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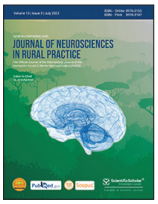

Original Article

The psychological autopsy: An overview of its utility and methodology

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ABSTRACT

Objectives: The objective of this study is to provide an overview of the psychological autopsy (PA) research method, including its methodology, uses, limitations, and ethical considerations.

Materials and Methods: The study conducted a PA investigation on 35 cases of suicide. Information was collected from multiple sources and reliable informants, including family members, friends, medical and mental health professionals, and other relevant individuals. Qualitative and quantitative research methods were used to analyze the collected information.

Results: The results indicated that several factors were associated with suicide, including mental health problems, life stressors, interpersonal conflicts, substance abuse, and history of previous suicide attempts. The findings have important implications for suicide prevention strategies, emphasizing the significance of addressing mental health issues and providing social support.

Conclusion: The PA is a valuable research method for investigating and understanding suicide. Despite challenges such as recall biases and methodological limitations, it provides insights into the psychological factors associated with suicide and informs suicide prevention strategies. However, conducting psychological autopsies requires careful consideration of ethical issues. Further research is needed to replicate and extend the findings of this study

Keywords: Suicidal case, Psychological autopsy, Autopsy, Post-mortem examination

INTRODUCTION

A psychological autopsy (PA) is the reconstruction of events leading to death; ascertainment of the circumstances of the death, including suicidal intent; and an in-depth exploration of other significant risk factors for suicide.[1-5] Psychological autopsies were originally designed to investigate, clarify, and help police enquiries into the mode of death in equivocal fatalities. However, in recent years, they have become more often utilized as a research tool for investigating risk factors for completed suicides. Suicide is a major public health concern worldwide, and it is responsible for a significant number of deaths annually. In India, suicide is a major public health issue with the national suicide rate 12.[6] The reasons for suicide are complex and multi-factorial and it is essential to identify the risk factors to develop effective preventive strategies.

PA is a valuable tool for understanding the complex and multidimensional nature of suicide.[7] It involves the systematic and comprehensive exploration of the deceased person's life to determine the psychological, social, and environmental factors that contributed to their suicide.[8] Mental diseases, drug abuse, psychological states, cultural, family and social situations, genetics, trauma or loss experiences, and nihilism are all factors that influence the likelihood of suicide.[9-12] Substance abuse and mental illness frequently coexist.[13] Other risk factors include having attempted suicide before,[14] having a means to end one's life readily available, having a family history of suicide, or having traumatic brain damage.[15] This method is particularly useful when the individual has not sought mental health treatment or when their medical history is unavailable.[16]

There are multiple researches on PA of suicide victims in our country. According to a study done in the North-west region of India on 101 suicidal cases, the majority of suicides were in the age group of 20–29 years and male outnumbered the female, hanging was the most common method used by suicide victims. Psycho-social stressors were found in 60% cases and psychiatric illness was found in 34% cases.[17]

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Despite the fact that multiple PA studies have been published from India, no attempt has been made to thoroughly examine the existing literature. Lack of standardized techniques or methods of PA, informant bias, lack of interviewer training, recall bias, and issues with control selection are some of the major methodological flaws that have led to legal questions about the admissibility of PA evidence.[18,19] This study was conducted after reviewing previously done studies on PA with attempts to minimize the challenges faced in previous studies. PA on 35 cases of suicide was conducted using a structured, self-designed, and close-ended questionnaire to identify the common risk factors associated with suicide in this population.

MATERIALS AND METHODS

The study was approved by Institutional human ethics committee of All India Institute of Medical Sciences Bhopal (AIIMS) Bhopal vide LOP letter no 2020/PG/Jan/09. The study was funded by Indian Council of Medical Research. Cases included all eligible deceased bodies that arrived at Mortuary of AIIMS, Bhopal for autopsy from November 2020 to May 2022 and fulfilled the inclusion and exclusion criteria. The sampling method was convenient sampling, which resulted in 35 suicidal cases. Exclusion criteria included relatives not willing to give consent, decomposed bodies, and any case in which reliable informant was not available. The methodology for this study involved the use of a structured, self-designed, close-ended questionnaire to gather information from close relatives or next of kin of the deceased brought for medico-legal autopsy at the mortuary of AIIMS Bhopal. Informed consent was obtained beforehand, and if the next of kin or close relatives were not available, a telephonic call was arranged to obtain appropriate answers. The information was collected by more than one close relatives separately to avoid recall and informant bias. Efforts were made to collect information from persons who were living closely with the deceased. The questionnaire covered the general demographic details and tries to find out the type of psychiatric illness present along with the past history of suicidal attempt and drug abuse. A total of 29 questions were asked during the PA process [Table 1].

