



# Depression: An Epidemic in Sikkim

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**INTRODUCTION:** Depression is a common medical problem which is affecting people of all ages, genders, different socioeconomic groups, and religions in India and all over the world. If left untreated, it can lead to suicidal tendency followed by death. The second leading cause of death today among children and adolescents is suicide and youth suicide has become a significant public health problem. Various kinds of behavioral pattern of the people such as ideation, attempt to suicide can lead to death. So it can be considered as an intricate and multifactorial phenomenon. Along with many of the known risk factors like psychiatric disorders, instability, and drug abuse, depression is the one of the serious mental illnesses which is commonly associated with the suicidal tendency.

**AIM:** To assess the level of prevalence of depression and associated symptoms, this cross-sectional study was done in Sikkim among 982 individuals.

**MATERIALS AND METHOD:** The questionnaire based study consisted of 421 (42.88%) males and 561 (57.12%) females.

**RESULTS:** A statistically significant ( $p = 0.001$ ) relation was found between depressive disorder among males and unemployment. However, Depression among females was attributed to marriage-related problems and affairs.

**CONCLUSION:** There is an urgent need to develop health education packages to avert this public health problem.

**KEYWORDS:** Suicide, Depression, Public Health Problem

## INTRODUCTION

Depression historically known as Melancholy is a silent, non-infectious, debilitating disorder which is threatening the globe like an epidemic. With WHO data reports that show an 18% increase in Depression between 2005 and 2015, it can be said with conviction that this disease is in dire need of attention. Understanding the epidemiology of disease as well as the symptoms and the treatment protocols is very important for any change in the positive direction.

To begin with, we need to consider the current situation of our world in relation to depression and suicides. Today, suicides are the 2<sup>nd</sup> leading cause of death amongst the ages of 15 to 44 which constitute the productive youth that the country's future banks on. While most professionals are seen addressing serious diseases such as Tuberculosis, Cancer, AIDS, etc, to even mention a mental disorder is considered taboo.

More importantly, the cause of such widespread depression in today's world needs to be figured. Depression is the one of the serious mental illnesses which is commonly associated with the suicidal tendency.<sup>1,2</sup> Depression is considered a medical problem which is affecting people of all

ages, genders, different socioeconomic groups and religions in India and all over the globe.<sup>3</sup> Depression and depressive symptoms are time and again blamed on instability in life and described by most people as feeling sad or down which sometimes leads to difficulty in performing daily activities.<sup>1</sup> While this seems plausible, research shows otherwise. Extensive research must be conducted as to the cause for such expedited spread of a non-communicable disease.

## The Burden

Depression is a common illness worldwide which contributes to significant disease burden at national and global levels.<sup>4</sup> Moreover, its prevalence has been increasing over the past decades and became the leading cause of disability.<sup>2,5</sup> In 2015; an estimated 322 million people were affected by depression globally according to a WHO report in the year 2017.<sup>6</sup>

Depression is a major concern because it predicts poor health. At the individual and family level, depression leads to poor quality of life, causing huge social and economic impact.<sup>4</sup> So, in order to control the spread and further prevent it, the theme of World Health Day in the year of 2017

was established as “Depression–Let’s talk”.<sup>4</sup>

As far as the rate of suicide is concerned, the national average rate exhibits 10.6 during the year 2014. However, in terms of rate of suicides, Sikkim has the highest rate at 38.4 (Figure 1) among all the 29 States, as per the report of National Crime Records Bureau (NCRB). This is followed by Andaman and Nicobar Islands (28.9), Telangana (26.5), Kerala (23.9), and Tamil Nadu (23.4).<sup>7</sup> Sikkim also had a suicide rate of 29.1 in 2012 and 29.3 in 2013. It must be noted here that, Sikkim ranks 2<sup>nd</sup> for the years 2009, 2012, 2013, and 2014 (Table 1). This places Sikkim 2<sup>nd</sup> place behind Puducherry which is a Union Territory and not a state.

