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Depression among youth and factors associated with it- A cross sectional study

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Abstract
Background and objective: Depression among youth is an increasing area of concern worldwide. The present study aims to assess the prevalence of depression and factors associated with it.
Materials and Methods: A cross sectional analytical, community based survey was conducted among youth of Belur village, Karnataka. Total sample size was 250 and sample technique was systematic random sampling. Survey was conducted using semi structured questionnaire including Beck Depression inventory II scale (sensitivity 84.6%, Specificity 86.4% and α value .86) to measure depression. Associated factors were analysed by bivariate logistic regression.
Results: About 46.10 per cent of youth were found to be depressed. Among those with depression, a majority (95.00%) had mild and moderate degrees of depression. According to cut off scores 54.00 per cent were normal category of depression, 32.00 per cent were in mild category, 12.00 per cent were in moderate and 2.00 per cent were in severe category of depression. Age (odds ratio [OR] .588, confidence interval [CI] .373-.979), family type (OR 1.92, CI .93-.395), break up of romantic relationship (OR 3.164, CI .129-7.761), lack of support for the decision taken by youth at home (OR 2.238, CI 1.217-4.113) and frequent fights at home (OR 2.544, CI 1.438-4.503) were found to be associated with depression among youth.
Conclusion: The prevalence of depression among youth was found to be high (46.1%). Hence there is need to develop copying strategies among youth.

Keywords: Depression, youth, break up, lack of support, frequent fights at home.

Introduction
Depression is the world's most prevalent health problem which is associated with mortality, morbidity and diminished quality of life [1]. It is affecting more than 121 million people worldwide every year. In severe cases it leads to suicide, causing 8, 50, 000 deaths every year [2, 3]. Major depression was fourth in number for the highest source of disability adjusted life years in 1990 and according to World Health Organization report by the year 2020 depression will constitute major health problem in the developing world and second biggest cause of disease burden worldwide [4].
Many studies have estimated the prevalence of depression in community sample and prevalence rate varied from 1.7 to 74 per thousand population [1]. Depression is a mental disorder characterised by physical, emotional, cognitive and behaviour change in an individual. No one is inborn immunised to emotional disturbances, each individual is prone to it. So depression can occur at any age, gender, or social class. Depression among youth is an important problem because this is the stage of life where youth have to face many ups and downs. Usually a person who is sad or feeling unhappy should return to the normal emotional stability within a reasonable period of time. If they cannot come out within that period, in such situation diagnosis of depression should be considered.
This is the stage of life where there is burden of responsibility on their shoulder, they have to make their career choice, they have to cope up with the work environment and with life if they do not get job. In each of these stage if they cannot cope up they may get depressed. Depression not only affects the person, but also their loved ones. At an individual level depression affects mental and emotional well-being, lowers quality of life and may increase the risk of other medical illness and at society level its loss of productivity and economic burden.
Depression is associated with increased risk of suicide, most number of suicides happening among youth aged 15-29. 40.00 per cent of male suicides and 56.00 per cent of female suicides occurred at ages 15-29 year [5]. For every person who commits suicide, there are 20 or more

who make an attempt. So it's better to keep check before it takes its position to first place by 2030 [6]. There are many studies on depression and its associated factors in India, in Karnataka there is a study done on medical students which reveals the prevalence of depression as 71.25 per cent and associated factors were family history of depression and family problems [9], another study done on elderly leaving in the urban poor locality of Bangalore city showed prevalence as 36.00 per cent [10]. Depression was more among medium standard of leaving index and medical co-morbid condition but we could not find any studies that assess the depression among youth (15-29 year). Hence this study aimed to assess the prevalence of depression and its associated factors among youth.

Material and Methods

A cross sectional study was conducted in Belur village, Karnataka to determine the prevalence of depression among youth and factors associated with it. Belur village is located in the Bagalkot district of the Karnataka state. It has a population around 5500. This study was conducted from 12th June to 12th July, 2015 for duration of 4 weeks.

Sample was collected by taking voter list which was obtained from the local panchayat. All the eligible youth for the study were listed out from the voter list which was found to be around 800. A systematic sampling method was used for the selection of samples from the community. The total number of youth was divided by the total sample size and we got 3.2. The first sample was selected randomly and from then we selected every 3rd person. When we could not find the selected person we went to next 3rd person. We did sampling without replacement.

