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Letter to the Editor

Suicide with and without mental disorders: Findings from psychological autopsy study in Bangladesh

1. Introduction

The presence of a psychiatric disorder has been identified as a risk factor for suicide by well-designed psychological autopsy studies (Zalsman et al., 2016). Also, different characteristics have been noted among the suicides with and without mental disorders (Zhang and Zhou, 2009; Zhang et al., 2010; Chen et al., 2006). These differences are the windows of possibilities to consider separate prevention strategies for the groups based on the unique characteristics.

Bangladesh is a densely populated country in South Asia with rapid urbanization and economic growth. Suicide is an under-prioritized public health issue in the country. Risk factors for suicides have not been studied adequately and the readiness for a central suicide prevention strategy is far behind (Arafat, 2021). Knowledge of socio-demographic differences of suicides with and without mental disorder is yet to come out in the country though it would be fundamentally necessary to think about the national suicide prevention strategy in the country. Therefore, here it was aimed to see the difference between suicides with and without psychiatric illness in Bangladesh.

2. Method

Data of 100 suicides were extracted from the psychological autopsy study conducted in Dhaka, Bangladesh. Data were collected by semi-structured interviews between July 2019 and July 2020 from the next-of-kin of the suicides. The details of the methods were mentioned in our previous paper on the project (Arafat et al., 2021). A semi-structured questionnaire was used in the Dhaka Suicide Study project (Arafat et al., 2021) that was adopted from Karachi Suicide Study (Khan et al., 2008). Structured Clinical Interview for DSM-IV Axis-I Disorders (SCID-I) (First et al., 1996) and the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II) were utilized to ascertain the psychiatric disorders (First et al., 1994). Data were analyzed by IBM SPSS version 27 for Windows and Microsoft Excel version 2010 for Windows. We compared the suicides with and without psychiatric disorders with respect to demography and psychosocial variables. Chi-square, Fisher's exact, and *t*-test were performed to assess the difference between the groups. Dhaka Suicide Study, a matched case-control psychological autopsy study project was ethically approved by the ethical committee of the National Institute of Mental Health, Dhaka (NIMH/2019/1053). Informed written consent was taken from the respondents.

3. Results

3.1. Baseline characteristics

Among the cases, 49 were males, 61 % of the cases had at least one mental (Axis I and/or Axis II) disorder, 44 % (male 31 %, female 13 %) had depression, 9 % substance-related disorder (all male), and 14 % (male 10 %, female 4 %) had a personality disorder. More detail of socio-demography has been reported in our initial paper (Arafat et al., 2021). The mean age of the 100 suicides was 26.30 ± 12.36 (range:9–75) years, 30.38 ± 13.74 (range:9–75) for males, and 22.31 ± 9.25 (range:11–47) for females. The difference was statistically significant ($p = 0.001$) extracted by *t*-test. A total of 30 cases had the age of 18 years and below, and 80 % (24) of them were females ($p = .000$). Further details are mentioned in Table 1.

3.2. Suicides with and without mental disorders

Mental disorders were more common among the suicides of adults than adolescents ($p = 0.003$), males than females ($p = 0.001$), and persons living alone ($p = 0.027$). About 70 % (31) of the depression was reported in males, and about 36 % (11) of adolescents' suicides had mental disorders whereas it was 70 % in adulthood (Table 1). The mean age of suicides with mental disorders was 29.58 ± 13.52 (range: 14–75) years and without mental disorders was 21.07 ± 7.73 (range: 9–42) years whilst the difference was statistically significant ($p = 0.000$) (Table 1). No significant difference was identified in the marital status, religion, employment status, and methods of suicides between the suicides with and without mental disorders. Mental disorders were more reported in middle and upper socioeconomic class than the lower ones ($p = <0.001$), and who lived in parental house or had house ownership ($p = <0.003$) (Table 1). A total of 12 females exposed to sexual abuse among which more than 90 % (11) were adolescents ($p = .000$) and one-third developed acute stress disorder.

