

Changing Trends of Suicide in Punjab from the Year 2016 to 2020: A Comparative Study

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Abstract

Background: Each year, around 800,000 people die by suicide. The world is facing multiple issues related to economic recession and disastrous health conditions. In turn, people must face a high rise in poverty, unemployment, financial crises, and domestic and family issues which are ultimately linked with serious mental health problems.

Objective: The study aimed to get a deeper insight into the prevalence and changing trends of suicide in Pakistan from the year 2016 to 2020.

Methods: This study followed a descriptive approach. The data was collected considering two regionally published newspaper archives. The suicide cases reported from January 2016 to December 2020 were considered only. The data based on age, gender, locality, year, marital status, methods adopted, and reasons to commit suicide were extracted.

Results: A total of 2411 suicide cases were reported in the newspaper based on medico-legal police reports, during those five years. Most of the suicide victims were male with 1434 (59.5%) cases, while 977 (40.5%) were females. The age range was from 10 to 80 years (mean=28.12, SD=10.96). The young adults (19 to 39 years) cases were reported highest, 932 (38.7%), and 238 (9.9%) suicide victims were adolescents (18 years and below). About 47.9% (1153) of suicide victims were married. The most adopted methods for committing suicide were chemical poisoning, strangulation, gunshot, and drowning. Family discord/disputes, failed love affairs, domestic violence, and financial crises including poverty and unemployment were reported as contributing factors to suicide. Further, year-wise differences were also discussed.

Conclusion: The study demonstrates the rise in suicide cases in Pakistan, highlighting the contributing factors that facilitate such a rise. So, with the help of this study, intervention strategies could be devised to deal with the risk factors to control suicide cases in Pakistan.

Keywords: *Suicide, completed suicide, Pakistan, periodical, archives.*

INTRODUCTION

Suicide is one of the leading causes of death around the world and it is estimated that every year about 800,000 people die from suicide referring to one death every 40 seconds. Globally, suicide is the second leading cause of death in youth [1]. Suicide occurs across all regions in the world, however, over three-quarters of global suicides (79%) occur in low- and middle-income countries. Reported rates of suicide in several Asian countries appear to be higher than the average global rates with only two countries China and India [2], while a lower rate was reported in Sri Lanka, Bangladesh, Afghanistan, and Pakistan of the same region. It is estimated that every year, at least 60 million people are affected by suicide or attempt suicide in Asia [3].

The global age-standardized suicide rate was higher in males (12.6 per 100,000) than in females (5.4 per 100,000). For females, the highest rates in countries were above 10 per 100,000, for males they were above 45 per 100,000 [4]. The economic instability of any country can have adverse effects related to job loss, poverty, and unemployment leading to mental health sufferings

like depression, anxiety, stress, *etc.*, mediating suicide attempts and suicides [5, 6].

Pakistan is a low- and middle-income country with an estimated population of 200 million, making it the 6th most populous country in the world [7]. Presently, Pakistan is facing many challenges including poverty, unemployment, Inflation, economic and political instability, and various other unceasing natural and manmade disasters, *etc.* This condition is quite disappointing [8]. Furthermore, there is a rapid increase in suicide cases in Pakistan and the data highlights that about 24% of the total population lives below the national poverty line and 38.8% are poor based on multidimensional poverty, which may result in uncertain disappointing circumstances which sometimes results in suicide [9]. Since Pakistan has no vital registrations for suicidal death and hence lacks accurate figures for death by suicide.

In Islam, suicide is considered a sin, and Pakistani law is solely based on Islamic values, so suicidal behavior and attempts are socially and religiously condemned and considered criminal offenses that are punishable by law, with fines and/or imprisonment, that's a reason it is underreported offense [10, 11]. Furthermore, International Association for Suicide Prevention (2020) issued its policy recommending that attempted suicide

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Received: September 09, 2023; Revised: October 16, 2023; Accepted: October 16, 2023

DOI: <https://doi.org/10.37184/jlnh.2959-1805.1.20>

be decriminalized, and preventive measures be taken [12]. This is the reason suicidal behavior remains an under-researched and under-studied subject in many countries including Pakistan.

Considering the above scenario, the present study focuses on 1) the trend of suicides during the last five years *i.e.*, 2016 to 2020, also 2) compares the rate, gender distribution, marital status, age group, and methods adopted in committing suicides as well as reasons for committing suicide. This study is a retrospective psychological autopsy, based on the newspaper reporting on suicide from 2016 to 2020 (five years), which can serve as a foundation for comprehensive suicide prevention efforts in Pakistan. This study can be important for stakeholders to take proactive and coordinated steps to address the contributing factors and save lives.

