Influencing Factors and the Techniques of Committing Suicide Decision in Sri Lanka

Latheef Fathima Zisath Shama

Department of Information and Communication Technology Faculty of Technology South Eastern University of Sri Lanka.

Correspondence: fathima.z.sama@gmail.com

Abstract

Suicide is considered as the most common health issue all over the world hence, about one million peoples die due to suicide per year. Sri Lanka is one of the countries where, has practiced the maximum rate of suicide due to several factors. This study aims to investigate the provoking conduct and repercussions on suicide mortality in Sri Lanka. Temporal progress of suicide in reference to age, civil status, education level, method, reason, and occupation at the time of suicide were descriptively and graphically explored the risk factor for suicide in Sri Lanka from 2014 to 2017. It was resolute that suicide general occurred among the men in the age group of 20 to 29 years as well as over the age of 70 years. Remarkable married men were committed the suicide as a result of family problem. Family problems were the major dominating reason to suicidal behaviour. Hanging was encountered as the most preferred way to committed suicide. Soon after drinking insecticides and pesticide was second most prevalent method for suicide. Further, Unemployment was the stimulating risk factor to suicides. 31.46% of victim was unemployed. This study comprehended that people with obliquity to suicide due to personal characteristics and social economic causes. Nevertheless, the personal characteristics and social economic risk factors varies according to the age group and gender geographical regions, as well as recent life events.

Keywords: personal characteristics, risk factor, suicide, suicidal behaviour

1. Introduction

The world we are living in has become highly competitive and thus extremely stressful than ever before. As a result, nowadays, people have become much more vulnerable and fragile to the extent where they end up committing suicide, even for a small obstacle. According to the World Health Organization (WHO), suicide is one of the most severe health problems, and nearly 800 000 people attempt suicide every year all over the world (*Mental Health and Substance Use*, 2019). It further adds that in 2016, up to 79% of suicide occurred in lower- and middle-income countries (D. Knipe et al., 2019). 80% of suicides behaviours were associated with psychiatric disorders (D. Knipe et al., 2019). A suicide attempt can be described as a person who tries to end his own life. The American Psychology Association (APA) defines attempted suicide as self-injurious behaviour and an individual intended to die. Several researchers in the field report that the global number of attempted suicide follows a rapidly increasing pattern from the middle of the 1980s (Knipe et al., 2014). In Sri Lanka, the highest number of suicide cases were reported in 1995 (Fernando et al., 2010). After 1996, suicide rate is gradually decreased in Sri Lanka (Widger, 2014). The suicide rate is different in gender wise,

even though, the proportion of male to female is greater in European countries as 4:1 (V. De Silva et al., 2013).

A suicidal thought or an attempt does not merely depend on the individual character of the victim; in contrast, numerous social and economic factors also contribute. Suicide rates vary by socio-demographic characteristics, such as age, gender, race, social class, geographic area, and time (Abeyasinghe & Gunnell, 2008). The decision of suicide is determined by personal characteristics and the influence of contextual effects. The causes that lead to complex decisions, such as suicide, are the accumulation of multiple social and personal factors, and the reasons for suicides may differ from person to person (D. Knipe et al., 2019; Moscicki, 1997). Mostly, mental disorders or mental illnesses and consequent depression could lead to suicide. Epidemiology plays a key role in identifying and determining the contribution of risk factors for complex outcomes such as suicide and suicidal behaviours (D. W. Knipe et al., 2018). All the suicide attempt is not ended with death. Additionally, suicide attempts are fourteen times higher than the suicide death (H. J. de Silva et al., 2000) . Pesticides consuming is the most common method of suicide in rural areas in Sri Lanka (Marecek, 1998).

One of the most important reasons for suicide is the economic status of a person's family and the quarrels with family members especially, among married peoples in both gender (Brent et al., 1993a). The risk of the attempt of suicide mostly depends on the household and community. These contextual factors independently lead the way a human being to attempt suicide (D. Knipe et al., 2019). Epidemic and health issues also contribute to suicide (D. Knipe et al., 2019). Traditional routines had changed due to many external factors, and thus stress and depression rise considerably in modern society (Ratnayeke, 2002). Stress and depression are consequences of mental and physical illness. Most of the suicide cases are based on psychological reasons (Brent et al., 1993b). The crucial reason for suicide mostly depends on recent time lifestyle changes and the recent life events (Heikkinen et al., 1993).