According to a 2012 Lancet report, India overall stands at number one position in world’s highest Students’ death rate, particularly youth of 15 to 19 years. The third richest state in India, Sikkim stands second at the level of unemployment. About 27% of the suicides in the state are because of unemployment, and all of them fall under the age group of 21 to 30 years of age. Hence, an attempt was made to know the prevalence of depression and related symptoms in Sikkim which made it the highest-ranking state in India in suicides.

## METHODOLOGY

A questionnaire-based cross-sectional study was conducted among the denizens of Sikkim, a state in India within the age range of 16-63 years. A total of 982 subjects were selected based using the non-probability sampling technique.

Ethical approval was obtained from the institutional review board and informed consent was taken from all of the study participants prior to the study. The primary investigator gave a brief introduction about self, the purpose of the study and information regarding tools before starting the study. Participation in the study was voluntary and confidentiality of data was maintained. The questionnaire used in the study consisted of five questions which were rated from 01 to 10 score. The questionnaire was pre-tested on 21 study subjects for reliability and validity. Reliability of the questionnaire was assessed using Test-Retest and internal consistency of the questionnaire was ascertained by Chronbachs-Alpha( $\alpha$ ). Construct

validity of the questionnaire was assessed using Spearman’s correlation coefficient which was  $r=0.8$ .

The questionnaire was self-administered after explaining the study design to all the study subjects who consented to participate in the study. The collected data were analyzed using statistical package for social sciences (SPSS) 16.0 (SPSS Inc., Chicago, IL, USA) and descriptive and analytical tests, including Mean, Standard Deviation, and Chi-square test.

## RESULTS

The questionnaire-based cross-sectional study was carried out among the 982 subjects in Sikkim state of India and the study sample comprised of 421 (42.88%) males and 561 (57.12%) females. Responses to various questions in the questionnaire are described from table 2-6.

From the above-mentioned results, it was noted that females were in a depressive mood for an average of 5 months whereas, males experienced an episode of depression which was on an average around 7 months. Moreover, the majority of the females responded that depression was due to problems related to relationships such as extra-marital affairs and cheating. But in case of males unemployment was seen as the biggest cause of their depressive symptoms and this difference was statistically significant ( $p=0.0001$ ).

## DISCUSSION

Depressive disorder is a common mental illness that affects majority of people with varying causes.<sup>8</sup> Depressive disorder affects large numbers of children, adolescents, middle-aged groups and the elderly, both men and women, residing in urban and rural areas and slums of India.<sup>4</sup>

In our present work, it was seen that most of the females reported being in a happy state while answering the questionnaire whereas males were not in that state of mind. Similarly, a majority of the females did not experience any major life event in the past 01 year which could be directly held as the culprit for the depressive episode which was in contrast to males who could relate events to their disrupted mood. But the meta-analysis done by Abate KH in 2013 showed that male sex is 63% less likely to develop depression than female

sex (Odds ratio=0.63, 95% Confidence Interval=0.59, 0.68).<sup>8</sup>

Moreover, the majority of the females responded that depression was due to relationship issues such as extra-marital affairs and cheating partners. But in the case of males, unemployment was seen as the biggest concern which could be the reason behind their depressive mood.

A study done by Qin X et al. on prevalence of depression and depressive symptoms in China showed that women and older people are more likely to be depressed compared to other adults; whereas higher education and income levels are associated with improved mental health.<sup>9</sup>

In case of appetite, males observed an increased appetite but most females felt no change in their appetite. Both men and women felt there was reduction in their sleep from before. On the other hand, no remarkable change was reported in the hobbies of interest as well as in their day to day productivity.

## CONCLUSION

Depression is marked as an unrecognized public health problem. In the current study, it was seen that people are bending towards depressive symptoms which can further lead to serious health consequences or death of the patient too. This might be due to existing gap between the supply and the demand for mental health care in that region. A potentially effective solution is to strengthen the primary care system along with the development of the health education packages on prevention of depression.

Most importantly, the information that no matter how multi-disciplinary, the treatment is still available and must be given to the general public. People need to be encouraged to talk about their problems and motivated to take steps to cure themselves of their ailment. Patients must be given a complete treatment which includes family support and suicide helplines.

