Short-term Cost of Suicides in India

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ABSTRACT

Background: India is experiencing increasing suicides that have much economic impact. Objective: To calculate the short-term costs of suicide in India. Materials and Methods: All the official data of suicides in India in 2014 formed the base of computation. Both direct and indirect costs were computed basing on market rates and official estimates. Perceived gains were deducted to arrive at the total cost. Results: The contribution of middle age group in the loss was high. Each suicide costs ₹2.65 L and the total cost of suicide in 2014 amounts to ₹348842.65 L in the first year. Conclusion: Much suffering and burden on individuals, family, and society can be reduced if adequate treatment facilities for psychiatry patients are made available at affordable rates everywhere. This should be complemented by much needed public education.

Key words: Assets, cost, short, suicide, term

INTRODUCTION

Every aspect of disease and death was probed extensively including financial implications. There has been a tendency in research and clinical treatment to discuss the economic aspects of mental illness in the context of outcome and consequences of treatment for the individual and society.\textsuperscript{[1]} Death by suicide is very common and in recent times, there was an epidemic of suicides in India, but official figures do not fully reflect the gravity of the situation. Suicide ranks high in deaths in India. There were reports about the cost and economic aspects of suicide from different parts of the world.\textsuperscript{[2‑21]}

The cost of suicide includes short-term and long-term costs which can be direct and indirect. Maximum impact on family and momentous change occurs to the family in various aspects in the first year of the suicide. Hence, it is of much relevance to all. Short-term costs in the first year of act include hospital expenses for the act leading to death, autopsy expenses, police investigations, transportation, funeral expenses, recurrent religious expenses for the dead, family counseling, lost wages, lost taxes, compensation, and potential organs lost for transplant. Long-term costs include the lost income that could have been earned by the person till retirement, tax that the government lost from that income, years of potential life lost (YPLL), and consequences. Other costs include the emotional loss, stigma, and consequent losesses. There are some monetary gains of premature death by suicide such as saving on education, medical expenses, and personal maintenance.\textsuperscript{[21]}

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As reports about the short-term cost of suicide in India were not available in literature, an exercise was undertaken to compute it for the year 2014.

MATERIALS AND METHODS

The national crimes record for 2014 for suicide data[22] and the population break-up[23] formed the base. As the number of transgender was very small (introduced in 2014 suicide statistics), they were proportionately clubbed with male and female. The expenses and savings were computed as follows:

Medical expenses: Medical expenses were computed based on 20% consulting, at least one time before committing suicide[18] and cost of one visit[24] by using Income-tax indexing method.[25]

Compensation paid by insurers: Proportionate claim amount was computed from insurance average coverage and settlement of claims from official statistics of insurers.[26]

Compensation paid by government: As the amount governments give as compensation for farmers’ suicide varies, half the amount given by Telangana Government was taken.

Lost income/wages: National per capita income and income given by the suicide statistics were taken for computation of lost wages.[22,27] The mid-slab amount of the income slab was taken and multiplied with the suicides in that slab group to arrive at the lost income/wages, thus in the first slab <1 L, the average income was taken as 0.5 L, next as 2.5 L, 7.5 L, and for the last slab minimum of the slab was taken as 10 L. The average of the above two computed incomes was taken as lost income per year.

Lost productivity: World Bank statistics[28] for per capita gross domestic product (GDP) and average dollar value[29] for the year were taken to compute the lost production.

Lost assets (potential organ transplants): The parts that can be of use for transplantation that are lost were computed depending on the market rate and rate[30] of these occurring in general population. All those below 14 years were excluded for computation. An average conservative estimate of 3 L per transplant was assumed.

Lost taxes: Lost taxes were computed based on the income bracket and relevant years’ tax structure.[31] The mid-slab amount of the slab was taken as the average individual income. It was assumed for calculation purpose that maximum permissible deductions were resorted to and tax estimated. Sex and age were not taken while computing the tax.

Savings
Education: The annual cost, including living, food, transport, and education, was on an average of ₹ 350,000.[32]

Routine medical expenses: Public and private care system spent 4% of the GDP[27] and the proportionate amount was computed.

Routine maintenance expenses: The income computed was taken for this purpose and one-third was taken for personal maintenance expenses.[33]

Police investigation, postmortem and transport expenses, funeral expenses, and recurrent death-related expenses in the first year were computed basing on local inquiries and prevailing rates. As children do not have the cognitive capacity to comprehend suicide,[34,35] they (below 7 years) were excluded while computing the rate in below 14 years age group.

RESULTS

There were a total of 1,31,666 suicides in 2014 and adjusted male and female suicide were 89,139 and 42,527, respectively. Table 1 gives sex- and age-wise break-up of suicides. Table 2 shows the summary of computed values.

DISCUSSION

The cost of death is only notional. Although the method adopted in the computation of various components is not perfect, it is something to start with. Further, one should remember it will not be the same for all — It
There was doubling of the deceased organ donation rate as the organ donation is picking up as the awareness is increasing and may become more common in the future. The inclusion was because it was very premature, thus causing loss to the insurer. The compensation by insurers can be debatable. In cases of suicide occurring before a specified period, paying nominee of the insured the assured payment would have to be made in due time if not now, notwithstanding the clause that absolves insurers from any of the other studies. The latter may be due to increased farmers’ suicides and socioeconomic conditions peculiar to India. Compensation by insurers can be debatable. In the compensation by insurers, it may be argued that the payment would have to be made in due time if not now, notwithstanding the clause that absolves insurers from paying nominee of the insured the assured payment in cases of suicide occurring before a specified period. The inclusion was because it was very premature, thus causing loss to the insurer.