In Sri Lanka, the suicide rate has been increasing over the decade; however, many of them were recorded as accidental deaths (suicide in Sri Lanka) (H. J. de Silva et al., 2000). Also, suicide is a criminal offence in Sir Lanka as per its legislation (Fernando et al., 2010). A higher number of suicide cases were reported from rural areas in Sri Lanka (Ratnayeke, 2002) and it suggests that modern technology expresses the world sophistically so people who are living in the rural area dissatisfied with their own lifestyle which leads to suicidal thoughts (Ratnayeke, 2002). The number of attempted suicides and hospitalizing cases show an increasing pattern in each decade in Sri Lanka (Ratnayeke, 2002). Agrarian societies have the highest risk of suicide, such as pesticides usages in the closed environment (Ratnayeke, 2002).

Triggering factors for suicide in developed countries are different from developing countries such as Sri Lanka (Karbeyaz et al., 2013). Sri Lanka has the multi-cultured society. So, social-cultural demand stimulates people to attempts suicide. Furthermore, religions followed by the person also contribute the suicide decisions (Widger, 2012). The diagnosing factors which are lead to suicide in the developed western countries may not be relevant for Sri Lanka (Moscicki, 1997). In addition to that, developed countries follow many prevention effort than the developing countries such as Non-Government Organizations work collaborate with other national suicide prevention plans (Vijayakumar et al., 2005).

This present study was approached to determine influence factors to decide for suicide age sex, civil status, education level, occupations at a time of the suicide, method of committing suicide and reasons for the suicide in Sri Lanka. In this paper, many statistical techniques used to differentiate compositional or contextual effects lead to suicide.

2. Methodology

Data were collected from Kaggle (*Suicides in Sri Lanka* | *Kaggle*, 2018). The data were collected all over Sri Lanka from 2014 to 2017. The survey included data on sex, age, civil status, education level, mode of suicide, occupation, and reason for suicide. Age was categorized into thirteen groups such as, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, and 70+ years of age. Civil status was categorized as married, divorced, unmarried, widow and legally separated. The education level was categorized into five groups not attended school, primary education only, completed ordinary level (O'Level) - examinations are taken around the age of 16 years, completed advanced level (A'level) and university or above. Occupation categorized as professional (Doctors/ Engineers/ Accountants/ Teachers/ Authors/ Photographers), clerical & related workers (Stenographers/ Typists), sales workers, service workers (Cooks/Tailors/Barbers), agricultural animal husbandry fisherman and related forestry workers, production process workers craftsman and related workers transport equipment operators and labourers, armed services, students, unemployed persons. Data were analyzed using descriptive approaches further graphically illustrated.

3. Result and Discussion

Table 1: Distribution of population, number of suicides to years and suicide rate to population rate

Year	2014	2015	2016	2017
Total Suicides	3144	3058	3025	3264
Population (in million)	20.78	20.97	21.2	21.44
Rate (per 100000)	15.12	14.58	14.26	15.21

Year, the number of suicides, the population of the country and suicide rate are presented in table 1. Statistically, a significant difference was not observed in the years also rate of suicide was static between 14 per 100000 and 15 per 100000 during the study period. On other hand, Widger, (2014) states that, according to the world health organization, the suicide rate is overtake the 13 per 100000 is mention that high suicide rate while the suicide rate is fall behind the 6.5 per 100000 is mention that low suicide rate.



Figure 1: Average amount of the suicide committed by gender and civil status.

Figure 1 shows the amount of the suicide by the civil status and gender, 24.6% of unmarried and 75.4% of married cases had documented from 2014 to 2017 and also much high suicide rates have been found for

KALAM - International Research Journal Faculty of Arts and Culture, South Eastern University of Sri Lanka. 13(4), 2020

married and unmarried than for divorced, widowed and legally separated. Further, men are much more likely to commit suicide than women. Yet, this investigation has revealed that 76.52% (n=9798) of the cases were male, 23.47% (n=2692) were female. There was a significant difference between male and female victim was detected in Sri Lanka. Male/female ratio was 3.63. However, Rathnaweera, (2015) suggested that out of the eighty-six males, twenty-two (28%) were single, and out of twenty-four females, thirteen (55%) were single committed suicide in 2011 in Galle district in Sri Lanka.



