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Research Article

Health and Social Vulnerability of Adolescents in Nepal

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Abstract

Background: Adolescents' social and health vulnerabilities are growing public health concerns worldwide as vulnerable adolescents have difficulties in maintaining their physical and psychosocial wellbeing. Adolescents from poor economic settings are more vulnerable because of lack of basic necessities and parental guidance.

Methods: The data are derived from the Nepal Adolescent and Youth Survey (NAYS) 2010/11 conducted among 14,754 adolescents from 72 districts of Nepal, using Probability Proportion to Size (PPS) method and multi-stage random sampling procedures.

Results: The survey shows that 16 percent of the adolescents were out of formal schooling, 32 percent reported that they were physically beaten, 14 percent told that they ever consumed alcohol, 16 percent were vulnerable from injury, 51.9 percent were vulnerable from illness requiring medical treatment and around 14 percent of the adolescents reported at least one perceived psychosocial problems. From Gender perspectives early marriage, psychosocial problems and out of schooling were the major factors responsible for vulnerability in girls while injury was the common vulnerability factor for boys. Being girl, being older and belonging to Brahmin/Chhetri caste and residing in mountain region were the major predictors for out of schooling while contributing factors for child marriage were being girl, being older, residing in rural localities and belonging to Janajati caste. Boys, lower age's adolescents and residing in mountain region were more vulnerable for physical violence. Alcohol was major cause of vulnerability among boys, older age, living in mountain region, belonging to Janajati caste and having lower wealth quintiles.

Conclusion: Adolescents social and health vulnerabilities are high especially among girls and those from remote areas and belonging to Dalit caste. The factors associated with vulnerabilities had mainly the socio-economic causes and difficulties in access in health services.

Introduction

More than a quarter of the world's population is between the ages of 10 to 24 years [1]. Which means adolescent population is quite high than other age groups. As young people enter adolescence they bring with them resources and vulnerabilities [2]. Adolescents in both developed and developing countries face both health and social vulnerabilities. Vulnerability is universal but some are more vulnerable than others [3]. Adolescents globally face vulnerable situations, some cope well with social and health vulnerabilities while others don't. Vulnerability is a threat to wellbeing which is responsible for degrading of current status and erosion of human development.

Vulnerable social situations arise due to mismatch between adolescent's interest and family and society's expectation from the adolescents. This social vulnerability pushes adolescents in a risky behavior which affects their health. Health vulnerabilities also arise due to biological changes and difficulties to deal with emotions and feeling that come along with onset of adolescence. Adolescent's health is influenced by interactions between parents, peers and socio-economic environments. The experiences during early childhood development and existing protective and risk factors affect the health seeking behavior of the adolescents [4].

Poor and unhealthy family environment increases the chances of greater academic problems, depression, suicidal thoughts, substance abuse and more sexual misconduct among the adolescents [5]. Early pregnancy and child bearing are associated with higher risks of morbidity and mortality particularly for female adolescents in developing countries for male adolescents risk of injury increases, especially because they are more likely than adolescent women to be involved in traffic accidents and violence [6]. Therefore, improving adolescent's relationship with families and peers, addressing risk factors and strengthening protective factors in the social environment is important to ensure adolescents' health [7].

Social and health vulnerabilities are closely associated with each other. For example, the school drop-out is often because of socio-economic vulnerabilities which forces the child either to be married in early age or to be engaged in dangerous work that cause injuries and other health

vulnerabilities. The study conducted in 2013 by UNESCO showed that in Asia and Pacific region there were 17.3 million out of school children of primary school age, which accounted for almost 29% of all out-of-school children worldwide [8]. South Asia has the highest rate of child marriage in the world, with 46 per cent of girls married and 22 percent giving birth before they turn 18 [9]. Injuries affect younger individuals excessively, as well as citizens of Low and Middle Income Countries (LMIC) [10]. Similarly, the health and well-being of adolescents is threatened by the alcohol use and other intoxicating substances [11]. Health vulnerabilities are not only related to injuries and physical health problems but also to psychosocial and mental health problems.

According to WHO mental, neurological, behavioral disorders and self-harm contribute to about 12% of global burden of disease [12] and half of the neuropsychiatric disorders are likely to begin from the age of 14 [13]. Around 10 to 20% of children and adolescents suffer from mental health problems globally [14]. But studies have found that most children and adolescents with mental health disorders do not seek out or get the services that they need a study estimated that between 60 and 90 percent of adolescents with mental health disorders fail to receive treatment [15]. This health vulnerability gives rise to social vulnerability as mental health is socially stigmatized in many Low and Middle Income Countries (LMICs) and has consequences in social relationship of mentally ill person and his/her family members.