METHODOLOGY

Study Design and Detailed Procedure

It was a cross-sectional study determining the change in trends of suicide for the last five years from 2016 to 2020. Ethical approval was obtained from the institutional review board of King Edward Medical University, which is affiliated with Mayo Hospital, Lahore before the commencement of the study. For the present study, data was collected through secondary sources *i.e.*, newspaper archives. To investigate the trends of suicide in Punjab, the authors conducted a manual search of two regionally published newspapers (Jang and The News). The newspapers were available in the forensic section of a manual archive at the respective newspaper head office. The articles reporting suicide, based on medico-legal police reports, in the province of Punjab from January 2016 to December 2020 were reviewed only. A total of 2411 deaths were reported due to suicide. The authors opted for a manual search of data as digital records back 5 years were not accurately maintained. To reduce data entry errors, omissions, and duplication in reporting, the authors searched for suicide reports one by one. This process took over 3 months. Two researchers independently reviewed and compared the data several times to ensure accuracy, avoid duplication, and hence record all the data by agreement.

A questionnaire was developed using Google Forms which served as the medium of data entry. The news article was searched for the following 1) the exact date of the act, 2) the name of the reporting newspaper, 3) the area where the suicide was reported, 4) the Age of the deceased 5) Gender, 6) Marital status, 7) Reason for committing suicide as mentioned by the newspaper, 8) Method adopted to commit the act, 9) Psychiatric history, 10) Substance use history, 11) Any other information

reported about the act. Articles with deaths resulting due to suicide were only included in the study. News items reporting suicidal attempts, deliberate self-harm, and homicide were excluded from the research.

Data Analysis

Data was analyzed using software version 22. Descriptive statistics (percentages, mean, SD) were used to describe the data. All the variables were coded as per the relevance of the themes. A Chi-Square test for goodness of fit was applied to see the comparison between the year of committing suicide and other qualitative variables. The significance level was set at $\alpha=0.05$.

RESULTS

Socio-Demographic Characteristics of the Sample

Age and Gender

The current study included 2411 suicidal deaths during five years of the collected data, from January 2016 to the end of December 2020. The age of suicidal victims ranged between 10 to 80 years (mean=28.12, SD=10.96). Out of 1397 reported suicide cases in different age groups, young adult (19 to 39 years) suicide victims reported the highest number of suicides with 932 (38.7%) cases, however 238 (9.9%) suicide victims were adolescents (18 years and below), 193 (8%) suicide victims were middle adults between 40 to 59 years age and 29 (1.2%) cases were of elders with age 60 and above. Most of the suicide victims were male with 1434 cases (59.5%), while 977 cases (40.5%) were females.

Marital Status

From the reported cases, 47.9% of suicide victims were married with 1153 cases and 42.7% were unmarried with 1032 suicide victims, while 25 (1.0%) suicide victims were divorced and 3 (0.1%) were widowed.

Further data showed that almost all the cases were from Punjab Province with a high rate of suicide cases in Districts Lahore and Faisalabad. However, Kasur, Gujranwala, Okara, and Sheikhpura Districts also highlighted high cases of suicide. Further, it was also revealed that in 2018, the highest cases of suicide 533 (22.1%) were reported, with the least difference in cases reported during 2017 and 2020.

Comparison between Year of Committing Suicide and Other Qualitative Variables

The detailed results of the Chi-Square are discussed below in Table 1.

The results showed significant gender differences over the said period, $X^2(4) = 31.66$, $p < 0.001$, indicating higher suicide cases of males from the year 2017 to 2020. The results of a year-wise comparison of all 1434 male suicide reported cases showed that the highest number

Table 1: Distribution of suicide cases in term of gender and year of committing suicide.

Variable (Gender)	Total (N=2411)	Year					Chi-Square	p-value
		2016 (n=438)	2017 (n=506)	2018 (n=533)	2019 (n=419)	2020 (n=515)		
Male	1434 (59.5)	214 (14.9)	298 (20.8)	349 (24.3)	267 (18.6)	306 (21.3)	31.66	0.000***
Female	977 (40.5)	224 (22.9)	208 (21.3)	184 (18.8)	152 (15.6)	209 (21.4)		

Data is expressed as n(%) df = 4, *** p < 0.001.