4. Discussion

4.1. Main findings of the study

The characteristics of suicides with and without mental disorders have not been systematically assessed in Bangladesh. Previously, we reported the risk factors for suicide from the case-control study where having a psychiatric diagnosis, presence of life events, past suicidal attempts, and sexual abuse have been identified as risk factors (Arafat et al., 2021). Here we aimed to look into the socio-demographic profile

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Table 1
Comparison of suicides with and without mental disorders (least one axis I and/or personality disorder).

Characteristics	Total	Mental Disorder		p value
		Present	Absent	
	n	n (%)	n (%)	
Age group (years)				
0–18	30	11 (36.7)	19 (63.3)	**0.003**
19–60	68	48 (70.6)	20 (29.4)	
>60	2	2 (100)	0	
Mean ± SD (range)	26.30 ± 12.36 (7–75)	29.58 ± 13.52 (14–75)	21.07 ± 7.73 (9–42)	**0.000**
Sex				
Male	49	38 (77.6)	11 (22.4)	**0.001**
Female	51	23 (45.1)	28 (54.9)	
Marital Status				
Married	44	27 (61.4)	17 (38.6)	0.393
Separated	2	2 (100.0)	0	
Widowed	6	5 (83.3)	1 (16.7)	
Unmarried	48	27 (56.3)	21 (43.8)	
Religion				
Muslim	89	53 (59.6)	36 (40.4)	0.589
Hindu	10	7 (70.0)	3 (30.0)	
None	1	1 (100.0)	0	
Employment				
Employed and others	84	48 (57.1)	36 (42.9)	0.070
Unemployed	16	13 (81.3)	3 (18.8)	
Social Class				
Upper	9	8 (88.9)	1 (11.1)	**<0.001**
Middle	27	24 (88.9)	3 (11.1)	
Lower	64	29 (45.3)	35 (54.7)	
Social Network				
Isolated	21	18 (85.7)	3 (14.3)	0.006
Few friends	51	24 (47.1)	27 (52.9)	
Many friends	28	19 (67.9)	9 (32.1)	
Accommodation				
Own or parental house	17	16 (94.1)	1 (5.9)	**0.003**
Rented house	76	40 (52.6)	36 (47.4)	
Hostel of institutions	7	5 (71.4)	2 (28.6)	
Living with				
First degree relatives	85	48 (56.5)	37 (43.5)	**0.027**
Alone/friends/ second degree relatives	15	13 (86.7)	2 (13.3)	
Past attempt of suicide				
Yes	14	13 (92.9)	1 (7.1)	**0.008**
No	86	48 (55.8)	38 (44.2)	

of suicides with and without psychiatric illness in the country. The study revealed that suicides with a mental disorder had a higher age (p = 0.000), male gender preference (p = 0.001), more in adults (p = 0.003), living in middle and upper socioeconomic class than the lower ones (p=<0.001) (Table 1). On the other hand, suicides without mental disorders have been happening in adolescents, females, lower social class. Females are dying at a significantly lower age and sexual abuse was higher among adolescents (p = 0.000) (Table 1). Similar age distribution was reported in a psychological autopsy study in China where suicides without psychiatric illness were significantly found in the younger persons (Zhang and Zhou, 2009). However, the social distribution was opposite to the current study. In the study of Zhang and Zhou (2009) suicides with mental disorders had lower socioeconomic conditions and educational attainment. This reverse finding of this study may not be a generic finding as it can be considered that middle and upper-class people can recognize the psychiatric symptoms than the lower class. Moreover, poor health literacy and stigma towards mental health could be the other considering factors (Arafat et al., 2021). A similar male dominance was noted among the suicides while reporting the psychiatric disorders in two different psychological autopsy studies in China (Zhang and Zhou, 2009; Zhang et al., 2010). Another study in Hong Kong also reported variations of the prevalence of mood disorders among different age groups of males and females (Chen et al., 2006).