We have categorized the 29 questions into seven different categories with following categorization-

1. Diagnosed psychiatric disorder: This category includes questions related to the diagnosis of a psychiatric disorder, such as bipolar disorder, major depressive disorder, and schizophrenia. The questions in this category may ask about the presence of specific symptoms that are associated with a particular disorder or about the diagnosis itself
2. Past suicidal behavior: This category includes questions related to any previous suicidal thoughts, plans or attempts. The questions in this category may ask about the frequency, intensity, and timing of these behaviors
3. Depressive symptoms: This category includes questions related to the presence and severity of depressive symptoms, such as feelings of sadness, hopelessness, and worthlessness. The questions in this category may also ask about changes in appetite and sleep patterns
4. Anxiety related symptoms: This category includes questions related to the presence and severity of anxiety-related symptoms, such as excessive worry, panic attacks, and social anxiety. The questions in this category may also ask about physical symptoms, such as sweating, trembling, and palpitations
5. Psychotic symptoms: This category includes questions related to the presence and severity of psychotic symptoms, such as hallucinations, delusions, and disorganized thinking. The questions in this category may also ask about changes in behavior, such as social withdrawal and agitation
6. Presence of stressor: This category includes questions related to the presence of a recent or ongoing stressful event, such as a death of a loved one, a divorce, or a job loss. The questions in this category may also ask about coping strategies and social support
7. Presence of substance abuse: This category includes questions related to the presence and severity of substance abuse, such as alcohol and drug use. The questions in this category may also ask about the frequency and quantity of substance use, as well as any negative consequences associated with use.

Statistical analysis

All the data collected from the questionnaire were entered in Microsoft Excel sheet and the results were computed from the spreadsheet.

RESULTS

During the study duration, total 249 autopsies conducted at the mortuary of AIIMS Bhopal. Out of those 249 cases PA was done on total 35 suicidal cases; those met the inclusion criteria and rest 214 cases excluded on the basis of exclusion criteria. Out of the 35 cases of suicide, 24 (69%) cases were male and 11 (31%) cases were female. The age distribution of the cases was as follows: 15 cases (43%) were in the 19–30 years age group, 13 cases (36%) were in the 31–40 years age group, followed by 2 (6%) cases in each 41–50 years age group, 51–60 years age group, and in <18 years age group bracket. The least incidence was 1 case (3%) which was in more than 60 years age group. The median age of the suicidal

group was 30 years (interquartile range 21.50–34.50), ranging from 16 years to 65 years [Table 2].

Regarding occupation, 11 (32%) were involved in skilled work, and an equal number of 12 (34%) cases were involved in manual labor work. Students accounted for 5 (14%) cases, and 7 cases (20%) were unemployed. In terms of socioeconomic status, the majority of cases, 16 (46%), of suicide victims belonged to the middle class, 8 (23%) cases to the lower-middle class, 6 (17%) cases to the upper-middle class, 4 (11%) cases to the lower class, and only 1 (3%) case to the upper class [Table 2].

The majority of cases, 22 (63%) were married, whereas only 13 (37%) cases were unmarried. In terms of education, 12 (34%) cases were studied till primary or below primary level, 8 cases (23%) were of secondary level, 9 cases (26%) managed to complete their graduation and post-graduation level, and 6 cases (17%) were illiterate.

Out of the total cases of suicide studied, 30 (86%) persons had their home as their preferred place for the commission of suicide. The remaining only 5 (14%) persons had committed suicide at places other than home. Violent methods of suicide such as hanging were used by 24 (69%) persons. Non-violent methods were used by 11 (31%) persons who poisoned themselves. Out of total 35 cases of suicide that were studied, 16 (46%) cases committed suicide using cloth ligature such as saree and gamacha, 8 (23%) cases committed suicide using ligature material other than cloth such as wire, rope, and belt, and 11 (31%) cases committed suicide by ingestion of poison.

