



Suicidal Behavior in Police Custody: a Ten Year (2011-2021) Study in the Northern Part of Ghana

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Keywords

Suicide; suicide prevention; police; mental health; law enforcement

Abstract

Aim: This study aimed to investigate the behavior of suicide in police custody as an independent cause of death, examine the choice of suicide methods, and explore the alleged reasons for incarceration of suicide victims in the northern part of Ghana. We also examined the associations between suicide methods and age, accused crimes and sex. **Materials and Methods:** Data from the coroners' archives were collected, focusing on 58 individuals whose deaths were classified as suicides or had an open judgment indicating suicide as the cause of death. The records spanned from 2011 to 2021 and were obtained from the mortuary referral center at the Komfo Anokye Teaching Hospital in Ghana. **Results:** Out of the 58 cases

of police custody suicides, 49 (84.5 %) were males. The majority of victims (36.2 %) were aged between 25 and 34 years. Suspected murder cases accounted for 48.3 % of the suicides, followed by robbery cases at 25.9 %. Hanging was the most prevalent method of suicide, with 79.3 % of cases, while poisoning followed, accounting for 12.1 % of cases. The Fisher's exact tests revealed non-significant associations between suicide methods and age groups (p - value = 0.145) and sex (p - value = 0.543), while the Cramer's V coefficient for accused crimes and suicide method was significant (p - value = 0.042). **Conclusion:** The study findings on suicides in police custody highlighted a higher incidence among men than women in these settings. The age group of 15 to 34 years had the highest number of suicides in police custody. Most victims in police custody were accused of murder and robbery. Hanging was the predominant method used for suicide. The choice of suicide method was not influenced by the age or sex of the victims, however the association

between suicide method and accused crime of victims was significant.

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Introduction

The Centers for Disease Control and Prevention (CDC) define suicide as “the act of intentionally injuring oneself with the intent to cause death” [1]. Each year, approximately 800,000 individuals take their own lives, resulting in an estimated suicide occurring every 40 seconds [2-4], alongside more than 20 unsuccessful suicide attempts for each completed one [4]. Research reveals that suicide ranks as the fourth leading cause of death within the 15-29 age demographic, and globally, it stands as the 17th leading cause of death [3,5]. It is noteworthy that a significant portion of these tragic events, specifically 77 %, transpire in low-income and middle-income countries [5]. In a 2009 study, it was estimated that Canadians under the age of 75 lost about 100,000 years of potential life due to suicide [6].

Research findings indicate that, in many Western countries, females exhibit higher rates of suicidal thoughts and behaviors compared to males. Interestingly, despite this, the actual mortality rate from suicide tends to be lower for females than for males, a phenomenon referred to as the “Sex Paradox in Suicide” [7,8]. On a global scale, the United Nations reports that Africa faces a unique challenge, with approximately 11 individuals per 100,000 people each year succumbing to suicide, surpassing the global average of 9 individuals per 100,000 people [9]. Consequently, Africa holds the unfortunate distinction of having the highest suicide mortality rate among continents. Several African nations, including Lesotho (with 72.4 suicides per 100,000 people), Eswatini (29.4 suicides per 100,000 people), South Africa (23.5 suicides per 100,000 people), and Botswana (16.1 suicides per 100,000 people), rank among the countries with the highest suicide rates globally, as of 2023 [10].

It is no secret that suicide is a tragic and complex phenomenon that affects people from all walks of life including those in police custody. A 2011 study revealed alarming statistics: the suicide rates among incarcerated men were three times higher than those in the general population, while incarcerated women faced a staggering nine-fold higher risk [11]. Several factors contribute to this heightened risk among inmates, including psychiatric disorders, substance abuse, recurring self-harm behaviors, extended sentences, and charges related to sexual offenses and violent crimes [12,13]. Furthermore, research has established a positive correlation between overcrowding in prisons and an increased incidence of

inmate suicides [13,14]. Notably, it has been found that the prevalence of poor mental health is substantially greater within prison populations compared to the general population [15].

In a study conducted by Cox and Shegg, it was revealed that there were 38 male suicides in densely populated prisons over a 17-year period, compared to 44 male suicides in less populated police custody facilities within an 11-year timeframe [16]. This data suggests a higher incidence of suicides in police custody as opposed to prisons. Despite numerous government efforts worldwide to monitor and reduce suicide rates in the general population, limited attention has been directed towards suicides in police custody, especially in Africa. Various studies have demonstrated elevated suicide rates in both police custody and prisons when compared to the general population in numerous countries [11,16-18]. Nevertheless, there exists a significant knowledge gap regarding suicide behavior in police custody in Africa, particularly in Ghana.

