Mental Health Status and its Associated Factors among Students in Nawalparasi[1]

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Abstract

Mental illness in children is very common in Nepal. It causes significant number of adolescents to deprive from education because of school dropout. This study aims to assess the mental health status and its associated factors among high school students at Devchuli Municipality, Nawalparasi. The study was cross-sectional and designed based on probability cluster sampling technique. The data was collected using self-administered General Health Questionnaire (GHQ-12). Mental health status was measured as psychiatric caseness using Goldberg criteria for GHQ 12 with cut-off point of three. Among 400 students, 387 students were participated in this study (97% participation rate), and the average age of the respondents was 17±1.58years with 31.3% prevalence of psychiatric caseness. Loneliness (AOR= 4.216 CI=1.395-12.739), sleeping less than 6 hours (AOR=3.720 CI=1.916-7.221), school absenteeism (AOR=3.562 CI=1.511-8.397), self-reported poor academic performance (AOR=2.459 CI=1.469-4.118), and inadequate perceived coping in stressful events (AOR=2.990 CI=1.430-6.252) were found to be significant factors affecting the psychiatric caseness among high school students. Based on our study, results suggest that one third of high school students were found as caseness and associated factors were loneliness, sleeping less than 6 hours in a day, school absenteeism, self-reported poor academic performance and perceived coping capacity. The findings suggest there should be provisional of social and psychological support in order to improve the quality of their life.

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Introduction

Health is physical, mental and social well-being and not merely the absence of disease or infirmity. This concept of health reflects that health is not possible without good mental health. The good mental health is the individual's ability as human to think, emote, interact with each other, earn for living, and live a happy life (WHO, 2001). Mental disorder includes a broad range of problems from a minor psychological problem like anxiety disorder to a major psychotic mental disorder like schizophrenia with varying symptoms. However, they are generally characterized by some blend of abnormal thoughts, emotions, behavior, and relationships with others. Most of these mental disorders could be successfully treated (WHO, 2019).

Mental health is an important and integral component of health and central to human development. Positive mental health is often related to better health status, higher educational achievement, enhanced productivity and earnings, improved interpersonal relationships, closer social connections and improved quality of life (Chan, 2010).

Adolescence is a transition period where an individual experiences many physical and psychological changes. Therefore, an individual during this stage is more prone to have some kind of psychological and emotional problems. Globally, 20% children and adolescents have mental disorders (WHO, 2019). Adolescents with better mental health status are likely to have higher education and a bright and successful future, and thus support societal and national development. Inadvertently, today's adolescents are often more vulnerable to experience emotional and psychological problems due to stress upon them to perform well in their studiesand high demands and expectations from family and society (Pfeiffer & Nelson, 2001). Similarly, about 50% of mental illness begin before the age 14 years (WHO, 2019). A study conducted by the U.S. Department of Education found mental health condition is one of the reasons for school dropout among 14-21 years aged students. Study statistics indicated over one third (37%) of school, dropout students have some mental health condition.

The mental condition is screened by GHQ which is most commonly used tool for screening mental health condition. The risk of ill mental health or developing mental illness, termed originally as psychiatric caseness was assessed by using GHQ-12. The twelve-item General Health Questionnaire (GHQ-12) was developed by Goldberg to screen for likely to or risk of developing ill mental health. The participants scoring more

than or equal to 3 in the General Health Questionnaire-12 were categorized as psychiatric caseness (Goldberg, 1978).

However, in the context of Nepal limited scientific research has been conducted related to mental health (WHO & Health Ministry, 2006). Moreover, very limited researches have been conducted on the mental health of high school students in Nepal. Consequently, the baseline vulnerability of high school students in rapidly developing, semi-urban municipalities remains entirely unidentified. This study directly addresses this empirical and geographic gap by assessing the mental health status and identifying potential psychiatric caseness among high school students within Devchuli Municipality, Nawalparasi.