Out of the total cases investigated, 77% of the cases had one or more depressive symptoms. Substance abuse history was present in 51% of the cases, and 37% of the cases had a history of past suicidal behavior. A total of 11% of the cases had a diagnosed psychiatric illness, while 17% and 3%

Table 1: Questionnaire for psychological autopsy.

1. Was the deceased diagnosed with any psychiatric disorder/Chronic debilitating disease?
2. Was the deceased under any treatment for psychiatric disorder/Chronic debilitating disease?
3. Has the decreased ever taken treatment for his behavior problems?
4. Was there any history of previous suicide attempt?
5. Was there any circumstance evident of suicide plan?
6. Was there any history of the deceased hurting himself/herself in the past?
7. Did the deceased leave any suicide note?
8. Did the deceased have personal history of legal trouble?
9. Was there any History of withdrawal from family, friend or society?
10.Did the deceased have any history of abuse like Emotional/Physical/Sexual?
11.Did the deceased have any History of neglect by the family member/neighborhood/relatives/friends/teachers/work place?
12.Did the deceased have any history of broken relationship?
13.Did the deceased have any problem of sadness of mood or being irritable for minor/no reason in the past 2 weeks preceding the suicide?
14.Did the deceased show loss of pleasure in activities that he enjoyed in the past 2 weeks preceding the suicide?
15.Did the deceased express any unusual feeling of tiredness in the past 2 weeks preceding the suicide?
16.Was the deceased anxiousness for some reason with palpitations, sweating, tremors, or chocking sensation in the past 2 weeks preceding the suicide?
17.Did the deceased have any difficulty in concentration or recollection in the past 2 weeks preceding the suicide?
18.Did the deceased express guilt for events that affected his loved one in the past 2 weeks preceding the suicide?
19.Did the deceased ever complain of difficulty in getting sleep in the past 2 weeks preceding the suicide?
20.Did the deceased have any changes in his appetite in the past 2 weeks preceding the suicide?
21.Did the deceased ever mentioned that as an individual his life was a failure or that it is not possible for him to achieve anything in life, in the past 2 weeks preceding the suicide?
22.In the past 2 weeks preceding the suicide, did the deceased express desire that his/her life should end?
23.Did the deceased ever complain that he could hear voices in their ear but could not see who was talking in the past 2 weeks preceding the suicide?
24.Did the deceased express unusual thoughts that some people are planning to get him killed or harm him in some way in the past 2 weeks preceding the suicide?
25.Did the deceased express unusual thoughts that some people are watching him wherever he goes or that events around are happening with reference to him in the past 2 weeks preceding the suicide?
26.Did the deceased express unusual thoughts that people around could know what he was thinking without ever speaking to them/or that his thoughts were known to all people or that thoughts of others could enter into his mind in the past 2 weeks preceding the suicide?
27.Did the deceased consume excess amount of alcohol and/or sleep medications in the past 2 weeks preceding the suicide?
28.Did the deceased consume excess amounts of drugs like cannabis/opium etcin the past 2 weeks preceding the suicide?
29.Did the deceased consume excess amount of nicotine products in the past 2 weeks preceding the suicide?

of the cases had anxiety-related symptoms and psychotic symptoms, respectively.

In addition, 31% of the cases had a history of stressors related to suicide, these include relationship problems, financial problems and employment issues, legal problems, and health issues [Table 3].

These findings suggest that there is a need for mental health support and intervention for individuals experiencing depressive symptoms, substance abuse, and suicidal behavior. In addition, identifying and addressing life stressors, particularly relationship and financial problems, may reduce the risk of suicide. The results also highlight the importance of promoting suicide prevention and mental health awareness.

DISCUSSION

The present study provides a comprehensive analysis of 35 cases of suicide through a PA approach. This study was conducted after reviewing previously done studies on PA with attempts to minimize the challenges faced in the previous studies. In this study, a self-designed structured close ended questionnaire was designed with the help of psychiatrist and the same questionnaire was administered to all the participants to remove. The information was collected by more than one close relatives separately to avoid recall and informant bias. Efforts were made to collect information from persons who were living closely with the deceased so that accurate answers could be obtained. All the interviews were taken by a single person to avoid interviewer's bias. Males made up 69% of the subjects who committed suicide in the present study, compared to females who made up 31%. In our analysis, the third decade had the highest rate of suicides (43%), followed by the fourth decade. Similar results have been obtained by Indian researchers Chavan *et al*.[17] and others.[20-25] Ponnudurai *et al*.[26] came to the conclusion that the second and third decades of life appear to be the most vulnerable time for suicides after evaluating 12 papers on suicidology from various regions of India.

