

Research Article

Victim and offender characteristics affecting homicide clearance in Phnom Penh.

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Abstract:

This study presents the first decade-long analysis (2014–2023) of homicide patterns in Phnom Penh, Cambodia, addressing critical gaps in post-conflict crime research. As the capital of a post-conflict nation, Phnom Penh offers unique insights into lethal violence within a context of evolving justice sector reforms and limited institutional capacity. Analyzing 334 police-recorded cases through descriptive statistics and Pearson correlations, we identified an annual homicide rate of 1.8 per 100,000 population and a 63.8% clearance rate—aligning with global declines but falling below high-income country benchmarks, indicating institutional challenges in Cambodia's justice sector.

Keywords: Homicide, Clearance Rate, Victim Characteristics, Offender Characteristics, Crime Prevention, Criminal Justice.



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1. Introduction

Homicide trends have been extensively studied in different contexts ^{1,2}. The latest studies show that the trends of homicide have declined globally and regionally ^{1,3}. Homicide data allows for comparisons between countries and regions, highlighting disparities in violence levels and informing international collaborations to address global challenges UNODC ². According to a recent study, the global trend of homicide has declined from 6.1 per 100,000 population in 2017 to 5.8 in 2021^{4,5}. Looking at the homicide rate by region also showed a declining trend: the Americas (17.2 to 15.0), Africa (13.0 to 12.7), and Europe (3.0 to 2.2). While Asia remained unchanged, there was a slight increase from 2.8 to 2.9 in 2017 compared to 2021. Remarkably, in Southeast Asia, such as Singapore, the rate decreased from 0.2 to 0.1, Indonesia from 0.5 to 0.3, and the Philippines from 8.4 to 4.3 between 2017 and 2021, respectively ^{6,2}.

According to a study by Broadhurst ⁷, Cambodia experienced elevated homicide rates post-1991, fluctuating between 4.8 and 12.9 per 100,000 population. In 1996, the estimated homicide rate was 9.3 per 100,000, rising to 11.6 in 1998 due to political instability. Another study showed that homicide rates dropped sharply from 12.9 per 100,000 in 1993 to 3.8 per 100,000 in 2005 and 2.5 per 100,000 in 2009 ⁸. Phnom Penh initially had a higher robbery rate of 33.2 per 100,000, but it declined after 2006. While the rural area reported higher homicide rates, the offense was linked to resource disputes, such as land disputes ¹⁰. However, there is limited data on the homicide rate in recent years.

A large number of studies focus on using time (year, month, day), location, motive, weapon, and victim-offender relationships as key criteria for investigation. Basically, victims are also profiled based on gender, age, nationality, and occupation while offenders are also grouped based on gender, age, nationality, occupation, and incident characteristics such as time, weapon, motives, victims, offender relationships, and locations ¹¹⁻¹⁴. Lethal violence not only instills terror in communities, but it also targets many others, including the victim's relatives. Having as much data as possible on homicide may be an effective tool for improving community awareness about homicide¹⁵. Furthermore, making information about such crimes publicly available may serve as a preventive and reduction strategy, allowing community members to take steps to reduce the risk factors associated with homicides (e.g., avoiding high-risk locations during peak times). Such data may also serve as a catalyst for policy change in areas such as gun control and sharp-force injuries. However, there is a limitation in the current study on homicide in Cambodia, especially in Phnom Penh, due to limited data accessibility and slow progress in criminology and judicial research. Phnom Penh, as the nation's capital and most urbanized city, offers unique insight into how a post-conflict society with limited institutional capacity and evolving justice sector reforms address lethal violence. This study presents the first decade-long analysis (2014–2023) of homicide patterns in Phnom Penh, Cambodia, addressing critical gaps in post-conflict crime research. The results of this study contribute to a better understanding of homicide rates, crime characteristics, crime clearance rates, and other preventive measures in Cambodia using Phnom Penh as a case study. In post-conflict settings, clearance rates are particularly critical as they directly impact public trust in state institutions, defer further violence, and bolster the legitimacy of the justice sector ⁸Understanding these criteria and relationships would therefore help influence policy efficacy and crime-reduction strategies.

2.Literature Review

2.1 Homicide Trends

Several studies in America, Europe, Africa, and Asia highlight gender and age disparities among victims, as well as regional variations in homicide methods. Ben Khelil, Farhani ¹⁶ conducted a study in North Tunisia from 2005-2014 with 636 homicide case autopsies at Charles Nicolle hospital, showing that the homicide rate was 1.42 per population and the 79.7% were male victims with a male-to-female ratio of 3.93, the average age was 37.7 years, and 52.4% were aged 20-39 years. Moreover, 66.7% of the victims

resided in urban areas, 50.2% were unskilled workers, and 55.7% were single. While the frequency of crime occurrences peaked in summer and autumn, 65.8% occurred between 19:00 and 6:00, with weekends being the most frequent. The motives of homicide were interpersonal disputes (39.6%), robbery (9.9%), and domestic conflicts (15.6%). Notably, females were predominantly killed by intimate partners (55.1%) at home, while males were attacked by strangers (51.3%) in public spaces. The homicide weapons were sharp (51.7%), and blunt trauma (24.8%) were most common.

According to a study conducted in Singapore by taking the data from prison medical/psychiatric records of retrospective analysis of 110 individuals charged with murder in Singapore from 1997-2001, indicating that 64.65% of the victims were male, and the age range was about 10-19 years old, and 25.9% of the victims had consumed alcohol pre-homicide¹⁷. There were 17.7% of the victims who were opposing gang members, while 46% of the victims were killed by a sharp instrument. It was also found that the offenders in homicide cases were predominantly male (88.2%), unmarried (57.2%), and in the age range between 20 and 39 years, with lower education (66.3%). The research also found that alcohol abuse emerges as a critical risk factor for the homicide rate¹⁷.