Methods

The study was conducted in high schools of Devchuli municipality, Nawalparasi in 2018. Descriptive cross-sectional study design with quantitative methods was used. Primarily approved and permitted by research committee of Maharajgunj Nursing Campus, and Ethical clearance was received from Institutional Review Board of Institute of Medicine (IOM). The validated Nepali version of General Health Questionnaire (GHQ-12) was used for assessing mental health condition (Koirala et al., 1999). The General Health Questionnaire (GHQ) is a screening tool for identifying likely to have or risk to develop mental illness in the general population. It aimed at detecting those forms of psychiatric cases, which may have relevance to a patient's presence in a medical clinic, so that its focus must be on psychological components of ill health (Goldberg, 1978). All the high school students in grade 11 and 12 of the municipality were included in the sampling frame. With the reference to the prevalence of 52.8% reported by study done in India (Makhal et al., 2015), allowable error of 6% and finite population size 500, the minimum sample size was determined 349 for the study. Cluster random sampling technique was used and data was collected from randomly selected 4 schools. Each classes were considered as cluster and the students of randomly selected cluster were included in the study.

Self-administered questionnaires were distributed to the students in their classrooms during regular school hours in their break time, 30-35 minutes was allocated for them to answer all the questionnaires.

Prior to data collection, they were informed about the study objectives, assured that participation was voluntary that means all efforts were made to encourage

participation without coercion, and notified of their right to refuse participation or withdraw from the study at any time without any consequences.

All the GHQ 12 responses collected from the students were analyzed using bi modal scoring method 0-0-1-1 and further analyses were performed to determine statistical bounds (limits) of the participants mental health condition. The data were analyzed based on Goldberg's guidelines, where the score ranges from 0 to 12 and GHQ-12 versions classify score 3 or above as achieving psychiatric caseness according to the manual of GHQ-12 scoring. Psychiatric caseness is a probabilistic term, which indicates that such respondents are likely to or have high risk of developing mental illnesses (Goldberg, 1978). All data was entered in Epi-Data version 3.1 and analyzed using SPSS version 16. First, descriptive statistics were calculated followed by inferential statistics to determine the association between independent and dependent variables. Bi-variate test was performed to examine the association of psychiatric casesness with socio-demographical and behavioral and psychosocial variables. Furthermore, significantly associated variables in chi square test were analyzed using multivariate logistic regression. The adjusted and unadjusted odd ratio with 95% confidence interval and corresponding *p* values were computed.

Results

The average age of the participants was 17.33 ±1.58 years with more than fifty percent (58.1%) female participants. Table 1 and 2 indicates socio-demographic characteristics, behavioral, and psychosocial variables among high school students in Nawalparasi respectively. Table 3 indicates near about one-third (31.3%) of the participants were found psychiatric caseness (GHQ score 3 and above) and 68.7% were no psychiatric caseness.

Factors significantly affecting psychiatric caseness were living alone (AOR= 4.216 CI=1.395-12.739), sleeping <6 hours (AOR=3.720 CI=1.916-7.221), school absenteeism (AOR=3.562 CI=1.511-8.397), self-reported poor academic performance (AOR=2.459 CI=1.469-4.118) and inadequate perceived coping capacity in stressful events (AOR=2.990 CI=1.430-6.252).

Table 1

Socio-Demographic Characteristics of the Respondents

		n=387
Characteristics	**Number**	**Percentage**

Age in completed years		
15-19	348	89.9
20-24	39	10.1
Mean ±SD=17.33 ±1.58 years		
Sex		
Female	225	58.1
Male	162	41.9
Ethnicity		
Upper caste group	168	43.4
Disadvantage janjati	189	48.8
Dalit & Muslim	30	7.7
Religion		
Hinduism	339	87.6
Christianity	31	8.0
Buddhism and Islam	17	4.3
Marital Status		
Unmarried	374	96.6
Married	13	3.4
Family Type		
Nuclear	277	71.6
Joint	110	28.4
Accommodation		
Living with family	351	90.6
Living with friends and other relatives	20	5.6
Living alone	16	4.1
Perceived economic Status		
Sufficient for study	368	95.1
Insufficient for study	19	4.9
Family history of having mental illness (n=27)		
1st degree relatives	14	51.8
2nd degree relatives	13	48.2

