

Telugu Suicides – Before and After Bifurcation of State

Gopala Sarma Poduri¹

Received on: 23 December 2022; Accepted on: 12 January 2023; Published on: XX XX XXXX

ABSTRACT

Background: Apart from being the first linguistic-based state, Telugu states are important states in more than one way in the Indian union. There were no reports from the Telugu states about suicides before and after bifurcation.

Aim: To analyze suicides of Telugu states for the period 1966–2021 and to find the effect of bifurcation on the considered criteria.

Materials and methods: Information relating to suicides was accessed from National Crimes Bureau statistics on Accidental Deaths and Suicides India. The data obtained relates to number of suicides, rate, cause, education, income, marital status/social status, mode/means, and profession for the years 1966–2013 for the combined Andhra Pradesh (AP) and 2014–2021 for Andhra and Telangana states, separately and combined. Wilcoxon signed-rank test was used to compare criteria before bifurcation (2006–2013) and after bifurcation (2014–2021) by combining AP and Telangana states and differences between the two states.

Results: Telugu state contributed 9.4% and 10.8% toward national suicides before and after bifurcation, respectively. There were no differences in the criteria studied before and after bifurcation, except in rate. Telangana recorded a higher rate compared with its' counterpart. Andhra recorded lesser illiterates and higher poisoning.

Conclusion: Improving education and health facilities and providing better earnings will reduce suicides. Telangana needs to adopt drastic measures to reduce the rate.

Keywords: Andhra Pradesh, Before and after bifurcation, Combined Andhra, Suicide rate, Telangana, Telugu state.

Indian Journal of Private Psychiatry (2022): 10.5005/jp-journals-10067-0138

BACKGROUND

The Telugu state, Andhra, was the first state carved out based on language from the state of Madras in 1953. It had culturally distinct areas – northern Andhra, coastal Andhra, and interior Rayalaseema. After the merger of Hyderabad into the Indian Union, some areas were merged into Andhra – another culturally distinct Telugu-speaking portion to form AP. Andhra Pradesh contributed 6.99% of Indian population and stood fifth in population.¹ The total population growth in this decade was 10.98%, while in the previous decade, it was 13.86%.¹ Compared to national average of 72.98%, the total literacy rate of AP is less at 67.02%.¹ The density of AP is 308 per sq. km, which is lower than the national average of 382 per sq. km, and the sex ratio in AP is 993, i.e., for each 1000 male, which is above the national average of 943 as per census 2011.¹ In June 2014, AP was bifurcated into Andhra and Telangana. Suicides in the Telugu state were substantial, and till now, there has been no analysis of Telugu suicides. Apart from this, the impact of bifurcation on suicides of Telugu people was not studied. Hence, an analysis of suicides and the impact of the bifurcation on the state on suicides was undertaken.

MATERIALS AND METHODS

Information relating to suicides was obtained from National Crimes Bureau statistics on Accidental Deaths and Suicides India (NCRB ADSI) of Ministry of Home Affairs, Govt. of India.² The data obtained relate to total number of suicides, rate, cause [failure in examination, illness (illness, drug abuse/alcoholic addition)], family problems (family problems, marriage-related issues, impotency/infertility, marriage-related issues, sex, physical abuse, illegitimate pregnancy-suspected/illicit relation, and property dispute), economic (bankruptcy or indebtedness, unemployment, and

Department of Psychiatry, Durgabai Deshmukh Hospital & Research Centre, Hyderabad, Telangana, India

Corresponding Author: Gopala Sarma Poduri, Department of Psychiatry, Durgabai Deshmukh Hospital & Research Centre, Hyderabad, Telangana, India, Phone: +91 8179136510, e-mail: gopalsarmapoduri@hotmail.com

How to cite this article: Poduri GS. Telugu Suicides – Before and After Bifurcation of State. *Ind J Priv Psychiatry* 2022;x(x):xx–xx.

Source of support: Nil

Conflict of interest: None

poverty), emotional (ideological causes/hero worshipping, love affairs, death of a dear person, fall in social reputation, professional/career problem, cause not known, and other causes), education (primary, middle, matriculate, and secondary levels were clubbed to come under school education; diploma professionals were under professionals), income (less than Rs. 1 lakh, Rs. 1 lakh and above and less than Rs. 5 lakh, Rs. 5 lakh and above and less than Rs. 10 lakh and Rs. 10 lakh and above), marital status/social status (unmarried, married, married but permanently/temporarily single-(widowed/widower, divorcee, separated), others, (status not known), mode/means (poisoning and consuming pills were clubbed as soft methods, while jumping, coming under running vehicles, touching electric wire, drowning, fire/self-immolation, firearms, and hanging were considered under hard methods), and profession (daily wage earners, self-employed earners, professional/salaried earners, and pensioners were clubbed as earners), for the years 1966–2013 for the combined Andhra Pradesh and 2014–2020 for Andhra and Telangana states, separately and combined. For comparison purpose, the total number of suicides and rate were computed

