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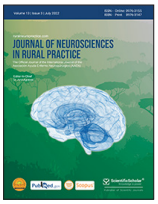

Original Article

The mental health of adolescent girls from a tribal region of Central Rural India during the COVID-19 pandemic – A cross-sectional study to determine the role of gender disadvantage

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ABSTRACT

Objectives: The mental health of adolescent girls in countries of South Asia is related to several social and cultural factors including gender disadvantage, especially in low resource settings such as tribal areas. The coronavirus disease 2019 (COVID-19) pandemic has increased this vulnerability even further. This study assesses the association of gender disadvantage with psychological distress among adolescent girls residing in a tribal area of India and examines the role of resilience.

Materials and Methods: The study was conducted during the COVID-19 pandemic first wave in 2020 using telephonic interviews with 102 girls aged 15–20 from one block (65.46% tribal population) of a predominantly tribal area in Central India. Trained interviewers administered translated versions of the Kessler Psychological Distress 10-item scale (K-10), the Checklist for Assessment of Gender Disadvantage (CAGED), and the Brief Resilience Scale (BRS). Pair-wise correlation was conducted between gender disadvantage, resilience and psychological distress using CAGED, BRS and K-10 scores. A one-way ANOVA was used to compare mean difference in CAGED domain scores and K-10 severity score groups.

Results: The mean age of girls was 17.62 years (standard deviation 1.64). Scores on K-10 indicating moderate to severe psychological distress were seen among 27.5% of the respondents. Girls reported lack of space/privacy (39.2%), lack of freedom to pursue interests (32.4%), opinions not being considered (31.4%), and financial difficulties as hindrance to opportunities (28.4%) as common experiences of gender disadvantage. Gender disadvantage was directly associated with severity of psychological distress and inversely with resilience.

Conclusion: This study indicates the importance of decreasing gender disadvantage for improving the mental health of young women and girls in underserved areas. The role of peer group interventions and engaging men and boys using gender transformative interventions in improving mental health needs to be studied.

Keywords: Adolescent girls, Gender, Mental health, Psychological distress, Resilience

INTRODUCTION

The Lancet Commission on adolescent health and well-being emphasized the need to reduce inequities linked to gender and poverty, especially related to social and cultural factors for improving the mental health of adolescents.[1] The World Health Organization identified gender-related risk factors as critical determinants of mental health, well-being, and resilience.[2] Women's mental health in India across the lifecycle is shown to be impacted by social determinants including gender disparities[3,4] and the country ranks 140th out of 156 in the Global Gender Gap 2021 Rankings.[5] Poor nutrition and early marriage also add to this vulnerability.[6] Girls between 14 and 19 years in rural and underserved India are especially vulnerable.[7]

Women in the state of Chhattisgarh in Central India, where this study was conducted, have high rates of vulnerabilities – with 39.9% population being below poverty line, 79.9% of girls not completing higher secondary education, 23.5% being married before the age of 18 years, and 5% adolescent girls having teenage pregnancies.[7-9]

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Within this state is the district of Bastar, a district with a high tribal (65.9%) population.[10]

This study was conducted as part of the *Swabhimaan* program and is a 5-year initiative launched by *Deendayal Antyodaya Yojana* – National Rural Livelihoods Mission to improve nutrition outcomes among adolescent girls and women through women collectives in five poorest resource blocks of three Indian States – Bihar, Chhattisgarh, and Odisha.[11] As part of this program adolescent girls', groups are mobilized into groups that conduct regular meetings, enhance access to health services, and provide loans to promote secondary education and prevent child marriage. Midline evaluation of the program in Bastar (where the present study was conducted) showed that 31% of the adolescent girls aged 15–19 years were not attending school. In addition, only 15% of girls reported having the autonomy to participate in activities outside their home, and while 60% could take decisions about going to school, only 18% thought they could take decisions regarding whom to marry.[12] Addressing gender disadvantage and studying its association with mental health hence gained importance.[13]

Public health emergencies have an impact on mental health and psychosocial well-being[14-18] and the coronavirus disease 2019 (COVID-19) pandemic exacerbated effects of existing gender inequalities especially, gender-based violence among women and girls and food insecurity.[19-25] Disruptions in health and education services, safety nets, and income sources led to insufficiency of resources and girls faced increased household responsibilities at the cost of their education.[26,27] A country-wide surveys in India showed that 56% school children lack access to smartphones[28] with gender differences in ownership and online means of learning.[27] Early marriages of girls and early unplanned pregnancies further increased vulnerability.[26] There is evidence that education of girls delays age of marriage.[29] An assessment conducted with adolescents (10–19 years) in central and eastern states during the pandemic stated that 32% girls lacked adequate meal consumption as a result of income loss, thereby increasing their vulnerabilities.[27]

The pandemic also had an impact on the mental health of adolescents and studies from India reported high rates of depression, anxiety, and self-harm.[30-32] Due to all the gender-related factors mentioned above the mental health of girls, especially from rural and low resource areas have been adversely affected.[31] However, evidence is lacking as data gathering during the pandemic was challenging (had to be done through phones), especially related to sensitive issues such as gender disadvantage and domestic violence.