Figure 2: Age of suicide victims.

Figure 2 proclaims age distribution of person who died in suicide from 2014 to 2017. Among the elder peoples, the most vulnerable age to commit suicide is 70+, second-most age group is 50-54 years. The high amount of average suicide commit among youngers in the age group 20-24, and the second most vulnerable age category in young peoples is 25-29 years. The suicide cases most commonly occurred between the ages group 20 to 34 years. Ratnayeke, (2002) states that the most vulnerable age group is 20 - 30 years moreover, the second most vulnerable age is 60+ to attempt suicide in Sri Lanka. Kposowa, (2000) observed that that majority who commit suicide were younger males.

Fernando et al., (2010) suggested that most of the people who committed suicide was young and middleaged population in Sri Lanka. Similar findings have also been reported earlier by that Rathnaweera, (2015) a significant proportion (22%) was in the 21-30 and (22%) in the 41-50 years age groups in Galle in Sri Lanka. Though, Hettiarachchi et al., (1988) states that, in the age group of 15 to 34 is the most vulnerable age group to commit suicide in Sri Lanka. Moreover, statistically non-significant detected between the married and unmarried peoples suicide decision in Sri Lanka from 1986 to 1987 in the Galle district in Sri Lanka. Nevertheless, V. De Silva et al., (2013) gives evidence that males are committing suicide than the female in Sri Lanka, However, the age group is different in the both gender. Among females most vulnerable age groups are 10 to 19 years and 20 to 29 years, in contrast, among the males, suicide rate is increasing with the age, high rate in the older age group.

Reasons for Suicide sorted as economic problems (poverty indebtedness), employment problem, problem with elders, family problem, disappointment and frustration, sexual harassment, addiction to a narcotic drug, aggrieved over the death of parents or relations, loss of property, failure of the exam, ill-treatment by children's, mental disorder and chronic diseases, and unknown reason. The reasons for suicide have tabulated in Table 2 excluding the unknown reason.

Reason	Male	Female	n	Percentage of the suicide in the total population (%)
Economic problems (Poverty indebtedness)	611	119	730	5.84
Employment problem	95	11	106	0.84
Problem with elders	198	110	308	2.46
Family problem	1772	641	2413	19.31
Disappointment and frustration	647	390	1037	8.30
sexual harassment	5	1	6	0.043
addiction to narcotic drug	527	2	529	4.23
Aggrieved over the death of parents or relation	109	45	154	1.23
loss of property	18	7	25	0.20
Failure of exam	11	19	30	0.24
Ill treatment by children	56	21	77	0.61
Sexual incapability	8	2	10	0.08
Mental disorder	881	304	1185	9.48
Chronical diseases	1316	247	1563	12.51

Table 2: Reason of suicide and the mount of suicide committed

A total of 12490 deaths occurred in Sri Lanka from 2014 to 2017. The reason for 2413 (19.3%) of these deaths occurred due to family problems. The second most reason is chronic diseases (19.12%) following by mental disorder (14.5%), economic problems (poverty indebtedness) (13.1%). In contrast, the priority order of reasons for suicide is varied according to gender-wise. Male are attempt suicide mostly for the family problem (28.33%), chronic diseases (21.04%), mental disorder (14.08%), disappointment, and frustration (10.34%). At the same time, females have committed the suicide due to family problem (33.4%), disappointment and frustration (20.32%), mental disorder (15.84%), chronic diseases (12.87%).

However, Knipe et al., (2014) suggested that the risk of suicide was shrunk by the induction of pesticide band and pesticide rules in Sri Lanka besides the victims show the low of socioeconomic reasons. Nevertheless, D. Knipe et al., (2019) observed that community problem alcohol use was associated with an increased risk of the suicide attempt. Women living in households with alcohol misuse were at higher risk of attempted suicide.

