disorders were significant risk factors for a lifetime suicide attempt	*Nation-wide *Both rural and urban areas *Households & hostels
Bantjes, Kagee & Saal (2016)	Prevalence and causes of suicidal ideation and behaviour (plan & attempt)	*500 persons seeking HIV testing *Female 258 *Male 242 *Coloured 363 *Black 131 *White 4 *Other 2	*Quantitative *Structured clinical interview	* Two-week prevalence of suicidal ideation is 24.27%, higher than the national sample * Lifetime prevalence of attempt 5.2%, higher than the national sample *Depressive mental disorder is strongly associated with suicidal ideation	* Three HIV testing sites at periurban areas surrounding Cape Town
Rodriguez, Cook, Peltzer & Jones (2016)	Prevalence and causes of suicidal ideation	*673 pregnant women HIV infection (18 years older)	*Quantitative * Edinburgh Postnatal Depression Scale 10 (EPDS-10) * Conflict Tactics Scale 18 * Disclosure scale * AIDS-Related Stigma Scale	* 38.8% women endorsed suicidal ideation *Physical violence and stigma strongly associated with suicidal ideation	*12 community/rural health centers at Gert Sibande and Nkangala districts in Mpumalanga province
Peltzer & Louw (2013)	Prevalence and causes of suicidal ideation and suicidal attempt	*4900 tuberculosis patients	*Quantitative *Cross-sectional survey	*326 (9.0%) TB patients had suicidal ideation and 131 (3.1%) had a history of a suicidal attempt * Females patients tend to have suicidal ideation, males an attempt	*42 primary care clinics in three districts of three provinces * Siyanda in Northern Cape Province, Nelson

Researcher (s)	Major Theme/Focus	Sample	Research Approach/ Methods/Tools	Key Findings	Field
			*Kessler psychological distress scale	* Being a TB retreatment patient, psychological distress, PTSD symptoms, harmful alcohol use, chronic illness, STI are associated with suicidal behaviour	Mandela Metro in the Eastern Cape Province, and eThekweni in KwaZulu-Natal Province
Lückhoff, Koen, Jordaan & Niehaus, (2014)	Prevalence and causes of suicidal behaviour	*974 Xhosa schizophrenia or schizoaffective disorder sample population (784 males and 190 females)	*Quantitative *Questionnaire	* 137 (115 males and 22 females) participants had a history of previous suicide attempts. The majority of the participants (84.7%) (n = 116) with suicidal behaviour are single. * Cannabis use or abuse or dependency and lifetime bizarre behaviour are the risk factors for suicidal behaviour * Most common psychiatric symptoms during the most serious attempt was psychosis (85%), followed by depression (13%; n = 111)	* Hospitals and community treatment centers in Cape Town Metropole
Engelbrecht et al. (2017)	Prevalence of completed suicide	* 957 cases of suicide victims	*Quantitative *Case record investigation	*Whites & males commit more suicide * Highest victims from age groups 21-30 years	Pretoria Medico-Legal Laboratory
Khuzwayo, Taylor & Connolly (2018)	Prevalence and causes of suicidal plan and attempt	*1759 ten (10) grade students	*Quantitative *Questionnaire	*222 learners (12.6% of the 1 759) made plans to attempt suicide during the previous 12 months, 261 (14.8%) attempted suicide, and 218 attempts had resulted in the learner being treated by a doctor or nurse (12.4%). *Suicidal plan and attempted suicide are higher with females than males *Age group between 16-17 are at higher risk of suicidal plan and attempt *Being threatened with a weapon on the school (for male), being hurt by a dating partner (for female) is the significant causal factor for suicidal attempt	16 rural schools in uMgungundlovu District, KwaZulu-Natal Province
Vawda (2014)	Prevalence and causes of suicidal plan, ideation and attempt	*222 eight (8) grade students	*Quantitative *Questionnaire *Psychometric assessment scales	*22.5% students reported suicidal ideation, 5.9% suicidal plans and 5.4% suicidal attempts. * Only 2.8% of the attempters sought help or taken to doctors *Peers' or friends' suicidal ideation, acute stress and mood disorders are significantly associated with suicidal behaviour * 63.4% students are exposed to the suicide of a friend	A government-run, co-educational school at a low-socio-economic area in Durban
