Manuscript Title: Mental Health Problems among Indian youth and its correlates

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Background

Mental health is *a* "*state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make contribution to his or her community"* (WHO, 2001). The available global statistics suggests that mental disorders like depression, alcohol use disorders and psychoses are among the 20 leading causes of disability and are attributable to nearly a third of the years lived with disability (YLD) (WHO, 2008). In the low and middle income countries, mental health disorders account for 9.9 % of disease burden and 1.9 % of premature deaths (Lopez *et al.*, 2006).

Mental disorder is the second highest disease burden among non-communicable diseases in India (Peters *et al.*, 2001), nearly 20 million Indians suffer from some form of mental health problems (National Human Rights Commission of India, 2008). Most of the mental disorders apparently begin during the early adulthood (Costello *et al.*, 2006; Patel *et al.*, 2007) which is marked with a series of physical and psychological changes (Patel *et al.*, 2007). India has a large youth base constituting 364 million people (30 %) aged 10-24 years and 231 million people (19 %) aged 15-24 years (RGI, 2011a). Further, it is projected that youth in India will form one of the highest proportions of the population by 2030 (Bloom, 2011). There is a need to recognise and cater the mental health needs for this huge and vulnerable section of Indian society.

Theoretical context

Mental health may be affected by a series of socioeconomic and demographic conditions. The long standing evidence shows that poverty, marginalization, social disadvantage, and lower levels of education results in higher risk of mental disorders via increased stressful life experiences (Deswal and Pawar, 2012; Lorant *et al.*, 2003; Lund *et al.*, 2010; Patel and Kleinman (2003); Patel *et al.*, 2006).

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Evidences, mostly from developed countries, have shaped the scholarly debate of education with mental health via multiple pathways including malnutrition, limited accessibility of resources etc. (Araya *et al.*, 2003; Patel and Kleinman, 2003). Similarly, unemployment too is likely to lead to depression and anxiety (Simon, 2002). However, there are a few studies, mainly in the Western settings, which did not find a statistically significant association between education and employment and onset of mental disorders (Lewis *et al.,* 1998; Weich and Lewis, 1998).

Marriage is another important factor that has been consistently shown to be associated with mental health, with married people enjoying a better mental health than either never married or formerly married (Lamb *et al.*, 2003; LaPierre, 2009; Reneflot and Mamelund, 2012; Ross, 1995; Uecker, 2012; Wade and Pevalin, 2004; Williams, 2003).

There are only a handful of studies, mostly micro level studies, which have explored mental health problems in India (Biswas *et al.,* 2009; Chandran and Tharyan, 2002; Patel *et al.,* 2006; Patel *et al.,* 2007; Patel *et al.,* 2008). Recently, Ram et al. (2014) explored the association of gendered socialization with mental health problems among Indian youth utilizing the large scale dataset. Nonetheless, there is a clear paucity of population based study in India which examines the mental health correlates among Indian youth. The present study is the first one to examine the socioeconomic determinants of Common Mental Disorders (CMDs) among Indian youth using data from a recently conducted sub-national population based survey of youth.

Study setting, data and methods

The study utilizes data from "*Youth in India: Situation and Needs 2006-2007"* (IIPS and Population Council, 2010). The study was conducted in rural and urban settings of the six Indian states (viz., Andhra Pradesh, Bihar, Jharkhand, Maharashtra, Rajasthan, and Tamil Nadu) representing the different geographic and sociocultural regions of the country and accounting for 39 % of the country's population. .

The survey employed a multistage sampling design, initially selecting 300 primary sampling units (PSUs) in each state, split equally between rural and urban areas. In rural areas, the 2001 Census villages served as the sampling frame, with selection proceeding in two stages. First, villages were selected systematically from a stratified list (based on region, village size, caste composition, and female literacy), with selection probability