Another study conducted in Thailand through a retrospective analysis of 119 cases (2009-2003) from autopsy archives at Ramathibodi Hospital, covering seven central Bangkok districts, showed that the victims were male predominance (5.6:1 ratio), with an average age of 33.4 years, while the female victims were slightly older (Sakulsangprapha et al., 2018). There were 71.4% of the victims who were unmarried (single or divorced). The common weapons used in homicide cases were firearms (37.8%), sharp force (35.3%), blunt force linked to head injuries (23.5%), and manual/ligature strangulation (3.4%). The homicide commission rate was at its peak in summer (March-May) and the late rainy season (September-November), and at nighttime (00:00-05:59), which accounted for 33.6% of cases. The findings of the study call for targeted policies on drug regulations, firearm control, and public health interventions to address violence drivers unique to Thailand's sociolegal context¹⁸.

2.2 Homicide rates in Cambodia

Only a few studies are available for Cambodia investigating the homicide-related fields. Positively, Cambodia experienced a 90% reduction in homicide rates since the 1991 peace agreement. This decline was attributed to state stabilization, interdependency, and sensitization to violence. Post-conflict Cambodia (post-1991) saw improved governance, crime prevention, and international aid, fostering a "virtuous circle" of security and economic growth¹⁹. However, previous studies still showed a rate of concern. For example, Broadhurst (2002) showed that the homicide rates were 9.3 per 100,000 population in 1996 and 11.6 per 100,000 in 1998⁷. Similarly, the work conducted by the same authors reported a decrease in homicide rates from 12.9 per 100,000 population in 1993 to 2.5 per 100,000 population [9], but this significant decrease raised questions about data availability and the quality of crime records maintained by law enforcement officers. Additionally, the authors noted that the extrajudicial killings (police/mob violence) accounted for 12-26% of fatalities in 2009, then declined from 32% of homicides in 1998 to 8.8% in 2006. According to Broadhurst⁷), usually homicides were between males and commonly arose from robbery, disputes, and quarrels, with most deaths resulting from firearms. The study also showed that most of the homicides involved male victims, representing 88.4%, and the weapons used were firearms (61%). Furthermore, the rural areas experienced violent crimes (e.g., banditry) while Phnom Penh had increased property crimes 156.1 per 100,000 population, and the national rate was 59.6 per 100,000. While a study by Jeffries and Chuenurah²⁰ revealed that criminalization often occurred within personal relationships (e.g., intimate partners, family members, or acquaintances), the victims of homicide cases were predominantly adult males (56%), non-family members (56%), with few cases involving familial victims (28%) and children (6%). Another study by Broadhurst and Bouhours⁸ also showed that the public perceptions of fear of crime while walking at night in Phnom Penh felt unsafe had declined from 41% in 2006 to 46.5% in 2001.

Overall, despite some previous studies on policing and homicide in Cambodia, there is a gap in studies to understand the trend and pattern, victim and offender characteristics, as well as homicide clearance within the last 10 years that could be comparable to the region and globe. Therefore, the objective of this study was to examine the trends of homicide in Phnom Penh, focusing on demographics of victims and offenders, temporal patterns, and event characteristics.

3. Research Methods

3.1 Research Design

This study was designed as a quantitative research study by using descriptive statistics to explain the phenomenon of homicide trends in Phnom Penh, Cambodia, involving 14 districts of inspection police stations in Chamkar Morn, Doun Penh, 7 Makara, Tuolkork, Dangkor, Meanchey, Russey Keo, Chroy Changva, Prek Pnov, Chbar Ampov, Boeung Kengkang, Kambol. According to the inter-censal population survey 2024, the total population in Cambodia was 17,280,543, and Phnom Penh had a population of 2,352,851, including 1,152,817 males and 1,200,034 females in 2024²¹. The selection of variables (e.g., victim/offender demographics, temporal factors) aligns with established homicide clearance research^{15, 11}.

3.2 Research setting

This research was conducted in Phnom Penh, the capital city of Cambodia. With the facilitation of the Police Academy of Cambodia, the researcher sent the requested letter to the General Commissariat of National Police (GCNP) for approval of the crime data records. After obtaining approval from the GCNP, the researcher was granted access to criminal offense statistics, especially homicide data from 2014-2023, by the corresponding department.

3.2 Data collection

The annual criminal offense statistics from 2014 to 2023 were cross-checked against data from GCNP's criminal offense system (<https://ecrime-gcnp.com/> or eCrime) to validate the data. The homicide data from eCrime were classified by the time frame of the crime, the status of the case, the demographics of the victims and offenders, and the event characteristics. The timeframe of homicide occurrences sub-classified by time, day, month, and year, the status of the cases were identified as clear or unclear, the demographics of the victims and offenders were identified by sex, age, nationality, and occupation, and event characteristics included the tools used to commit the homicide, such as weapons, motives, victim and offender relationships [VOR], and locations), as well as the districts of the inspection police stations or offices where the crimes occurred. From 2014 to 2023, the Phnom Penh Police Commissariat recorded 334 murder cases and verified them by cross-referencing criminal offense statistics with the e-crime database.

3.3 Data Analysis

The data was not ready for analysis. The researcher cleaned, reclassified, and coded the data into categories to meet the objective of this study, then performed data analysis using descriptive statistics and Pearson correlations in SPSS v.23 (IBM, 2023). Data cleaning involved identifying and correcting inconsistencies and entry errors. Variables were reclassified into categorical groups for analysis (e.g., 1 = Unemployed, 2 = Garment/Construction). Missing data for offender characteristics (e.g., nationality, occupation) were coded as “unknown” and retained in the analysis for transparency, as listwise deletion was deemed inappropriate given the study’s descriptive and correlational aims.