This study aims to investigate suicide in police custody as an independent cause of death, exploring the choice of suicide methods and the reasons for the incarceration of suicide victims in the northern part of Ghana. Additionally, the research seeks to examine potential associations between suicide methods and the age, accused crimes, and sex of suicide victims in police custody. By conducting this study, we aim to provide valuable insights into the circumstances surrounding suicides in police custody in Ghana. Ultimately, our study will contribute essential knowledge and data to the field of suicide prevention and criminal justice in Ghana and Africa, helping to inform policies and interventions tailored to the unique challenges faced in this region, thereby potentially reducing the incidence of suicides in police custody.

Materials and Methods

This study constitutes a case study of fatalities resulting from deliberate self-inflicted harm with suicidal intent among individuals held in police custody in Ghana. The research is based on an examination of 58 cases documented in the coroners’ records, encompassing individuals whose deaths were determined as suicides or cases with open judgments where suicide was the likely cause of death. The data for these cases span the period from 2011 to 2021 and were sourced from the mortuary referral center at Komfo Anokye Teaching Hospital in Ghana.

This study centers on incidents of suicide taking place within the confines of police custody in the northern part of Ghana. This category includes various custodial facilities, such as police stations and holding cells, where individuals are detained while undergoing criminal investigations, awaiting court appearances, or participating in other legal proceedings.

Descriptive statistics such as frequencies and percentages were used to describe categorical data. Mean, median, and quar-

tiles were used to describe the ages of the victims. Fisher's Exact tests and Cramer's V coefficients were used in evaluating associations and the strength of associations between categorical variables. The level of significance used throughout this study was 0.05. All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 25.

This study adhered to the ethical guidelines established by the School of Medical Sciences ethics committee at Kwame Nkrumah University of Science and Technology, in alignment with the principles outlined in the 1964 Declaration of Helsinki and its subsequent revisions or similar ethical standards. Ethical approval for this research was obtained from the Committee on Human Research, Publication, and Ethics at the School of Medical Sciences, Kwame Nkrumah University of Science and Technology, and the Komfo Anokye Teaching Hospital (Reference: CHRPE/AP/349/19).

Results

Out of the 58 victims of suicide in police custody, majority of them were males comprising of 49 (84.5 %) cases (Table 1). The youngest victim was 17 years and the oldest victim was 55 years (Table 2). The median and mean ages were 32 and 32.8 years respectively (Table 2). Most of the suicide victims were aged 25 to 34 years making up 21 (36.2 %) cases, followed by those aged 15 to 24 years comprising of 16 (27.6 %) cases (Table 1), indicating that most of the police custody suicide victims were young individuals.

Twenty-eight (48.3 %) victims were accused of robbery, making them the crime group with the most suicides in police custody (Table 1). This was followed by murder and embezzlement suspects, made up of 15 (25.9 %) cases and 8 (13.8 %) cases respectively (Table 1). Victims accused of assault, bank forgery, and drug trafficking were very few as there were only 3 (5.2 %), 2 (3.4 %) and 2 (3.4 %) cases respectively (Table 1).

The suicide method used the most by the suicide victims was predominantly hanging, which made up 46 (79.3 %) cases (Table 1). Among the different hanging methods, hanging by belt had the highest frequency of 21 (45.6 % of hanging cases) cases (Table 1). This was followed by hanging by trousers which was made up of 17 (37 % of hanging cases) cases (Table 1). Police custody suicides committed using poisoning had the next highest frequency after hanging, making up 7 (12.1 %) cases (Table 1).

Evaluation Of Associations Between Variables

Age Group vs Accused Crime

The data from Figure 1 indicates robbery as a prevalent crime among individuals in the 15-24, 25-34, and

Table 1. Frequency distribution of variables in the study

| Variable | Classes | Frequency (%) |
|--------------------------|---------------------|---------------|
| Sex | Male | 49 (84.5) |
| | Female | 9 (15.5) |
| Age | 15-24 | 16 (27.6) |
| | 25-34 | 21 (36.2) |
| | 35-44 | 11 (19.0) |
| | 45+ | 10 (17.2) |
| Accused Crime | Assault | 3 (5.2) |
| | Bank Forgery | 2 (3.4) |
| | Drug Trafficking | 2 (3.4) |
| | Embezzlement | 8 (13.8) |
| | Murder | 15 (25.9) |
| | Robbery | 28 (48.3) |
| Suicide Method | Drug overdose | 5 (8.6) |
| | Hanging | 46 (79.3) |
| | Hanging by belt | 21 (45.6) |
| | Hanging by shirt | 8 (17.4) |
| | Hanging by trousers | 17 (37.0) |
| | Poisoning | 7 (12.1) |
| Total number of suicides | | 58 |