Fernando et al., (2010) discussed that most of the people who committed suicide are married man, because they cannot handle family problems. However, the ratio of male to female is significantly different. According to the evidence given at the inquest by Rathnaweera, (2015) the common reason for suicide was debts (35%) followed by the dispute with the spouse, history of psychiatric illness was present in 10% and previous attempts of suicide were reported in 7% in Galle district in Sri Lanka. Marecek, (1998) ascertained that women's suicides in Sri Lanka connected to family quarrels.



Figure 3: Education level and gender

Educational level is categorized as a School not attended, from grade 1 to 7, Passed grade 8, Passed O'level, Passed A'Level, degree or more. There were some records with unknown educational level. Unknown educational level were omitted.

Figure 3 exhibits that a higher number of people committed suicide who passed grade 8 in the age category 45-49 years. The second highest people committed suicide, who passed O'level at the age of 20-24 years. There were very few amounts of people who have a degree or more education level, committed suicide 77 cases documented as graduate or more from 2014 to 2017 in Sri Lanka. Children who has age lower than 16 years, committed suicide at the time of O'Level or O'Level passed. Nonetheless, Fernando et al., (2010) observed that Sri Lanka has high literacy rate as not attending school, primary education, secondary education, tertiary education having 7.9%, 29.9%, 41%, 21.2%, respectively; Among this peoples only 15% of victims studied up to grade 6 -11 while 6% had no school education in Colombo in Sri Lanka. However, Rathnaweera, (2015) gave evidence that approximately 38% were illiterate or barely literate, without any formal training. Two-fifths had completed primary school (20%) or high school education (20%) in Galle district in Sri Lanka.

Most prevalent methods of suicide death are categorized into fourteen groups. Such as, drinking insecticides and Pesticide, hanging, jumping into the water, using firearms, using hand bombs or any other explosives, using a sharp weapon, setting fire to oneself, jumping on to the moving trains or vehicles, drinking the acids, drinking the fuel (Petrol or Kerosine oil), drinking the western drugs, eating the natural poison, jumping from the high points and drinking or injecting oneself the narcotic drug and theses methods are tabulated in the table3.

Table 3: Distribution of suicide methods.

	Male		Female	
Method	n	%	n	%
Hanging	4144	33.17%	881	7.05%

Drinking insecticides & Pesticide	2397	19.19%	533	4.26%
Using firearms	547	4.37%	196	1.56%
Setting fire to oneself	348	2.78%	260	2.08%
Jumping on to the moving trains or vehicles	445	3.56%	98	0.78%
Drinking or injecting oneself the narcotic drug	419	3.35%	89	0.71%
Jumping into the water	309	2.47%	179	1.43%
Jumping from the high points	316	2.53%	87	0.69%
Using hand bombs or any other explosives	253	2.02%	104	0.83%
Eating the natural poison	190	1.52%	120	0.96%
Drinking the acides	154	1.23%	38	0.30%
Drinking the western drugs	117	0.93%	63	0.50%
Using sharp weapon	81	0.64%	21	0.16%
Drinking the fuel (Petrol Kerosine oil)	78	0.62%	23	0.18%

According to table 3, the most recurrent method for suicide is hanging, totally 40.22% of the suicides committed from 2014 to 2017 in Sri Lanka. Drinking insecticides and pesticide accounted for 23.45% of deaths, which was the second frequent method of suicides. The third frequent method for committing suicide is using firearms followed by deliberately setting fire to themselves, 2.08% of deaths in the total population. Males were committed suicide by hanging followed by drinking insecticides and pesticide followed by using firearms followed by setting fire to oneself. Similarly, females committed suicide by hanging followed by drinking insecticides and pesticide followed by using firearms.

The hanging was a widespread technique among the age group of 70+ years of males and 15-19 years of females. Besides, 31.16% of males and 7.05% of females have approached hanging to committed suicide. Drinking insecticides and pesticide was mostly prevalent means of suicide in the age group of 55-59 years of males and 15-19 years of females. However, other research workers Abeyasinghe & Gunnell, (2008); D. Knipe et al., (2019); Knipe et al., (2014) also report similar findings that pesticide regulations reduced suicide risk using drinking insecticides and pesticide in Sri Lanka. Abeyasinghe & Gunnell, (2008) states that pesticide self-poisoning correlated with suicide deaths over two thirds of suicides in the rural part of Sri Lanka. Even so, Hettiarachchi et al., (1988) states that, the most preferred method for suicide was self-poisoning; agrochemicals involved majority of all poisoning death, more than 80% of death accounted in both gender followed by hanging in Galle district in Sri Lanka from 1986 to 1987. However, Gunnell et al., (2007) state that restriction on pesticides usage, import and sales is reduced the suicide by consumed by insecticides and pesticide.