proportional to size. The 150 PSUs selected were then ordered by district and *taluka* codes and numbered from 1 to 150. Odd-numbered PSUs were designated for interviews with male youth and even-numbered PSUs for female youth. For urban areas, the 2001 Census list of wards (containing multiple census enumeration blocks (CEBs)) served as the sampling frame, with selection proceeding in three stages. First, wards were ordered by district and female literacy, and then 75 wards were selected systematically with probability proportional to size. Second, within each selected ward, CEBs were arranged by their administrative number and one CEB was selected proportional to size. This CEB was designated a male PSU and an adjacent CEB to each selected male CEB was subsequently selected to be a female CEB, resulting in a total of 150 urban CEBs per state. The choice to designate male and female PSUs was guided by concern that the sensitive nature of some questions might lead to teasing, damaged reputations, or violence, if respondents became aware that similar questions were being asked of the opposite sex. Once the PSUs were selected, household selection involved systematic sampling using a self-weighing design that took into account the target sample. There was no replacement for households that could not be contacted or refused to participate. Of 186,152 selected households, 174,037 agreed to participate, with a household response rate of 93.5%. A household schedule was administered in participating households to determine whether there was an age eligible youth living in the household. In households where there were multiple age-eligible youth, the Kish table was used to select one married and one unmarried youth, resulting in a maximum of two interviews per household. No replacement of a selected youth was allowed. In all, 45,555male and female youth aged 15 to 24 participated, with individual response rates ranging from 84% to 90%. Although two individuals could be interviewed in a given household, few households contributed more than one observation. Specifically, 1834 households contained two interviewed respondents and 43721 households contained one interviewed respondent, resulting in a trivial amount of clustering (1.04). The survey tools were informed by existing surveys and an intensive pre survey with youth, parents, and key stakeholders, both before and after it was translated into four languages (Hindi, Marathi, Tamil, and Telugu, reflecting the major language groups of selected states). Approximately 75 locally trained and regularly supervised field investigators collected data over a six- to eight-month period. Informed consent was obtained from all respondents as well as parents of unmarried minor youth. To preserve

confidentiality, consent forms were detached and stored separately from completed questionnaires. Complete details on all aspects of the survey are available elsewhere (IIPS and Population Council, 2010).

After removing youth missing on the key variables of interest, analysis is conducted on a final sample of 42, 756 youth (93.9 % of total sample). It is noteworthy that the percentage of youth excluded from the analysis does not differ much from those included in the analysis except for that the missing information on all or few variables of interest are higher among youth belonging to Andhra Pradesh, Muslims and whose both or either of the parents are dead.

Variables

The outcome variable for the study is 'self-reported mental health problems' which is assessed using General Health Questionnaire-12 (GHQ-12). GHQ-12 is a 12-item inventory, originally developed in the United Kingdom (Goldberg and Williams, 1988). It is a well-established screening questionnaire for measuring psychological distress and has demonstrated validity in developing countries including India (Gautam *et al.,* 1987; Goldberg *et al.,* 1997; Shamasundar *et al.,* 1986). The scale has strong psychometric properties with acceptable internal consistency ($\alpha = 0.76$) (Goldberg, 1992). Designed to identify psychiatric morbidity, the questionnaire asks respondents whether in the past month they had experienced a range of emotions including losing sleep because of worry, worry about playing a useful role, feeling capable of making decisions, feeling constantly under strain etc (for details, see IIPS and Population Council, 2010). Items are coded as '1' for 'negative emotions' and '0' otherwise, and then summed to produce a score from 0-12.

There is a lack of consensus with respect to the cut-off points to identify self-reported mental health problems. The available research (Goldberg and Williams, 1988; Worsley and Gribbin, 1977), have recommended two or fewer symptoms being normal while three or more symptoms are considered being mentally distressed. Nonetheless, studies in India (Fernandes *et al.,* 2013; Patel *et al.,* 2008; Pillai *et al.,* 2009) have argued a cut-off of 5/6 on the basis of optimal sensitivity and specificity for detecting Common Mental Disorders (CMDs). The present study uses dependent variable as a scale as scales better reflect the full spectrum of variation in mental health whereas arbitrary cut-offs lose important information (Mirowsky and Ross, 2002). The decision was