In terms of human development indicators, Nepal is one of the least developed countries in the world with Human Development Index (HDI) of 0.548 and Gender Development Index of 0.908 [16]. According to the population census of Nepal 2011, 24.2% of the total populations are adolescents (10-19 Years) [17]. Around 14% of women ages 15 to 19 years have encountered physical violence in Nepal [18].

The health and social vulnerabilities are quite high among Nepalese adolescents because of socio-economic difficulties, family conflict because of alcohol abuse; structural injustices and harmful cultural practices such as child marriage, child labour and domestic violence.

In Nepal, child marriage is most prevalent among illiterate, Janajati and Dalits [19]. Older males of urban areas are at high risk of alcohol abuse [11]. Falls, cuts, transport related injuries and burn are prevalent among adolescents in urban areas [20]. During the 10 years long armed conflict between the government of Nepal and the Communist Party of Nepal (Maoist) many children and adolescents' psychosocial wellbeing was severely affected because of conflict-related death of a relative, physical abuse in the household, and loss of wealth during the conflict [21].

The provision for opportunities for schooling is changing rapidly in Nepal since access to schooling for both boys and girls has been increasing. However, girls in Nepal have been facing significant risks arising from harmful social norms related to puberty, early marriage, early sexual initiation, pregnancy and child bearing, and elevated risks of STIs and HIV [22].

In Nepal, to our knowledge, adolescent vulnerabilities are not studied at the national level. A few studies conducted with specific populations have documented vulnerabilities among adolescents related to only trafficking, HIV and sexual behavior. Therefore, this paper which is based on data from Nepal Adolescent and Youth Survey 2010/11 aims to comprehensively map the social, physical and psychosocial vulnerabilities of adolescents so that culturally appropriate and cost effective health interventions can be developed and implemented.

Materials and Methods

This paper reports finding from the Nepal Adolescent and Youth Survey (NAYS) 2010/11 conducted in 72 out of 75 districts of Nepal by Rural and Alternative Energy Pvt. Ltd. for the Ministry of Health and Population. The survey at the first stage used Probability Proportion-to- Size (PPS) method to select 300 (63 from urban and 237 from rural areas) clusters. Secondly, from each cluster 30 households with at least one adolescent and youth aged 10-24 years were selected using systematic random sampling procedure. A total of 8,974 households were visited from which a total of 14,754 adolescents and youth were successfully interviewed. Among them, 11,477 were the adolescents aged 10-19 years [23].

In this paper, adolescent social vulnerability was measured based on the five different questions included in the survey. The social vulnerability related questions were: i) are you currently studying at school or college? ii) what is your marital status? iii) has anybody in your family physically beaten you in last 12 months? iv) did anybody from outside of your family physically beat you in last 12 months? v) have you ever taken Liquor (Home-made alcohol, Hard Liquor, Beer, Wine, etc.). In this study, the two questions related to beating have been merged to create a single variable, i.e. beating to adolescents in last 12 months.

Likewise, health vulnerability was measured based on physical vulnerability and psychosocial vulnerability. The physical vulnerability related questions were 1) have you been medically treated because of an accident or injury in the past 12 months? and 2) did you receive medical treatment after being diagnosed or

Table 1: Socio-demographic status of the adolescents.

Background Characteristics	Boy	Girls	Total
Age			
10-14	60.1	55.7	57.9
15-19	39.9	44.3	42.1
Marital status			
Unmarried	98.2	91.9	95.0
Married	1.8	8.1	5.0
Education			
No education	4.9	7.7	6.3
Primary	38.6	37.3	38.0
Secondary	42.9	42.1	42.5
Above Secondary	13.5	12.9	13.2
Urban-rural residence			
Rural	81.1	81.5	81.3
Urban	18.9	18.5	18.7
Ecological belt			
Mountain	7.0	7.6	7.3
Hill	43.6	47.2	45.4
Terai	249.4	45.2	47.3
Caste/Ethnicity			
Dalit	10.2	11.3	10.8
Janajati	50.9	50.5	50.7
Brahmin/Chhetri	38.9	38.2	38.6
Total	100.0	100.0	100.0
N	5,757	5,720	11,477

Table 2: Social vulnerability of the adolescents.

