



Original communication

## An empirical analysis of suicidal death trends in India: A 5 year retrospective study



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### ARTICLE INFO

#### Article history:

Received 24 April 2014

Received in revised form

7 July 2014

Accepted 22 July 2014

Available online 8 August 2014

#### Keywords:

Suicide

Hanging

Drowning

Self-immolation

Forensic

### ABSTRACT

Suicide, a major problem worldwide, continues to be a criminal offence in most of the developing countries of the world, including India. This paper retrospectively examines the latest trends and the relevant determinants of the suicidal deaths in one of the most important city of central India- Nagpur of Maharashtra state, carried out for a period of 5 years i.e. 2009–2013. Total 2036 cases were analyzed. An alarmingly increasing trend in the rate of suicides has been observed in the region, which increased from 16% to 22.68% during the study period. The male to female suicide ratio was found to be 2.50:1. The rate of suicidal deaths ranged from 15.34 to 21.74 per 100,000 populations. Hanging was found to be the most preferred mean adopted for suicide by males (54.77%) and females (47.65%), while, Family problems was the most common cause of suicide among both male (38.25%) and female (52.65%). The Suicides were concentrated in the age group of 30–44 years for males (35.76%), while in the age group of 15–29 years for females (51.75%). The prevalence was higher among the people who were married, being as high as 1099 (66.73%) males and 372 (56.45%) females. Highest trend has been found among the people with matriculate/secondary education level. The males with job in private sector accounted for 1007 suicides (61.14%) and 434 (65.86%) females in the category of housewives (non-working, homemakers) committed the same.

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### 1. Introduction

As Albert Camus quotes “*There is but one truly serious philosophical problem and that is suicide.*” Suicide – a multifaceted problem is described as a voluntary and intentional taking of one's own life. It is, killing oneself on purpose, dying at one's own hand. The word suicide breaks down into the Latin words ‘*sui*’ and ‘*caedere*’, which together translate to “*killing oneself.*” As it is said, nothing about suicide is simple, not even its definition. It is a complex phenomenon.<sup>1–3</sup>

Sir Thomas Browne was the first to use the term ‘suicide’ in his “*Religio Medici*” in 1642 and the next to come was Walter Charleton, in 1651. Prior to the word “Suicide” being introduced, words like self destruction, self killing and self murder were in practice.<sup>4</sup> The work, “*Le Suicide*” of Emile Durkheim, a French sociologist gives us the definition of suicide as “*death resulting directly or*

indirectly from a positive or negative act of the victim himself, which he knows will produce this result.” It excludes the survivors who attempted it.<sup>5</sup> While “Suicide Attempt” may be defined as a non-fatal self-directed potentially injurious behavior with any intent to die as a result of such behavior. A suicide attempt may or may not result in injury. In the recent past, “Intentional Self-Harm” (ISH) had replaced the term Suicide in the scientific literature due to derogatory nature of the word “Suicide”.

Suicides have been prevalent since times unknown, but it is only in the last 100 years that intensive studies on it from a number of different perspectives have evolved. Various theories about Suicides had come up highlighting different dimensions and concepts. At times sociological theories like that of Durkheim have dominated; at other times educational; behavioral; theological; psycho-analytical; and more recently biological perspectives have been in the forefront.

Suicide is ranked among the top 13 causes of death for individuals of all ages worldwide by World Health Organization (WHO).<sup>3</sup> It is said that the most dramatic increase in suicide mortality will be observed in third world countries on account of the socioeconomic and behavioral factors prevalent.<sup>6</sup> Worldwide, more

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than a million of deaths are annually reported due to suicide of which 20% are Indians,<sup>7</sup> accounting for 17% of world population. Suicide is among the three leading causes of death among people aged 15–44 years in some countries and the second leading cause of death among those aged 10–24 years these figures do not include the suicide attempts, which are up to 20 times more frequent than completed suicide.<sup>7</sup> In the last two decades, the suicide rate has increased from 7.9 to 10.3 per 100,000, with very high rates in some southern regions.<sup>8</sup> According to the National Crime Records Bureau (NCRB); state of Tamil Nadu, West Bengal, Andhra Pradesh, Maharashtra and Karnataka have registered consistently higher number of suicidal deaths during the last few years and together accounted for 56.2% of the total suicides reported in the country.<sup>9</sup> Maharashtra, a highly populated state of India (9.285% share of population) has a high percentage of suicidal deaths accounting for 11.9% (in 2012) of the total suicides reported in India.<sup>9,10</sup>

The objective of the current study was to analyze the trends of suicide mortality in the Nagpur city of Maharashtra State in India. It aims at highlighting the issue by studying the suicide cases in relation to the demographic features (like age, gender etc.) social background, extent, method of suicide, causes (motive of suicide) etc., in order to gain an insight regarding the same.

