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Original Research Article

Assessment of Mental Health Problems of School Children Using Self Report Strengths and Difficulties Questionnaire

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ABSTRACT

Introduction: Psychological disorders among children and adolescents are the least discussed health problems in pediatrics. There is limited data on the prevalence of mental health problems among adolescents in low-income countries like Nepal. This study intended to find the prevalence of mental health problems among school children in a secondary school in western Nepal. **Methods**: In this descriptive cross-sectional study, students of grades six to eleven of two private schools of a district in Nepal were randomly selected. The self-rated version of Goodman's Strength and Difficulty Questionnaire were used to assess mental health problem in these adolescents. Outcomes were measured in a scale of zero to 10 for each of emotional, conduct, hyperactivity, peer problem and pro-social behavior. Difficulty scale and its impact on life were also measured. **Results:** Out of 902 students, 5% (n=49) had significant and 14% (n=127) had probable mental health problem. Peer problems was the commonest (25%) followed by emotional (15%) and conduct problem (15%) and hyperactivity and pro-social problems were seen in 7% each. Boys had more mental health problem than girls except emotional problem. Mental health problem was more common in lower grade or younger age students. Its impact on life were 0-7.4%. Abnormal internalizing and externalizing problems were reported in 20% and 11% respectively. **Conclusion:** Mental health problem was prevalent (5 to 25%) in secondary school children. Screening school children for the same would be beneficial for early diagnosis.

Keywords: **Emotion; Mental health; Peer problem; School children; Strength Difficulty Questionnaire**

INTRODUCTION:

Around 10-20% of children and adolescents experience mental health disorders worldwide. By 14 years of age, half of the mental health issues start and these remain undiagnosed and undertreated.[1] Childhood and adolescent period is a transitional phase, that faces various mental challenges in one's life. The desire for greater independence, pressure to match up to peers standard, exploration of sexual identity, technology use, bullying, relationship with family take up major roles for affecting mental health in children and adolescents.[2] Their psychosocial adjustment and academic performances may be hampered in the lack of adequate care and attention.[3] Nepal lags behind in the matter of mental health, as it lacks the national mental health policy especially for children and adolescents. Recent concerns are made to know the public health importance of identifying and treating mental health problems (MHP) in Nepal,[4] which are likely to decrease the childhood morbidities related to mental health.[5] This study aimed to assess the MHP in school going children in Palpa district of western Nepal.

METHODS:

This was a descriptive cross-sectional study done among school going students of grades six to

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11. Two private schools were selected purposefully from Tansen Municipality of Palpa district. At the time when general school health program was conducted in those two schools, mental health assessment was done. The time of study was fixed at six months after the start of their school session.

Ethical clearance was taken from the Institutional Review Committee (IRC) of Lumbini Medical College Teaching Hospital prior to the study. Approval to conduct the study was also taken from the school management. All adolescents were informed about the aims and procedures of the study. Those participants who were 16 years and older signed consent forms whereas younger participants got their consent form signed by their parents and returned to the data collector.

Sample size was calculated using formula for estimation of proportion, $n= Z^2pq/e^2$.

Z=1.96, p=0.19 [6], q=1-p=0.81, e= 0.05. So, n= 237. Taking 20% of non-respondents, the minimum sample size was 285.