Background variables	Out of schooling	Child marriage	Beating	Alcohol use	Total
Gender					
Boys	13.0	11.8	35.8	20.5	5,757
Girls	18.3	8.1	27.8	7.3	5,720
Age					
10-14	8.8	0.2	44.1	6.9	6,647
15-19	25.1	11.6	14.9	2.5	4,830
Education					
No education	100.0	17.6	35.2	14.7	726
Primary	13.0	2.9	45.2	9.1	457
Secondary	8.7	4.6	25.8	14.1	4,878
Above secondary	5.0	6.3	11.1	26.3	1,517
Urban-rural residence					
Rural	17.1	5.4	32.3	12.8	9,333
Urban	9.2	3.1	29.7	18.6	2,145
Ecological belt					
Mountain	13.7	6.8	29.7	19.4	837
Hill	11.4	5.0	27.4	17.2	5,210
Terai	20.0	4.7	36.4	9.8	5,430
Caste/Ethnicity					
Dalit	24.6	8.6	35.3	13.9	1,234
Janajati	19.4	4.8	33.4	17.7	5,818
Brahmin/Chhetri	8.2	4.2	28.8	8.9	4,425
Wealth status					
Lowest	23.2	6.8	34.1	16.1	2,219
Second	22.5	5.5	33.8	13.8	2,423
Third	16.3	5.4	31.6	10.9	2,422
Fourth	10.1	5.0	30.2	12.0	2,322
Highest	5.1	2.1	29.0	16.6	2,091
Total	15.6	5.0	31.8	13.9	11,477

being sick in the last 2 weeks? for psychosocial vulnerability, the five questions related to perceived psychosocial problems of adolescents included in the survey were used, i.e. i) felt sad and depressed for several days; ii) loss of interest for several days; iii) not interested to meet anyone for several days; iv) felt weak and exhausted for several days; and v) felt angry on small issues. In the present study, these five psychosocial problem related questions have been merged to create a single variable "psychosocial problem".

The responses of all the questions related to social and health vulnerability were re-coded into dichotomous outcome (1= have a problem and 0=do not have a problem) and treated as dependent variable. The bivariate logistic regression model has been used to identify predictors of social and health vulnerability with considering independent variables such as age, sex, caste/ethnicity, wealth status of the household, level of education, urban/rural residence, and ecological belt. All analysis was performed using SPSS 16 version.

Results

Socio-demographic status of the adolescents

All together 11,477 adolescents aged 10-19 years have been included in this study of whom 5,720 (49.8%) are girls. Mean age of adolescents is 14.2 years with standard deviation of 2.7 years. Majority of respondents were from rural areas (81.3%), unmarried (95.0%) and belonging to Janajati caste/ethnic groups (50.7%). Likewise, nearly half of the adolescents are from Hill region (45.4%) and nearly 43 percent of the adolescents have attained secondary level of education (Table 1).

Social vulnerability of the adolescents

Of the 11,477 adolescents, around 16 percent were out of school (i.e. either never started school or have drop out) and five percent

Table 3: Factors associated with social vulnerability of adolescents.