Occupational status	male	Female
Unemployed	2662	1268
Agricultural Animal Husbandry Fisherman & related Forestry workers	1328	94
Sales workers	686	206
Production process workers Craftsman & related workers transport equipment	660	42
operators and labourers		
Service workers	306	124
Students	168	229
Professional, Technical & related workers	314	53
Politicians	230	66

Table 4: Occupational status of victims

Clerical & related workers	121	35
Pensioners	138	13
Armed Services	116	8
Administrative Executive Managerial & related workers	56	8
Personnel Security	41	9
Police	26	3
Workers not classified by occupation	2946	534

Above table 4 illustrate the occupation at the time of suicide, in this study, most of the victims were 31.46% unemployed besides, 11.38% of the victims had been working in agricultural animal husbandry fisherman and related forestry workers, followed by sales workers. Only 6% were involved in administrative, managerial, professional, technical, or clerical occupations in the total suicides. 3.1% of students committed suicide. Moreover, most of the students committed suicide in the age group of 15-19 years. Most of the victims were low social-economic status in this study. However, Rathnaweera, (2015) revealed that most of the suicide occurred due to unemployment as well as not a single professional had committed suicide in Galle district in Sri Lanka in 2011. However, Hettiarachchi et al., (1988) states that 25% of the suicide due to intrapersonal disturb like depression and stress in the younger age group in Sri Lanka.

4. Conclusion

This study on suicide subjects were reported that, suicide was more common in men. In general, the suicide rate is high among the younger age group of 20 to 29 years and persons over the age of 70 years. Married men cannot control and face family problems therefore, a significant number of married men committed suicide. Most of the victims completed the grade 8 while few peoples gained a degree or more education level. Hanging was the most preferred way of suicide followed by drinking insecticides and pesticides in both gender. The most compelling factor trigger to suicide is unemployment in the both gender afterward agricultural animal husbandry fishermen and related forestry workers also have a higher risk to committed suicide. It was evident that both social and personal causes had contributed to the suicide decision. Nevertheless, the risk factors vary according to age, civil status, gender, geographical regions, as well as recent life events.

References

- Abeyasinghe, R., & Gunnell, D. (2008). Psychological autopsy study of suicide in three rural and semi-rural districts of Sri Lanka. Social Psychiatry and Psychiatric Epidemiology, 43(4), 280–285. https://doi.org/10.1007/s00127-008-0307-3
- Brent, D. A., Perper, J. A., Moritz, G., Allman, C., Friend, A. M. Y., Roth, C., Schweers, J. O. Y., Ed, M., Balach, L., & Baugher, M. (1993a). *Psychiatric Risk Factors for Adolescent Suicide : A Case-Control Study.* 32(3), 521–529. https://doi.org/10.1097/00004583-199305000-00006
- De Silva, H. J., Kasturiaratchi, N., Seneviratne, S. L., Senaratne, D. C., Molagoda, A., & Ellawala, N. S. (2000). Suicide in Sri Lanka: points to ponder. *The Ceylon Medical Journal*, 45(1), 17–24. https://doi.org/10.4038/cmj.v45i1.7975
- De Silva, V., Hanwella, R., & Senanayake, M. (2013). Age and sex specific suicide rates in Sri Lanka from 1995-2011. Sri Lanka Journal of Psychiatry, 3(2), 7. https://doi.org/10.4038/sljpsyc.v3i2.5131