Understanding Depression is the need of the hour and must be given a lot more importance than it is given today. It needs to be tackled actively rather than in behind closed doors and hushed tones.

## REFERENCES

1. Nautiyal A, Madhav NVS, Ojha A, Sharma RK, Bhargava S, Kothiyal P et al. Prevalence of Depression among Geriatric People in Dehradun City of Uttarakhand, India. *J Depress Anxiety* 2015; 4(4): 1-3.
2. Castrob BG, Záratea CAT, Díazb YH, Juárez-Rojopc IE, Garibayc AGL, Guadalupe CG, et al. Characteristics of Mexican children and adolescents who died by suicide: A study of psychological autopsies *Thelma J For Legal Med.* 2017; 52:236-40.
3. Rasaily S. Integrating mental health services in primary health care system in Sikkim. *J Med Res* 2015; 1(5): 132-3.
4. Depression and other common mental disorders: global health estimates. Geneva: World Health Organization; 2017. Available from: <http://apps.who.int/iris/handle/10665/254610>
5. Balaji A, Sarumathi V, Saranya N. A Comparative Study on Depression among Working and Non-Working Women in Chennai, Tamil Nadu, India. *J Med Heal Sci* 2014; 3(1):74-6.
6. Ortiz GG, Merino EDA, Saiff MEF, Vel IEL, Islas MAM, Pacheco FP. Prevalence of Cognitive Impairment and Depression among a Population Aged over 60 Years in the Metropolitan Area of Guadalajara, Mexico. *Current Gerontolo Geri Resea* 2012;12:1-6.
7. Chettri R, Gurung J, Singh B. A 10-year retrospective study of suicide in Sikkim, India: Sociodemographic profile and risk assessment. *Indian J Psychiatry* 2016; 58(4): 448-53.
8. Abate KH. Gender Disparity in Prevalence of Depression Among Patient Population: A Systematic Review. *Ethiop J Health Sci.* 2013;23(3): 283-8.
9. Qin X, Wang S, Hsieh CR. The Prevalence of Depression and Depressive Symptoms among Adults in China: Estimation Based on a National Household Survey. *China J Pub Heal* 2012;26(4): 429-32.