This study, therefore, aimed to understand the association of gender disadvantage with psychological distress and resilience among adolescent girls in the tribal area of Bastar during the first wave of the COVID-19 pandemic, who were already part of the ongoing *Swabhimaan* program.

MATERIALS AND METHODS

Study design and sample

This cross-sectional study was conducted from August 25, to September 30, 2020, and was nested within on-going impact evaluation of the *Swabhimaan* program, implemented in the state of Chhattisgarh, in the Bastar block. This included 111 revenue villages with a predominantly tribal population engaged in agriculture and forest-produce collection activities. For sampling, the villages were clubbed into four cluster areas and 30 villages were purposively selected, based on the following criteria: 14 villages more than 5 km away from the state highway and 16 villages closer to the state highway. Listing of adolescent girls was done based on status of education – school-going and out-of-school from the sampled villages. A total of 102 single girls aged between 15 and 19 years (of whom 53% were out-of-school) were telephonically interviewed. No face-to-face interviews were conducted due to government regulations related to the pandemic.

Informed, verbal consent from parents and assent from adolescent girls was recorded on the phone call. Prior information was given on voluntary participation, duration, and study purpose. Participants could terminate the interview at any time or skip any sections. A standard operating procedure was created to handle severe psychological distress or self-harm, and report of sexual abuse by girls < 18 years of age.

Tools

Details of sociodemographic data included age and education. Data on variables such as schooling, nutrition supplementation, expected age of getting married, and career aspiration were collected using validated questionnaires under the *Swabhimaan* program's impact evaluation. Gender disadvantage was measured using the Checklist for Assessment of Gender Disadvantage (CAGED).[33] This checklist has 15-items covering different themes on gender discrimination, violence, and sexual harassment, barriers to personal growth related to gender and emotional distress due to gender disadvantage. A total score is calculated based on all items endorsed in a Yes-No format. The Brief Resilience Scale (BRS), a six-item scale, was used to assess resilience.[34] A score below 2.99 indicates low resilience. The Kessler Psychological Distress ten-item scale (K-10) was used[35,36] to assess mental health. Scores range from 10 to 50 with the following cutoff scores; well <20, mild psychological disorder 20–24, moderate disorder – 25–29, and severe disorder with scores of 30–50. All scales were translated into the locally spoken Hindi language using standard translation procedures and pre-tested with ten adolescent girls to ensure understandability of the items and scoring.

Ethical considerations

The *Swabhimaan* program's impact evaluation is originally registered with the Registry for International Development Impact Evaluations (RIDIE-STUDY-ID-58261b2f46876) and Indian Council of Medical Research National Clinical Trials Registry of India (CTRI/2016/11/007482). The *Swabhimaan* study received ethical approval from participating institutions.

Data collection

Data were collected remotely, through telephonic interviews by a team of five women interviewers. The interviewers were trained on telephonic interview methods, especially in assessing sensitive topics such as mental health and gender disadvantage. Interviewers contacted respondents through mobile phones. Access to mobile phone was dependent on ownership of the phone – by parents/guardian, by friend, or self-owned. Local community resource persons supported in establishing legitimacy of interviewers. Prior information about the interview shared with parents/guardian, rapport building with parents/guardians, and prior fixing of time for interview helped to ensure privacy during interview. Each interview lasted for about 30–40 min. Confidentiality of respondent information was maintained. In addition to administering the tools, information was also collected from the girls about their aspirations, desired age of marriage, and participation in the group meetings in their village as well as availability of nutrition-related services.

Analysis

Descriptive statistics including mean, standard deviation (SD), confidence interval, frequency, and percentages were calculated using STATA 14. Pair-wise correlation was done to examine the relationship between gender disadvantage, resilience, and psychological distress using CAGED, BRS, and K-10 scores. A one-way ANOVA was used to compare mean difference in CAGED domain scores and K-10 severity score groups.

RESULTS

The mean age of girls was 17.62 years (SD 1.64) with an age range of 14–20 years. The mean level of education was 10.65 years (SD 1.76). Of the 102 girls interviewed, 48 were currently in school and 54 were out-of-school with 70.8% of the girls in school continued their studies by self-reading or attending online classes (60.4%). Out of 102 girls, 56.3% aspired to get an undergraduate degree, 66.7% aspired for formal employment, majority of them preferring a career as teachers or health professionals. About 80% of out-of-school girls (n = 54) desired to continue their education. Most common reasons reported for discontinuation of education were as follows: No desire for further education, dropping out due to shutdown of school during the COVID-19 lockdown, and parents unwilling to continue education. Lack of money and poor academic performance were also cited as reasons for dropping out.

