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Sharmin Jahan

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Kazi Araf

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Mark D. Griffiths

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David Gozal

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Mohammed A. Mamun

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Depression and suicidal behaviors among Bangladeshi mothers of children with Autistic Spectrum Disorder: A comparative study

Sharmin Jahan^{a,b}, Kazi Araf^c, Mark D. Griffiths^d, David Gozal^e and Mohammed A. Mamun^{a,f*},

^a Undergraduate Research Organization, Savar, Dhaka, Bangladesh

^b Department of Food and Nutrition, College of Home Economics, University of Dhaka, Dhaka, Bangladesh (*Sharmin Jahan e-mail*: jahansharmin.fn.bd@gmail.com)

^c Department of Food and Nutrition, National College of Home Economics, Dhaka, Bangladesh

^d Psychology Department, Nottingham Trent University, 50 Shakespeare Street, Nottingham, UK

^e Department of Child Health and the Child Health Research Institute, The University of Missouri School of Medicine, Columbia, MO, United States

^f Department of Public Health and Informatics, Jahangirnagar University, Savar, Dhaka, Bangladesh

Corresponding Author

Mohammed A. Mamun

Director, Undergraduate Research Organization, Gerua Road, Savar, Dhaka – 1342, Bangladesh.

E-mail: mamunphi46@gmail.com, Mobile: +8801738592653, ORCID: <https://orcid.org/0000-0002-1728-8966>

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Keywords: Autism Spectrum Disorders; ASD; Depression; Suicidal behaviors; Parenting distress; Maternal psychological sufferings.

Abbreviations: ASDs, Autism Spectrum Disorders; TD, Typically Developing; MwASDC, Mothers with ASD Children; MwTDC, Mothers with Typically Developing Children

Introduction

Previous studies have reported that the parents (especially mothers) of autism spectrum disorders (ASDs) are at increased risk of suffering from mental health problems including parenting stress, depression, suicidality, anxiety, and other serious emotional disturbances such as suffering from stigma (Al-Farsi et al., 2016; Montes & Cianca, 2014; Patra, & Patro, 2019). The consequences of this adverse psychosocial environment can be extremely serious. For instance, a high risk of committing filicide targeting disabled children and immediately followed by parental suicide has been previously reported. Notably 55% of the filicide victims were ASD children, and parental depression was the most commonly recorded risk factor (Coorg & Tournay, 2013). Furthermore, 29% of the mothers of children with development disabilities (including ASD mothers) were reported as being depressed in a meta-analysis of 18 comparative studies (Singer, 2006).

Psychiatric disorders are well-established for the more than 90% of the total suicide occurrences, whereas depression independently accounts most of the cases (Mamun & Griffiths, 2019; Mamun & Griffiths, 2020; Mamun, Misti, & Griffiths, 2020). Highly prevalent suicidal behaviors and suicide have been reported among individuals suffering from ASD although, there is no prior study that ever examined the suicidality of mothers with ASD children (Gilson et al., 2018; Storch et al., 2013). Furthermore, the global ASD prevalence rates appear to be increasing and considering this increase (Gyawali, & Patra, 2019; Manohar et al., 2020), it is anticipated that a large proportion of the mothers with ASD children (MwASDC) is expected to experience psychiatric comorbidities compared to the mothers with typically developing children (MwTDC), including depression and suicidality, yet empirical evidence is lacking, and constitutes the specific aim of the present study.

Methods

Face-to-face structured interviews during the school opening time (9am to 2pm) were conducted between May and August 2019 among MwASDC (n=139) attending eight ASD-specialized schools and MwTDC (n=212) in twelve typical schools in Dhaka, Bangladesh. The measures included: (i) questions related to socio-demographic variables, (ii) the Bangla Patient Health Questionnaire (PHQ-9; 9-items, scores range from 0-27, cutoff score for depression was 10 within the score ranges of 0 to 20 [Mamun et al., 2019], Cronbach's alpha=0.73 in the present study), and (iii) questions on past-year suicidal behaviors (assessed by asking the participants if they had thought about suicide, and whether such thoughts were persistent; [Peltzer et al., 2017]). The study protocol was reviewed and approved by the Institute of Allergy and Clinical Immunology of Bangladesh, Dhaka Bangladesh (Reference Number: IRBIACIB/CEC/07201915299).

Results

The distribution of the variables in respect to depression and suicidal behavior were analyzed by examining three groups (i.e., total sample, MwASDC, and MwTDC) was presented in the Table 1. Depression was reported in 22.8% of the total sample, but MwASDC reported a much higher depression rate than MwTDC (44.6% vs. 8.5%; $\chi^2=62.22$, $df=1$, $p<0.001$). Additionally, 15.7% of all mothers admitted experiencing suicidal behaviors over the past year, a rate that was much higher among MwASDC compared to MwTDC (26.6% vs. 8.5%; $\chi^2=20.88$, $df=1$, $p<0.001$) (Table 1).