Data was collected by the researcher himself and with 3 research assistants. The participants were explained about the purpose of the study and were provided with the information sheet with details about the study. The questionnaires were administered after once the written consent given by the participants. Thumb impression was taken by those who could not sign. Eligibility criteria was, youth are defined as those aged 15-29 in the national youth policy 2014. In order to be able to obtain a valid inform consent and only youth over 18 years of age were selected for this study.

The sample size for this study was calculated based on the prevalence of depression in a large urban south Indian population-the Chennai urban rural epidemiology study which was found to be 15.10 percent [11]. With a relative precision of 30% the sample size was found to be 241, total 250 samples were taken considering missing of some data by chance.

The questionnaire used in this study included questions on socio demographic characteristics, depression (Beck Depression Inventory II scale), having both parents alive, expectation at home, supporting decision at home, frequent fights at home, regular college attending, break ups, interest in current stream of education, smoking, drinks, exercise, work load, convenient work time, work place harassment, job satisfaction and lack of job security.

The socio demographic characteristics included age, gender, religion, education, occupation, marital status, family income and family type. BDI II was used to measure the presence of degree of depression. It is used for screening of depression as per DSM – IV criteria, which have to be evaluated further to confirm the diagnosis. The self-report scale was used to screen the depression. It can be administered to assess normal adults, adolescents and individual with psychiatric disorder (useful in age of 13 years or older). It consists of 21 items, each item scored from 0-3, with a maximum score of 63 and minimum zero. The presence of depression in this study was determined by using cut off point of 10 and above score on BDI II. BDI II score of 0-9 is no depression, 10-19 mild depression, 20-29 moderate depression and 30-63 is severe depression. The sensitivity is 84.6 and specificity is 86.4 [9].

The questionnaire for associated factors was based on 3 factors i.e. individual, family level and work environment. Individual questions were on interests in current stream of study, whether they are attending college regularly (only for students), smoking, alcoholism and exercise and family level questions were on both parents alive, expectation at home, support for decision at home and frequent fights at home. Work environment questions were on work load, work place harassment, job satisfaction and lack of job security.

If youth were drinking 1-2 days in a week considered as sometime alcoholic, more than 2 days a week considered as alcoholic and never in a week considered as non-alcoholic.

In smoking we asked participant whether they smoke, if they smoke more than once in week considered as smoker and at least once in a month considered as sometime smoker and no cigarette smoking in a month was considered as non-smoker.

Ethics statement

Research ethics approval from the School of Public health, SRM University was obtained prior to data collection. Written consent was taken from all the participants and in some participants thumb impression was taken as they were unable to give written consent.

Statistical analysis

Data was entered and analysed using SPSS 17. Data were checked and verified. There were still missing data in the questionnaire, however the percentage of missing data was minimal and the missing data was removed from the analysis. Bivariate logistic regression analysis was used to test the association between depression and variables.

Results

Total of 250 youth were sampled and only 247 of responses were complete and they were analysed. The majority of the respondents were males (65.20%), employed (55.80%), unmarried (57.90%) and belongs to joint family (65.60%). Table 1 shows the socio demographic profile of study population.

Table 1: socio demographic characteristics N=247

Characteristics	Categories	Frequencies
Age (Years)	18-21	62 (25.1)
	22-25	98 (39.7)
	26-29	87 (35.2)
Gender	Male	161 (65.2)
	Female	86 (34.8)
Religion	Hindu	236 (95.6)
	Muslim	10 (4.0)
	Christian	01 (0.4)

Education	No formal education	2 (0.8)
	Primary	37 (15.0)
	Secondary	60 (24.3)
	PUC	50 (20.2)
	UG or More	98 (39.7)
Occupation	Student	55 (22.3)
	Unemployed	16 (6.5)
	Employed	138 (55.8)
	Housewife	38 (15.8)
Marital Status	Unmarried	143 (57.9)
	Married	104 (42.1)
Family income (monthly)	<3000	17 (6.9)
	3000-6000	28 (11.3)
	6000-9000	38 (15.4)
	9000-12000	56 (22.7)
	>12000	27 (10.9)
	Don't know	81 (32.8)
Family type	Nuclear	85 (34.4)
	Joint	162 (65.6)

Figures in parenthesis indicates percentages

Table 2: Prevalence of level of depression N=247

Categories	BDI II Criteria	Frequency
No depression	Score 0-9	133 (53.9)
Mild depression	Score 10-19	86 (34.8)
Moderate depression	Score 20-29	23 (9.3)
Severe depression	Score 30-63	05 (02)

Figures in parenthesis indicates percentages

Out of 250 participants, 247 completed BDI II questionnaire. Based on the BDI II cut off point of ≥10, 133 participants (53.90%) had no depression, 86 participants (34.80%) scored as mild (10-19), 23 (9.30%) scored moderate (20-29) and 05 (02.00%) scored as severe (30-63) depression. Table 2 shows the prevalence and level of depression.