4. Results

4.1. Homicide Trends and Clearance Rates

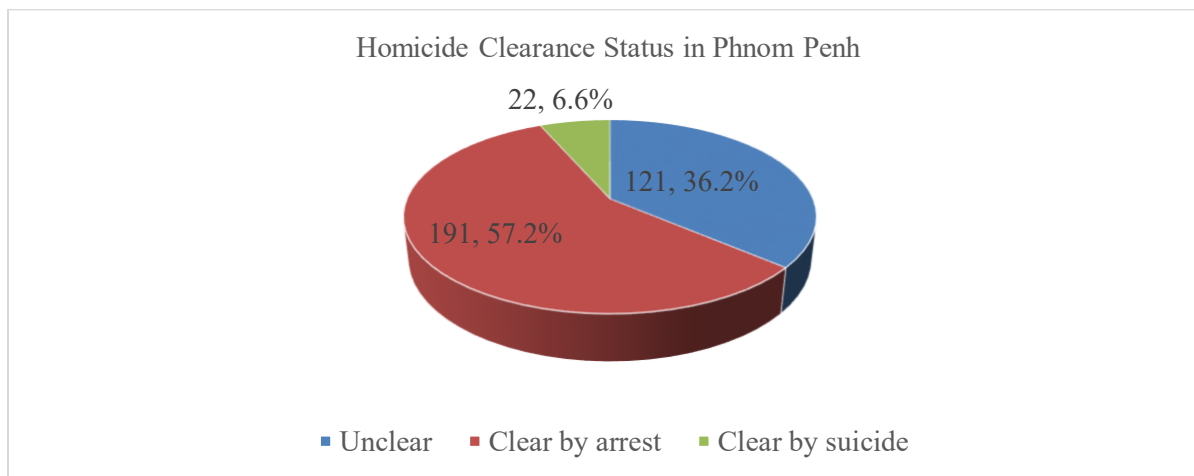
The homicide rates per 100,000 population as per World Population Prospects, following the formula $\text{rate} = (\text{count}/\text{population}) * 100,000$ ²². The study of homicide for the last 10 years (2014-2023) in the capital city of Phnom Penh showed that there were 377 persons who died, including 250 males and 127 females, in 334 homicide cases within 10 years (2014-2023) in Phnom Penh (Table 1). The average number of victims was 37.7 persons per year, including 25 males and 12.7 females. Moreover, the homicide rate was 1.8 per 100,000 population, while the homicide rate for males was 2.4 and for females 1.2 per 100,000 population.

Table 1: Homicide rates in Phnom Penh between 2014 and 2023

Homicide Rates in Phnom Penh	Male	Female	Total
Population in Phnom Penh	1,152,817	1,200,034	2,352,851
Number of Deaths	250	127	377
Average of Deaths	25	12.7	37.7
Homicide Rate	2.4	1.2	1.8

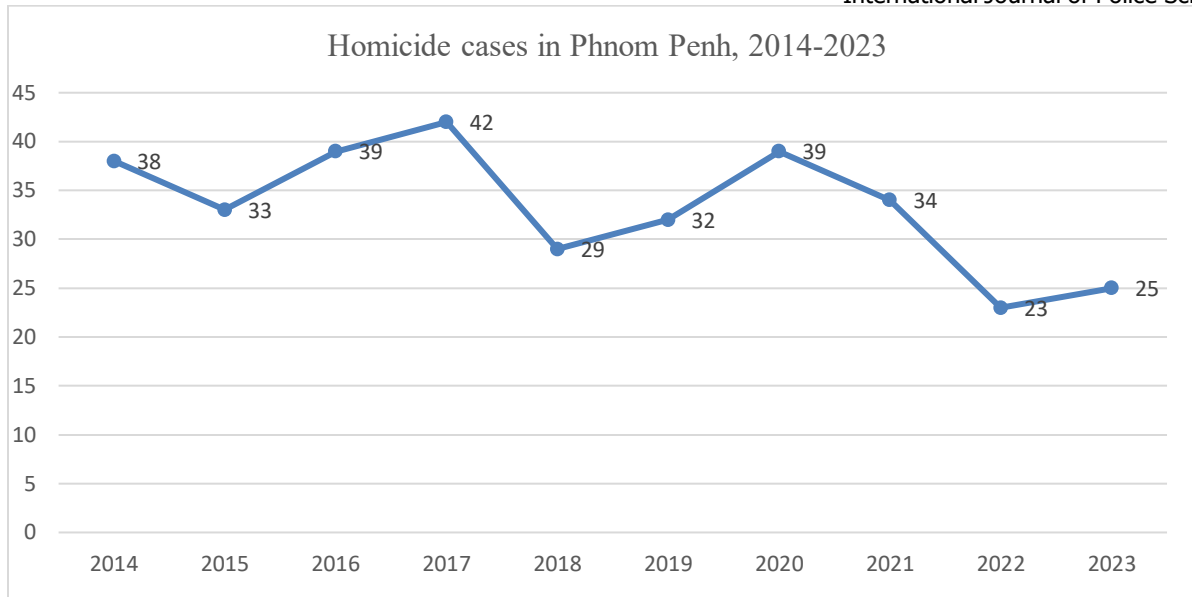
According to the analysis of homicide case clearance, the majority of cases (n=213, 63.8%) were resolved, while a substantial proportion remained unsolved (n=121, 36.2%). Moreover, if the homicide clearance were considered into two clearance statuses as cleared by arrest (n=191, 57.2%) and cleared by suicide (n=22, 6.6%).