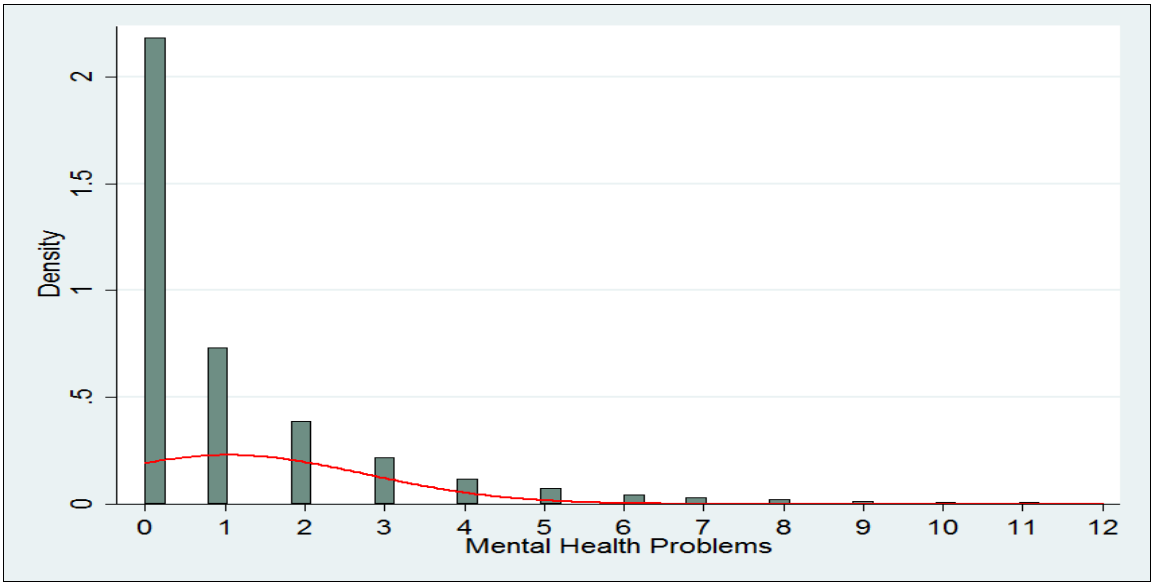
warranted given that the prior research shows that diagnostic cut-offs for the GHQ-12 in the Indian population have low positive predictive value (Patel *et al.,* 2008). There are other studies which use GHQ-12 as a continuous scale (Booker and Sacker, 2012; Huang *et al.,* 2013; Puustinen *et al.,* 2011; Ram et al., 2014; Van den Berg, *et al.,* 2010).

The models included in the study control for state of residence, rural versus urban residence, household wealth quintiles, sibling compositions, parental education, parental occupation, respondent's age, gender, religious affiliation, and caste. The variables are categorized as, state of residence (Andhra Pradesh, Bihar, Jharkhand, Maharashtra, Rajasthan, and Tamil Nadu), urban versus rural residence, household wealth (based on 22 items assessing land ownership, access to basic sanitation, and assets such as vehicles and televisions, with values assigned to each item), sibling composition (both sex siblings, same sex siblings, opposite sex siblings, and no siblings). Parental education (either/both parents have >12 years of schooling, either parent have at least 10-12 years of schooling, either parent have at least 5-9 years of schooling, and either/both parent are illiterate/have <5 years of schooling), parental occupation (both parents in white collar jobs, one parent in white collar jobs another in blue collar job, one parent in white collar jobs another not working, both parents in blue collar jobs, one parent in blue collar jobs and another not working, both parents not working), respondent's age, gender, religious affiliation (Hindu, Muslim, and other), and caste (General castes, Scheduled Castes, Scheduled Tribe, Other Backward Classes). Marital status has four categories: single/never married, married and currently living with spouse, married and currently not living with spouse, and married, no *gauna* (while marriage is a ritual union, *gauna* marks onset of conjugal life. It is a ceremony that takes place after a female attains sexual maturity and is common in northern India where child marriage continues). Years of schooling differentiates between illiterate/<5, 5 to 9, 10 to 12, and more than 12 years. The occupational status of youth has three categories: working in white collar jobs, blue collar jobs and not working. Status of seeking job is a two level variable: yes and no. Interaction of occupation and status of seeking job is used in the Poisson regression models.