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**LEGENDS**

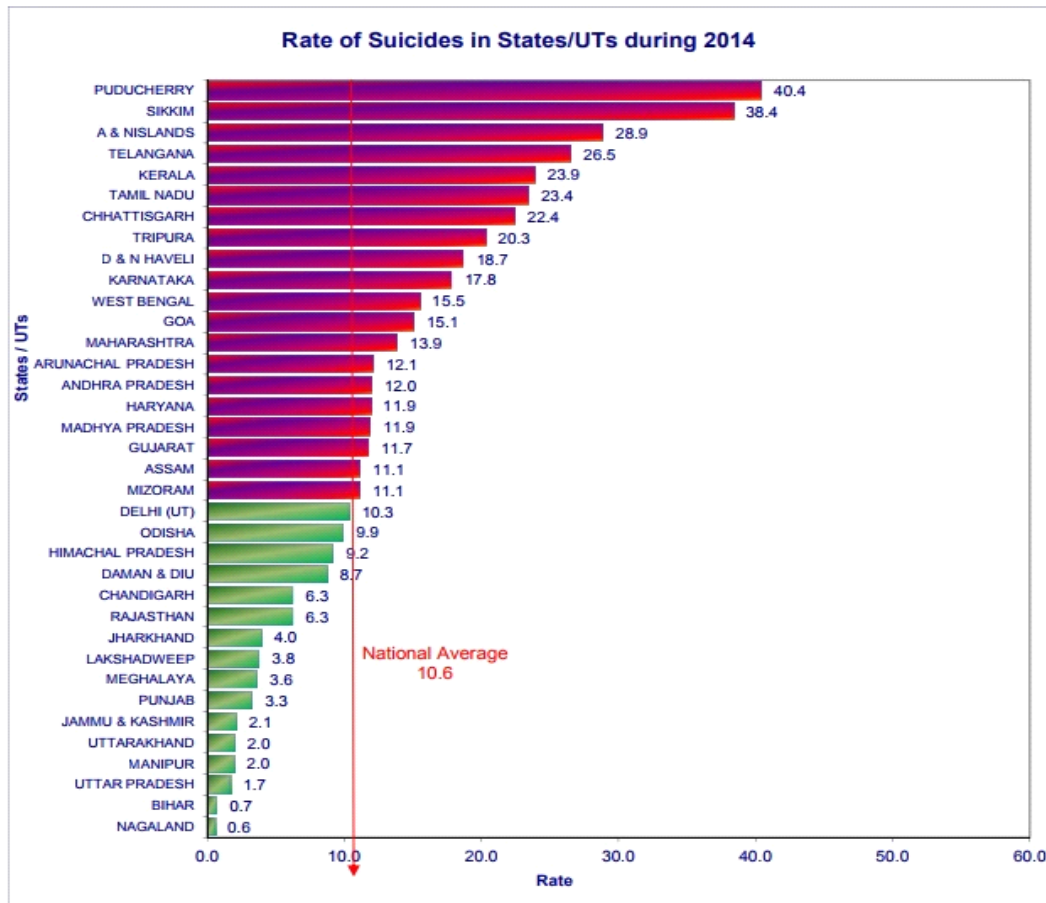


Figure 1. Rate of suicides in States/UTs during 2014

Year	National (all India average)			Sikkim			
	No. of suicides	Suicide rate	Percentage increase over the years	No. of suicides	Suicide rate	Percentage increase over the years	Rank (among all states)- in terms of suicide rate
2007	122637	10.8	-----	122	20.7	-----	-----
2008	125017	10.8	1.94	287	48.2	135.24	1 <sup>st</sup>
2009	127151	10.9	1.71	241	39.9	-16.02	2 <sup>nd</sup>
2010	134599	11.4	5.85	280	45.9	16.18	1 <sup>st</sup>
2011	135585	11.2	0.73	184	30.3	-34.28	3 <sup>rd</sup>
2012	135445	11.2	-0.10	181	29.1	-1.63	2 <sup>nd</sup>
2013	134799	11.0	-0.47	184	29.3	1.67	2 <sup>nd</sup>
2014	131666	10.6	-2.32	244	38.5	32.61	2 <sup>nd</sup>

Source of data: - National Crime Records Bureau website

**Table 1.** Trends of suicides in Sikkim (2007 to 2014)

COMMENTS	NUMBER (RESPONDENTS COMMENTS)	
	Male	Female
Score 1	19	0
Score 2	101	98
Score 3	59	97
Score 4	52	87
Score 5	1	28
Score 6	13	9
Score 7	27	43
Score 8	51	96
Score 9	98	103
Score 10	0	0

**Table 2.** Responses to the question “How are you feeling right now?”

COMMENTS	NUMBER (RESPONDENTS COMMENTS )	
	Male	Female
Yes	145	145
No	234	416

**Table 3.** Responses to the question “Any event disrupts your happiness in the past 01 years?”

COMMENTS	NUMBER (RESPONDENTS COMMENTS )	
	Male	Female
1 week -12 week	11	19
2 month -4 month	17	21
5 month -6 month	8	426
7 month-8 month	370	13
9 month-10 month	6	35
11 month -12 month	9	27

**Table 4.** Responses to the question “How long you feel sad?”

COMMENTS	NUMBER (RESPONDENTS COMMENTS )	
	Male	Female
<b>Appetite</b>		
0	164	236
1	84	191
2	173	134
<b>Sleep</b>		
0	91	86
1	274	352
2	56	123
<b>Hobby of interests</b>		
0	305	499
1	102	62
2	14	0
<b>Productivity</b>		
0	267	178
1	17	29
2	137	137

**Table 5.** Responses to the question “Any changes in:(above mentioned variables)?”

COMMENTS	NUMBER (RESPONDENTS COMMENTS )	
	Male	Female
Suicide	53	49
Unemployment	107	101
Extra-marital affairs & cheating in relationships.	67	223
Drugs	98	75

**Table 6.** Relationship of depression with above mentioned variables among the study subjects