Figure 1: Homicide clearance status



The average number of homicide cases each year was 33.4, but the highest was in 2017 with 42 cases, and the lowest was in 2022 with 23 cases.

Figure 2: Homicide cases in Phnom Penh, 2014-2023



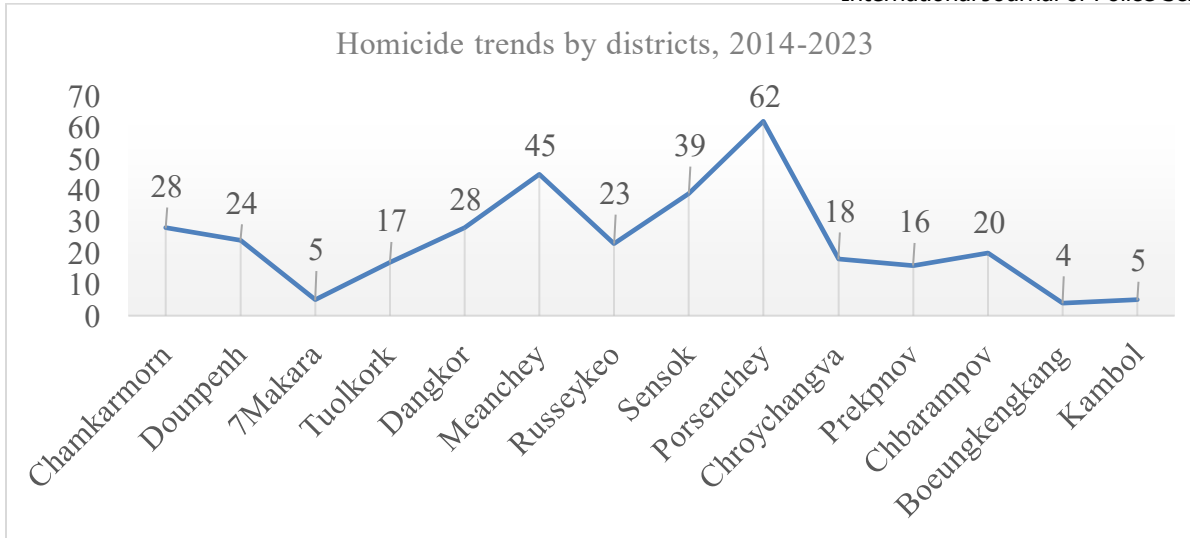
The data analysis showed that the percentage of homicide cases in 2017 was the highest (12.6%), and 2022 was the lowest at 6.9%, while the other years are also higher than 10%, such as 2014 (11.4%), 2016 and 2020 (11.7%), and 2021 (10.2%). There was a decrease in homicide cases from 2021 to 2023.

Table 2: Homicide cases and percentages by years

Year	Homicide cases	%
2014	38	11.4
2015	33	9.9
2016	39	11.7
2017	42	12.6
2018	29	8.7
2019	32	9.6
2020	39	11.7
2021	34	10.2
2022	23	6.9
2023	25	7.5
Total	334	100.0

Homicide cases are disproportionately distributed around the districts of Phnom Penh, exhibiting notable variations in frequency. The district of Porsenchey documented the greatest incidence of murders, with 62 occurrences (18.6% of the total), followed by Meanchey with 45 cases (13.5%) and Sensok with 39 cases (11.7%). Boeung Kengkang recorded the fewest instances (4 cases, 1.2%), followed by 7Makara and Kambol, each with 5 cases (1.5%). The highest rates of homicide cases may relate to geographical coverage and the population in each district (Figure 3).

Figure 3: Homicide cases by districts



4.2. Temporal Patterns of Homicide Cases

The time the incident happened was evening/night from 18:00 to 23:59. This period accounted for 41% of all homicides (137 cases), making it the most prevalent time for violent incidents. Similarly, the morning period from 6:00 to 11:59 had the second-highest incidence, at 22.8% (76 cases). However, the afternoon period from 12:00 to 17:59 accounted for 21.3% (71 cases), slightly lower than the morning. Lastly, the late-night/early-morning period from 24:00 to 5:59 had the lowest incidence, at 15% (50 cases). If the time of homicide were classified into nighttime and daytime, nighttime had higher incidents at 56% (178 cases) and daytime at 44% (147 cases).

Figure 4: Time of homicide cases occurring

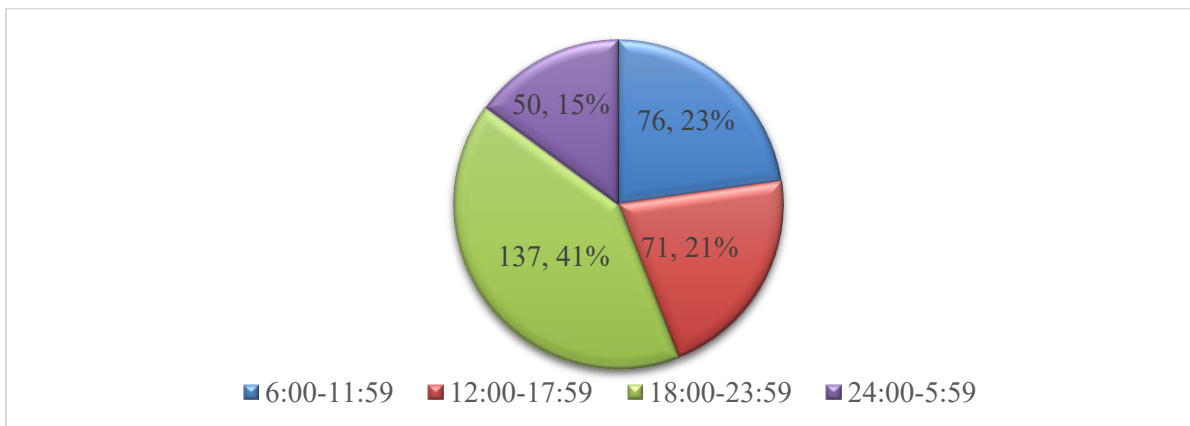


Figure 5 shows that Monday recorded the highest homicide incidence (63 cases, 18.9%), followed by Saturday (57 cases, 17.1%), Tuesday (52 cases, 15.6%), and Friday (50 cases, 15%). Wednesday documented the lowest incidence (36 cases, 10.8%), whereas Thursday (11.7%) and Sunday (11.1%) also displayed comparatively lower rates.