Discussion

The present study found that mothers with ASD children (MwASDC) were significantly more likely to suffer from depression compared to mothers with typically developing children (MwTDC) and was consistent with the previous researches [i.e., 26% among MwASDC in Thailand (Weiss, 2002), 26.7% among parents with ASD children in Brazil (Machado Junior et al., 2016), 48.6% among caregivers of children with ASDs in Oman (Al-Farsi et al., 2016), and 44% of mothers of children with a disability (Gilson et al., 2018) etc.]. Moreover, a previous meta-analysis reported an increased risk of depression (29%) among mothers of children with developmental disabilities compared to TD children (Singer, 2006). In addition, significantly higher depression levels have been reported among MwASDC compared to mothers whose children had other developmental disabilities. Our current findings corroborate the

aforementioned studies and further attest to the elevated risk of depression among MwASDC in Bangladesh.

Past-year suicidal behaviors were also significantly higher among MwASDC compared to MwTDC. This concerning prevalence rate is likely to be related to underlying depression, but could also be fostered by the fact that MwASDC are frequently insulted or humiliated by others, both within the family and socially because they have a child with ASD (Baker-Ericzén et al., 2005). The present authors are unaware of any previous empirical studies that have assessed suicidal behaviors among parents of children with ASD, and therefore cannot compare the findings here to those in other settings. The elevated suicidal behavior rates among MwASDC raises a substantial concern, that if corroborated, will require implementation of preventive screening and appropriate interventions. Of note, previous studies have shown that adolescents with ASD have higher rates of suicidal behaviors and suicide compared to TD adolescents (Storch et al., 2013).

We found only one published study that assessed suicidality (i.e., suicidal ideation, plans, and attempts) using binary (yes/no) responses among mothers of disabled children (Gilson et al., 2018). The study reported that 22% of mothers surveyed had past-year suicidality, a rate that is similar to the one found in the present study. Another retrospective study investigated filicide and murder of disabled children by their parents followed by suicide of the parent committing the filicide. In this study, 55% of the filicide victims were children with ASDs (Coorg & Tournay, 2013). Notably, the parents responsible for filicide of disabled children were reported to be associated with either single or multiple psychiatric disorders, with depression accounting for half of the total psychiatric conditions.

Children with ASDs can negatively impact and place extra psychological burden on their parents as well as on other family members. For example, parents of children with ASDs have reported decreased job performance, leaving jobs, turning down jobs, leaving the workforce altogether, and making decisions that they knew would negatively impact their future employability (Gilson et al., 2018; Montes & Cianca, 2014). Along with the loss of income associated with such issues, the cost of raising a child with ASD is much higher than that of a TD child. One estimate suggested that the cost of raising a child with ASD exceeded US \$28,000 annually, more than double the annual cost of raising a TD child in the United States. When such cost is compounded over 18 years or more, parents of children with ASD face a large financial cost in raising their ASD children, totaling in excess of half a million of (US) dollars per child (Montes & Cianca, 2014). Moreover, the behavioral issues during both daytime and nighttime among children with ASD increase the risk of maternal psychological distress, parental stress, and depression (Montes & Cianca, 2014). Additionally, the parental fear that their ASD children may be bullied or misbehave frequently leads to decisions to raise the child by restricting community access, socialization opportunities, and traditional schooling, all of which also result in higher levels of parental stress and psychological distress (Baker-Ericzén et al., 2005).

Limitations

Permission to access ASD-schools was granted for 8 of the 25 schools, and findings may have been affected because of a reduced sample size. In addition, among the schools for which access was granted, a proportion of the mothers of children with ASDs declined to participate because they felt that sharing their difficulties would be humiliating or stigmatizing. Although the interviews could take place at any time during school day (9am-2pm), the research team also faced difficulties in the data collection, because the majority of the mothers came to the school just

prior to the end of school opening hours, thereby limiting the number of interviews any given day. It should also be acknowledged that different types and severity of ASD exist, and these were not specifically assessed, which may also have affected the findings (Liao, Lei, & Li, 2019). Accordingly, we cannot exclude whether mothers with children with a very severe ASD phenotype are more or less likely to respond differently when compared to mothers of children with mild ASD.

Conclusions

Mental health problems among MwASDC are of obvious concern, and can in extreme cases be potentially life-threatening when such problems lead to filicide and/or suicide (Coorg & Tournay, 2013). The high rates of depression and suicidality found in the present study among MwASDC indicate that support programs are critically needed to help improve parental quality of life and present such mental health issues among parents of ASD children.