Data is analyzed using Stata13 statistical package. In preliminary analysis (not shown), correlation matrices confirmed that variables used in this study did not exhibit multi-

collinearity (r<+0.5/-0.5). Chi square tests and one-way Analysis of Variance (ANOVA) are used to compare different groups, and only statistically significant variables were used in the regression models. To test the relationship of various household, parental and individual factors with self-reported mental health problems, Poisson regression models are used because the dependent variable, self-reported mental health problems, exhibited a marked positive skew, violating the assumptions of OLS regression (Figure 1). In a Poisson model, regression coefficients (b) are interpreted as the logarithm of the ratio of the expected value (eb) before and after a one-unit change in an explanatory variable, with all other terms held constant.

Figure 1: Histogram showing the distribution of self-reported mental health problems among youth aged 15-24 years, India, 2006-07 (N=42,756).



Source: Youth in India: Situation and Needs, 2006-07

Results

Sample characteristics of youth

The sample characteristics of youth aged 15-24 years are presented in Table 1. Around 70 % youth belong to rural areas. A higher proportion of youth are from Maharashtra (24 %) followed by Andhra Pradesh (20 %), and Bihar (19 %).

Table 1: Sample characteristics of youth aged 15-24 years, India, 2006-07 (N=42,756).

Background Characteristics	Percentage	N
State of residence		
Tamil Nadu	15.7	6,600
Rajasthan	14.8	8,606
Bihar	19.1	6,902
Jharkhand	6.2	7,233
Maharashtra	24.0	6,329
Andhra Pradesh	20.2	7,086
Place of residence		
Urban	29.9	20,162
Rural	70.1	22,594
Household wealth quintiles		
Fifth quintile (Richest)	22.8	12,214
Fourth quintile	23.3	10,254
Third quintile	20.8	8,507
Second quintile	18.1	6,639
First quintile (Poorest)	15.1	5,142
Parent's years of schooling		
Either/both parents have >12 years of schooling	6.7	3,954
Either parent have at least 10-12 years of schooling	19.1	8,978
Either parent have at least 5-9 years of schooling	28.4	12,410
Either/both parents are illiterate/have <5 years of schooling	45.8	17,414
Age (in years)	19.0	42,756
Gender		
Male	31.8	13,517
Female	68.2	29,239
Caste		
General	22.0	9,400
Other Backward Classes	51.0	21,812
Scheduled Castes/Scheduled Tribes[1]	27.0	11,544
Years of schooling		
>12 years of schooling	9.4	4,617
10-12 years of schooling	25.2	11,471
5-9 years of schooling	39.5	16,831
Illiterate/<5 years of schooling	25.9	9,837
Occupation[2]		
White collar jobs	13.2	5,994
Blue collar jobs	26.6	9,281
Not working	60.2	27,481

Notes: [1]Includes 'VJNT'; [2]Occupation: 'white collar jobs' includes administrative, executive, managerial, skilled labourer, clerical, business person; 'blue collar jobs' includes cultivator, agricultural labourer, labourer, other worker; 'Not working' includes not working, housewife, student, unemployed, retired.

Source: Youth in India: Situation and Needs, 2006-07

The median age of the surveyed youth is 19 years. About a third of youth belong to the households from second and first household wealth quintile. Nearly half of youth reported that at least one of their parent had fewer than 5 years of schooling and just 7% reported that their parents had completed 12 or more years of schooling. About half of youth belong to other backward classes (OBCs) and another about a third belong to scheduled castes (SCs), and scheduled tribe (STs). Nearly a quarter of the surveyed youth have fewer than five years of schooling and just 10 % have completed more than 12 years of schooling. Majority of the youth are not working.

Prevalence of 12 self-reported mental health symptoms

Table 2 presents prevalence of self-reported mental health symptoms for each of the 12 items of GHQ and prevalence of mental health problems using two cut-offs alongwith mean. "Felt incapable of making decisions" is the most commonly reported symptom (14.5 %), followed by "felt constantly under strain" (12 %), "lost sleep over worry" (11 %), and "feeling unhappy and depressed" (11 %). Conversely, fewer than five per cent of the youth each reported "unable to concentrate", "thinking of him/herself as a worthless person", "unable to enjoy normal day to day activities". On an average, youth reported 1.01 (SD=1.74) symptoms of mental health problems. With a cut-off of five or more reported symptoms, five per cent of youth suffered from self-reported mental health problems. The levels significantly go up to 14 % when using a cut-off of three or more reported symptoms.