Figure 5: Homicide cases by day

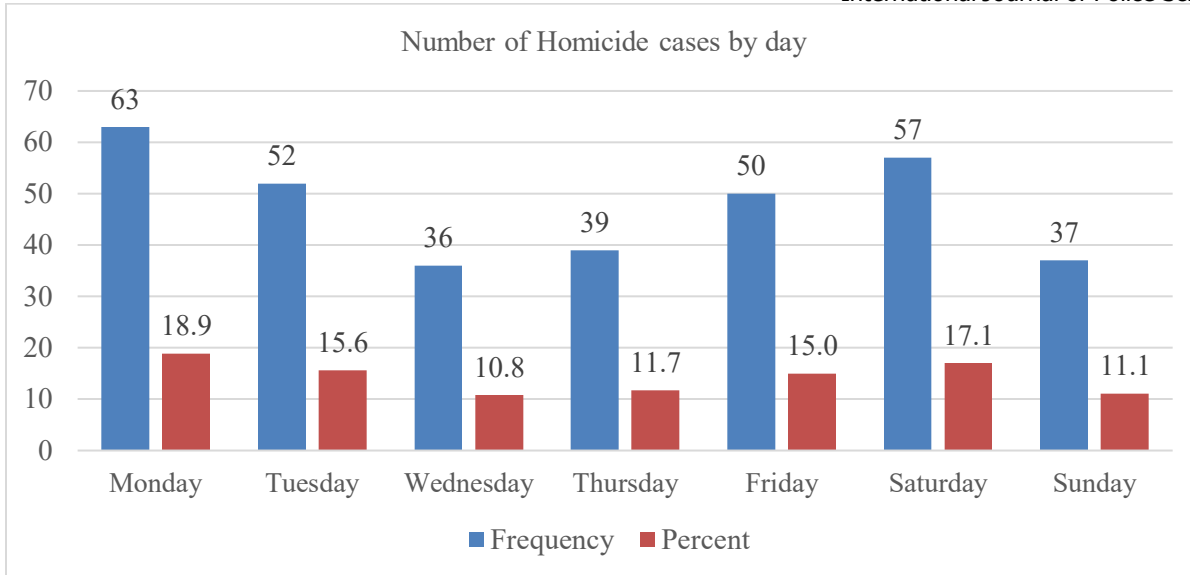
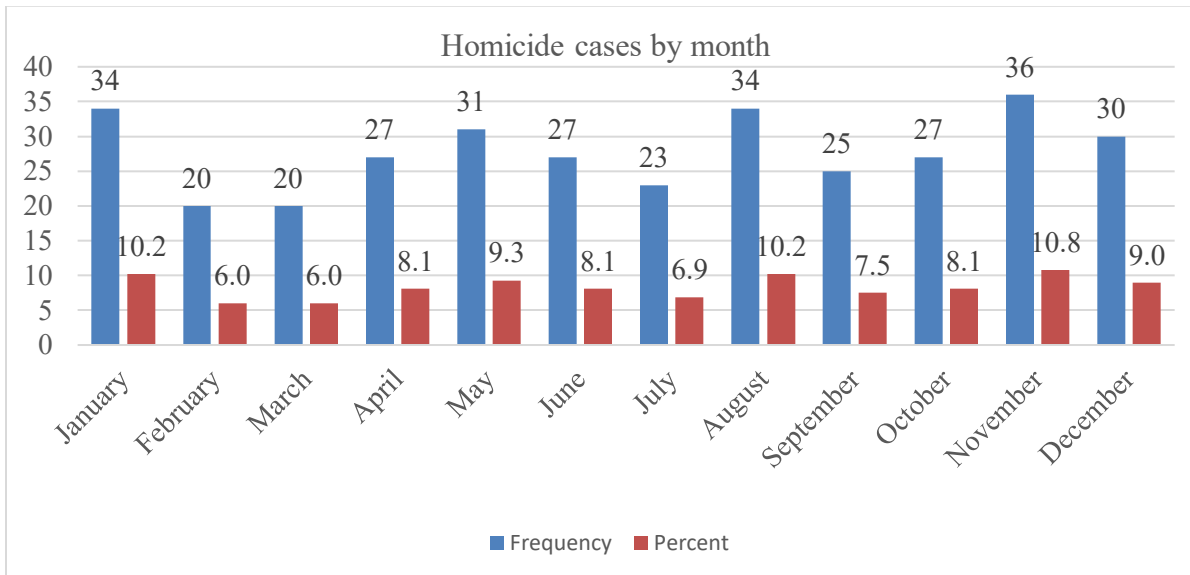


Figure 5 shows that homicide cases fluctuated across the year. November reported the highest number of homicides (36, 10.8%), followed closely by January and August (34, 10.2%). In contrast, February and March had the lowest incidences (20, 6%). A moderate increase was observed in May (31, 9.3%) and December (30, 9%), while intermediate frequencies were noted in April, June, July, September, and October (ranging from 6.9% to 8.1%).