Background variables	Out of schooling	Child marriage	Beating	Alcohol use
	OR (CI)P*	OR (CI)P	OR (CI)P	OR (CI)P
Gender				
Female (ref)	1			
Male	0.74 (0.63-0.86) 0.000	0.20 (0.16-0.26) 0.000	1.41 (1.30-1.54) 0.000	4.58 (4.02-5.23) 0.000
Age	2.46 (2.34-2.58) 0.000	2.41 (2.25-2.57) 0.000	0.765 (0.75-0.78) 0.000	1.40 (1.36-1.45) 0.000
Education				
No education (ref)	1			
Primary	0.004 (0.00-0.005) 0.981	8.81 (6.06-12.8) 0.000	1.67 (1.29-2.17) 0.000	0.83 (0.64-1.09) 0.18
Secondary	133.67 (93.69-190.72) 0.000	5.67 (3.99-8.07) 0.000	1.69 (1.36-2.10) 0.000	0.74 (0.58-0.96)0.02
SLC and above	8.73 (6.62-11.53) 0.000	2.60 (1.96-3.44) 0.000	1.35 (1.12-1.64) 0.002	0.95 (0.71-1.26) 0.70
Urban-rural residence				
Rural (ref)	1			
Urban	0.95 (0.75-1.20) 0.658	0.72 (0.52-1.00) 0.052	1.05 (0.93-1.19) 0.451	1.31 (1.11-1.55) 0.002
Ecological belt				
Mountain (ref)	1			
Hill	0.28 (0.195-0.400) 0.000	1.11 (0.76-1.62) 0.574	0.71 (0.59-0.84) 0.000	0.73 (0.59-0.91) 0.005
Terai	0.62 (0.52-0.73) 0.000	1.07 (0.86-1.34) 0.546	0.66 (0.60-0.72) 0.000	0.28 (0.23-0.36) 0.000
Caste/Ethnicity				
Dalit (ref)	1			
Janajati	1.57 (1.20-2.05) 0.001	1.65 (1.20-2.26) 0.002	1.13 (0.97-1.32) 0.107	1.54 (1.26-1.87) 0.000
Brahmin/Chhetri	1.46 (1.22-1.76) 0.000	0.96 (0.76-1.21) 0.708	1.02 (0.93-1.13) 0.646	0.44 (0.35-0.55) 0.000
Wealth quintiles				
Lowest (ref)	1			
Second	1.63 (1.18-2.27) 0.004	2.07 (1.32-3.23) 0.067	1.04 (0.88-1.23) 0.619	1.08 (0.86-1.35) 0.523
Middle	1.61 (1.17-2.22) 0.003	2.08 (1.35-3.20) 0.079	0.94 (0.80-1.10) 0.433	0.91 (0.73-1.13) 0.39
Fourth	1.36 (0.99-1.86) 0.057	1.94 (1.27-2.98) 0.943	0.94 (0.80-1.09)0.398	0.65 (0.52-0.81) 0.000
Highest	1.15 (0.84-1.57) 0.379	2.24 (1.49-3.37) 0.239	0.97 (0.84-1.12) 0.679	0.80 (0.65-0.98) 0.03

OR=Odd Ratio, CI=Class Interval, P=Level of Significance.

Table 4: Physical and psychosocial vulnerability of the adolescents.

Background variables	Medical treatment for accident and injuries in last 12 months	Illness in last two weeks	Psychosocial problem	Total
Gender				
Boys	20.0	48.9	12.5	5,757
Girls	11.3	54.9	14.8	5,720
Age				
10-14	16.1	52.2	8.6	6,647
15-19	15.0	51.4	20.7	4,830
Education				
No education	18.4	56.9	13.2	726
Primary	16.3	52.5	9.2	457
Secondary	14.8	50.9	15.4	4,878
Above secondary	15.3	50.8	21.1	1,517
Urban-rural residence				
Rural	15.7	52.8	13.6	9,333
Urban	15.5	47.7	13.9	2,145
Ecological belt				
Mountain	18.3	49.0	17.6	837
Hill	14.0	47.3	13.4	5,210
Terai	16.9	56.7	13.4	5,430
Caste/Ethnicity				
Dalit	16.2	51.6	16.3	1,234
Janajati	15.4	52.3	12.2	5,818
Brahmin/Chhetri	15.9	51.4	14.9	4,425
Wealth status				
Lowest	16.2	50.0	14.1	2,219
Second	16.7	54.8	13.5	2,423
Third	15.9	52.7	14.2	2,422
Fourth	15.1	51.6	14.6	2,322
Highest	14.4	49.8	11.8	2,091
Total	15.7	51.9	13.7	11,477

of the adolescents already married at the time of survey. Around 32 percent adolescents reported that they were physically beaten either by the family members or outsiders in the last 12 months of the survey. Around 14 percent of the adolescents reported that they ever consumed liquor such as home-made alcohol, hard liquor, beer, wine, etc. (Table 2).

Factors associated with social vulnerability of adolescents

Being girl, being older, having primary and secondary level of education, belonging to Brahmin/Chhetri caste and residing in mountain region were the major predictors for out of schooling of adolescents. The significant contributing factors for child marriage were being girl, being older, residing in rural localities and belonging to Janajati caste. Boys, lower ages adolescents and residing in mountain region were more vulnerable for beating by family members or outsiders in last 12 months. Likewise, being boys, being older, having secondary level of education, living in urban areas, adolescents from mountain region, belonging to Janajati caste and adolescents from lower household wealth quintiles were more vulnerable for alcohol use (Table 3).

Physical and psychosocial vulnerability of the adolescents

Of the 11,477 adolescents, around 16 percent of the adolescents were vulnerable to injury in the last 12 months and more than half (51.9%) were vulnerable to unhealthiness in the last two weeks and these problems needed the medical treatment for recovery. Similarly, around 14 percent of the adolescents reported at least one perceived psychosocial problems (such as feeling sad and depressed for several days; feeling weak and exhausted; loss of interest in work; feeling angry at small issues and not interested to meet anyone) at the time of survey (Table 4).