Table 2: Year wise distribution of suicide cases in terms of marital status of the suicide victims.

Variable (Marital Status)	Total (N=2411)	Year					Chi-Square	p-value
		2016 (n=438)	2017 (n=506)	2018 (n=533)	2019 (n=419)	2020 (n=515)		
Unmarried	1032 (46.6)	164 (15.9)	203 (19.7)	256 (24.8)	215 (20.8)	194 (18.8)	29.01	0.004
Married	1153 (52.1)	264 (22.9)	228 (19.8)	245 (21.2)	194 (16.8)	222 (19.3)		
Divorced	25 (1.1)	9 (36)	6 (24)	4 (16)	4 (16)	2 (8)		
Widow	3 (0.1)	0 (0.0)	1 (33.3)	1 (33.3)	0 (0.0)	1 (33.3)		

Data is expressed as n(%) df = 12, ** p < 0.01.

Table 3: Year wise distribution of suicide cases in term of age group.

Variable (Age Group)	Total (N=2411)	Year					Chi-Square	p-value
		2016 (n=438)	2017 (n=506)	2018 (n=533)	2019 (n=419)	2020 (n=515)		
Adolescents (18 and below)	238 (17.1)	30 (12.6)	49 (20.6)	70 (29.4)	44 (18.5)	45 (18.9)	46.65	0.000***
Young Adults (19 to 39)	932 (67)	269 (28.9)	202 (21.7)	180 (19.3)	142 (15.2)	139 (14.9)		
Middle Adults (40-59)	193 (13.9)	52 (26.9)	33 (17.1)	42 (21.8)	30 (15.5)	36 (18.7)		
Elders (60 and above)	29 (2.1)	1 (3.4)	6 (20.7)	5 (17.2)	9 (31)	8 (27.6)		

Data is expressed as n(%) df = 12, *** p < 0.001.

of male suicide cases were reported (n=349, 24.3%) in 2018 while minimal, 14.9% cases (n=214) were reported in the year 2016. Further year-wise comparison of all the 977 reported female suicide cases indicated that the highest number of female suicide cases (n=224) with 22.9% were reported in 2016, while the least number of female suicide cases (n=152) with 15.6% were reported 2019.

The results showed year-wise differences in terms of the marital status of the suicide victims, $X^2(12)=29.01$, $p < 0.001$, indicating the highest cases of married suicide victims during these years (Table 2). About 1153 reported suicide cases from year 2016 to 2020 were married with the highest deaths 22.8% (n= 264), reported in year 2016, and the least cases about 16.8% (n=194) were reported in 2019, while during 2018, 21.2% (n= 246) of all the reported cases were married, 19.2% (n=222) during 2020, and 19.6% (n=230) of all the reported married cases were reported in 2019. Further results revealed during the years 2016 to 2020 as per reported cases, 1032 unmarried individuals committed suicide, highest 20.8% of the cases (n=256) were reported in 2018 while the least cases 15.9% (n=164) were reported in 2016. Further results revealed that from 2016 to 2020, 25 divorced individuals committed suicide with the highest cases of 36% of divorced suicide victims (n=9) in 2016,

6 cases (24%) in 2017, 4(16%) in 2018, and 2019 each, and 2 cases with least number (8%) were reported in 2020. Further during the said years 3 widowed suicide cases were reported with one case each in 2017, 2018, and 2020.

The results also showed year-wise differences in terms of the age group of the suicide victims, $X^2(12)=29.01$, $p < 0.001$, indicating the highest cases of the young adult group during these years (Table 3). The results highlighted that during the years 2016 to 2020, 932 young adults committed suicide. Out of these 932 reported cases of young adults, the highest cases (n=269) with 28.9% reported in 2016 and with the lowest rate in 2020, 139 cases (14.9%) were reported. The results also revealed that from 2016 to 2020, about 238 adolescents committed suicide which was the second-highest suicide number among all age groups with the highest cases (n=70) at 29.4% in 2018, 30 cases (12.6%) in 2016, 49 cases (20.6%) in 2017, 44 cases (18.5%) in 2019 and 45 cases (18.9%) in 2020 as per newspaper reported cases of all the adolescents. Further, middle adults were in the third highest number with 193 total cases from 2016 to 2020. The yearly distribution revealed that in 2016, the highest 52 suicide cases (26.9%) of middle adults were reported. Further, 33 cases (17.1%) in 2017, 42 cases (15.5%) in 2018, 30 cases (15.5%) in 2019, and 36 cases

Table 4: Year wise distribution of suicide cases in term of methods adopted for committing suicide.