Table 2

Behavioral and Psychosocial Variables of the Respondents

		n=387
Variables	**Number**	**Percentage**

Physical activity at least one hour per day in a week		
< 3 days	190	49.1
≥ 3 days	197	50.9
Mean ± SD=3.84 ±1.98 days		
Sleeping hours per day		
< 6 hours	50	12.9
≥ 6 hours	337	87.1
Mean ± SD =8.01±1.47 hours		
School absenteeism in a month		
< 3days	359	92.8
≥ 3days	28	7.2
Self-reported academic performance		
Good	161	41.6
Average	220	56.8
Weak	6	1.6
Perceived coping abilities in stressful events		
Adequate ability	102	26.4
Moderately adequate ability	218	56.3
Inadequate ability	67	17.3
Perceived supportive school environment	366	94.6
Having close Friends	359	92.8

Table 3

Mental Health Status among the Respondents

Mental Health Status	**Number**	**Percentage (95%CI)**
No psychiatric caseness (< 3 GHQ score)	266	68.7(63.95-73.15)
Psychiatric caseness (≥ 3 GHQ score)	121	31.3 (26.85-36.05)
Mean ± SD = 2.65±2.53		

CI=Confidence interval

Table 4

Multivariate Logistic Regression Analysis of Mental Health Status

Variables	**ORs**	**95% CI of ORs**	***p- value* ORs**	**AOR**	**95% CI of AOR**	***p- value* AOR**
Age						
15-19 years	Ref.			Ref.		
20-24 years	2.039	1.043-3.985	**0.034**	2.394	1.115-5.139	**0.025**
Accommodation						
Living alone	2.973	1.080-8.182	**0.027**	4.216	1.395-12.739	**0.011**
Not living alone	Ref.			Ref.		

Sleeping hours per day						
< 6 hours	2.510	1.374-4.586	**0.002**	3.720	1.916-7.221	**<0.001**
≥ 6 hours	Ref.			Ref.		
School absenteeism in a month						
< 3 days	Ref.			Ref.		
≥ 3days	3.789	1.716-8.365	**<0.001**	3.562	1.511-8.397	**0.004**
Self reported academic performance						
Good	Ref.			Ref.		
Average to Poor	2.211	1.394-3.505	**0.001**	2.459	1.469-4.118	**0.001**
Perceived coping capacity in stressful events						
Adequate	Ref.			Ref.		
Moderately adequate	1.579	0.908-2.745		1.536	0.837-2.817	0.164
Inadequate	3.529	1.801-6.913	**0.001**	2.990	1.430-6.252	**0.013**

Discussion

The mean age of participants was 17.3±1.58 years. The proportion of participants with psychiatric caseness (scored 3 and above on GHQ-12) was 31.3%. This result is comparable to the similar study conducted among undergraduate students at Saudi Arabia (30.9%) by using a different tool BSI-18 (Hakami, 2018) and Japan and United Arab reported that 33-49% of the medical students were scored GHQ 3 and above and consider as poor mental health status (Ohstu et al., 2014; Gomathi, Ahmed & Sreedharan, 2012). This study result is lower compared to the two independent studies of Malaysia among undergraduate (47.1%) and medical students (46.2%), based on similar instruments GHQ, indicating an unhealthy psychological and emotional state (Baharudin & Zulkefly, 2010). Likewise, the result of this study is consistently lower to the studies performed among medical students at Dubai (54.4%) (Ahmadi et. al., 2011), India (43%) (Kaistha, 2013) and two separate studies of Iran 54.4% (Farahangiz, Mohebpour & Salehi, 2016) & 49.5%using same instruments GHQ-12 (Jafari, Logmani & Mantazeri., 2012).

The result of this study is higher compared to the different studies of Nepal using various tools. A study at medical college of Nepal, only 20.9% of the medical students had scored GHQ 3 and above (Gyawali, Chaulagi & Paneru., 2016). Similarly, national representative study carried out in Eastern part of Nepal reported the prevalence of psychiatric disorder 14% (Shyangwa et. al., 2014) while, anxiety and depression in 22.7% and 11.7%, respectively, among population aged 18-65 years (Risal st.al., 2016). Recent pilot study ranges the prevalence of mental illness from 11.2 % to 13.2% among children and adult respectively (Jhaet.al., 2019).

