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Epidemiological, Behavioral and Judicial Profile of Sexual Assault Perpetrators in Conakry (Guinea): A Five-Year Medico-Legal Study of 1014 Cases

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Abstract

Introduction: Sexual assault constitutes a major public health problem and an important medico-legal issue, particularly in resource-limited countries. This study aimed to analyze the epidemiological, behavioral, and judicial profiles of sexual assault perpetrators in Conakry. **Methods**: This was a retrospective descriptive and analytical study conducted from 2021 to 2025 at the Forensic Medicine Department of the Regional Hospital of Conakry. Data were collected from medico-legal, judicial, and security records. Statistical analyses were performed using the chi-square (χ^2) test and the calculation of odds ratios (ORs) with 95% confidence intervals (CIs). **Results**: A total of 1014 perpetrators were included, all of whom were male. The mean age was 29.8 years, with a predominance of individuals aged 18 - 30 years (60.2%). Most perpetrators had low educational levels and were socioeconomically disadvantaged. Substance use was reported in 22.8% of cases. Addictive behaviors were significantly associated with arrest (OR = 1.62; 95% CI [1.18 - 2.23]; p = 0.003). Younger perpetrators had an increased likelihood of substance use (OR = 1.78; p = 0.002) and arrest (OR = 1.68; p = 0.001). **Conclusion**: These findings highlight the importance of socio-behavioral determinants in the dynamics of sexual

assault and underscore the need for targeted interventions integrating social prevention strategies and efforts to combat addiction.

Keywords

Sexual Assault, Perpetrators, Epidemiological Profile, Forensic Medicine, Substance Use, Guinea

1. Introduction

Sexual violence is a major global public health and public safety problem because of its frequency, severity, and lasting consequences for victims. According to the World Health Organization, nearly one in three women worldwide has experienced physical or sexual violence during her lifetime, highlighting the magnitude and persistence of this phenomenon [1]. This violence has multiple consequences, including physical trauma, psychological disorders (post-traumatic stress and depression), and important social and legal consequences. Beyond victim care, sexual assault is a central medico-legal issue, with forensic medicine playing a key role in documenting facts, identifying perpetrators, and producing medico-legal evidence. In this context, understanding the profile of perpetrators is essential for guiding prevention strategies, improving judicial investigations, and strengthening public policies to combat sexual violence [2]. However, most scientific research has historically focused on victims, leaving relatively little attention to perpetrators, particularly in resource-limited countries. Available evidence nevertheless indicates that sexual assault perpetrators show relatively consistent characteristics: they are predominantly male, often young, and frequently from disadvantaged socioeconomic backgrounds [3]-[5]. These observations fit within several explanatory theoretical frameworks, including social control theory, strain theory, and developmental criminology approaches, which highlight the role of individual, social, and environmental factors in the development of violent behaviours [6]. Furthermore, several risk factors have repeatedly been associated with offending, including low educational attainment, socioeconomic insecurity, and substance-use behaviours. Alcohol and drug consumption have been repeatedly associated with sexual aggression because of their disinhibitory effects, impaired judgement, and potential to increase aggression [7] [8]. These factors are particularly relevant in rapidly changing urban settings, where social, economic, and demographic dynamics may favour the emergence of risk behaviours. In sub-Saharan Africa, and more specifically in West Africa, sexual assault represents a growing but still insufficiently documented problem from the perspective of perpetrators. Data-collection systems are often fragmented among health facilities, security services (police and gendarmerie), and courts, thereby limiting the availability of reliable and comprehensive information [9]. In this context, studies integrating multisectoral sources are particularly relevant for improving the overall understanding of the phenomenon and reducing biases related to underreporting.

In Guinea, particularly in Conakry, a capital city characterised by high urban density and considerable socioeconomic diversity, sexual violence occupies an increasingly important place in medico-legal activity. The Department of Forensic Medicine of the Regional Hospital of Conakry is a central point for data collection, working closely with security services and judicial authorities. However, specific data on the profile of sexual assault perpetrators in this setting remain limited. Against this background, the present study aimed to comprehensively analyse the epidemiological, behavioural, and medico-legal profile of alleged sexual assault perpetrators recorded in the Department of Forensic Medicine of the Regional Hospital of Conakry over a five-year period. The study used a multisource approach integrating medico-legal data, victim statements, and information from security services and judicial authorities. It focused particularly on sociodemographic characteristics, substance-use behaviours, and factors associated with perpetrators' apprehension, with the aim of improving understanding of the phenomenon and guiding prevention and judicial response strategies adapted to the Guinean context.