Variable (Methods Adopted for Committing Suicide)	Total (N=2411)	Year					Chi-Square	p-value
		2016 (n=438)	2017 (n=506)	2018 (n=533)	2019 (n=419)	2020 (n=515)		
Acid/ corrosive intake	39 (1.6)	11 (28.2)	7 (17.9)	8 (20.5)	6 (15.4)	7 (17.9)	105.51	0.000***
Drowning	126 (5.2)	35 (27.8)	25 (19.8)	25 (19.8)	16 (12.7)	25 (19.8)		
Gunshot	324 (13.4)	76 (23.5)	56 (17.3)	64 (19.8)	64 (19.8)	64 (19.8)		
Hanging	28 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	9 (32.1)	19 (67.9)		
Jumped	92 (3.8)	25 (27.2)	16 (17.4)	18 (19.6)	16 (18.5)	16 (17.4)		
Chemical Poisoning	1228 (50.9)	197 (16)	296 (24.1)	286 (23.3)	202 (16.4)	247 (20.1)		
Self-immolation	60 (2.5)	12 (20)	15 (25)	14 (23.3)	6 (10)	13 (21.7)		
Self-inflicted cut/ Injury	22 (0.9)	5 (22.7)	2 (9.1)	6 (27.3)	3 (13.6)	6 (27.3)		
Strangulation	488 (20.2)	76 (15.6)	89 (18.3)	111 (22.8)	96 (19.8)	114 (23.5)		
Not Mentioned	6 (0.2)	1 (16.7)	0 (0)	1 (16.7)	0 (0)	4 (66.7)		

Data is expressed as n(%) df = 36, *** p < 0.001.

Table 5: Distribution of suicide cases in terms of reasons and year of committing suicide.

Variable (Reasons for Committing Suicide)	Total (N=2411)	Year					Chi-Square	p-value
		2016 (n=438)	2017 (n=506)	2018 (n=533)	2019 (n=419)	2020 (n=515)		
Chronic Health issues	41 (1.7)	14 (34.1)	10 (24.4)	10 (24.4)	5 (12.2)	2 (4.9)	177.00	0.000***
Domestic Violence	215 (8.9)	25 (11.6)	53 (24.7)	46 (21.4)	29 (13.5)	62 (28.8)		
Failed Love Affair	170 (7.1)	56 (32.9)	35 (20.6)	30 (17.6)	34 (20)	15 (8.8)		
Divorced	78 (3.2)	26 (33.3)	13 (16.7)	12 (15.4)	19 (24.4)	8 (10.3)		
Family Discord/ Disputes	1155 (47.9)	187 (16.2)	263 (22.8)	279 (24.2)	192 (16.6)	234 (20.3)		
Lack of Tolerance	14 (0.6)	0 (0)	5 (35.7)	2 (14.3)	4 (28.6)	3(21.4)		
Marital Discord	21 (0.9)	0 (0)	3 (14.3)	2 (9.5)	5 (23.8)	11 (52.4)		
Poverty	205 (8.5)	47 (22.9)	36 (17.6)	38 (18.5)	34 (16.6)	50 (24.4)		
Mental illness	56 (2.3)	2 (3.6)	10 (17.9)	26 (46.4)	9 (16.1)	9 (16.1)		
Unemployment	102 (4.2)	35 (34.3)	16 (15.7)	15 (14.7)	20 (19.6)	16 (15.7)		
Not mentioned	354 (14.7)	46 (13)	62 (17.5)	73 (20.6)	68 (19.2)	105 (29.7)		

Data is expressed as n(%) df = 40, *** p < 0.001.

(18.7%) in 2020 were reported as per reported suicide cases of all the middle adults. The results revealed that from 2016 to 2020, about 29 older adults committed suicide with the highest death rate of 9 cases (31%) in 2019, 8 cases (27.6%) in 2020, 6 cases (20.7%) in 2017, 5 cases (17.2%) in 2018 and 1 case (3.4%) in 2016 as per suicide reported cases of older adults.