The Strengths and Difficulties Questionnaire (SDQ) is an instrument that has been widely used to assess MHPs, emotional and behavioural problems and strength among children and adolescents.[7] The final conclusion on the presence or absence of MHPs as measured by SDQ is ideally computed from the combined reports from parents, teachers, and self-report by the participant.[7] However, self-reports may be sufficient screening tool for adolescents aged 11 years or older.[8] The clinical usefulness of SDQ in identifying MHPs in adolescents has been established, with a reliability and validity that is as good as that of Child Behaviour Checklist.[9] The self-rated SDQ possesses 25 items in the following 5-item scales: emotional and conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behaviour. Each item is scored on a 3-point scale (0 not true; 1 somewhat true; 2 certainly true) and the sum of all answered items in a scale creates its total score (possible range, 0–10), whereas the sum of all answered items in the first four scales creates the total overall score (possible range, 0–40). The higher the total score, the larger the difficulties. The SDQ total scores could be considered as "normal" (range, 0–15), "borderline" (range, 16–19), and "abnormal" (range, 17–40), indicating the presence of general psychopathology. For the subscales, abnormal scores were taken as follows: emotional scale and hyperactivity/inattention range, 7 to 10; conduct problems range, 5 to 10; peer relationship problems range, 6 to 10; and pro-social behaviour range, 0 to 4. The abnormal SDQ score in any area indicate substantial risk of clinically significant problem in that area.[10]

The questionnaire was explained to the students in both English and Nepali languages. Fifteen to twenty minutes were given to fill up the questionnaire. After the completion, the forms were returned to the data collector. The data thus obtained were entered and analyzed using Statistical Package for Social Sciences (SPSS™) software version 16.0.

RESULTS:

A total of 904 students participated in the study. Two questionnaires were incompletely filled and hence were excluded. So, 902 students (58% male and 42% female) were included in the study.

The mean age of the students was 14.09±1.71 years (range:10-19 years). Among 902 students, the prevalence of MHPs as per total SDQ score were 49 (5%) significant, 127 (14%) probable and 726 (81%) normal. Male and female students were equal in significant and probable total SDQ score. Peer problems were the commonest (25%) followed by emotional (15%) and conduct problem (15%). Hyperactivity was present in 7% and pro-social problems too in 7% of the students. Males predominated in all the four types of MHPs. On the other hand, females predominated in emotional problem (Table 1).

Abnormal internalizing problem (emotional and peer) was reported in 356 (20% i.e. 6% significant and 14% probable) children with M:F=1:1. Internalizing problem is the combination of emotional and peer problem so the sample will be double of 902 that is 1804. On the other hand, 197 (10.75%) had abnormal externalizing problem (conduct and hyperactivity) (5% significant and 6% probable) with M:F=7:5 and 6.5% abnormal pro-social problem with M:F=7:3 (Table 2).

Table 3 shows the grade wise distribution of probable and significant MHP. Most of the children had probable MHP (9.4-22%) while 3.6-11% had significant MHP. Distribution of probable and significant MHP according to the students grades in decreasing frequency were grade VI (30%), followed by VII (26%), VIII and X (16% each), IX (14%) and XI (7%). The lower class or younger age students suffered more from MHPs while the upper class or older age students suffered less. Eleven to fourteen years students (grade VI) had significant (11%) MHP

Table 1. Mental health status of the participants.

Variables	Normal (%)	Probable (P %) (Borderline)	Significant (S%) (Abnormal)	Total (P+S%)
Emotional problems	769 (85)	71 (8)	62 (7)	133(15)
M:F	3:2	1:1	1:2	2:3
Conduct problems	770 (85.5)	63 (7)	69 (7.5)	132 (14.5)
M:F	3:2	3:2	3:2	3:2
Hyperactivity	837 (93)	45 (5)	20 (2)	65 (7)
M:F	3:2	3:2	1:1	4:3
Peer problem	679 (75)	177 (20)	46 (5)	223 (25)
M:F	3:2	3:2	3:2	3:2
Prosocial behavior	844 (93)	32 (4)	26 (3)	58 (7)
M:F	3:2	4:1	3:2	7:3
Total difficulties	726 (81)	127 (14)	49 (5)	902
M:F	3:2	1:1	1:1	3:2

Table 2. Normal, borderline and abnormal internalizing and externalizing problems of the participants.