Table 1: Suicide details of various periods

	Rest of India (1966–2021)	AP (1966–2021)	AP (1966–2013)	AP (2006–2013)	Andhra (2014–2021) AP + Telangana	(2014–2021)	
						AP	Telangana
<i>No. of suicides</i>							
Total	4348293	470939	350154	116689	120785	79115	70151
Average	77648	8410	7295	14586	15098	6329	8769
SD	33933.6	4.6	1.7	0.5	0.9	1.5	2.8
Maximum (Year)	145795 (2021)	218238 (2021)	15901 (2010)	15901 (2010)	18238 (2021)	8067 (2021)	10171 (2021)
Minimum (Year)	33717 (1966)	1905 (1980)	1905 (1980)	13276 (2006)	12974 (2017)	5319 (2018)	7620 (2017)
<i>Suicide rate</i>							
Average	8.86	11.6	10.71	17.44	17.01	12.17	23.7
SD	1.9	4.6	4.2	0.8	1.8	1.5	2.8
Maximum (Year)	11.4 (2021)	20.1 (2021)	18.9 (2010)	18.9 (2010)	20.13 (2021)	15.26 (2021)	27.74 (2015)
Minimum (Year)	5.2 (1979)	3.79 (1980)	3.79 (1980)	16.45 (2006)	14.71 (2017)	10.22 (2018)	20.59 (2019)

for rest of India. No information was computed for the above parameters when the entry was cause not known, other, status not known, and by percentage calculation of such responses to total responses. Basic statistics were used for this. Wilcoxon signed-rank test was used to compare parameters – rate, cause, education, social status or marital status, means/method, and professional profile, before bifurcation (2006–2013) and after bifurcation (2014–2021) by combining AP and Telangana states and differences between the two states. The computation was done using online calculators – calculator.net, social statistics, and AAT Bioquest.^{3,4}

RESULTS

In the 56-year period from 1966 to 2021 for which data were available, Telugu state's rate and share were always high compared to national average. Table 1 gives details of suicides for various periods.

Males outnumbered females in both pre- and postbifurcation years (67.6% and 71.0%, respectively). There was a drastic reduction in the S. rate post bifurcation, from 18.86 to 14.71, when suicides from both the states were combined and the rate calculated. The S. rate was significantly high in Telangana in comparison with the rest of India, AP. The percentage of no information ranged 11.7% and 15.1%. Suicides due to illness, including liquor and addictions, occupied the first place before division (30.4%), but fell to third place at 21.2%, with family problems (24.1%) taking first place after division. Family problems and illness were the leading causes in Telangana and AP, respectively. Education-wise, the maximum number were literate, having at least school education, followed by the no-education category and higher educated were least. The bulk of the deceased had an income of less than Rs. 1 lakh, followed by Rs. 1 lakh and above, and less than Rs. 5 lakhs. Telangana deceased were rich in comparison to AP (income less than 1 lakh 57.8% × 65.4% and 12.8% × 5.7%, as having more than 5 lakh income). Married people were overrepresented both before and after bifurcation (more than 70% in both periods). The same was the case with in both the states. Poisoning was the most frequently used method, followed by hanging. Even though the order was maintained, there was a reduction in poisoning from 45.7% to 39.8%, with a jump from 20.9% to 33.4% of hanging. Even after bifurcation, the status of poisoning as the first and hanging as the second method continued, with hanging in

Telangana narrowing the gap. While retirees were the lowest in both periods, daily wage earners were the highest before, after, and in both states.

Table 2 gives details of the Wilcoxon signed-rank test of parameters studied for 7 years before and after bifurcation and between Andhra and Telangana.

DISCUSSION

Official figures of suicides indicate a mildly fluctuating, but mostly increasing figures. As such, suicides are grossly underreported due to stigma, procedural harassment, delays, insurance denials, etc. Added to this, the denominator used in calculating the suicide rate varies grossly depending on the method and source used. The number of suicides also grossly varies depending on the source. Further, the general practice of expressing rates with one or two places after the decimal, adds to the problem. All these factors make the suicide rate an unreliable and highly debatable comparison metric. For lack of better alternatives, this is the only metric that can be used for comparison purposes, more so when retrospective and long-term analysis are involved. A lack of information of about 10–15% clouds whatever conclusions can be drawn from the official data. Apart from being India's first linguistic state, the Telugu state was significant politically. It was founded on death by fasting unto death (altruistic suicide). Its lands were fertile and well irrigated. It has a substantial coastline. Andhra Pradesh and Telangana are among the highest consumers of spirits and alcohol varieties in India, and when it comes to women's consumption of alcohol, Telangana comes third.⁵ When interpreting results, one has to keep the above in mind.