Table 2: Age distribution and socioeconomic status in suicidal cases.

Age distribution	Age (in years)	No. cases (%)
	<18	2 (6)
	19–30	15 (43)
	31–40	13 (36)
	41–50	2 (6)
	51–60	2 (6)
	>60	1 (3)
Socioeconomic status	**Class**	**No. of cases (%)**
	Lower class	4 (11)
	Lower middle class	8 (23)
	Middle class	16 (46)
	Upper middle class	6 (17)
	Upper class	1 (3)

Table 3: Psychological autopsy.

Precipitating factor	No. of cases			Percentage of cases
	M	F	Total	
Diagnosed psychiatric disorder	2	2	4	11
Past suicidal behavior	10	3	13	37
Depressive symptoms	18	9	27	77
Anxiety-related symptoms	4	2	6	17
Psychotic symptoms	1	0	1	3
Presence of stressor	8	3	11	31
Presence of substance abuse	18	0	18	51

The results of the study revealed that a high proportion of the individuals who died by suicide had depressive symptoms, which is consistent with previous research indicating that depression is a major risk factor for suicide.[27,28] There is lack of seeking psychiatric help for depression as state of depression is not readily observed by family members and the patient is not in a state to seek medical help by himself. Substance abuse history and past suicidal behavior were also identified as risk factors for suicide.[29,30]

Interestingly, a relatively small proportion of the individuals who died by suicide in this study had a diagnosed psychiatric illness. This may suggest that individuals who experience suicidal ideation or behavior may not always seek or receive mental health treatment, or may not receive an accurate diagnosis.[31] In addition, a higher proportion of the individuals had stressors related to suicide, indicating that adverse life events may play a role in the development of suicidal ideation and behavior.[32,33] The majority of the individuals who died by suicide were male and married.[34]

The study also found that hanging was the most common method of suicide, followed by ingestion of poison.[35] Overall, the results of the study suggest the need for early identification and treatment of depressive symptoms, substance abuse, and past suicidal behavior, as well as effective management of stressors related to suicide. In addition, it highlights the importance of targeted suicide prevention strategies for high-risk groups such as young adults and men. The study provides valuable insights into the risk factors associated with suicide, which can inform the development of effective suicide prevention and intervention strategies. The PA has been used to investigate a range of questions related to suicide, including the identification of risk factors, the effectiveness of prevention strategies, and the evaluation of mental health services. It can also be used to provide information to the family and friends of the deceased, which can aid in the grieving process and help to prevent future suicides.

Limitations

The accuracy and validity of the information gathered through the PA can be influenced by a number of factors, including biases, limitations of the data sources, and methodological limitations. For example, family members and friends may have incomplete or biased information about the person's life, and there may be limitations to the information that can be gathered from medical and mental health records. Limited number of the participants was also one of the limitations of study.

CONCLUSION

The present study sheds light on the various risk factors associated with suicide. The majority of cases had a history of depression and substance abuse, highlighting the importance of timely screening and treatment for these conditions. Past suicidal behavior was also found to be a risk factor, emphasizing the need for follow-up and monitoring of individuals with a history of suicidal behavior. The study also highlights the importance of identifying and addressing stressors related to suicide.

The study also highlights the need for improving mental health literacy and access to mental health services, particularly in lower socioeconomic groups and those with lower educational levels. The study findings underscore the need for a comprehensive and multidisciplinary approach to suicide prevention, including screening and treatment of mental health conditions, identification and management of stressors, and awareness campaigns to improve mental health literacy. However, the accuracy and validity of the information gathered through this method can be affected by biases and methodological limitations. Furthermore, conducting psychological autopsies requires careful consideration of ethical issues and concerns. Future research is needed to identify effective interventions and strategies for suicide prevention, particularly in high-risk populations. Overall, the PA remains a valuable tool for investigating and understanding suicide.

Declaration of patient consent

Institutional Review Board (IRB) permission obtained for the study.

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Conflicts of interest

There are no conflicts of interest.

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