Variables	Normal (%)	Probable (P%) (Borderline)	Significant (S%) (Abnormal)	Total (P+S)%
Internalizing (emotional + peer) problem	1448 (80%)	248 (14%)	108 (6%)	356 (20%)
M:F	3:2	4:3	1:1	1:1
Externalizing (Conduct + hyperactivity) problem	1607 (89%)	108 (6%)	89 (5%)	197 (10.75%)
M:F	3:2	3:2	4:3	7:5
Pro-social behavior	844 (93.5)	32 (3.5)	26 (3)	58 (6.5%)
M:F	3:2	4:1	3:2	7:3

Table 3. Distribution of normal, borderline and abnormal mental health problems according to grades.

Grades	VI	VII	VIII	IX	X	XI	Total
Age range (years)	10-14	11-15	13-16	13-18	14-18	16-19	10-19
Mean age (years)	11.7	12.8	13.78	14.65	15.81	17.19	14.09
Standard deviation	0.63	0.75	0.68	0.79	0.77	0.90	1.71
Normal (%)	86 (70)	133 (74)	161 (84)	136 (85)	161 (84)	49 (82)	726 (80)
Probable (%)	23 (19)	39 (22)	18 (9.5)	15 (9.4)	24(12.5)	8 (13)	127 (14.1)
Significant (%)	13 (11)	7 (4)	11 (6)	8 (5)	7 (3.6)	5 (4)	9 (5.4)
Total P+S %)	36 (30)	46 (26)	29 (15.5)	23 (14.4)	31(16.1)	13 (7)	136 (5.6)
Total (%)	122 (13.5)	179 (19.8)	190 (21)	159(17.6)	192 (21)	60 (6.6)	902(100)

Table 4. Impact grading of MHP on various aspects.

Impact grading, n (%)	Grade VI	Grade VII	Grade VIII	Grade IX	Grade X	Grade XI	Total
None or little	64 (52.5)	112 (63)	115 (60)	113 (41)	134 (69.8)	32 (53.3)	570 (63)
Medium amount	49 (40)	59 (33)	70 (37)	41 (26)	57 (29.7)	28 (47)	304 (34)
Great deal	9 (7.4)	8 (4.5)	5 (3)	5 (3)	1 (0.5)	0	28 (3)
Total medium and great deal	58 (47.4)	67 (37.5)	75 (40)	46 (29)	58 (30.2)	28 (47)	332 (37)
Total students	122 (13.5)	179 (20)	190 (21)	159 (17.6)	192 (21.3)	60 (6.7)	902 (100)

than others (4-6%).

Table 4 shows the impact of MHP on child's home life, friendship, class room learning and leisure activities. Impacts were graded as not at all, a little, medium and great amount. Great degree of impact on life were reported by 0-7.4% of students while medium degree of impact was reported by 26-47% of students. The lower the class or younger the students, the more severe impacts were reported than the elder students or higher-class students. Class XI had reported zero severe impact. There was no relation between standard of class and impact on their lives.

Table 5 shows the grade wise distribution of first two common mental health problems with their percentage. Peer problem topped the list in all the grades i.e., age 13 to 16 except grade XI or age 17 years where emotional problem replaced the peer.

Table 5. Distribution of first two common mental health problems as per the students grades and mean age.

Grade	Commonest MHP (%)	2nd most common MHP (%)
VI	Peer 30%	Pro-social 18%
VII	Peer 30%	Conduct 20%
VIII	Peer 26%	Conduct 19%
IX	Peer 19%	Emotional 16%
X	Peer 19%	Conduct 13%
XI	Emotional 20%	Peer 20%

DISCUSSION:

Nineteen percent prevalence of MHP in our study was similar to the study by Bastola R in Pokhara, Nepal.[11] The decreasing frequency of MHP were internalizing, followed by externalizing and prosocial problem in both the studies. Internalizing problems were little higher (23% vs 20%) than in our study. [11] Higher values may be because the sample was from four public schools in Pokhara. The samples represented the poor socioeconomic group in which psychosocial problems are common. Adolescents who were facing abuse at home, followed by 'do not feel good' about their home environment, had high academic school stress, not staying with their parents, hardly sufficient income, whose mothers were illiterate and disturbed marital status of parents were more likely to develop psychosocial problems. [11]