Broadly, there were no differences in the parameters studied between pre- and postbifurcation. Even if the period is short – years, the data about Telangana after bifurcation are disturbing for its high rate. The results of the present study showing that higher education is protective agree with those of other studies.^{6–8} In contrast, some studies have found that people with higher educational attainment are more likely to commit suicide when confronted with failures, public shame, and high premorbid functioning.⁹ Higher education provides protection because a person with a higher education in this country had to work hard and overcome many obstacles to achieve that status. This gives psychological strength to face problems.

Table 2: Details of the Wilcoxon signed-rank test of parameters studied for 8 years before and after bifurcation and between Andhra and Telangana

<i>Eight years before and after bifurcation – Wilcoxon signed-rank test</i>				
<i>Parameter</i>	<i>W-value</i>	<i>p-value</i>	<i>Sample size (N)</i>	<i>Significance at <0.05</i>
Rate	0	0.0002	8	Significance at <0.01
Cause	11	0.3046	15	ns
Education	13	0.665	9	ns
Social status or marital status	9	0.5241	7	ns
Means/Method	24	0.2426	11	ns
Professional profile	16	0.6048	9	ns
<i>Andhra vs Telangana – Wilcoxon signed-rank test</i>				
Rate	0	0.0002	8	Significant
Cause	79	0.4879	19	ns
Education	4	0.0547	9	ns
Social status or marital status	4	0.8048	7	ns
Means/Method	48.5	0.985	16	ns
Professional profile	14	0.7962	9	ns

It looks as if marriage is no protection, as 70+% were married. The present analysis agrees with the review from India, which reported that marital status is not necessarily protective.¹⁰ This is in contrast with other studies where suicide risk was strongly associated with single status of any form, with the highest risk during a marital separation.^{6,11–15} Marriage being a necessity for the majority of the population, regardless of ability, early marriages, and the stresses of married life, all contribute to the overrepresentation of married people among victims. Marriage's compulsion and age are changing. The findings support this, as 17.7% were unmarried, compared with 13.5% before and after the bifurcation.

Other studies found that the lowest skilled occupations were at greater risk of suicide than the highest skill-level group.^{16,17} The present study agrees with the above, as daily wage workers belong to this category and constitute the maximum number of victims. The uncertainty and hardship could account for this. People with uncertain income, those with business activity, and those with daily wagers were more prevalent in the current study. This reflects on the financial uncertainties and consequent stress. The current study finds that suicide rates are not sensitive to income levels,¹⁸ and that the relationship between income and suicidal outcomes may be explained by psychosocial rather than material factors.¹⁹ In contrast, a negative relationship was reported between income and suicide.²⁰ The present study does not entirely reflect the real status, as there was no data before bifurcation. Further, there were no data on individuals with no income after bifurcation.

Illness and family problems, which were the leading causes before and after the bifurcation, are a red flag for corrective action. Significant relationships were found between social factors (such as family friction, betrothal, unemployment, financial problems, and so on) and the social classes of people who attempted suicide.²¹ The present study is in broad agreement with that.

In contrast to observations from Sikkim, where hanging (94.8%) was found to be the most common method,²² poisoning was the most preferred method, followed by hanging. The growing trend of hangings demonstrates the seriousness of intent. This could be due to the predominance of agriculture and the consequent easy availability of pesticides and insecticides.

It was observed that failure to control for relevant socioeconomic variables or combining men and women in the same models could produce misleading results.¹³ It was shown that in epidemiological research on suicide, more accurate results would be obtained if samples were stratified based on key demographic or social characteristics.¹³ The present analysis suffers from that deficiency.

The overall picture that characterizes the Telugu suicides is male, married, with no education, self-employed (business activity, government, private, and public sector), a daily wage earner with family problems or illnesses, including drug or alcohol addiction, and resorting to poison. Telangana differs from Andhra in having a higher rate, a lower chemical and higher hanging method, and more illiterates.

CONCLUSION

Improving education and health facilities and providing better earnings will reduce suicides. Telangana needs to adopt drastic measures to reduce the rate.