Table 3: Association between socio-demographic profile and depression N=247

Characteristic	Number of respondents	Number of respondents with depression	Odds ratio	Confidence interval	P value
Age (Years)			.588	.353-.979	.041
18-21	62 (25.1%)	26 (41.9%)			
22-25	98 (39.7%)	48 (49%)			
26-29	87 (35.2%)	40 (46%)			
Gender			.783	.274-2.243	.649
Male	161 (65.2%)	72 (44.7%)			
Female	86 (34.8%)	42 (48.8%)			
Religion			1.831	.350-9.582	.474
Hindu	236 (95.5%)	107 (45.3%)			
Muslim	10 (4.0%)	06 (60%)			
Christian	1 (.4%)	1 (100%)			
Education			1.033	.822-1.224	.976
Nil	2 (.8%)	1 (50%)			
primary	37 (15%)	22 (59.5%)			
secondary	60 (24.3%)	34 (56.7%)			
PUC	50 (20.2%)	20 (40%)			
Professional	98 ((39.7%)	37 (37.8%)			
Occupation			.966	.739-1.263	.801
Student	55 (22.3%)	17 (30.9%)			
Unemployed	16 (6.5%)	09 (56.3%)			
Employed	138 (55.8%)	68 (49.3%)			
Housewife	38 (15.4%)	20 (52.6%)			
Marital status			1.875	.949-3.705	.070
Never married	143 (57.9%)	58 (40.6%)			
Ever married	104 (42.1%)	56 (53.8%)			
Family income monthly			.899	.730-1.107	.315
<3000	17 (6.9%)	10 (58.8%)			
3000-6000	28 (11.3%)	16 (57.1%)			
6000-9000	38 (15.4%)	16 (42.1%)			
9000-12000	56 (22.7%)	25 (44.6%)			
>12000	27 (10.9%)	8 (29.6%)			
Don't know	81 (32.8%)	39 (48.1%)			
Family type			1.92	.093-.395	.000**
Nuclear	85 (34.4%)	55 (64.7%)			
Joint	162 (65.6%)	59 (36.4%)			

*Significant at 0.05% level,
** Significant at 0.01% level

The socio demographic characteristics, only age and family type were found to be associated with depression. The prevalence of depression was highest among middle age group (49.00%). The results also showed that the depression was more prevalent among those belongs to nuclear family (64.70%) than the joint family (36.40%). Table 3 shows the association between socio demographic profile and depression.

Table 4: Associated factors of depression at individual and family level

Determinants	No. of respondents	No. of Respondents with Depression	Odds ratio	Confidence interval	p value
Being with parents			1.624	.885-2.980	.139
Yes	187 (75.7%)	84 (44.9%)			
one of them are alive	52 (21.1%)	24 (46.2%)			
No	8 (3.2%)	06 (75%)			
Expectation at home			1.133	.790-1.626	.498
Yes	143 (57.9%)	71 (49.7%)			
Sometime	11 (4.5%)	04 (36.4%)			
No	93(37.7%)	39 (41.9%)			
Support decision			2.238	1.217-4.113	.010**
Yes	198 (80.2%)	77(38.9%)			
sometime	30 (12.1%)	22(73.3%)			
No	19 (7.7%)	15 (78.9%)			
Frequent fights at home			2.544	1.438-4.503	.001
Yes	15 (06.1%)	13 (86.7%)			
Sometime	101 (40.9%)	54 (53.5%)			
No	131(53%)	47 (35.9%)			
Regular collage attending			2.880	.415-20.004	.285
Yes	50 (20.2%)	14 (28%)			
No	05 (02%)	03 (60%)			
Break ups			3.164	.129-7.761	.012**
Yes	44 (17.8%)	29 (65.9%)			
No	203 (82.2%)	85 (41.9%)			
Interest in current course			.456	.067-3.107	.422
Yes	49 (19.8%)	14 (28.6%)			
No	06 (2.4%)	03 (50%)			
Smoking			1.745	.551-5.525	.344
yes	03 (1.2%)	02 (66.7%)			
Sometime	26 (10.5%)	16 (61.5%)			
No	218 (88.3%)	96 (44%)			
Alcoholism			1.421	.466-4.326	.537
yes	03 (1.2%)	03 (100%)			
Sometime	33 (13.4%)	20 (60.6%)			
No	211 (85.4%)	91 (43.1%)			
Exercise			.917	.559-1.506	.733
> 4 days	33 (13.4%)	12 (36.4%)			
<4 days	25 (10.1%)	13 (52%)			
no days	189 (76.5%)	89 (47.1%)			