The study by Sharma B et al. had higher SDQ than ours; externalizing problem 30% and internalizing problem 35.8% as compared to 10.75% and 20% respectively in our study.[6] The reasons of high MHP were explained as rapid industrialization and urbanization, and majority of young parents were employed and lived in unitary setup, unavailability of time for their children leading to psychosocial problem. The study found that the risk of MHP increased twice in nuclear family than in joint families, four times more externalization problem in private schools than government schools and twice more common in males than females.[6]

Khattri JB et al. found the overall prevalence of psychiatric cases to be 37.5% (n=261) in rural Kusma village of Baglung, Nepal which is almost twice than that in our study (19 %).[12] In another study by Bhola P et al. 10% (vs 5.4% in our study) of adolescents had total difficulty level in abnormal (significant) range with 9% (vs.7%) risk for emotional symptoms, 13% (vs.7.5%) conduct problems, 12.6% (vs.2 %) hyperactivity or inattention and 9.4% (vs.5%) peer problems. Males (57.5%) had more MHPs than females (42.5%) [13]. The higher level of MHP might be because the sample was of higher age group than ours. We too found that the higher age group had higher MHP.

The study by Keyho K et al. reported 17.2% (vs.5.4%) abnormal and 28.8% (vs.14.1%) borderline (total 46%) (vs.19.5%) prevalence.[14]. The subclass of MHP emotional, conduct, hyperactivity, peer and pro-social problems were higher than our study which might be because they included government school which had comparatively higher MHP.

Similarly, the study by George M et al. reported 47% (33% Abnormal and 14% Borderline) MHP. Younger age (3-5 years) had more problem (35%) than older age (28%) in (11-14 years) similar to our study but the age group was younger in this study. The M:F ration was also comparable.[15]

Banerjee M et al. reported increased total SDQ 42% with abnormal problems being conduct 40%, emotional 30.5% and peer 18%. This study is an example that persistent violence of any type may cause MHP in children and adolescents.[16]

In a review by Chaulagain A et al. two school surveys found the prevalence of emotional and behavioral problems in school children ranged between 12.9% and 17.03%, where as a study on emotional and behavioral disorders in homeless children reported a prevalence of 28.6%. While the emotional problem in our study (20%) was higher

than that of Chaulagain et al. (12.9%), homeless children definitely have high behavioral problem.[17]

Rimal H S et al. found abnormal total SDQ in 18.6% and peer related problem in 22% of students in their study. However, they had included only significant as abnormal and probable as normal. With that respect total significant SDQ was 5.4% and significant peer problem was 5% in our study. Female students had significant emotional problem than male students ($p<0.05$) similar to our study. Boys had significantly higher hyperactivity while it was equal in both sexes in our study ($p<0.05$).[18]

Thapa B et al. reported 6.5% of adolescent students endorse dissatisfaction with themselves and 11.8% had suicidal ideation or attempt from 1160 surveyed population from Dhulikhel.[19]

Lower prevalence of MHP were reported by Wolf RS et al. (10%) and Olyainka A et al. (10.5%) too.[20,21]

Male students had more emotional, hyperactivity and conduct problems and female had more peer problems in the study by Banerjee et al. while in our study, except in emotional problems, boys had more MHP than the girls.[16]

The study could not include parents and teachers view of SDQ. The did not follow up the cases after intervention. It would have been better if all 3 versions: student, parent and teacher view or answer of SDQ questioners were followed and follow up studies were also done.

CONCLUSION:

Mental health problems are highly prevalent in Nepalese school children. The prevalence rate was 20% in our study. Peer, emotional and conduct problems occupied 55% of mental health problems. SDQ is a good tool for screening mental health problems in school children. All the school children should be screened, as a part of school health program, for mental health problems by school authority for early diagnosis and necessary intervention.

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