Table 5: Factors associated with physical and psychosocial vulnerability of adolescents.

Background variables	Medical treatment for accident and injuries in last 12 months	Illness in last 2 weeks	Psychosocial problem
	OR (CI)P*	OR (CI)P	OR (CI)P
Gender			
Female (ref)			
Male	1.95 (1.76-2.17)0.000	0.77 (0.72-8.33) 0.000	0.85 (0.76-0.95)0.003
Age	0.98 (0.95-1.00)0.101	0.99 (0.97-1.01) 0.221	1.23 (1.20-1.26)0.000
Education			
No education (ref)			
Primary	1.17 (0.90-1.53)0.250	1.04 (0.85-1.27) 0.720	0.82 (0.622-1.08)0.163
Secondary	0.933 (0.75-1.17)0.543	1.0 (0.85-1.17) 0.954	0.94 (0.76-1.17) 0.586
SLC and above	0.90 (0.75-1.08)0.254	0.97 (0.85-1.11) 0.659	1.08 (0.91-1.27) 0.391
Urban-rural residence			
Rural (ref)			
Urban	1.12 (0.96-1.30)0.145	0.86 (0.77-0.96) 0.008	1.15 (0.98-1.35) 0.050
Ecological belt			
Mountain (ref)			
Hill	1.08 (0.88-1.32)0.455	0.69 (0.59-0.81)0.000	1.24 (1.01-1.53) 0.041
Terai	0.81 (0.72-0.90)0.000	0.68 (0.63-0.74) 0.000	0.91 (0.80-1.02) 0.108
Caste/Ethnicity			
Dalit (ref)			
Janajati	0.95 (0.76-1.14)0.601	0.93 (0.82-1.06) 0.286	1.14 (0.95-1.37) 0.175
Brahmin/Chhetri	0.87 (0.79-1.0)0.040	0.93 (0.86-1.02)0.108	0.81 (0.72-0.92) 0.000
Wealth quintiles			
Lowest (ref)			
Second	1.21 (0.99-1.48) 0.070	1.00 (0.86-1.15) 0.951	1.50 (1.21-1.87) 0.000
Middle	1.22 (1.01-1.48) 0.038	1.13 (0.98-1.29) 0.090	1.48 (1.20-1.83) 0.000
Fourth	1.15 (0.95-1.38) 0.148	1.02 (0.90-1.17) 0.731	1.43 (1.17-1.75) 0.000
Highest	1.09 (0.91-1.30) 0.360	0.98 (0.85-1.10) 0.608	1.37 (1.13-1.66) 0.001

*OR=Odd Ratio, CI=Class Interval, P=Level of Significance.

Factors associated with physical and psychosocial vulnerability of adolescents

Male adolescents, living in mountain region, belonging to Dalit caste and adolescents from the middle household wealth quintiles were more vulnerable to injuries that required medical treatment in the last 12 months. The girl adolescents, living in mountain region and those from rural areas were more vulnerable from illness in the last last 2 weeks. Likewise, being girl, being older, belonging to Dalit caste, adolescents from mountain region, those residing in rural areas and having higher household wealth quintiles were more vulnerable from psychosocial problems (Table 5).

Discussion

Social vulnerability arises due to adverse effect of socio-economic and demographic factors on the resiliency of the community members [24]. Due to biological changes and changes in the social role expectations, the adolescents find it difficult to strike a balance between their interest and the expectation of the family and society around them. The health vulnerabilities are also associated with socio-economic condition, social support system, practice of substance abuse in family and violence in family and community [25]. Our findings support the arguments made by Flanagan and colleagues and Raise and colleagues that vulnerabilities have roots in socio-cultural environments [25]. The results of this study shows that Nepalese adolescents are vulnerable to social and health risks because of the practice of child marriage, out of schooling (mainly due to poverty, family and conflict and substance abuse), difficulties of accessing medical treatment for injuries, illness and psychosocial problems. In this paper, social vulnerability was measured based on out of schooling, early marriage, beaten by family members or outsiders and consuming alcohol. Likewise, physical and psychosocial vulnerability was measured based on injuries that required medical treatment in the last 12 months, illness in the last 2 weeks and perceived psychosocial problems.

The study findings suggest that around 16% of adolescents were out of schooling and the girls and adolescents from mountain region were more vulnerable from out of schooling. The study findings are in agreement with the UNESCO fact sheet 2015 which indicated that girls and adolescents from rural areas are more likely to be vulnerable from out of schooling in Asia and Pacific regions because of the particular barriers faced by each groups [8].