About 73% girls reported not receiving weekly iron and folic acid supplementation by school-teachers or Accredited Social Health Activists (ASHAs) in the 2 months before the interview. While 70% of girls were members of the adolescent girls' groups mobilized in their villages, <15% girls reported the use of group platforms to discuss issues about their life and future. The desired mean age of marriage expressed by girls was 22 years (SD 8.46). Gender disadvantage as indicated by the five items most endorsed on the CAGED questionnaire was: lack of space or privacy within the household or neighborhood (39%), feelings of curtailed freedom and restrictions on pursuing interests (32%), their opinions not being considered because they were girls (31%), financial difficulties as hindrance to future opportunities as a gender-related barrier (28%), and emotional distress due to gender discrimination (26%). The least endorsed item was the experience of sexual abuse (5.9%) [Table 1]. The mean score on the BRS was 2.82 (SD 0.64), with 51% of the girls scoring below 2.99 [Table 1]. Scores on the Kessler psychological distress scale (K-10) scores indicated that 19.6% girls had severe distress, 7.8% had moderate distress, and 18.6% girls had mild distress [Table 1]. Mean score on the K-10 was 19.68 (SD 9.23).

A significant relationship was observed between K-10 scores and the three gender disadvantage domains of CAGED: Gender-related barriers ($P < 0.001$), gender discrimination ($P < 0.001$), and violence and sexual harassment ($P < 0.001$). A higher total score on the CAGED and in the three above-mentioned domains was associated with higher

Table 1: Status of gender disadvantage, resilience, and psychological distress among adolescent girls (n=102).

Psychological outcome measures	*n* (%)
CAGED domains	
Gender-related barriers to personal growth	52 (51.0)
Gender discrimination	51 (50.0)
Violence and sexual harassment	63 (61.8)
Emotional distress related to gender disadvantage	36 (35.3)
CAGED total	80 (78.4)
Brief resilience scale	
Low resilience	52 (51.0)
Normal resilience	49 (48.0)
High resilience	1 (1.0)
Kessler Psychological Distress Scale scores	
Score of 10–19 likely to be well	55 (53.9)
Score of 20–24 mild disorder	19 (18.6)
Score of 25–29 moderate disorder	8 (7.8)
Score of 30–50 severe disorder	20 (19.6)

CAGED: Checklist for assessment of gender disadvantage

levels of psychological distress [Table 2]. Psychosocial outcome measures were compared between those who were school-going and out-of-school showed significant differences [Table 3]. More out-of-school girls faced gender discrimination (61.1%, P = 0.017) and suffered from moderate-to-severe distress (13–24.1%).

Significant negative correlations were observed between three CAGED domains and resilience: Gender-related barriers (−0.21, P = 0.018), violence and sexual harassment (−0.23, P = 0.016), and emotional distress (−0.24, P = 0.016). Girls with more perceived gender disadvantage had lower resilience scores. Higher distress was significantly associated with a lower resilience score.

DISCUSSION

This study which assessed psychological distress and its relationship with resilience and gender disadvantage among adolescent girls between 15 and 20 years from a tribal population during the COVID-19 pandemic found that nearly 27.5% of the girls had high levels of psychological distress. Severity of psychological distress was associated with higher perceived gender disadvantage and low scores on self-reported resilience. These rates of distress are similar to a study among tribal adolescents in West Bengal (both girls and boys) which revealed a high prevalence (66.8%) of mental health problems and distress.[37] However, rates were higher than those reported among urban young women in Gujarat and Bangalore.[33,38] All these studies were, however, done before the COVID-19 pandemic. The pandemic had different impacts on adolescent mental health by gender. Recent analysis from six countries in the Asian Pacific region showed that adolescent girls were more likely to feel isolated or stressed, be concerned about education and household income.[39]

High levels of psychological distress have been reported during the COVID-19 pandemic among adolescents in different parts of India.[17,31,32,40-42] A study among adolescent girls from six states reported concerns related to self-isolation, worries about academics, physical health and safety, as well as global and societal concerns.[43] Our study, in addition, highlighted specific gender-related concerns especially among girls who were out of school.[44]

The mental health of young girls is an important determinant of their educational and employment aspirations.[45] Interventions to improve mental health of adolescent girls must address realities of gender disadvantage to be effective

Table 2: The association of domains of gender disadvantage (CAGED) and severity of psychological distress (K 10).