## 2. Materials and methods

A retrospective study has been conducted in the Nagpur City of Maharashtra, India, on the issue of Suicides, increasing at an alarming rate and becoming one of the major causes of death among the individuals of all ages, worldwide. The cases of Suicides have been studied in context of its rate (magnitude), causes, means adopted, social background etc. The data have been collected with respect to the different dimensions to be analyzed including the age, sex, residence (urban), causes, profession profile, social status, educational status and the means adopted, etc. from the Administrative Section of the Crime Branch of Nagpur Police, Maharashtra, for the period of last five years, that is, from January 2009 to December 2013. As per provisional reports of Census India, population of Nagpur city in 2011 is 2,405,421<sup>10</sup>; of which males and females are 1,226,610 and 1,178,811 respectively.

## 3. Results

The distribution of Suicide data collected for the span of last five years, that is, from 2009 to 2013, is illustrated below.

### 3.1. Year-wise distribution

The distribution of Suicides year wise on the basis of gender is shown in Table 1. Out of the total 2036 cases, 1647 (71.42%) were males and 659 (28.58%) were females. The average male to female suicide ratio for the span of 2009–2013 was found to be 2.50: 1,

**Table 1**  
Year-wise and gender-wise distribution of suicide cases.

Gender	Year						
	2009	2010	2011	2012	2013	Total	
Male	n	271	334	313	364	365	<b>1647</b>
	%	11.75	14.48	13.57	15.79	15.79	<b>71.42</b>
Female	n	98	124	142	137	158	<b>659</b>
	%	4.25	5.38	6.16	5.94	6.85	<b>28.58</b>
Ratio (Male: Female)		2.77:1	2.69:1	2.20:1	2.66:1	2.31:1	<b>2.50:1</b>
<b>Total</b>	n	<b>369</b>	<b>458</b>	<b>455</b>	<b>501</b>	<b>523</b>	<b>2306</b>
	%	<b>16.00</b>	<b>19.86</b>	<b>19.73</b>	<b>21.73</b>	<b>22.68</b>	<b>100</b>

while the highest was found in the year 2009, that is, 2.77: 1. The highest percentage of suicide were in 2013 (22.68% of the total suicide cases) as compared to the least percentage in 2009 (16.00%).

### 3.2. Cause wise distribution

The gender wise and cause wise distribution of suicide cases in Nagpur city is shown in Table 2. Family problems were the most common cause of suicide among both male (38.25%) and female (52.65%).

### 3.3. Means adopted

Hanging was the most preferred means as compared to the various means adopted for the purpose of committing suicide (Table 3) among male (54.77%) as well as female (47.65%).

### 3.4. Age group and gender

The distribution of Suicide cases for 2009–2013, according to age group and gender has been illustrated in Table 4. The Suicide cases were concentrated in the age group of 30–44 years (35.76%) followed by 15–29 years (34.3%) for males, while the highest number of cases in females were found to be in the age group 15–29 years (51.75%) followed by that in the age group of 30–44 years (28.68%). Both these age groups highlight the alarming increase of suicide mortality among the youth.

### 3.5. Marital status

1099 (66.73%) married males and 372 (56.45%) married females committed suicide during 2009–2013 (Table 5) which was found to be much higher than any other studied group.

### 3.6. Education level

The highest suicidal trend has been found among the people with matriculate/secondary level of education with 461 males (27.99%) and 189 females (28.68%). It is followed by people with middle-school education with 442 male (26.84%) and 160 female (24.28%) cases (Table 6).

### 3.7. Profession

When the profession profile of the suicide victims of 2009–2013 was considered (Table 7), the highest rate was found among the males with job in private sector accounting for as high as 1007 (61.14%) suicides. The females in the category of housewives (non-working/homemakers) showed the maximum number of suicides with 434 (65.86%) cases.

### 3.8. Suicide rate

An increasing trend in the number of suicides per lakh of the population is seen during the study period ranging from 15.34 to 21.74 (Table 8).

## 4. Discussion

The current study examines the trend and the relevant determinants of the suicidal deaths in one of the most important city of central India- Nagpur. The distribution of Suicide data collected for the span of last five years, that is, from 2009 to 2013 indicates an alarming increase in the rate of suicides except for a minor decrease in 2011. Out of the total 2036 cases of suicides, 2013 recorded the

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