Figure 6: Homicide cases by month



4.3. Victim Characteristics

Table 3: Victim Characteristics (n = 334)

Variable	Value	Frequency	Percentage
Number of Victims	1	302	90.4
	2	25	7.5
	3	6	1.8

Gender	Male	250	66.3
	Female	127	33.7
Age (year)	0-14	14	4.2
	15-29	146	43.7
	30-44	125	37.4
	45-59	33	9.9
	60+	16	4.8
Nationality	Khmer	300	89.8
	Chinese	14	4.2
	Vietnam	9	2.7
	Other	11	3.3
Occupation	Unemployed	78	23.4
	Garment or Construction Worker	100	29.9
	Employee, Self-employed, Small Business Owner	111	33.2
	Armed force	14	4.2
	Tourist	8	2.4
	Student	19	5.7
	Child	4	1.2

Analysis of victim demographics revealed stark patterns. Overwhelmingly, incidents involved a single victim (90.4%), with multi-victim events being rare. Males comprised a significant majority of victims (66.3%) compared to females (33.7%). Young adults bore the greatest impact, with those aged 15-29 making up 43.7% of victims, followed closely by those aged 30-44 (37.4%). Cambodian nationals (Khmer) constituted the vast majority of victims (89.8%). In terms of occupation, employed individuals (including employees, self-employed, and small business owners) formed the largest group (33.2%), followed by garment or construction workers (29.9%), and the unemployed (23.4%). Together, these findings paint a picture of young, working Cambodian men being the most frequent victims in the recorded incidents.

4.4. Offender Characteristics

Table 4: Offender Characteristics (n = 334)

Variable	Value	Frequency	Percentage
Number of Offenders	1	196	58.7
	2	39	11.7
	3	19	5.7
	4	6	1.8

	5	9	2.7
	6	4	1.2
	7	5	1.5
	8	5	1.5
	9	1	0.3
	10	1	0.3
	11	1	0.3
	Unknown	48	14.4
Sex	Male	492	93.0
	Female	37	7.0
Age (year)	0-14	1	0.3
	15-29	115	34.4
	30-44	99	29.6
	45-59	26	7.8
	60+	5	1.5
	Unknow	88	26.3
Nationality	Khmer	238	71.3
	Chinese	12	3.6
	Vietnam	8	2.4
	Other	5	1.5
	Unknown	71	21.3
Occupation	Unemployed	94	28.1
	Garment or Construction Worker	79	23.7
	Employee, Self-employed, Small Business Owner	55	16.5
	Armed force	26	7.8
	Tourist	3	0.9
	Student	6	1.8
	Unknown	71	21.3

Analysis of homicide offender characteristics showed distinct patterns. Most incidents involved a single suspect (58.7%), though a significant minority (over 25%) featured two or more offenders, including cases with large groups (up to 11 individuals); the number of suspects remained unknown in 14.4% of cases. Overwhelmingly, offenders were male (93.0%), with females comprising only 7.0%. Most identified offenders were young adults, with those aged 15-29 (34.4%) and 30-44 (29.6%) forming the

largest cohorts. Notably, age information was unavailable for 26.3% of the offenders. Cambodian nationals (Khmer) constituted the clear majority (71.3%) of identified offenders, while offenders with unknown nationality accounted for 21.3% of cases. In terms of occupations, unemployed individuals were most common (28.1%), followed closely by garment or construction workers (23.7%) and employees/self-employed/small business owners (16.5%). Offenders with unknown occupations accounted for 21.3% of cases. This profile points toward young Cambodian men, particularly those in unstable employment or manual labor sectors, being disproportionately represented among homicide suspects.

4.5. Correlation Analysis of Victim Characteristics and Case Clearance

This section presents the results of a correlation analysis examining the relationship between various victim characteristics and the clearance status of homicide cases. The analysis utilizes Pearson correlation coefficients to identify statistically significant associations. The variables included are Case Clearance, Number of Victims (NV), Gender of Victim (GV), Age of Victim (AV), and Occupation of Victim (OV). Means and standard deviations for each variable are also examined. Table 5 shows the results of the correlational analysis.

Table 5: Correlations, Means, and Standard Deviations of Victim Characteristics and Case Clearance

Correlations (n =334)								
Variable	Mean	SD	Solved Case	NV	GV	AV	OV	RV
Solved Case	0.64	0.481	1.00					
NV	1.13	0.488	0.007	1.00				
GV	1.35	0.478	.136*	-.117*	1.00			
AV	32	12.64	0.073	-0.102	0.028	1.00		
OV	1.54	1.368	.144**	0.012	0.044	-0.078	1.00	
RV	1.19	0.64	-0.004	0.064	-0.047	0.062	0.068	1.00

*. Correlation is significant at $p < 0.05$.

**. Correlation is significant at $p < 0.01$.

4.5.1. Descriptive Statistics of Victims

The mean of case clearance rate is 0.64 (SD = 0.481), suggesting that approximately 64% of cases are cleared. The average Number of Victims (NV) per incident is 1.13 (SD = 0.488), indicating that most cases involved a single victim. The mean value for Gender of Victim (GV) is 1.35 (SD = 0.478), for Age of Victim (AV) is 32 years (SD = 12.643), for Occupation of Victim (OV) is 1.54 (SD = 1.368), and for Race of Victim (RV) is 1.19 (SD = 0.64). These results provide a general overview of the typical characteristics of victims in the dataset.

4.5.2. Correlation of Victim Characteristics with the Case Clearance

The analysis of victim characteristics pointed out several significant correlations with case clearance. **Gender of Victim (GV):** There is a statistically significant positive correlation between the Gender of Victim and Case Clearance ($r = 0.136, p < 0.05$). This suggests that cases involving victims of a certain gender are more likely to be cleared. Without knowing the specific numerical coding for gender (e.g., male = 1, female = 2, or vice versa), the precise direction of this relationship cannot be definitively stated in qualitative terms, but it indicates that gender influences the likelihood that a case will be resolved.