35-44 age groups. This suggests a need for targeted interventions and crime prevention strategies focused on these age cohorts to reduce the incidence of robbery. Similarly, individuals in the 45+ age group were predominantly accused of embezzlement, emphasizing the importance of addressing white-collar crimes among older individuals, possibly through enhanced financial monitoring and corporate governance measures.

From Figure 1, victims accused of bank forgery were only in the 35-44 age group. Policymakers and law enforcement agencies should pay special attention to this age bracket when developing measures to combat bank-related fraud and forgery. Likewise, individuals accused of drug trafficking fell within the 25-34 and 35-44 age ranges, suggesting the need for targeted drug prevention and rehabilitation programs for individuals within this age range to address the root causes of drug-related offenses.

The Cramer's V coefficient of 0.429 with a significant p - value of 0.003 (Table 3) indicates a strong and sta-

Table 2. Descriptive summary of the ages of the suicide victims

| Minimum | 1 st quartile | Mean | Median | 3 rd Quartile | Maximum |
|---------|--------------------------|------|--------|--------------------------|---------|
| 17.0 | 23.8 | 32.8 | 32.0 | 41.3 | 55 |

tistically significant association between age and accused crimes of the victims. This underscores the importance of considering age as a significant factor in crime analysis and policy development. Likewise, the Fisher's Exact test, with a corresponding p -value of 0.006 (Table 3), suggests a significant association between the ages of suicide victims and the crimes they were accused of committing. This finding raises questions about the potential relationship between mental health, criminal behavior, and age, necessitating further research and mental health support for individuals at risk.

Age Group vs Suicide Method

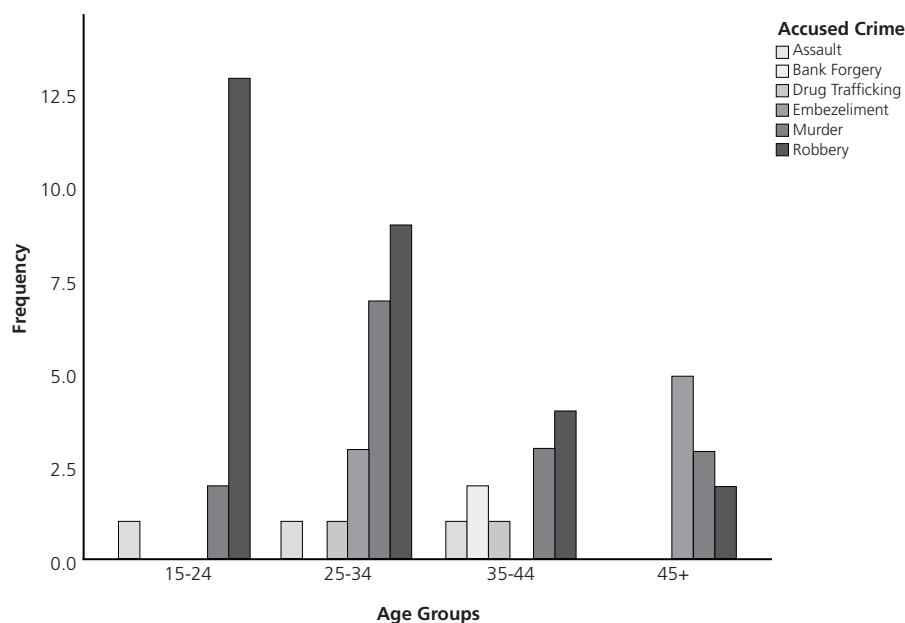
In examining the data concerning suicide in police custody, we observed some specific trends that shed light on the methods employed by victims across different age groups in Figure 1. It appears that individuals between the ages of 25 to 34 years and those aged 35 to 44 years primarily resorted to hanging themselves using a belt, with the former age group having a slightly higher incidence. On the other hand, hanging by trousers was predominantly utilized by victims in the 15 to 24-year-old bracket.