The study revealed that suicides in females had a lower age and a lower rate of psychiatric disorders compared to the suicides in males among the sample and the difference was statistically significant. Also, females were significantly higher among the adolescent age group (Table 1). This could be explained by considering the risk factors revealed from repeated previous studies mentioning that a significant portion of suicides in Bangladesh precipitated by emotionally charged events and about two-thirds of the risk factors have been reported to be related to familial issues (Arafat et al., 2021; Arafat, 2019; Reza et al., 2013). Our previous study reported that psychosexual events and sexual harassment may play a deciding role (Arafat et al., 2021). Another previous case-control study also reported sexual, family, and social issues as risk factors (Reza et al., 2013). This result can be a representation of the possible social and cultural impact of behavior and suicidality. The suicides could be impulsive and in response to social events such as sexual harassment, quarrel with parents, quarrel with husband, early marriage, failure in the exam, extramarital sexual relationship (Arafat, 2019; Reza et al., 2013). The factors also reported in China explaining a similar observation (Zhang and Zhou, 2009). Suicides in females may have a different pattern than males demanding different prevention strategies. Further studies are recommended in the gender variation of suicide in the country.

4.2. Implications

Separate prevention strategies should be targeted focusing the socio-demographic patterns. Emotion control strategies, crisis numbers, raising awareness should be targeted to prevent suicides among females and adolescents. While gatekeeper training, training for the general physicians for early detection and management of depression, raising awareness could be targeted for the adult males.

4.3. Strengths and limitations

This is the first study that systematically assessed the socio-demographic variables of suicides with and without mental disorders in an urban setting of Bangladesh. It reveals important findings necessary to formulate the suicide prevention strategy. Standardized instruments were used and the psychological autopsy method was applied. However, data were collected from Dhaka city only, samples were chosen purposively which warrants a cautious interpretation to generalize the results. The size of the compared groups was not equal.

5. Conclusion

The study revealed that females are dying at a lower age and a lower rate of mental disorders. Adolescents had a lower rate of mental disorders; however, a higher rate of sexual harassment. Further studies could be directed covering the whole country samples, and a randomized approach to testing the findings as well as to assess the prevention strategies.

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Declaration of Competing Interest

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References

Arafat, S.M.Y., 2019. Current challenges of suicide and future directions of management in Bangladesh: a systematic review. Glob. Psychiatry 2, 9–20. https://doi.org/10.2478/gp-2019-0001.

Arafat, S.M.Y., 2021. Formulation of national suicide prevention strategy of Bangladesh: the readiness assessment. J. Public Health 43 (1), e131–e132. https://doi.org/10.1093/pubmed/fdaa117, 32719879.

Arafat, S.M.Y., Mohit, M.A., Mullick, M.S.I., Kabir, R., Khan, M.M., 2021. Risk factors for suicide in Bangladesh: case-control psychological autopsy study. BJPsych Open 7 (1), e18. https://doi.org/10.1192/bjo.2020.152.

Chen, E.Y., Chan, W.S., Wong, P.W., et al., 2006. Suicide in Hong Kong: a case–control psychological autopsy study. Psychol. Med. 36, 815–825. https://doi.org/10.1017/S0033291706007240.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B., Benjamin, L., 1994. Structured clinical interview for DSM-IV Axis II personality disorders. Biometrics Research Department, New York State Psychiatric Institute, New York.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B., 1996. Structured clinical interview for DSM-IV Axis I disorders. Biometrics Research Department, New York State Psychiatric Institute, New York.

Khan, M.M., Mahmud, S., Karim, M.S., Zaman, M., Prince, M., 2008. Case–control study of suicide in Karachi, Pakistan. Br. J. Psychiatry 193, 402–405. https://doi.org/10.1192/bjp.bp.107.042069.

Reza, A.S., Feroz, A.H.M., Islam, S.N., et al., 2013. Risk factors of suicide and para suicide in rural Bangladesh. J. Med. 14, 123–129. https://doi.org/10.3329/jom.v14i2.19653.

Zalsman, G., Hawton, K., Wasserman, D., et al., 2016. Suicide prevention strategies revisited: 10-year systematic review. Lancet Psychiatry 3, 646–659. https://doi.org/10.1016/S2215-0366(16)30030-X.

Zhang, J., Xiao, S., Zhou, L., 2010. Mental disorders and suicide among young rural Chinese: a case-control psychological autopsy study. Am. J. Psychiatry 167, 773–781. https://doi.org/10.1176/appi.ajp.2010.09101476.

Zhang, J., Zhou, L., 2009. A case control study of suicides in China with and without mental disorder. Crisis 30, 68–72. https://doi.org/10.1027/0227-5910.30.2.68.

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