Mashego & Madu (2009)	Prevalence of suicidal plan, ideation and attempt	*86 male students *56 female students (Aged 12 to 19 years)	*Quantitative *Questionnaire	*Female students reported higher rates of suicidal plan, ideation and attempt * Extreme prevalence of suicidal ideation for female students is 12.8% and for males is 10.7%	Urban and rural schools at Welkom & Bethlehem areas in Free State Province
Van Niekerk, Scribante & Raubenheimer, (2012)	Prevalence of suicidal behaviour	*299 female & 512 male medical students	*Quantitative *Questionnaire	*High prevalence of social ideation and suicidal attempt among the students	*University of Pretoria (UP), the University of



Researcher (s)	Major Theme/Focus	Sample	Research Approach/ Methods/Tools	Key Findings	Field
				* Suicidal ideation (32.3%) and suicidal attempt (6.9%)	Cape Town (UCT) and the University of the Free State (UFS)
Cluver, Orkin, Boyes & Sherr (2015)	Prevalence and prospective predictors of child suicidality	* 3515 adolescents aged 10 to 18 years * 1926 (56%) females & 1475 (44%) males	*Quantitative *Questionnaire (one-year repeated interview)	*Past-month suicide attempt was 2.2% for males 4.1% for females *Past-month suicide planning was 3.0% for males and 6.3% for females *Past-month suicide ideation was 5.6% for males & 8.5% for females *Severe childhood adversities are strongly associated with suicidality	*Rural and urban areas of Mpumalanga and the Western Cape
Khasakhala et al. (2011)	Causes of suicidal behaviour	*4351 South African adults (SASH respondents)	*Quantitative *Composite International Diagnostic Interview (CIDI)	*Mental disorders are strong predictors of suicidal behaviour *61% people reported having suicidal ideation in their lifetime having a prior DSM-IV disorder	*Both rural and urban areas * Households & hostels
Naidoo et al. (2015)	Causes of suicidal behaviour	*688 adults (both male & female) who have attempted suicide	*Quantitative *Questionnaire	* Depression is an important co-morbid risk factor in suicidal behaviour	*Two community-based public hospitals in Durban
Stein, Pretorius, Stein & Sinclair (2016)	Cases of suicides	32 males & 58 females	*Quantitative *Several measurement scales	* Suicidality with pathological gamblers are associated with clinical factors and a family history of psychiatric disorder	*South African Gambling Helpline Cape
Shilubane et al. (2014)	Causes of suicidal behaviour	*591 8-11 grade school going adolescents (male & female) * 291 boys (49.7%) boys *295 girls (50.3%) with girls (5 gender status was missing) *86.2 % of the total sample are Black	*Quantitative *Questionnaire	*Suicidal ideation is prevalent among the adolescents *Psychosocial factors such as social support and negative feelings about the family and the behavioral factors such as forced sexual intercourse and physical violence by the partner are strongly associated with the risk of suicidal ideation	* 9 secondary schools at Mopani, Vhembe, Capricorn and Sekhukhune districts in Limpopo province
Niehaus (2012)	Cases of suicides (Masculinity and suicide)	*52 fatal cases *39 male (75%) *13 female (25%)	*Qualitative *Ethnographic interview with friends, neighbours and colleagues	*Sexual and financial failure, illness, insanity and stigmatisation are associated with male suicide *Subordination in the family, disturbed conjugal lives, the experience of mistreatment and violence are associated with female suicide	*A village in Bushbuckridge, Mpumalanga Province
Bantjes, Kagee & Meissner (2017)	Cases of suicides (Masculinity and suicide)	13 young university male students	*Qualitative *Semi-structured interview	* Failure to attain and practice traditional hegemonic masculinity is the major cause for suicide	*A university at Western Cape