Interestingly, the act of poisoning as a method of suicide exhibited a relatively even distribution, being most prevalent among individuals aged 15 to 24 years and those between 25 to 34 years of age. Hanging by a shirt was more commonly chosen by victims aged 15 to 24 years and those who were older than 45 years, with a noticeable preference within the younger age group.

Analyzing the association between suicide methods and age groups, we found a Cramer's V coefficient of association equal to 0.302 (p -value = 0.196) (Table 3), suggesting a reasonably strong but statistically nonsignificant association. Furthermore, the p -value of 0.145 obtained from the Fisher's Exact test indicates that the relationship between age groups and suicide methods lacks statistical significance. Consequently, it can be concluded that the choice of suicide method does not appear to be influenced by the age of the victim within the context of suicides in police custody.

Suicide Method vs Accused Crime

Figure 3 reveals intriguing patterns concerning suicide methods among individuals in police custody who faced various accusations. Among murder and robbery

**Figure 1.** Distribution of accused crimes within age groups

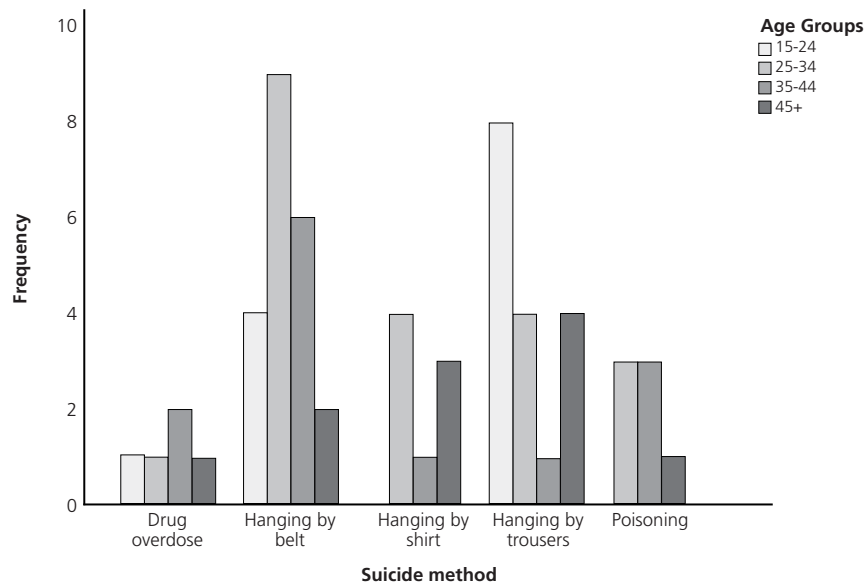


Figure 2. Distribution of suicide methods among different age groups

suspects, hanging by a belt emerged as the most prevalent method of suicide (Figure 3). Strikingly, drug trafficking suspects predominantly resorted to poisoning as their chosen means to end their lives. In contrast, embezzlement suspects exhibited a distinct inclination, fa-

voring hanging by trousers as their primary method for suicide (Figure 3). Remarkably, hanging by a shirt ranked as the second most common suicide method among murder suspects and the fourth most common among robbery suspects (Figure 3).