CAGED domains	Psychological distress groups based on Kessler Psychological Distress Scale (K-10) scores						
	Well (*n*=53)	Mild (*n*=19)	Moderate (*n*=10)	Severe (*n*=20)	Total (*n*=102)	F-value	*P*-value
Gender-related barriers to personal growth	0.64±0.83	0.36±0.49	1.20±1.22	1.70±1.21	0.85±1.01	8.87	0.000
Gender discrimination	0.49±0.72	0.52±0.84	1.00±1.05	1.35±0.93	0.72±0.88	6.00	0.000
Violence and sexual harassment	0.85±1.10	0.79±0.97	1.90±1.10	1.60±1.31	1.08±1.18	4.30	0.006
Emotional distress related to gender disadvantage	0.32±0.54	0.42±0.69	0.70±0.94	0.75±0.91	0.46±0.71	2.25	0.086
CAGED total	2.30±2.33	2.10±2.05	4.8±3.11	5.4±3.77	3.11±2.99	8.53	0.006

P value significance at 0.001 level, CAGED: Checklist for the assessment of gender disadvantage

Table 3: Psychological outcome measures differences between school-going and out-of-school girls.

Psychological outcome measures	School going *n*=48 (%)	Out of school *n*=54 (%)	Chi-square	*P*-value
CAGED domains				
Gender-related barriers	19 (39.6)	33 (61.1)	4.7	0.030
Gender discrimination	18 (37.5)	33 (61.1)	5.7	0.017
Violence/sexual harassment	29 (60.4)	34 (63.0)	0.0	0.792
Emotional distress	17 (35.4)	19 (35.2)	0.0	0.981
CAGED overall	33 (68.8)	47 (87.0)	5.0	0.025
Brief resilience scale				
Low resilience	27 (56.3)	25 (46.3)	1.0	0.316
Kessler psychological distress scale (K-10)				
25–29 moderate disorder	3 (6.2)	7 (13.0)	1.3	0.255
30–50 severe disorder	7 (14.6)	13 (24.1)	1.4	0.228

CAGED: Checklist for the assessment of gender disadvantage

as demonstrated by a randomized controlled trial of a large-scale resilience-based school program in the state of Bihar which showed significant improvement in emotional resilience, self-efficacy, social-emotional assets, psychological well-being, and social well-being among girls who received the intervention.[46]

Based on our findings and available literature, we recommend for a more nuanced understanding of mental health, especially for young women in underserved areas such as tribal regions. Theoretical models such as the pathways toward adolescent girls' psychosocial and broader well-being,[4] the five domains of adolescent well-being that underpin the adolescent well-being framework,[47] and socioecological impact of gender on mental health[48] emphasize the need to focus on the following domains – health and nutrition, agency, resilience, supportive environment, strong social networks, education, and skills. We recommend that interventions for the mental health of adolescent girls related to the impact of the pandemic should focus on enhancing agency, improving life skills, be participatory, involve the adolescents in codesign, and involve peer support.[49,50] Risk factors such as income and food insecurity, being out of school, and early marriage increase gender disadvantage and reduce resilience also leading to poorer mental health outcomes. These should be addressed through self-help groups, financial support, and ensuring continuity of education. Interventions should also be gender transformative and include fathers and brothers who need to promote gender equity in families.[49,50]

The assessment of different domains of gender disadvantage is a distinct strength of the study. In addition, we included in our study, girls who were out of school increasing the generalizability of the study as most studies among adolescent girls are done among those attending school or college.

The limitations of the study include the following – firstly, tools such as CAGED, BRS, and K-10 were used for the first time with adolescent girls in a tribal setting in India. While rigorous translation methods were used, and piloting was done, before, the main study, it is possible that responses on a structured questionnaire did not capture the cultural and social context of the respondent's experience. While these tools have been used in Indian adolescent girls, these have predominantly in urban settings. There is a need to validate these tools in rural and tribal settings with low levels of literacy.

Second, interviews were not done face to face due to the pandemic. Telephonic interviews require investment in rapport building and ensuring privacy and may not be able to capture data as effectively as an in-person assessment. To capture data and information that reflects the context, the researcher must also understand the context and interpret the information accurately.[51] Finally, many of the girls we interviewed had been part of the collectives and this may also have influenced the rates of distress. Girls who are not part of such collectives may report even higher rates of distress.

CONCLUSION

The study identifies the need for integrating concepts of gender disadvantage and mental health into collectives for young women. Gender inequality, poverty, and low educational attainment are linked to poor mental health. It has been shown that interventions addressing agency and gender attitudes delivered by community-based peers among highly disadvantaged young women can lead to sustained improvements in anxiety and depression and attitudes to gender equality, improving mental health.[52]

While adolescent girls' groups can provide social support, to mitigate challenges and build resilience,[19] there is a strong need to work with fathers, brothers, and mothers using gender transformative interventions to change existing gender attitudes and enhancing the sense of self-worth and participation among young women.[53]

Research data

Due to the sensitive nature of the questions asked in this study, study participants were assured raw data would remain confidential and would not be shared. Hence, data will not be shared publicly.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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