Meissner, Bantjes & Kagee (2016)	Prevalence of suicides (Masculinity and suicide)	13 young university male students	*Qualitative *Semi-structured interview	*Suicide is a rational act for men *A way to demonstrating hegemonic masculinity	A university at Western Cape



ANNEXURE B: EIGHTEEN (18) STUDIES ON SUICIDAL BEHAVIOUR IN BANGLADESH (PREVALENCE & FACTORS)

Researcher (s)	Theme/Focus	Sample	Research Approach/ Methods/Tools	Key Findings	Field
Mashreky, Rahman & Rahman (2013)	Prevalence of suicide	*819429 population	*Analysis of the suicidal data of Bangladesh Health and Injury Survey (BHIS) 2005	* More than 10,000 people die by suicide every year in Bangladesh * Suicide rate is 7.3 per 100,000 population, but highest with the rural female population * Suicide is the leading cause of death by injury in the age group of 10–19 years *The rate of rural suicide is 17-fold higher in the rural area than the urban area	Survey conducted in 12 districts and Dhaka metropolitan city
Salam et al. (2017) & Alonge et al. (2017)	Prevalence of suicidal behaviour (fatal and non-fatal) (SoLiD Baseline Census focus)	1169593 population	*Analysis of the fatal and nonfatal suicidal data of a baseline census conducted as part of the Saving of Lives from Drowning (SoLiD) Project	*Average rate of suicidal death is 14 per 100000 population per year *Estimated rates of fatal and non-fatal suicide are 3.29 and 9.86 per 100000 population per year *Young, females have a higher tendency of suicidal behaviour	Seven rural subdistricts under five districts
Naved & Akhter (2008)	Prevalence and cause of suicidal behaviour (Domestic violence & suicidal ideation based study)	2702 women (15-49 years)	*Quantitative *Survey Questionnaire	* Younger women express more suicidal ideation *Prevalence of suicidal ideation is (11%–14%) *Severe physical and emotional violence by husbands provoke suicidal ideation	One rural and one urban area (locations are not mentioned)
Gausia, Fisher, Ali & Oosthuizen (2009)	Prevalence and causes of suicide ideation	*361 pregnant women (17-41 years pregnant women)	*Quantitative (Edinberg postnatal Depression scale) *Qualitative in-depth interview	*14% women having a state of suicidal ideation *High prevalence of antenatal depression among rural women (33% at 34-35 weeks) * Women's suicidal ideation derive from problems with family members, particularly their husbands, and from financial hardship *Preference for a male child also contributes to self-harming thoughts	Rural area of Matlab sub-district of Chandpur district
Feroz et al. (2012)	Prevalence of suicidal attempts and deaths	*12422 individuals (12-70 years male & female)	*Quantitative *Survey	* Prevalence of suicidal attempt is 281.8 per 100000 population *Incidence of suicidal deaths is 128.8 per 100000 population	Rural areas of Sadar sub-district at Chuadanga district
Kamruzzaman & Hakim, (2016)	Prevalence and causes of suicide	*71 suicidal death cases	*Quantitative *Survey	*54.9% victims are females and 45.1% males	Rural and urban areas of Jhenaidah district

Researcher (s)	Theme/Focus	Sample	Research Approach/ Methods/Tools	Key Findings	Field
				*Most victims are the from 18-27 age group * Conjugal conflict (31%) is the most noteworthy predictor of suicide	
Ara, Uddin & Kabir (2016)	Prevalence and causes of suicide	*40 completed suicidal cases	*Quantitative *Qualitative *Survey questionnaire *Case study *FGD	*35% victims are male *65% victims are female * Highest prevalence of suicidal cases is evident in the age group between 20-29 years (30%) * Relational problems (unhappy affairs, family/marital problems) and instrumental problems (financial and unemployment problems, failure in life) are associated with suicide	Rural areas of Madhabpur sub-district of Hobijan district