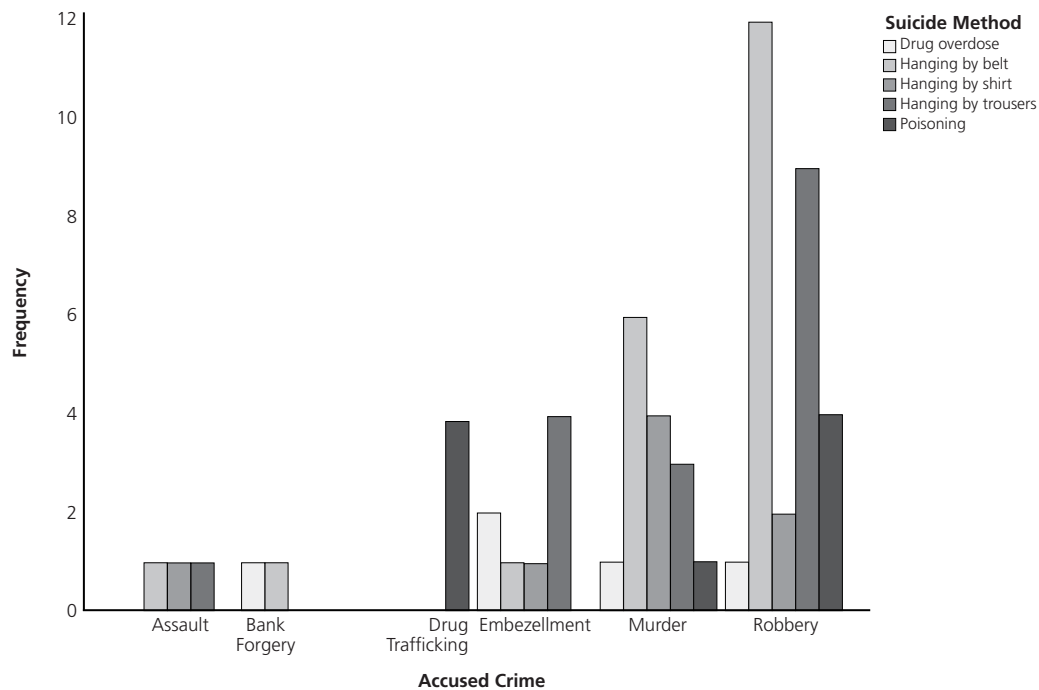


Figure 3. Distribution of suicide methods within accused crimes

Table 3. Summary of the Fisher's exact tests and Cramer's V coefficient

| Interaction | Fisher's Exact | | Cramer's V Coefficient | |
|---------------------------------|----------------|-----------|------------------------|-----------|
| | Statistic | P - value | Value | P - value |
| Age group vs Accused crime | 24.471 | 0.006 | 0.429 | 0.003 |
| Age group vs Suicide method | 15.395 | 0.145 | 0.302 | 0.196 |
| Suicide method vs Accused crime | 22.726 | 0.123 | 0.372 | 0.042 |
| Suicide method vs Sex | 3.009 | 0.543 | 0.199 | 0.713 |

Analyzing the statistical findings, the *p* - value of 0.123 (Table 3) obtained from the Fisher's Exact test suggests that there is no statistically significant association between the choice of suicide method and the type of crime accused in these cases. However, the Cramer's V coefficient, which stands at 0.372 with a corresponding *p* - value of 0.042 (Table 3), uncovers a robust and significant association between the accused crimes and the selection of suicide methods. This implies that the nature of the crimes for which these individuals were accused had a substantial influence on their decisions regarding how to end their lives while in police custody.

Suicide Method vs Sex

The Cramer's V coefficient of 0.199 (Table 3) indicates a moderate strength of association between sex and suicide method. However, the non-significant *p* - value (0.713) (Table 3) associated with the Cramer's V coefficient suggests that this association lacks statistical significance. Additionally, the Fisher's Exact test yielded a *p* - value of 0.543 (Table 3) for the association between sex and suicide methods, further affirming the lack of significant association between these two variables. This indicates that the choice of suicide method was not influenced by the sex of the victim.

Discussion

In our investigation into suicide behavior in police custody in Ghana, we discovered a significant sex disparity, with males being more prone to suicide compared to females. This observation aligns with findings from various studies [19-21]. For instance, a study conducted in Norway revealed that out of the 96 suicides among indigenous Sami individuals from 1970 to 1998, 80 were males [21]. Similarly, a pattern of higher male deaths in police custody was observed in different regions, including Australia (1980-2008), Ontario, Canada (1990-1999), the Netherlands (1983-1993), and the United States,

where males constituted 87.5 % of deaths in local jails and 96.6 % in state prisons in 2012 [22-25]. This sex disparity can be attributed, at least in part, to the overrepresentation of men in police custody. Lindon and Roe's research revealed that from 2004 to 2015, males accounted for 91 % (582 out of 638) of suicides following police custody [26]. Additionally, the majority of apparent suicides that occurred subsequent to police custody were male.

Our study revealed a common occurrence of suicide in police custody among individuals aged 15 to 34 years. This finding aligns with a 10-year retrospective study conducted in India by Bardale and Dixit, which found that police custody suicides were most prevalent among individuals aged 21 to 40 years [27]. However, our findings differ slightly from the proportion of suicides in police custody observed in England and Wales from 2004 to 2016, where the highest occurrence was among those aged 31 to 50 years [26]. Navaneelan's research identified suicide as the second leading cause of death among Canadian citizens aged 15 to 34 years, while individuals aged 40 to 59 had the highest suicide rates [6]. The frequency of suicides varies across different age groups in various contexts. However, it is expected that suicide victims in police custody would generally have a younger age profile.