The results also showed year-wise differences in terms of methods adopted to commit suicide, X² (36)=105.51, p<0.001, indicating the highest cases of chemical poisoning and strangulation during these years (Table 4). The year-wise distribution of suicide for the method adopted to commit suicide indicated that 1228 cases of chemical poisoning were reported from 2016 to 2020. Out of all the suicides using chemical poisoning, 197 cases (16%) in 2016, 296 cases (24.1%) in 2017, 286 cases (23.3%) in 2018, 202 cases (16.4%) in 2019, and 247 cases (20.1%) in 2020 were reported in the newspaper. Strangulation was the second most used method for committing suicide with 488 cases from 2016 to 2020. As per reported cases, in 2020 highest (23.5%) cases of suicide (n=114) were reported using the strangulation

method, 111 cases (22.8%) in 2018, 96 cases (19.8%) in 2019, 89 cases (18.3%) in 2017, and 76 cases (15.6%) in 2016 were reported in the newspaper. The results showed that gunshots were the third most adopted method for committing suicide with 324 cases from 2016 to 2020. Out of all the 324 suicide cases, 76 cases with the highest number (23.5%) were reported in 2016, 56 cases (17.3%) in 2017, and 64 cases with 19.8% were reported in 2018, 2019, and 2020. Drowning was another most adopted method to commit suicide with 126 reported cases from 2016 to 2020. The year-wise comparison revealed that 35 cases (27.8%) in 2016 with the highest number, 25 cases (19.8%) in 2017, 2018, and 2020, and 16 cases (12.7%) in 2019 with the lowest number were reported suicide cases using drowning. Jumping in front of a train/ from a bridge was the other method adopted to commit suicide with 92 reported cases. Out of all these 92 suicide cases using the jumping method, 25 cases (27.2%) in 2016, 18 cases (19.6%) in 2018, and 25 cases (17.4%) each in 2017, 2019, and 2020 were reported in newspapers. Further self-immolation was the other method of suicide with 60 reported cases from 2016 to 2020. Out of these

60 suicide cases using self-immolation, 15 cases (25%) in 2017, 14 cases (23.3%) in 2018, 13 cases (21.7%) in 2020, 12 cases (20%) in 2017, and 6 cases (10%) in 2019 were reported in newspapers. Further acid/corrosive intake, hanging, and self-inflicted injury were also the methods that were used to commit suicide, but the number of suicide deaths was relatively lower than other mentioned methods during these years.

The results also showed year-wise differences in terms of reasons to commit suicide, $X^2(40) = 177.00$, $p < 0.001$, indicating high suicide cases due to family discord/ disputes, poverty, and domestic violence from 2016 to 2020 (**Table 5**). The results indicated that about 1155 individuals committed suicide just because of family discord/ disputes from 2016 to 2020. Out of these 1155 suicide cases, 279 cases (24.2%) in 2018, 263 (22.8%) in 2017, 234 cases (20.3%) in 2020, 192 cases (16.6%) and 187 cases (16.2%) in 2016 were reported as per newspaper suicide cases with reason of family discord/ disputes. Domestic violence was the second highest reason for committing suicide with 215 reported cases. The year-wise distribution of suicides due to domestic violence reasons indicated that 62 cases (28.8%) in 2020, 53 cases (24.7%) in 2017, 46 cases (21.4%) in 2018, 29 cases (13.5%) in 2019 and 25 cases (11.6%) in 2016 were reported. Poverty was the third highest reason for suicide with 205 reported cases from 2016 to 2020. The year-wise distribution of suicides due to poverty reasons indicated that 50 cases (24.4%) in 2020, 47 cases (22.9%) in 2016, 38 cases (18.5%) in 2018, 36 cases (17.6%) in 2017 and 34 cases (16.6%) in 2018 were reported. Further, results revealed that a failed love affair was also a reason for committing suicide with 205 reported cases. Year-wise distribution of suicide cases due to reason of failed love affair highlighted 56 cases (32.9%) in 2016, 35 cases (20.6%) in 2017, 34 cases (20%) in 2019, 30 cases (17.6%) in 2018 and 15 cases (8.8%) in 2020 were reported. Unemployment was also a reason for committing suicide with 102 reported cases. The results indicated that the highest, 35 individuals committed suicide (34.3%) in 2016 while 20 cases (19.6%) in 2020, 16 cases (15.7%) in 2017 and 2020, and 15 cases (14.7%) in 2018 with the least number were reported due to unemployment. Further data indicated that divorce was also a reason for committing suicide with 78 cases. The distribution of these 78 cases over these years indicated that 26 suicides (33.3%) in 2016, 19 suicides (24.4%) in 2019, 13 suicides (16.7%), 12 suicides (15.4%) in 2018, and 8 suicides (10.3%) in 2020 with the least number were reported in the newspaper. Furthermore suicides due to health conditions such as chronic health issues ($n=41$) and Mental illness ($n=56$)

were also the reasons for committing suicide with the highest cases during 2016 and 2018 respectively. Further, Marital discord ($n=21$) and lack of tolerance ($n=14$) were also reported as the reason for suicide with the highest cases in 2020 and 2017 respectively.