Table 2: Prevalence of 12 self-reported mental health symptoms and mental health problems experienced in the month preceding the interview among youth aged 15-24 years, India, 2006-07 (N=42,756).

Reported mental health symptoms and mental health problems	Prevalence (%)	N
Unable to concentrate on whatever he/she was doing	4.1	42,756
Been thinking of himself/herself as a worthless person	4.7	42,755
Unable to enjoy normal day to day activities	4.8	42,754
Not feeling reasonable happy, all things considered	5.0	42,748
Been losing confidence in himself/herself	5.9	42,754
Felt that he/she was not playing a useful role	8.2	42,755
Unable to face up his/her problems	9.1	42,753
Felt that he/she could not overcome his/her difficulties	10.0	42,750
Been feeling unhappy and depressed	10.7	42,749
Lost much sleep over worry	11.4	42,748
Felt constantly under strain	12.2	42,750

Felt incapable of making decisions	14.5	42,755
Mean number of reported symptoms of mental health problems	1.01 (1.74)	42,756
Five or more reported symptoms of mental health problems	5.0	42,756
Three or more reported symptoms of mental health problems	13.5	42,756

Notes: Individuals who have responded on 11 or more items of GHQ-12 are used for making an index of reported mental health problems; Figures in parentheses refer to Standard Deviation (SD).

Source: Youth in India: Situation and Needs, 2006-07

Self-reported mental health problems and youth characteristics

Table 3 presents results from three Poisson regression models for youth with key background variables used as control variables. Model I uses only household characteristics, model II uses both household and parental characteristics, and model III uses household, parental, and individual characteristics of the youth. Parental variables lose their significance once individual variables are introduced in model-III. However, significance of household characteristics viz. states, place of residence, wealth quintile, except sibling composition remains similar.

Results suggest that youth residing in Bihar and Andhra Pradesh are 10-14 % less likely to report mental health problems than those residing in Tamil Nadu. Nonetheless, youth residing in Maharashtra, Rajasthan and Jharkhand are 30-50 % more likely to report mental health problems than those residing in Tamil Nadu. Rural youth are 28 % more likely to report mental health problems than urban youth. Wealth quintile shows a negative association with reported mental health problems, such that the youth from first household wealth quintile (poorest) are 20 % more likely to report mental health problems than those from fifth quintile (richest). Results suggest that parental education and occupation are not significantly associated with reported mental health problems. Except that youth whose either parent is in white collar jobs and another not working are 12 % less likely to report mental health problems.

Age and education of the youth have a significant and positive relationship with mental health problems. To elaborate compared to youth with more than 12 years of schooling, youth who are illiterate/have less than five years of schooling are 55 % more likely to report mental health problems. Youth who are married but *gauna* not performed are 17 % less likely to report mental health problems compared to single/never married youth. Results by religious affiliation show that, Muslim youth are eight per cent more likely

to report mental health problems compared to Hindu youth. Interaction term is used for occupation and job seeking status. It is found that youth who are in blue collar jobs and not seeking job or neither working nor seeking job are 14 % and 9 % more likely to report mental health problems compared to those who are employed in white collar jobs and not seeking job. Furthermore, youth who are seeking job are likely to report higher mental health problems. For instance, youth who are unemployed (not working and seeking job) are 49 % more likely to report mental health problems. Further, youth who are employed in white collar jobs and seeking job are 48 % more likely to report mental health problems. And those who are employed in blue collar jobs and seeking job are 42 % more likely to report mental health problems compared to those who are employed in white collar jobs and not seeking job.

Table 3: Poisson regression model for reported mental health problems among youth aged 15-24 years, India, 2006-07 (N=42, 756).