In our examination of suicide methods in police custody in Ghana, we found that 79.3 % of all suicides were achieved through hanging, often utilizing belts and trousers, followed by poisoning. This finding is consistent with the research conducted by Kuchewar and associates, who identified hanging as the most prevalent method of suicide in police stations and prisons in Maharashtra state of India [28]. Similarly, Bardale and Dixit discovered that hanging, followed by poisoning, were the most common suicide methods in police custody also in India [27]. Outside of police custody, studies conducted by Uchendu and associates, Cantor and associates, and Navaneelan have reported hanging as the most common method of suicide in the general populations of

Nigeria, Australia, and Canada, respectively [6,19,29]. A study conducted in Romania, exploring the relationship between homicides and suicides, revealed that individuals who committed both acts often resorted to hanging as their method of suicide [30]. Research conducted by Wu and associates to investigate suicide methods in Asia found that hanging was the most frequently used method across nine Asian countries [31]. However, poisoning, particularly through the use of pesticides, emerged as the predominant method in China, Sri Lanka, and Pakistan, possibly due to the prevalence of agricultural activities and easy accessibility to such substances. In Hong Kong and Singapore, where tall buildings are abundant, jumping from heights was identified as the most common suicide method [31]. Overall, the research findings highlight the consistent prominence of hanging as a suicide method, both within and outside of police custody, in various countries and contexts. Additionally, the specific methods employed may vary depending on cultural, environmental, and accessibility factors.

Research indicates that individuals, particularly the youth, may tragically take their own lives while in police custody due to various factors. These factors include fear and despair, guilt and shame, pre-existing mental health conditions, the severity of the alleged crime, and a desire to avoid potential consequences or complicated investigations. Studies have found a significant link between historical suicide trends and the types of offenses committed by the victims, particularly those involving violence [32]. In our own investigation, we observed that the most common crimes among suicide victims in police custody were robbery (48.3 %) and murder (25.9 %). Blauuw and associates discovered in their research that individuals suspected of violent offenses faced a heightened risk of suicide [32]. Additionally, other studies have associated offenses such as public drunkenness and sexual molestation, particularly those involving children, with suicide among individuals in police custody [26]. For instance, between 2004 and 2014, approximately 30 % of suicide cases following police custody involved individuals arrested for sexual offenses, including indecent image offenses [26].

The findings of this investigation on suicides in police custody provide valuable insights into the phenomenon, prompting several recommendations for addressing the issue. Firstly, considering the significantly higher suicide rate among men in police custody compared to women, it is crucial to develop sex-specific interventions. This may involve tailored mental health support as well as improved training for police officers to identify and respond to signs of distress in male detainees. Secondly, given that suicides are particularly common among individuals aged 15 to 34 years, preventive measures should

target this age group. Educational campaigns promoting mental health awareness, resilience, and coping strategies can be implemented within police custody facilities. Collaborative efforts involving mental health professionals, social workers, and law enforcement agencies are essential for effective prevention strategies.

Regarding the most common suicide methods observed, namely hanging and poisoning, preventive measures should focus on reducing access to means of self-harm within police custody. This includes implementing appropriate infrastructure modifications, such as secure cells without ligature points, and strict control and monitoring of potentially harmful substances. Lastly, considering that individuals accused of murder and robbery are particularly vulnerable to suicide, it is crucial to provide comprehensive psychological support and risk assessment procedures for this specific group. Mental health screenings upon arrest, regular check-ins, and access to mental health professionals within the custodial setting can help identify and address suicidal ideation, as well as provide appropriate interventions and support.

In conclusion, our research on suicides in police custody revealed several key findings. Firstly, there was a higher rate of suicide among men compared to women in these settings. Secondly, individuals aged 15 to 34 had the highest number of suicides while in police custody. Moreover, the majority of suicide victims in police custody were accused of murder and robbery. The predominant method used for suicide was hanging, with victims often employing objects such as belts and trousers to aid in their tragic act. Interestingly, the age and sex of the victims did not influence the choice of suicide method. However, the specific crime the victim was accused of did influence the suicide method chosen. These research findings emphasize the need for targeted interventions and sex-specific approaches to address the issue of suicides in police custody. Mental health education, environmental modifications, and enhanced support systems for individuals accused of specific crimes are crucial. By implementing these recommendations, we can contribute to creating a safer custodial environment and reduce the occurrence of suicides in police custody.

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Conflict of interest

None to declare.

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