A SOCIO-DEMOGRAPHIC REVIEW ON ADOLESCENT DEATHS IN WEST BENGAL

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ABSTRACT

BACKGROUND

According to W.H.O. adolescence is between age group 10 to 19 when physical & psychological development occurs. Many health problems develop in this period. The mortality & morbidity pattern of adolescents has a direct impact on future population. Sociodemographic profile in association with unnatural death of the adolescent has been dealt in this study.

MATERIALS AND METHODS

Study was done in R. G. Kar Police morgue under FMT department with a sample of 80 cases over 1-year time duration.

RESULTS

Most affected age group is 15 to 19 years & victims are mainly students. RTA is the main cause of unnatural death. Burn injury was the commonest cause among the suicidal cases. Association between age and sex of the subjects was compared with the manner of death. The relatively older age groups were seen to be more vulnerable towards accidental deaths.

CONCLUSION

Suicide is an important cause of death among adolescence. Much attention should be paid to institute preventive measures for reducing accidental death as most of the causes are avoidable.

KEY WORDS

Adolescent, Unnatural Death, Socio-Demography.

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BACKGROUND

The World Health Organization defines an adolescent as a person between the ages of 10 and 19 years.^(1, 2) Adolescence is a transitional stage of physical and psychological human development that generally occurs during the period from puberty to legal adulthood. This period is divided into early-10 to 13 yrs., mid-14 to 16 yrs., late-17 to 19 yrs.⁽³⁾ Around 1 in every 6 persons in the world is an adolescence i.e. 1.2 billion people are aged 10 to 19.

Many of the health problems seen in adolescence start during the first decade, emphasizing the need for programming across the life-course. The mortality and morbidity/disability patterns of adolescence reflect the transition from childhood to adulthood and the impact of the developmental processes taking place during this period.

Even if the distribution of skills and autonomy varies within the age groups, adolescents will still grow up and become fundamental contributors to development in any country. But not much work has been done in eastern India yet; nevertheless, this does not rule out the importance of the study to decrease adolescent mortality.

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For this reason alone, and many more, it is necessary to investigate the levels and causes of adolescent mortality since it has a direct impact on the size and health of the future population.

In this study the authors would like to find out the prevalence of unnatural death, its type and pattern among adolescence and Social-demographic profile of the adolescent population leading to unnatural death. The outcome will try to identify the areas of concern that must be dealt with by the different organizations of the administration.

Aims & Objectives

1. To enumerate the autopsy findings of unnatural death among the deceased adolescents.
2. To enumerate the manner of deaths among the deceased adolescents.
3. To identify any association between the aetiology of unnatural deaths with Socio demographic profile of the deceased.

MATERIALS AND METHODS

Study Area

1. R.G. Kar Police Morgue
2. Department of Forensic Medicine & Toxicology, R. G. Kar Medical College.

Study Population

Inclusion Criteria

Within the age of 10 to 19 years coming to R. G. Kar Police Morgue from different police stations under the jurisdiction of the Morgue.

Exclusion Criteria

Grossly decomposed and mutilated bodies

Study Duration

One year.

Study Period

May 2017 to April 2018.

Sample Size

The sample size is 80 and is chosen depending on the inclusion and exclusion criteria.

Sample Design

Every subject who fits with the inclusion and exclusion criteria is taken from the study population.

Study Design

The study is descriptive Study.

Parameters to be studied

1. Cause of death of adolescents.
2. Manner of death among adolescence.
3. Socio-demographic parameters: based on Prasad scale 2015.

Study Tools

Relevant documents of post mortem reports and inquest reports, other documents required for data collection.

Operational Definition

For this study some definitions were adopted:

Adolescents were classified as follows

- 'Younger'- within the age range of 10-14 years.
- 'Late/older'- in the age group 15-19 years.¹⁴.

The Causes of unnatural deaths were classified as follows

- 'Accidental deaths'-deaths due to accidents like RTA, snake bite, drowning, fall from height, lightning etc.
- Suicide'- death due to deliberate self-harm to end one's life
- 'Homicide'-death caused by the foul play by others

RESULTS

Sex	Frequency	Percent
Male	40	50
Female	40	50

Table 1. Frequency and Percentage Wise Distribution of Victims of Different Sex

Religion	Frequency	Percent
Hindu	47	59
Muslim	33	41

Table 2. Frequency and Percentage Wise Distribution of Victims of Different Religion

Area	Frequency	Percent
Rural	32	40
Urban	48	60

Table 3. Frequency and Percentage Wise Distribution of Victims of Different Areas

Age Group	Frequency	Percent
10 - <13	11	14
13 - <15	09	11
15 - <17	22	27
17 - 19	38	48

Table 4. Frequency and Percentage Wise Distribution of Victims of Different Age Groups

Age Group	Male	Female
10 - <13	07	04
13 - <15	08	01
15 - <17	11	10
17 - 19	13	26

Table 5. Showing Comparison of Age Range with Sex

Age Group	Male	Female	Total
Young Adolescents	15	5	20
Older Adolescents	24	36	60

Occupation	Number of Subjects
Student	43
House Wife	21
Labour	13
Other	03

Table 6. Frequency and Percentage Wise Distribution of Victims of Different Occupations

Cause of Death	Frequency
Hanging	09
Drowning	14
Burn Injury	22
Poison	08
RTA	18
Snake Bite	06
Others	03

Table 7. Frequency and Percentage Wise Distribution of Victims of Different Causes of Death

Age Range	Snake Bite	Burn Injury	Poison	Hanging	Drowning	RTA
10 - <13	0	01	01	01	04	04
13 - <15	0	01	0	0	04	04
15 - <17	04	04	02	04	04	04
17 - 19	02	16	05	04	02	06