DISCUSSION

In Pakistan, social problems such as poverty, deprivation, unemployment, lack of law & order, injustice, *etc.* are factors that lead to stress and other mental health problems. Out of this some people become clinically depressed & get on the suicidal pathway [10]. Punjab is the second largest province of Pakistan, with a population of about 110,000,000 as of 2021 [13]. Understanding the trends of suicide in a diverse province such as Punjab and with the available data was quite a challenge. This study was the first attempt to gather and analyze province-wide data on suicide through medicolegal police records which made it to the regional newspapers. The greatest number of total reported suicides was in the year 2018 ($n=533$) and the least total number was reported in the year 2019 ($n=419$). The authors believed that these numbers are not representative of any factual findings as the exact number of actual suicide cases in Punjab is far less than the reported ones in police records which ultimately make it to the printed News. A few factors which contribute to underreporting are 1) criminal penalty associated with suicidal attempts and suicide 2) associated stigmatization with suicidal death as Islam denounces suicide and calls it the forbidden 'sin' 3) National suicide statistics are not compiled on a formal level nor officially reported to the World Health Organization by Pakistan, and 4) national newspaper archives are not digitalized [14].

Overall, the findings highlighted that a greater number of men (59.5%) died by suicide as compared to females during the years 2016 to 2020. This trend is like the USA or European countries where male suicides far outnumber female suicides (3:1 or 4:1) [15]. This finding concludes that either 1) men used more lethal ways of dying by suicide or 2) men have more risk factors (psychiatric illness, unemployment, and substance use) that led to suicide. Men's deaths by suicide were reported high during the said duration, which could correlate to the economic instability and inflation in the country due to COVID-19 pandemic. It is also worth mentioning that poverty, unemployment, domestic violence, and family discord were listed as major causes of suicide. In the present study, the age group in which the maximum number of deaths by suicide was reported in the news was young adults (19 to 39 years). It could be the fact that the youth face adversities like poverty,

academic failures, rejection in love, pressures to be social in the social media age, emotional/ sexual abuse, and unemployment. The United Nations Development Programme report (2020) states that four million youngsters enter the working-age population and only 39 percent get employed every year [9]. This age group also coincides with the traditional age for marriage in the Pakistani population and more than half of the suicide cases in our data were of married individuals (52.1%). Therefore, marriage cannot be counted as a protective factor for our study population as compared to the Western data. Cultural attitudes like arranged marriages, dowry-related demands, social pressure to stay married despite being in an abusive relationship, and stigma related to divorce can be common factors leading to suicide in the married population [16]. South-Asian families have traditionally lived in joint or extended family systems where a symbiotic relationship exists; however, since the last decade, social transformation and globalization have changed the role of the family and the relationships between the individual and the family. Interpersonal conflicts, particularly those with family members, are usually reported in regional literature [17]. It is hence understandable why news articles listed family discord/ disputes as the most common cause of suicide (47.9%). The results are also confirmed by previous literature highlighting that the causes of suicide in Pakistan are generally, relationship problems, domestic disputes, and financial problems [18- 20].

Furthermore, chemical poisoning (50.9%) especially with organophosphate pesticides followed by strangulation due to hanging (20.2%) was the most common method of suicide reported in the news from 2016 to 2020. Gunshots and jumping in front of a train were also common methods. Vijayakumar *et al.* (2013) succeeded in testing the feasibility of a centralized pesticide storage facility [21]. Recent publications show the use of *Kala Pathar* (Paraphenylenediamine, PDD) as a substitute for pesticides which are rather difficult to purchase after multiple reports of misuse [8]. Another study by Safdar *et al.* (2021) reported that organophosphate poisoning was reported from all the provinces of Pakistan. However, 60% of cases of organophosphate poisoning were reported from North Punjab and interior Sindh, while aluminum phosphide (wheat pill) poisoning was reported mainly from North Punjab and North KPK, whereas paraphenylenediamine (*kala pathar*) was primarily used in suicide from South Punjab, with some reports from South KPK and interior Sindh. Their findings also reported that in rural populations pesticides and paraphenylenediamine were most common, while the urban population chose