The high GHQ score is reported higher among the undergraduate students compared to other populations of studied in Nepal. The reasons for higher proportion might be academic related factors. Undergraduate learning is a sensitive period in students' life, the students need to cope with the social and academic demands in preparation for future careers (Bayram & Bilgel, 2008).

The students have pressure to achieve high marks and concerns about receiving poor grades, fear of failure, increased academic pressure are the main sources of stress and is associated with the presentation of anxious states and lower psychological well-being among secondary and high school students (Pascoe, 2020). Students who were academically less successful in medical school reported somewhat other psychological difficulties, such as anxiety, burnout, suicidal thoughts, and substance abuse (Dyrbye et.al., 2005) and lower score on GPA and two third probability of school dropout is also noted on high school students of USA (Education Department USA, 2014). The major source of stress for the cohort of undergraduate nursing students was academic studies.

Academic Achievement is found to be associated with high GHQ score in our study. The study showed poor self-reported academic performance (AOR=2.223 CI=1.284-3.847) is significantly associated with Psychiatric caseness that is accordance with the similar previous study of Turkey, students with an average (OR=1.62) or low (OR=3.01) academic achievement were found to be at higher risk of high GHQ score versus those with a high level of achievement (Uner et.al, 2008).

School absenteeism for three or more days a month was also found to have higher odds of having Psychiatric caseness compared to less than 3 days of school absenteeism (AOR=3.291, CI= 1.294-8.373). This might be due to higher emotional disorders like depression, anxiety and any emotional difficulties are significantly associated with high rate of all kind of school absenteeism (Education Department, USA, 2014).

Similarly, loneliness was another factor associated (AOR=4.590, CI=1.404-15.014) with Psychiatric caseness, although previous studies do not find significant association between mental health status and accommodation (Hakimi, 2018). These differences may be explained by either the use of different measuring instruments or their cut-off scores or by sociocultural variations and differences in understanding social self-confidence, self-evaluation and adaptive behavioral styles. Sleeping less than 6 hours have higher odds of psychiatric caseness compared to sleeping 6 hours or

more (AOR=4.438, p =<0.001).This is consistent with the study at Nigeria, indicating that sleeping quality (24.4%; 95% CI, *p*=<0.05) has significantly associated with psychological distress (Fadipe&Mosaku, 2017).

Students with inadequate perceived coping capacity have more than 3 fold higher odds of psychiatric caseness compared to adequate perceived coping capacity (AOR=3.52, *p*=<0.001*).* Literature of India regarding the relationship between perceived stresses and coping strategies showed students who displayed positive coping strategies had lesser-perceived stress (Guruprakash et al., 2018) compared to ineffective coping.

As a whole, there are some limitations to this study. A cross-sectional design was employed in this study with a screening tool; therefore, a causal inference of the associations between mental health and variables as well as severity of mental illness could not be derived. Thus, longitudinal studies are needed to confirm the direction of the relationship and the causality. Though the students were properly informed regarding confidentiality and the data will be used strictly only for research process before data collection, still self-reporting of some variables such as perceived coping capacity, self-reported academic performance, having closed-friend and economic status might have some level of information bias.

The present findings would be a concern for various authorities including parents, educationists, researchers, practitioners. The vision for a developing nation could be hampered if the young generations, comprising about 31.3% or almost one third of the population are at risk of ill mental health. Therefore, both prevention and intervention strategies need to be formulated to ensure that the psychological state of young population, including those studying in higher secondary school.

Conclusion

One third of high school students of Devchuli municipality, Nawalparasi were found to have psychiatric caseness. Age, accommodation, sleeping hours, schools absenteeism, poor academic performance, perceived coping capacity were factors associated to mental health. This attribution might be due to lack of awareness, and academic parental pressure on their children. Student friendly curriculum and environment plays an important role in maintaining sound mental health and productivity of high school students. School should inform students' school absenteeism and poor academic performance to their parents and refer to academic management at the early

stage of the academic year. More studies based on analytical design and larger sample sizes are suggested to discover sources, consequences, and solutions for this problem rather than simply describing it.

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