In Nepal, the Civil Code stipulates that the legal age for marriage is 18 years for boys and girls with parental consent and 20 years without parent consent. However, there was high prevalence of child and adolescent marriage in Nepal. This study suggested that five percent of the adolescents were married; and girls, adolescents from rural areas and adolescents belonging to Janajati caste were more vulnerable from child marriage. The study conducted by SOLID Nepal and other three organizations in 15 districts of Nepal had similar findings that the girls, adolescents belonging to Janajati and Dalit were more vulnerable from early marriage because of socio-cultural practices [19].

The study suggests that, around 14 percent of adolescents used alcohol. The boy, adolescents belonging to Janajati caste and those living in the urban areas and mountain region were more vulnerable from alcohol use. The prevalence of alcohol use among adolescents of this study is lower than the 22% prevalence reported by Karki and colleagues among adolescents from western region of Nepal [11]. However the vulnerability factors identified by Karki and colleague such as boys, higher ages adolescents and adolescents living in urban areas were more vulnerable from alcohol use were similar with the findings of this study [11].

Around 16 percent of the adolescents were vulnerable from injury in the last 12 months which required medical treatment. This is higher than the 10.9 % reported by Gupta and colleague [26] and lower than the findings of Pant and colleagues who reported 24.6% of unintended child injuries during the 12 months before the survey [27].

The study findings suggest that around 14% of adolescents have psychosocial problems. It is similar with the finding of Srinath and colleagues epidemiological study conducted in 51 Asian countries which suggested that 10-20% of children and adolescents suffer from any kinds of psychosocial and mental health problems [14]. However, this is slightly higher than the figures reported by Atilola and colleagues who conducted study among adolescents in India, Serbia, Nigeria, Turkey and Indonesia suggested that 10.5% of adolescents who participated in the study suffered from psychosocial and mental health problems [28].

The psychosocial wellbeing of adolescents was affected by factors such as geographic situation, gender, caste and economic status of the households. Being female was associated with higher psychosocial and mental health problems which is similar to a study findings reported by Reed and colleagues who found higher psychosocial and mental health problems among adolescent girls from five low and middle income countries and displaced and refugee populations [29]. Being from so called lower caste was a vulnerability factor of adolescents psychosocial and mental health problems. Similar findings are reported by Kohort and colleagues who found higher psychosocial and mental health problems among Dalit children associated with armed forces and armed groups in Nepal [30].

The structure of the society and the circumstances of the daily life in which individuals have to live and interact with each other can have the direct influence on person's attitude and behavior [31] which can then lead to social and health vulnerabilities. For addressing the social and health vulnerabilities of Nepalese adolescents, the adolescent vulnerability framework suggested by Fischhoff and colleagues' (1998) might be helpful as the framework talks about identifying the sources of vulnerability and exploring the understanding of those sources of vulnerability by the adolescents and the actors in the social and physical environments of the adolescents [3]. Secondly, the areas for action identified by the WHO Commission on Social Determinants of Health, specially improving conditions of daily life with families, peers, and in schools and focusing on factors that are protective across a range of health outcomes [32] will be helpful in the Nepalese context.

Limitation

This paper is based on a secondary survey data so all the factors that fall into social and health vulnerability might not have been captured. Secondly, at the time of survey, there were only 58 municipalities in Nepal which represented urban areas but the government in 2014/15 increased the number of municipalities to 191. So the findings from

this study cannot be generalized to the new urban areas belonging to new municipalities. Thirdly, since the study conducted in 2010 used 2001 census data to explain caste and ethnicity groups in Nepal, the number of caste and ethnic group is no longer valid as now we have the updated figures from 2011 census [17].

Conclusion

Adolescent's social and health vulnerabilities are high in Nepal especially among girls and those from remote areas (mountain and hill region), and belonging to Dalit caste. The factors associated with vulnerabilities had mainly the socio-economic causes and difficulties in accessing health services. Early marriage, psychosocial problems and out of schooling were the major factors responsible for vulnerability among girls while injury was the common vulnerability factor for boys. The finding shows that adolescents from higher wealth quintiles had higher psychosocial vulnerability. Domestic violence and alcohol abuse were also responsible for health vulnerability of Nepalese adolescents. As adolescent's vulnerability arises due to complex social phenomena and health hazards, focusing only on one approach would not address the problem, it rather requires a multi-layered intervention based on a socio-medico model and focusing on a continuum of care at the family, community and health facility level.

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