more varied agents for overdose, including household chemicals (bleach, corrosives), medicines (sedatives, tranquilizers, NSAIDs, antidepressants), rat poison pills and other toxic substances [22, 23]. It is to conclude that the utmost urgent efforts are required by National policymakers to restrict access to other highly lethal means (Acids, wheat pills, rat pills, benzodiazepines firearms, *etc.*) to prevent suicides. A few news articles (0.2%) did not comment on the method used for suicide and kept most of the information general, which is in line with the international publication guidelines for reporting suicide cases. However, these news reports did not follow other important recommendations which included using appropriate terms, providing resources to readers, identifying risk factors like mental health issues or substance use, and asking for expert opinion from mental health professionals. In more than half the news articles analyzed for this research, past psychiatric history and substance use were not mentioned. It was also observed that the police medico-legal reports and newspapers use a reductionist approach in reporting risk factors *i.e.*, mentioning proximal factors and ignoring distal factors.

There are certain limitations in the present study. It relies on newspapers' reporting of suicide, therefore suicide rates deduced cannot be a true representation of actual population statistics, for future studies data from hospitals and police stations should also be considered. In the present study, the data were collected using two regionally published newspapers, which is why it is solely representative of only one province's data, for future studies to get the overall data on suicide in Pakistan, the representative newspapers of other provinces should also be considered. Further, a region-wise comparative study should also be done.

CONCLUSION

The current study shows that men had highest the rate of suicide than women in Punjab. It was found that suicidal deaths were associated with family discord, domestic violence, financial instability, and relational issues. The findings concluded that most adopted methods of committing suicide included chemical poisoning, strangulation, and gunshot. It was also found that suicidal deaths were most prevalent in young adults and adolescents. It is therefore extremely important to pursue further research studies on suicide deaths as well as to devise strategies to control this public health issue.

IMPLICATIONS OF STUDY

Our study points out disparities in available data, yet it identifies various correctable issues which are: National statistics on suicide mortality should be gathered in the

upcoming census of 2022. Further, decriminalization of suicide; The World Health Organization's Comprehensive Mental Health Action Plan (2021-2030) has decriminalizing suicide as an important target, seeking to end criminalization, however the bill to remove legal penalty from suicide was recently deferred in December 2021 by the Senate in Pakistan seeking advice from the Islamic ideological council in this matter. Further, it is recommended that the teaching and training of journalists according to internationally accepted guidelines on the reporting of suicide should be prioritized as media can create a significant difference in the mindset of masses through sensitive reporting. These findings could help raise public awareness about prevention strategies and the importance of seeking professional help using mass and social media. These findings emphasize the urgent need to define methods to screen at-risk individuals and implement local and national initiatives to curb their potential detrimental effects. Furthermore, suicide prevention strategies should broaden their narrative to include relational, community, and social interventions as anti-suicide measures. In summary, this study serves as an important source of information for policymakers, healthcare providers, and mental health advocates in Pakistan. It underscores the need for comprehensive approaches to address the rising rates of suicide by targeting the contributing factors and implementing effective prevention and support measures.

ETHICAL APPROVAL

Ethical approval was obtained from the Institutional Review Board of King Edward Medical University, Lahore (REF letter No. 2/89/RC/KEMU Dated: 16/12/2019). All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/ or national research committee and with the Helsinki Declaration.

CONSENT FOR PUBLICATION

The data was collected from published newspaper archives, so consent for publication was not required.

AVAILABILITY OF DATA

The data set may be acquired from the corresponding author upon a reasonable request.

FUNDING

This research received no external funding.

CONFLICT OF INTEREST

The author(s) declare no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

ACKNOWLEDGEMENTS

We acknowledge the Mr. Wasif Nagi of Daily Jang Lahore for providing access to newspaper archives.

AUTHOR'S CONTRIBUTION

Prof. Dr. Aftab Asif: Conception, Design, Supervision and Review.

Ms. Sumaira Ayub: Design, Statistical Analyses, and interpretation, Write-up.

Dr. Irum Aamer: Data Collection, Write-up, Review.

Dr, Usama Ali. Cheema: Data Collection, Write up.

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