- Fernando, R., Hewagama, M., Wdd, P., Range, S., & Karunaratne, S. (2010). Study of suicides reported to the Coroner in Colombo, Sri Lanka. *Medicine, Science and the Law*, 50(1), 25–28. https://doi.org/10.1258/msl.2009.009012
- Gunnell, D., Fernando, R., Hewagama, M., Priyangika, W. D. D., Konradsen, F., & Eddleston, M. (2007). The impact of pesticide regulations on suicide in Sri Lanka. *International Journal of Epidemiology*, 36(6), 1235–1242. https://doi.org/10.1093/ije/dym164
- Heikkinen, M., Aro, H., & Lönnqvist, J. (1993). Life Events and Social Support in Suicide. Suicide and Life-Threatening Behavior, 23(4), 343–358. https://doi.org/10.1111/j.1943-278X.1993.tb00204.x
- Hettiarachchi, J., Kodithuwakku, G. C. S., & Chandrasiri, N. (1988). Suicide in Southern Sri Lanka. *Medicine, Science and the Law, 28*(3), 248–251. https://doi.org/10.1177/002580248802800315
- Karbeyaz, K., Akkaya, H., & Balci, Y. (2013). Analysis of suicide deaths in a 15-year period in Eskisehir, western Anatolia, Turkey and the determination of risk factors. *Annals of Saudi Medicine*, 33(4), 377– 382. https://doi.org/10.5144/0256-4947.2013.377
- Knipe, D. W., Gunnell, D., Pearson, M., Jayamanne, S., Pieris, R., Priyadarshana, C., Weerasinghe, M., Hawton, K., Konradsen, F., Eddleston, M., & Metcalfe, C. (2018). Attempted suicide in Sri Lanka – An epidemiological study of household and community factors. *Journal of Affective Disorders*, 232(August 2017), 177–184. https://doi.org/10.1016/j.jad.2018.01.028
- Knipe, D., Williams, A. J., Hannam-Swain, S., Upton, S., Brown, K., Bandara, P., Chang, S. Sen, & Kapur, N. (2019). Psychiatric morbidity and suicidal behaviour in low- And middle-income countries: A systematic review and meta-analysis. *PLoS Medicine*, 16(10), 1–29. https://doi.org/10.1371/journal.pmed.1002905
- Knipe, Duleeka W., Metcalfe, C., Fernando, R., Pearson, M., Konradsen, F., Eddleston, M., & Gunnell, D. (2014). Suicide in Sri Lanka 1975-2012: Age, period and cohort analysis of police and hospital data. BMC Public Health, 14(1), 1–13. https://doi.org/10.1186/1471-2458-14-839
- Kposowa, A. J. (2000). Marital status and suicide in the National Longitudinal Mortality Study. *Journal of Epidemiology and Community Health*, 54(4), 254–261. https://doi.org/10.1136/jech.54.4.254
- Marecek, J. (1998). Culture, gender, and suicidal behavior in Sri Lanka. *Suicide and Life-Threatening Behavior*, 28(1), 69-81. https://doi.org/10.1111/j.1943-278X.1998.tb00627.x
- Mental Health and Substance Use. (n.d.). Retrieved December 1, 2020, from https://www.who.int/teams/mental-health-and-substance-use/suicide-data
- Moscicki, E. K. (1997). Identification of suicide risk factors using epidemiologic studies. Psychiatric Clinics of North America, 20(3), 499–517. https://doi.org/10.1016/S0193-953X(05)70327-0
- Rathnaweera, R. H. A. I. (2015). Trends of suicides in Galle-Sri Lanka Original article Abstract. *Medico-Legal Journal of Sri Lanka*, 2(1), 5–10.
- Ratnayeke, L. (2002). (2002). Suicide in Sri Lanka. Springer, Boston, MA., Suicide in Sri Lanka. In Suicide Prevention, 139-142.

- Suicides in Sri Lanka | Kaggle. (n.d.). 2018. Retrieved August 1, 2020, from https://www.kaggle.com/keshan/suicides-in-sri-lanka
- Vijayakumar, L., Pirkis, J., & Whiteford, H. (2005). Suicide in developing countries (3): Prevention efforts. Crisis, 26(3), 120–124. https://doi.org/10.1027/0227-5910.26.3.120
- Widger, T. (2012). Suicide and the morality of kinship in Sri Lanka. *Contributions to Indian Sociology*, 46(1-2), 83-116. https://doi.org/10.1177/006996671104600205
- Widger, T. (2014). Reading Sri Lanka's suicide rate. *Modern Asian Studies*, 48(3), 791–825. https://doi.org/10.1017/S0026749X1200073X