Occupations of Victim (OV): A highly significant positive correlation is observed between the Occupation of Victim and Case Clearance ($r = 0.144, p < 0.01$). This indicates that cases involving victims from certain occupational categories are more likely to be cleared. This finding suggests that the victim's occupational status may influence investigative processes or the availability of information leading to case resolution. **Number of Victims (NV), Age of Victim (AV), and Race of Victim (RV):** No statistically significant correlations were found between Case Clearance and the Number of Victims ($r = 0.007, p > 0.05$), Age of Victim ($r = 0.073, p > 0.05$), or Race of Victim ($r = -0.004, p > 0.05$). This suggests that these victim characteristics, as measured in this dataset, are not linearly related to the likelihood that a case will be cleared. **Gender of Victim (GV) and Number of Victims (NV):** A statistically significant negative correlation exists between the Gender of Victim and the Number of Victims ($r = -0.117, p < 0.05$). The pattern suggests that incidents involving female victims typically have a lower number of total victims than those involving male victims. This means the victim's gender might be connected to how many people become victims in an incident.

Overall, the correlation analysis highlights that the Gender of the Victim and the Occupation of the Victim are significantly associated with Case Clearance, suggesting that these characteristics may influence the investigative outcomes of homicide cases. Additionally, a significant relationship was found between the Gender of the Victim and the Number of Victims. Conversely, the Number of Victims, Age of Victim, and Race of Victim did not show a significant linear correlation with Case Clearance. These findings provide valuable insights into factors that may impact the resolution of homicide cases and the dynamics of victimization.

4.6. Correlation Analysis of Offender Characteristics and Case Clearance

This section likely presents findings from a correlation analysis examining relationships between various offender characteristics and the clearance status of homicide cases. The variables examined include Case Clearance, Number of Suspects (NS), Gender of Suspect (GS), Age of Suspect (AS), Occupation of Suspect (OS), and Race of Suspect (RS). Descriptive statistics, including means and standard deviations for each variable, are also provided. Table 6 shows the results of the analysis.

Table 6: Correlations, Means, and Standard Deviations of Offender Characteristics and Case Clearance

Correlations (n = 334)								
Variable	Mean	SD	Solved Case	NS	GS	AS	OS	RS
Solved Case	0.64	0.48	1.00					
NS	1.85	1.75	0.009	1.00				
GS	0.93	0.46	.410**	-0.092	1.00			
AS	32.17	11.04	0.013	-.230**	.257**	1.00		
OS	2.41	2.61	-.256**	0.111	-.126*	-0.021	1.00	
RS	0.92	0.69	.298**	-0.026	.172**	0.097	-.558**	1.00

*. Correlation is significant at $p < 0.05$.

**. Correlation is significant at $p < 0.01$.

4.6.1. Descriptive Statistics of Offenders

The average Number of Suspects (NS) per incident is 1.85 (SD = 1.754), suggesting that, on average, cases involve nearly two offenders, though the high standard deviation indicates considerable variability. The mean of Age of Suspect (AS) is 32 years (SD = 11.04).

4.6.2. Correlation of Offender Characteristics with the Case Clearance

The analysis emphasizes several statistically significant correlations between offender characteristics and Case Clearance. For Gender of Suspect, the analysis showed a positive correlation with the Case Clearance ($r=0.410$, $p<0.01$). *This suggests that cases involving offenders of a certain gender are more likely to be cleared.* **Occupation of Suspect (OS)**, A significant negative correlation is observed between the Occupation of Suspect and Case Clearance ($r = -0.256$, $p < 0.01$). This suggests that the likelihood of a case being cleared tends to decline as the number associated with an offender's occupation increases. Although it is difficult to determine which occupations are associated with reduced clearance rates in the absence of specific occupational category coding, this finding suggests that the offender's occupational status influences investigation outcomes. **Relationship of Suspect to Victim (RS)**, There is a significant positive correlation between the Relationship of Suspect to Victim and Case Clearance ($r = 0.298$, $p < 0.01$). This suggests that cases where the offender has certain types of relationships with the victim are more likely to be cleared. This finding implies that the nature of the relationship between the offender and victim can significantly influence the resolution of homicide cases. **Number of Suspects (NS) and Age of Suspect (AS)**, No statistically significant correlations were found between Case Clearance and the Number of Suspects ($r = 0.009$, $p > 0.05$) or the Age of Suspect ($r = 0.013$, $p > 0.05$). This suggests that, within this dataset, neither the number of individuals involved in the crime nor their age is linearly related to the likelihood that a case will be cleared.

Beyond the previously discussed factors influencing case clearance, our analysis revealed several significant correlations among key offender characteristics. These findings provide insight into the demographic and social patterns present among individuals involved in homicide offenses. **Number of Suspects (NS) and Age of Suspect (AS)**, A significant negative correlation exists between the Number of Suspects and the Age of Suspect ($r = -0.230$, $p < 0.01$). This indicates that incidents involving more suspects tend to feature lower-average-age suspects. This pattern suggests that homicides committed by groups are more frequently associated with younger offenders compared to those involving single perpetrators. **Gender of Suspect (GS) and Age of Suspect (AS)**, A significant positive correlation is observed between the Gender of Suspect and the Age of Suspect ($r = 0.257$, $p < 0.01$). If males are coded with a higher numerical value, this would imply that male suspects tend to be older than female suspects in this dataset. **Gender of Suspect (GS) and Occupation of Suspect (OS)**, A statistically significant negative correlation is found between the Gender of Suspect and the Occupation of Suspect ($r = -0.126$, $p < 0.05$). This suggests that if males are coded with a higher numerical value, they tend to be in occupations with lower numerical codes, or vice versa, indicating a relationship between gender and occupational distribution among offenders. **Race of Suspect (RS) and Occupation of Suspect (OS)**, A very strong negative correlation exists between the Race of Suspect and the Occupation of Suspect ($r = -0.558$, $p < 0.01$). This indicates a substantial inverse relationship: as the numerical value of the relationship type increases, the numerical value of occupation tends to decrease significantly. This suggests a strong interplay between the suspect's race and occupational background.