ORCID

Gopala Sarma Poduri  <https://orcid.org/0000-0003-1731-7373>

REFERENCES

1. Andhra Pradesh Population Census 2011 - Census India. From: <https://www.censusindia.co.in/states/andhra-pradesh>.
2. NCRB ADSI of Ministry of Home Affairs, Govt. of India (Accidental Deaths and Suicides in India). <https://ncrb.gov.in/.../ADSI Reports of Previous years>.
3. Standard Deviation Calculator. <https://www.calculator.net/standard-deviation-calculator.html>.
4. Wilcoxon Signed-Rank Test Calculator. <https://www.socscistatistics.com/tests/signed-ranks-and-Wilcoxon-Signed-Rank-Test-Calculator-AAT-Bioquest>. <https://www.aatbio.com/Tools>.
5. Bhavya Desai. Alcohol consumption patterns in India. AMBROSIA 2021. www.ambrosiaindia.com/2021/02/4494/
6. Øien-Ødegaard C, Hauge LJ, Reneflot A. Marital status, educational attainment, and suicide risk: A Norwegian register-based population study. *Popul Health Metr* 2021;19(1):33. DOI: 10.1186/s12963-021-00263-2.

7. Shalini G, Jitender K. Role of psychosocial factors in completed suicide – A study conducted at RML mortuary from 2017 to 2021. *J Forensic Med Toxicol* 2021;38:57–60. DOI: 10.5958/0974-4568.2021.00034.X.
8. Phillips JA, Hempstead K. Differences in U.S. Suicide Rates by Educational Attainment, 2000–2014. *Am J Prev Med* 2017;53(4): e123–e130. DOI: 10.1016/j.amepre.2017.04.010.
9. Pompili M, Vichi M, Qin P, et al. Does the level of education influence completed suicide? A nationwide register study. *J Affect Disord* 2013;147(1–3):437–440. DOI: 10.1016/j.jad.2012.08.046.
10. Radhakrishnan R, Andrade C. Suicide: An Indian perspective. *Indian J Psychiatry* 2012;54(4):304–319. DOI: 10.4103/0019-5545.104793.
11. Næss EO, Mehlum L, Qin P. Marital status, and suicide risk: Temporal effect of marital breakdown and contextual difference by socioeconomic status. *SSM Popul Health* 2021;15:100853. DOI: 10.1016/j.ssmph.2021.100853.
12. Kyung-Sook W, SangSoo S, Sangjin S, et al. Marital status integration and suicide: A meta-analysis and meta-regression. *Soc Sci Med* 2018;197:116–126. DOI: 10.1016/j.socscimed.2017.11.053.
13. Kposowa AJ. Marital status and suicide in the National Longitudinal Mortality Study. *J Epidemiol Community Health* 2000;54:254–261. DOI: 10.1136/jech.54.4.254.
14. Luoma JB, Pearson JL. Suicide and marital status in the United States, 1991–1996: Is widowhood a risk factor? *Am J Public Health* 2002;92(9):1518–1522. DOI: 10.2105/ajph.92.9.1518.
15. Osazuwa-Peters N, Simpson MC, Du EY, et al. Marital status and suicide as a competing cause of mortality among cancer survivors. *J Clin Oncol* 2020;38(15_suppl):e19113.
16. Roberts SE, Jaremin B, Lloyd K. High-risk occupations for suicide. *Psychol Med* 2013;43(6):1231–1240. DOI: 10.1017/S0033291712002024.
17. Milner A, Spittal MJ, Pirkis J, et al. Suicide by occupation: A systematic review and meta-analysis. *Br J Psychiatry* 2013;203(6):409–416. DOI: 10.1192/bjp.bp.113.128405.
18. Andrés AR. Income inequality, unemployment, and suicide: A panel data analysis of 15 European countries). *Appl Econ* 2005;37(4): 439–451. DOI: 10.1080/0003684042000295304.
19. Wetherall K, Daly M, Robb KA, et al. Explaining the income and suicidality relationship: Income rank is more strongly associated with suicidal thoughts and attempts than income. *Soc Psychiatry Psychiatr Epidemiol* 2015;50(6):929–937. DOI: 10.1007/s00127-015-1050-120.
20. Magnusson S, Mäkinen IH. Sweden: Income and suicide. *Psychol Rep* 2010;107(1):157–162. DOI: 10.2466/02.12.13.17.
21. Keyvanara M, Mousavi SG, Karami Z. Social class status and suicide characteristics: A survey among patients who attempted suicide in Isfahan. *Mater Sociomed* 2013;25(1):56–59. DOI: 10.5455/msm.2013.25.56-59.
22. Chettri R, Gurung J, Singh B. A 10-year retrospective study of suicides in Sikkim, India: Sociodemographic profile and risk assessment. *Indian J Psychiatry* 2016;58(4):448–453. DOI: 10.4103/0019-5545.196712.