The possible and harvestable parts — Corneas, lungs, kidneys, liver, heart valves, pancreas, etc., that are worth billions of rupees are lost by avoidable death. The component of lost assets should be considered seriously as the organ donation is picking up as the awareness is increasing and may become more common in the future. There was doubling of the deceased organ donation rate from 196 donors in 2012 or 0.16 per million population (pmp) to 411 in 2014 or 0.34 pmp. The figures are for cadaver transplants only; the more common type of noncadaver transplants was not included. Even though it is between kith and kin, money plays a role in these cases. If those are also included, the value will be still higher. Further, potential loss should be computed by individual organs taking proper market value. This will lead to a very high lost value.

Lost income/wages were computed not basing on the individual profession or occupations as gross variation in wages occurs in reality. Further, unemployed, homemakers, and students account for 28.9%. Hence, any other method of computation will not be realistic. That is the reason why an average of the national per-capita income and the data of income given by the suicide statistics were taken into consideration.

Transporting the autopsied body to their place for last rites rituals and taking to the cremation ground is highly expensive even if the distance is small, as only some vehicles carry the body. As such vehicles are generally considered as inauspicious and not used for other purposes, the small number of vehicles that are customary in some areas and cultures, which adds to the expenditure. Many upper-middle-class and higher bracket income spend more than 2 L for funeral expenses. The amount of 50,000 taken in computation higher bracket income spend more than 2 L for funeral expenses. The amount of 50,000 taken in computation should balance the extremes of charity cremation and higher expenditure in some cases.

Government incurs additional expenditure by the way of giving appointment to a dependent on compassionate grounds. In addition, other benefits such as house-sites are given in some cases. These when added-up, increases the cost.

The analysis does not include estimated costs due to the psychological pain and suffering of the survivors. One should also consider the stigma the family has to carry for generations and the benefits the employer has to give the family for an under productive employee. Suicides are highly associated with a psychiatric disorder even if only 26% of them take treatment like other psychiatry patients. Saving by the way of treatment costs because premature death will be very high. These will be reflected in long-term saving of cost.

Table 2: Summary of computed values

| Head                              | Gains/savings* | Expenditure/loss* |
|-----------------------------------|----------------|-------------------|
| Medical expenses                  | 223.90         |                   |
| Police investigation, postmortem, and transport expenses | 6583.30 |         |
| Funeral expenses                  | 65,833.00      |                   |
| Recurrent death-related expenses  | 28,588.20      |                   |
| Compensation paid by insurers     | 148.73         |                   |
| Compensation paid government      | 37,080.00      |                   |
| Lost income/wages                 | 151,854.35     |                   |
| Lost productivity                 | 131,438.21     |                   |
| Lost assets (potential organ transplants) | 444.00 |         |
| Lost taxes                        | 2599.91        |                   |
| Education                         | 28,238.00      |                   |
| Routine medical expenses          | 5778.21        |                   |
| Routine maintenance expenses      | 41,934.74      |                   |
| Total                             | 75,950.95      | 42,4793.6         |

Total cost (424,793.6-75,950.95): ₹ 348,842.7 L, * in Lakh

varies from age, sex, status, capacity, etc. There can be much criticism on methodology and computation. The computation is based on many assumptions that are unavoidable in this type of analysis. Most of the components are common with other published studies. There are some new inclusions that were not there in any of the other studies.

The concept of short- and long-term cost did not find an entry in any of the earlier studies. The short-term concept used in the present study by-passes the years of life lost/YPLL. Most of the grieving/emotional reaction occurs in the first year of death. Further, all the parameters’ value changes over a period making computations meaningless in the long run. Hence, short-term cost computation was attempted.

In none of the published studies, the component of lost assets and compensation by insurance and government was included. The latter may be due to increased farmers’ suicides and socioeconomic conditions peculiar to India. Compensation by insurers can be debatable. In the compensation by insurers, it may be argued that the payment would have to be made in due time if not now, notwithstanding the clause that absolves insurers from paying nominee of the insured the assured payment in cases of suicide occurring before a specified period. The inclusion was because it was very premature, thus causing loss to the insurer.

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The recorded high rate of suicide in the most productive age groups-18-29 and 30-44 definitely hurts society. It not only robs the earnings to the family, but also reduces the production and longer pension and other payments are to be made. Some take a contrary view. They argue that not having to treat depression, avoiding payment of pension, etc., saves much money with net gain.[19,21] Economically, suicide may be beneficial to the state -fewer mouths to feed, fewer people to look after, fewer people to arrange for medical aid, etc. Suicide should be prevented based on humane considerations, not on the economic cost involved.[19] Investment in educating the vulnerable, crisis intervention, expansion, and easy access to psychiatric services will bring down the number of suicides, even if it cannot be eliminated.

CONCLUSION

Adequate treatment facilities for psychiatry patients at affordable rates everywhere and complimented by much needed public education may reduce the suicide rate. The cost aspect can be used as a potential tool in suicide prevention.

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Conflicts of interest
There are no conflicts of interest.

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Indian Journal of Psychological Medicine | Nov - Dec 2016 | Vol 38 | Issue 6
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