*Significant at 0.05% level, ** Significant at 0.01% level

Associated factors of depression were, break up of a romantic relationship. 65.9% of those who said they had breakup were depressed. In family level lack of support for the decision at home and frequent fights at home were found to be associated with depression. The depression was highest among those who did not have any support for their decision at home (78.9%) and who accepted frequent fights at home (86.7%). Table 4 shows the association between depression at individual and family level.

Table 5: Association between work environment and depression N=247

Determinants	No. of respondents	No. of respondents with depression	Odds ratio	Confidence interval	P value
Work load			.732	.397-1.350	.318
yes	30 (22.4%)	17 (56.7%)			
sometime	58 (43.3%)	30 (51.7%)			
No	46 (34.3%)	19 (41.3%)			
work place harassment			1.838	.861-3.923	.116
yes	14 (10.4%)	10 (71.4%)			
sometime	28 (20.9%)	22 (78.6%)			
No	92 (68.7%)	34 (37%)			
Job satisfaction			.916	.376-2.232	.0847
yes	116 (86.6%)	50 (43.1%)			
No	18 (13.4%)	16 (88.9%)			
Lack of job security			.785	.389-1.583	.499
yes	13 (9.7%)	07 (53.8%)			

sometime	20 (14.9%)	17 (85%)			
No	101 (75.4%)	42 (41.6%)			

In work environment none of the variable used was found to be significant. Table 5 shows the association between work environment and depression.

Discussion

In a current fast paced and competitive world youth shoulder the burden and ambitions of achievements in their life. The stress of rapid changes and ambition can push some youth into depression. Many studies have estimated the prevalence of depression in community and it ranges from 1.7 to 74 per thousand population. Current study showed prevalence rate of 46.10 per cent of depression among youths. However, direct comparison with other study was difficult as different scales were used in different studies and the age group of youth was defined differently but the present finding of prevalence of depression higher by 10% as compared to India's prevalence of depression rate i.e. 36.00 per cent [3]. This could be because of inclusion of mild depression by lower cut off for BDI score. More than 95.00 per cent of depressed youth belongs to mild to moderate degree of depression.

Age was found to be protective factor. The odd of depression in the age group 26-29 years was 50.0 per cent less than the other group (22-24 years and 18-21years). This could be because these youth might have settled in their life. Other age group are not sure of their job hence they might be more depressed. On the other hand, Youth who had break up of a romantic relationship were 3 times more likely to be depressed than those who do not have break up. This may be because they are experiencing a romantic relationship for the first time, they do have excitement and hope for the future. When that relationship fails they usually experience disappointment which may lead to depression.

The beauty of Indian culture is joint family system. It provides social security to youth and this kind of system is slowly deteriorating and emergence of nuclear family creating depression among youth due to reduced family support [14]. At the same time those youth who do not have support for their decision at home were 2 times more likely to be depressed than those who have support. This could be because emergence of nuclear family or loss of parent [11] and youth who experienced frequent fights at home were found to be 2 times more likely to be depressed than those who experienced some times or those who do not experience at all which may make them feel insecurity.

Some studies have revealed that there is an association between work load work place harassment and lack of job satisfaction [15]. However, in work environment none of study variables were found to be statistically significant.

Strengths and Limitation

Strength of study is that in the study we have used well accepted BDI scale for measuring depression. Since it uses a sufficient sample size of 250, the findings of the study can be validated internally among the youth residing in Belur village.

Conclusion

The prevalence of depression among youth was found to be high (46.10%) in this study. This could be an eye opener for public health professional and policy makers to plan some intervention for youth to check the depression among youth.

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