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Table 1: Distribution of the variables with depression and suicidal behavior among mothers of children with ASDs children (MwASDC) and mothers of typically developing children (MwTDC)

Variables	Total; (n; %)	Depression (n=80; 22.8%)			Suicidal behavior (n=55; 15.7%)		
		Total sample	MwASDC	MwTDC	Total sample	MwASDC	MwTDC
Child gender							
Male	213; 60.7%	59; 27.7%**	50; 43.5%	9; 9.2%	40; 18.8%*	32; 27.8%	8; 8.2%
Female	138; 39.3%	21; 15.2%	12; 50.0%	9; 7.9%	15; 10.9%	5; 20.8%	10; 8.8%
Age group							
4-7 years	156; 44.4%	31; 19.9%	24; 39.3%	7; 7.4%	22; 14.1%	15; 24.6%	7; 7.4%
8-11 years	132; 37.6%	38; 28.8%	31; 54.4%	7; 9.3%	22; 16.7%	16; 28.1%	6; 8.0%
12-15 years	63; 17.9%	11; 17.5%	7; 33.3%	4; 9.5%	11; 17.5%	6; 28.6%	5; 11.95%
Family type							
Nuclear family	303; 86.3%	68; 22.4%	51; 42.9%	17; 9.2%	46; 15.2%	30; 25.2%	16; 8.7%
Joint family	48; 13.7%	12; 25.0%	11; 55.0%	1; 3.6%	9; 18.8%	7; 35.0%	2; 7.1%
Monthly income (BDT)							
Less than 25,000	41; 11.7%	8; 19.5%	6; 50.0%	2; 6.9%	6; 14.6%	4; 33.3%	2; 6.9%
25,000 to 50,000	186; 53.0%	36; 19.4%	24; 42.1%	12; 9.3%	28; 15.1%	17; 29.8%	11; 8.5%
More than 50,000	124; 35.3%	36; 29.0%	32; 45.7%	4; 7.4%	21; 16.9%	16; 22.9%	5; 9.3%
Father's education							
Higher (grade 10+)	294; 83.8%	69; 23.5%	56; 43.1%	13; 7.9%	45; 15.3%	32; 24.6%	13; 7.9%
Grade 5 to 10	32; 9.1%	4; 12.5%	2; 50.0%	2; 7.1%	5; 15.6%	2; 50.0%	3; 10.7%
Less than grade 5	25; 7.1%	7; 28.0%	4; 80.0%	3; 15.0%	5; 20.0%	3; 60.0%	2; 10.0%
Mother's education							
Higher (grade 10+)	273; 77.8%	63; 23.1%	52; 41.9%	11; 7.4%	44; 16.1%	31; 25.0%	13; 8.7%
Grade 5 to 10	48; 13.7%	8; 16.7%	6; 66.7%	2; 5.1%	6; 12.5%	3; 33.3%	3; 7.7%
Less than grade 5	30; 8.5%	9; 30.0%	4; 66.7%	5; 20.8%	5; 16.7%	3; 50.0%	2; 8.3%
Father's profession							
Service	226; 64.4%	43; 19.0%	31; 36.5%*	12; 8.5%	28; 12.4%	18; 21.2%	10; 7.1%
Business	116; 33.0%	33; 28.4%	27; 56.3%	6; 8.8%	25; 21.6%	17; 35.4%	8; 11.8%
Others	9; 2.6%	4; 44.4%	4; 66.7%	0; 0.0%	2; 22.2%	2; 33.3%	0; 0.0%
Mother's profession							
Service	41; 11.7%	3; 7.3%*	2; 15.4%	1; 3.6%	3; 7.3%	3; 23.1	0; 0.0
Housewife	307; 87.5%	76; 24.8%	59; 47.6%	17; 9.3%	52; 16.9%	34; 27.4%	18; 9.8%
Others	3; 0.9%	1; 33.3%	1; 50.0%	0; 0.0%	0; 0.0%	0; 0.0%	0; 0.0%
Number of children							
More than one	244; 69.5%	56; 23.0%	43; 43.4%	13; 9.0%	39; 16.0%	26; 26.3%	13; 9.0%
One	107; 30.5%	24; 22.4%	19; 47.5%	5; 7.5%	16; 15.0%	11; 27.5%	5; 7.5%
Birth order of child							
1 st	205; 58.4%	49; 23.9%	42; 45.7%	7; 6.2%*	31; 15.1%	23; 25.0%	8; 7.1%
2 nd	115; 32.8%	21; 18.3%	14; 42.4%	7; 8.5%	17; 14.8%	11; 33.3%	6; 7.3%
3 rd	31; 8.8%	10; 32.3%	6; 42.9%	4; 23.5%	7; 22.6%	3; 21.4%	4; 23.5%
Depression							
Yes	80; 22.8%	-	-	-	28; 35.0%**	24; 38.7%**	4; 22.2%*
No	271; 77.2%	-	-	-	27; 10.0%	13; 16.9%	14; 7.2%
Suicidal behaviors							

Yes	55; 15.7%	28; 50.9%**	24; 64.9%**	4; 22.2%*	-	-	-
No	296; 84.3%	52; 17.6%	38; 37.3%	14; 7.2%	-	-	-

* <0.05 ** <0.001

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