Table 8. Table Showing Comparison of Age Range with Cause of Death

Manner of Death	Number of Subjects
Accident	47
Suicide	33

Table 9. Frequency and Percentage Wise Distribution of Victims of Different Modes of Death

Manner of Death	Frequency	Percentage
RTA	21	45
Drowning	14	29
Burn	6	13
Snake Bite	6	13

Table 10. Table Showing Frequency and Percentage of Distribution of Accident Cases

Manner of Death	Frequency	Percent
Burn	15	46
Hanging	10	30
Poison	08	24

Table 11. Table Showing Frequency and Percentage of Distribution of Suicidal Cases

Religion	Accident	Suicide	Chi Square Value	P value
Muslim	23	10	2.778	<0.096
Hindu	24	23		

Table 12. Test of Association between Different Demographic Factors

Sex	Accident	Suicide	Chi Square Value	P value
Male	36	4	32.237	<0.001
Female	11	29		

Age Group	Accident	Suicide	Chi Square Value	P value
Young Adolescents	16	4	4.969	<0.026
Older Adolescents	31	29		

Geographical Area	Accident	Suicide	Chi Square Value	P value
Rural	19	13	0.009	<0.092
Urban	28	20		

DISCUSSION

A tool of 1100 autopsies were carried out at R G KAR POLICE MORGUE, under the Department of Forensic Medicine & Toxicology during the study period of 1 year from 1st May 2017 to 30th April 2018 out of which 80 cases were taken involving the adolescent age group on the basis of inclusion and exclusion criteria. The subjects were further sub-divided into two groups of Young Adolescents and Older Adolescents.

Though the world scenario showed the death of male adolescents just surpassed the female adolescents, in our study number of male victims were equal to the number of female victims.

In table No. 3 the victims of urban population were more than that of rural population. The number of deaths reported from urban was more than rural. This is consistent with the NCRB⁽⁴⁾ data which stated that though suicide rate was among the rural people due to socio cultural factors, underreporting of death was to avoiding police investigation. In the Indian Journal of Psychiatry, Rajiv Radhakrishnan⁽⁵⁾ rightly quoted that in INDIA 2000 - suicide rate for the country was 10.8, the rate in urban area was slightly lower at 9.94.

In table no 4; the main affected age group within the adolescents was 15 to 19 years of age. This is greatly supported by NCRB data 2014 which showed that major accidents faced by adolescents were 14 to 19 years of age and major suicides in this age group were within 14 to 19 years of age.

An interesting fact that was revealed was that, major casualties occurred among the students as a larger part of the subjects belonged to similar age groups. Further it was revealed that though the legal age for marriage for the

females is 18 years, in spite of the same, near about 26% of the subjects were married females.

Table no 7 and 8 showed that accidents were (59%) were the leading cause of death among adolescents. Spectrum of Unnatural Deaths among the Adolescents: An Autopsy Based Study by Dr. Prabir Chakraborty et al.⁽⁶⁾ showed that accidents shared half of the total unnatural death among which road traffic accident was most common. The data is also consistent with the study of Kanchan Tanujie, Mortality among children and adolescents in Manipal, Southern India (2008).⁽⁷⁾ In this study road traffic accidents were responsible for maximum mortalities.

As in our study period we did not get any homicidal case, the cases were classified into accidental and suicidal and accidental deaths outnumbered the suicidal deaths.

Table 10 showed that RTA being the most common cause among the accidental deaths followed by drowning and burns. This is supported by different studies. In the Journal of Adolescent Health an article Adolescent Injury Deaths and Hospitalization in Canada -1979 to 2003⁽⁸⁾ showed that main cause for injury was motor vehicle traffic related injury, followed by drowning.

Whenever the tests of association (Table No. 12) were applied to different demographical parameters, distribution of causes was shown to have significant difference across the sex and age categories. It reinforced the distribution pattern in relation to mode of unnatural death i.e. the older age group was revealed to be significantly more vulnerable towards accidental death. The suicidal deaths were also high among this group.

CONCLUSION

Suicide is an important cause of death. In our study, accidents covered the major part. Both of them are largely preventable public health problems. Complex array of factors is responsible for both of these but most of them are preventable. Most of the deaths were avoidable. Parenteral monitoring, control of movements, legislation and general concern of the adult population for children's welfare will reduce these largely preventable deaths. Much attention should be paid to institution of preventive measures including aquatic safety education, ensuring supervision near recreational water bodies and instituting and enforcing regulations that make our roads safe.

REFERENCES

- [1] World Health Organization. Suicide rates per 100, 000 by country, year and sex. [Last accessed on 2012 Mar 27]. http://www.who.int/mental_health/prevention/suicide_rates/en/index.html.
- [2] Rajagopal S. Suicide pacts and the internet. BMJ 2004;329(7478):1298-9.
- [3] Birbal R, Maharajh HD, Clapperton M, et al. Cyber suicide and the adolescent population: challenges of the future? Int J Adolesc Med Health 2009;21(2):151-9.
- [4] Accidental Deaths and Suicides in India. New Delhi: NCRB, 2000.
- [5] Radhakrishnan R, Andrade C. Suicide: an Indian perspective. Indian Journal of Psychiatry 2012;54(4):304-19.

- [6] Chakrabarty P, Saren AB, Tudu NK, et al.. Spectrum of unnatural deaths among the adolescents: an autopsy based study. IOSR Journal of Dental and Medical Sciences 2015;14(4):18-24.
- [7] Kanchan T, Menezes RG. Mortalities among children and adolescents in Manipal, Southern India. J Trauma 2008;64(6):1600-7.
- [8] Pan SY, Desmeules M, Morrison H, et al. Adolescent injury deaths and Hospitalization in Canada: magnitude and temporal trends (1979-2003). J Adolesc Health 2007;41(1)84-92.