	Model I			Model II			Model III		
Reported mental health	B	(se)	e^b	b	(se)	e^b	b	(se)	e^b
State of residence (Tamil Nadu®)									
Rajasthan	0.40	(0.03)***	1.49	0.41	(0.02)***	1.50	0.33	(0.03)***	1.39
Bihar	-0.03	(0.04)	0.97	0.07	(0.02)***	1.07	-0.11	(0.04)**	0.90
Jharkhand	0.49	(0.03)***	1.62	0.57	(0.02)***	1.77	0.41	(0.04)***	1.51
Maharashtra	0.30	(0.03)***	1.35	0.25	(0.02)***	1.28	0.27	(0.03)***	1.31
Andhra Pradesh	-0.10	(0.04)**	0.90	-0.15	(0.02)***	0.86	-0.16	(0.04)***	0.86
Place of residence (Urban®)									
Rural	0.26	(0.02)***	1.30	0.09	(0.01)***	1.10	0.25	(0.02)***	1.28
Sibling composition (Both sex siblings®)									
Same sex sibling/s	-0.09	(0.03)**	0.91	-0.06	(0.02)***	0.94	-0.07	(0.03)**	0.94
Opposite sex sibling/s	-0.04	(0.03)*	0.96	-0.04	(0.01)***	0.96	0.00	(0.03)	1.00
No sibling	-0.14	(0.07)**	0.87	-0.07	(0.03)**	0.93	-0.11	(0.07)	0.90
Household wealth quintile (Fifth quintile- Richest®)									
Fourth quintile	0.14	(0.03)***	1.15	0.12	(0.02)***	1.13	0.03	(0.03)	1.03
Third quintile	0.26	(0.03)***	1.29	0.20	(0.02)***	1.22	0.10	(0.04)**	1.10
Second quintile	0.36	(0.04)***	1.44	0.26	(0.02)***	1.29	0.17	(0.04)***	1.18
First quintile (Poorest)	0.42	(0.04)***	1.53	0.29	(0.02)***	1.34	0.18	(0.05)***	1.20
Parent's years of schooling (Either/both parents have >12 years of schooling®)									
Either parent have at least 10-12 years of schooling				0.07	(0.02)***	1.07	0.00	(0.05)	1.00
Either parent have at least 5-9 years of schooling				0.14	(0.02)***	1.15	0.04	(0.05)	1.04
Either/both parents are illiterate/have <5 years of schooling				0.19	(0.02)***	1.20	0.05	(0.05)	1.05
Parent's occupation[1] (Both parents in white collar jobs®)									
One parent in white another in blue collar jobs				-0.05	(0.03)	0.95	-0.06	(0.06)	0.94
One parent in white collar jobs another not working				-0.15	(0.02)***	0.86	-0.13	(0.05)**	0.88
Both parents in blue collar jobs				-0.05	(0.02)**	0.95	-0.08	(0.05)	0.93
One parents in blue collar jobs another not working				-0.10	(0.02)***	0.90	-0.07	(0.05)	0.94
Both parents not working				-0.12	(0.08)	0.89	-0.20	(0.15)	0.82
Age (in years)							0.01	(0.00)**	1.01

Gender (Male®)			
Female	0.01	(0.02)	1.01
Marital status (Single/never married®)			
Married, living with spouse	-0.01	(0.03)	0.99
Married, not living with spouse	0.05	(0.07)	1.05
Married, no *gauna*	-0.18	(0.08)**	0.83
Caste (General®)			
Other Backward Classes	0.00	(0.03)	1.00
Scheduled Castes/Scheduled Tribes	0.05	(0.03)	1.05
Religion (Hindu®)			
Muslim	0.08	(0.04)**	1.08
Others	0.03	(0.04)	1.03
Years of schooling (>12 years of schooling®)			
10-12 years of schooling	0.24	(0.04)***	1.27
5-9 years of schooling	0.41	(0.04)***	1.50
Illiterate/<5 years of schooling	0.44	(0.05)***	1.55
Occupation*status of job seeking (White collar jobs*not seeking job®)			
Blue collar jobs*not seeking job	0.13	(0.04)***	1.14
Not working*not seeking job	0.09	(0.04)**	1.09
White collar jobs*seeking job	0.39	(0.06)***	1.48
Blue collar jobs*seeking job	0.35	(0.05)***	1.42
Not working*seeking job	0.40	(0.05)***	1.49

Notes: [1]Occupation: 'white collar jobs' includes administrative, executive, managerial, skilled labourer, clerical, business person; 'blue collar jobs' includes cultivator, agricultural labourer, labourer, other worker; 'Not working' includes not working, housewife, student, unemployed, retired.