Overall, the correlation analysis of offender characteristics reveals that the suspect's gender, occupation, and race are significantly associated with the likelihood of case clearance in homicide investigations. Specifically, cases involving offenders of a certain gender, those from particular occupational backgrounds, and those of a specific race show higher or lower clearance rates. Conversely, the number of suspects and their age do not appear to have a significant linear relationship with case

clearance. Furthermore, notable intercorrelations exist among offender characteristics, such as younger offenders being involved in multi-suspect cases, and strong links between gender, age, occupation, and race. These findings offer crucial insights into the factors influencing the resolution of homicide cases and the complex dynamics of offender profiles.

5. Discussion

5.1. Homicide Clearance Rates

The 63.8% clearance rate of homicide cases observed in Phnom Penh (2014-2023) aligns with global declines documented by the UNODC ² but falls below the 70-80% clearance rates common in Western nations ²³. This discrepancy may reflect Cambodia's unique post-conflict institutional challenges, including limited forensic capacity and resource constraints in law enforcement ⁸. Clearance rates are critical indicators of police effectiveness, with lower rates correlating with public distrust—a concern noted in Phnom Penh, where distrust grew from 41% to 46.5% between 2001 and 2006 ¹⁰.

5.2. Temporal Patterns

The concentration of homicides during evening/night hours (18:00–23:59; 41%) and on Mondays (18.9%) diverges from patterns in Thailand, which peaks at 00:00–05:59 ¹⁸ and Tunisia on weekends ¹⁶. This suggests context-specific routine activities, possibly linked to leisure activities or commuting patterns in urban Cambodia. Seasonal peaks in November and August contrast with Thailand's March–May and September–November surges ¹⁸ underscoring regional climatic and cultural influences on violence timing.

5.3. Victim Characteristics

The male predominance (66.3%) mirrors global homicide trends ² and aligns with Broadhurst ⁷ finding that 88.4% of Cambodian homicide victims were male. Young adults (15–44 years, 81.1%) are consistently overrepresented globally due to higher risk exposure ¹⁶. The overwhelming Khmer victim majority (89.8%) reflects Cambodia's ethnic demographics but contrasts with tourist-centric homicide patterns elsewhere ¹³. Occupational vulnerabilities among garment/construction workers (29.9%) and the unemployed (23.4%) support socioeconomic theories linking poverty and precarious work to victimization ².

5.4. Offender Characteristics

Male offender dominance (93.0%) is consistent across cultures ¹², while the youth concentration (15–44 years; 64%) aligns with the "age-crime curve" ². High unemployment among offenders (28.1%) echoes Broadhurst ⁷ linkage of economic marginalization to post-conflict violence in Cambodia. The 21.3% unknown nationality rate highlights data gaps in tracking transnational criminality, a noted challenge in Southeast Asia ⁸.

5.5. Clearance Correlates

The positive clearance correlation with victim gender ($r = 0.136$) and occupation ($r = 0.144$) parallels Wellford and Cronin ²³ finding that cases involving socially salient victims receive more investigative resources. Strong effects of offender gender ($r = 0.410$) and victim-offender relationship ($r = 0.298$) support Puckett and Lundman's 11 "solvability factors," in which known offenders and male perpetrators enhance the likelihood of closure. This strong association for known victim-offender relationships underscores the importance of investigative workflows that leverage relational information, such as systematic neighborhood canvases, analysis of communication metadata, and review of available CCTV footage in the victim's social circle. Non-significant age/numbers effects contrast with Western studies ¹³, suggesting Cambodian investigations prioritize relational evidence over demographic factors.

6. Conclusion

This study, using a decade-long dataset (2014–2023), provides the first comprehensive analysis of homicide patterns in Phnom Penh, Cambodia, revealing a clearance rate of 63.8% that aligns with global declines while underscoring institutional challenges in Cambodia's post-conflict justice sector. Victims were predominantly young *Khmer* males (15–44 years, 81.1%), with employed individuals (33.2%), garment/construction workers (29.9%), and the unemployed (23.4%) at highest risk, while offenders shared similar demographics—overwhelmingly young *Khmer* males (64%), often unemployed (28.1%) or in precarious labor (23.7%). Temporal trends diverged regionally, peaking during evening hours (41%) and on Mondays (18.9%), with seasonal spikes in November and August contrasting sharply with neighboring Thailand's patterns. Critically, clearance rates correlated significantly with victim gender ($r = 0.136$) and occupation ($r = 0.144$), as well as offender gender ($r = 0.410$) and victim-offender relationships ($r = 0.298$), highlighting Cambodia's reliance on relational solvability factors over demographic variables.

To address the limitations of these findings, we recommend: (1) investing in forensic resources to close data gaps (e.g., 21.3% unknown offender nationality); (2) deploying targeted patrols during high-risk periods and among vulnerable groups. Specifically, police deployment should be prioritized during evening hours (18:00-23:59) on Monday and in high-incidence districts such as Porsenchey and Meanchey. and (3) standardizing investigative protocols to mitigate bias and effectively leverage relational solvability factors. Future research should expand to provincial settings and employ mixed methods to explore socioeconomic drivers, ensuring Cambodia's violence-reduction strategies bolster public trust and regional security.

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