Shah, Sajib & Arafat (2018)	Prevalence and causes of suicide	56 patients with suicidal issues	*Quantitative *Clinic record	*Most of the respondents are below 25 years (73.02%) *69.60% were females *53.60% are students * Psychiatric factors (31%) *Psychological factors (30%) *Sociological factors (29%)	Suicide Prevention Centre (SPC) in the Department of psychiatry at BSMMU, Dhaka
Halim, Khondker, Wahab, Nargis & Khan (2010)	Causes of suicidal attempt	Reported attempted cases	*Quantitative interview *Hospital records	*71.8% of suicidal attempt is due to emotional stress * Conflict with husband is a prime factor (25.4%) of the suicidal attempt of married females * Emotional stress, disturbed family, social deprivation, health-related problems are associated with suicide	Rural areas of Naogaon district
Reza et al. (2013)	Causes of suicide and suicidal attempts	*230 cases of committed suicide and attempted suicide within last two years * close family members	*Quantitative case control study	* Married female especially the younger from a unitary family with low income group are more vulnerable to suicide and parasuicide * Emotional factors, chronic diseases, familial suicidal predisposition, individual factor and mental state, premorbid personality, and psychiatric syndrome are strongly associated with suicidal behaviour	Rural areas of Chuadanga district
Wahlin, Palmer, Sternäng, Hamadani & Kabir (2015)	Prevalence of depressive symptoms among elderly & their association with suicidal thoughts	625 elderly persons (60+)	*Quantitative Interview *Clinical examinations by physicians and cognitive tests by psychologists	*Prevalence rates of depressive status and suicidal thoughts are very high (45%) in the 60+ population living in rural Bangladesh *Prevalence of depressive status	Rural areas of Chandpur district



Researcher (s)	Theme/Focus	Sample	Research Approach/ Methods/Tools	Key Findings	Field
				is high among women (oldest women 70%) *Being a woman, illiterate or single are significant factors for predicting depressive status and suicidal thoughts	
Qusar et al. (2009)	Prevalence and causes of suicide attempt	44 cases of suicide attempt	*Quantitative clinical interview	*43.2% respondents are from age-group of up to 20 followed by 31.8% from age-group 21-30 years *Most of the attempters are female *77.3% suicide attempters had psychiatric disorders	A private hospital in Dhaka city
Akter, Mali & Arafat (2018)	Demography and causes	39 patients with self-harm	*Quantitative interview	*Family discord (28.2%) is the major cause of self-harm, followed by marital disharmony (10.3%) *Most of the self-harm patients were female (74%)	Department of Psychiatry at BSMMU, Dhaka
Mali, Akter & Arafat (2018)	Demographic prevalence	120 psychiatric patients	*Descriptive cross-sectional study	* Suicidal ideation is more among younger (18-25) age group (49.2%) *Female, less-educated, people living in the nuclear family and rural areas are more exposed to suicidal ideation	Department of Psychiatry at BSMMU, Dhaka
Arafat, Akter & Mali (2018)	Causes of suicidal ideation	121 patients with suicidal ideation	*Quantitative interview	*Depression and hopelessness are the most critical cause of suicidal ideation * A significant proportion of the respondents are unsure of the reason	Department of Psychiatry at BSMMU, Dhaka
Choudhury et al. (2013)	Prevalence of suicide	20 cases of suicidal deaths	*Quantitative case analysis	*70% suicidal cases are females *Highest number of victims are from age group between 20-29 years	Department of Forensic Medicine at Dinajpur Medical College
Halim, Nargis & Hassan (2016)	Prevalence and causes of attempted suicide	38 cases of suicide attempt	*Quantitative *Qualitative	* 55.3% are females and 44.7% are males *73.7% attempters aged between 20-45 years *Family related problems, poverty, psychological problems, health related problems and relationship troubles were the major cause of attempt	Dhaka medical college and some rural areas