Source: Youth in India: Situation and Needs, 2006-07

Discussion and conclusions

The present study provides the estimates of reported mental health problems. Analyses show that the mean number of reported symptoms of mental health problems is computed at 1.01 (SD=1.74). Moreover, prevalence of reported mental health problems varies between five per cent and 11.5 % depending on the choice of cut-off. The estimates from this study are closer to the estimates from available literature. A recent study conducted in Goa using a similar questionnaire (GHQ-12) estimates reported mental health problems as 7.8 % using a cut-off of five or more reported symptoms (Fernandes *et al.*, 2013). On the other hand, Sahoo and Khess (2010) estimated prevalence of depression and anxiety separately at 6.4 and 5.4 % respectively among adolescents and young male adults in the state of Bihar.

Results manifest that parental education and occupation may not necessarily impose any significant risk of mental health problems among youth if they share certain vulnerable characteristics. Household variables, however, remain significantly associated with the mental health problems of youth even after introducing individual level variables. Interestingly, youth from Jharkhand report more mental health problems compared to youth from other states and more importantly Bihar, the mother state from which Jharkhand had been carved out around one and half decades ago. The probable reason could be that the poverty and deprivation is higher in Jharkhand. The percentage of population below poverty line is significantly high for Jharkhand, much higher than that of India as a whole. The Head Count Ratio (HCR) of Jharkhand is also higher than that of Bihar (Sharma, 2012). It is found that rural youth report more mental health problems. It is likely that the rural youth have access to communication and are exposed to the new ideas of living life; however, they do not have access to those new lifestyles. This might result into frustration and consequently lead to more reported mental health problems. However, to understand the mechanism, why rural youth are reporting more mental health problems, there is a need for undertaking more studies. This result is in contrast with earlier studies which find significantly more mental health problems among those living in urban areas compared to their rural counterparts (Fernandes *et al.*, 2013; Ganguli, 2000; Reddy and Chandrashekar, 1980). It is, however, to be noted that, Fernandes *et al.* (2013) studied CMDs (Common Mental Disorders) in Goa, therefore, it could not be generalized while other two studies measure all types of mental disorders and not just CMDs. Bhola and Kapur (2005) argue that definite

conclusions cannot be made on rural–urban differences due to the wide difference in research methods. Globally, there are mixed findings in the limited literature on mental disorders and area of residence among the general population (de Girolamo *et al.,* 2006; Prina *et al.*, 2011; Weich *et al.*, 2006).

Study, further, notes a linear increase in the reported mental health problems by age. This is consistent to the findings of Stordal *et al.,* (2003). Youth belonging to the bottom two quintiles and with fewer years of schooling report more mental health problems. The results are consistent with earlier studies that have demonstrated more reported mental health problems among youth with lower socioeconomic status (Hackett *et al.,* 1999; Patel *et al.,* 2007; Poongothai *et al.,* 2009; Pothen *et al.,* 2003). Unemployed youth (not working and seeking job) report higher mental health problems followed by employed youth seeking job. The findings are consistent with Simon (2002) who found that unemployed persons and those who seek job have higher risk of depressive symptoms than individuals who find a job. Marital status does not come out as a significant determinant of mental health problems. Except, that the youth who are married but their *gauna* ceremony has not been performed report fewer mental health problems compared to single/never married youth. Sastry (1999), the only study from India, has argued that marriage is a strong predictor for psychological distress in an individualistic culture of the United States whereas in a collectivist culture like India marriage may be less strongly related to the psychological distress.

It is important to note that an estimated 11 million and 31 million youth as per the higher and lower cut-offs respectively suffer from reported mental health problems in India. Results suggest that the household and individual factors like place of residence, wealth quintile, age, education and occupation are the most important determinants of mental health problems among Indian youth. There is a need to strengthen the existing policies and programmes. Addressing young people's needs is crucial if they are to fulfil their potential and contribute fully to the development of their communities. This is the largest study known which is conducted on a representative population of youth from the selected states of India using a well validated tool to measure reported mental health problems. However, there are some limitations of the study which needs to be mentioned. First, although the selected states represent different geographic and sociocultural regions of the country, still a large scale data covering all the states would

have given a broader and clear picture of the issue. Second, due to cross-sectional nature of the data the study is not able to look into the cause-effect relationship.

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