2. Materials and Methods

Study design and setting: Retrospective descriptive and analytical study conducted from 1 January 2021 to 31 December 2025 in the Department of Forensic Medicine of the Regional Hospital of Conakry. Study population: All alleged sexual assault perpetrators with usable data, identified from medico-legal and judicial sources, were included. Data collection: Data were extracted from medico-legal registers, certificates, expert reports, official reports, and judicial files. Cross-checking was performed to improve data reliability. Statistical analysis: Statistical analyses were performed using IBM SPSS Statistics version 26.0 (IBM Corp., Armonk, NY, USA). Categorical variables were compared using the chi-square test. Associations were measured using odds ratios with 95% confidence intervals. Ethical considerations: This study was approved by the National Ethics Committee for Health Research (Guinea). Data were anonymised in accordance with the principles of the Declaration of Helsinki. Study limitations: This study has limitations inherent to its retrospective design and the multisource nature of the collected data, as some information concerning perpetrators was indirectly reported from victim statements or judicial records. These factors may introduce information bias and limit the accuracy of certain variables, despite attempts at cross-checking. Nevertheless, the diversity of sources and the sample size strengthen the robustness and representativeness of the findings.

3. Results

A total of 1014 alleged sexual assault perpetrators were recorded among 929 victims, corresponding to a perpetrator-to-victim ratio of 1.09. This result indicates that some assaults involved multiple perpetrators for the same victim. All sexual assault perpetrators were male (100%) (**Figure 1**).

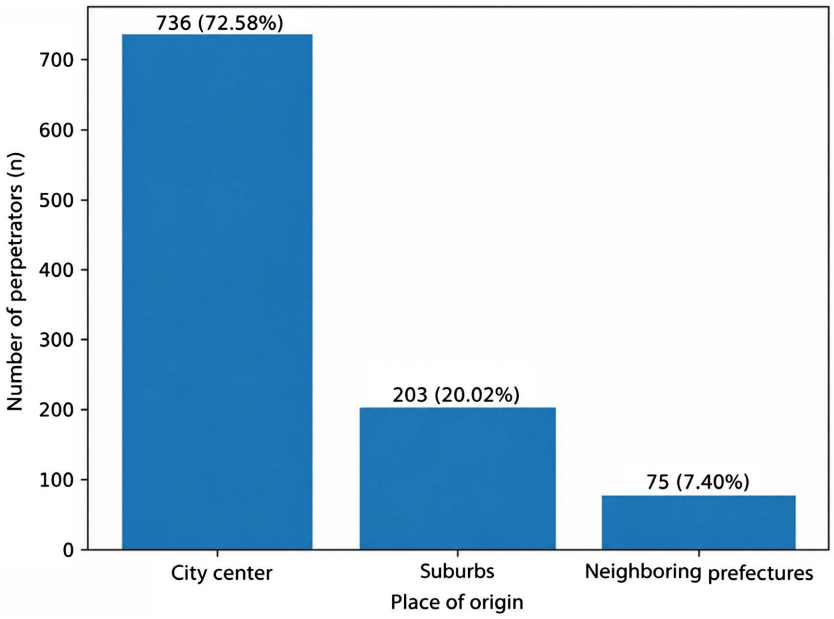


Figure 1. Distribution by origin.

Most sexual assaults were committed by a single perpetrator (n = 916; 90.3%), whereas assaults involving multiple perpetrators accounted for 9.7% of cases (n = 98) (**Figure 2**).

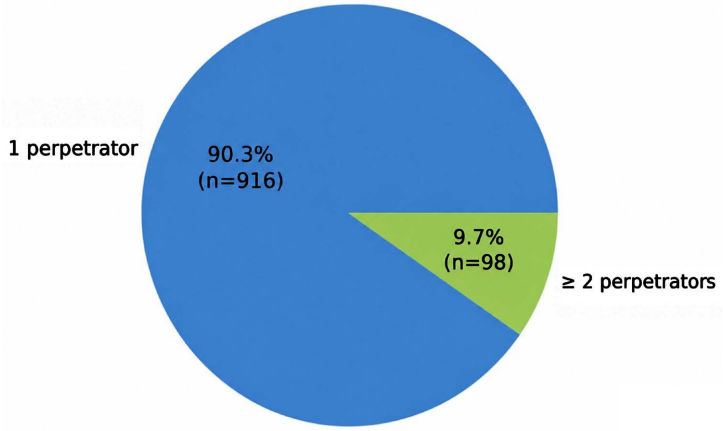


Figure 2. Distribution by number of perpetrators (N = 1014).

The age distribution of perpetrators showed a clear predominance of young adults aged 18 - 30 years (n = 610; 60.2%), followed by the 31 - 45-year age group (n = 371; 36.6%). Minors (<18 years) were rare (n = 6; 0.6%), as were perpetrators aged over 45 years (n = 27; 2.7%). The mean age was 29.8 years (range: 15 - 58 years) (**Figure 3**).

The educational level of the perpetrators was generally low, with a predominance of primary education (57.2%), followed by no formal education (21.6%), secondary education (19.1%), and, to a lesser extent, higher education (2.1%) (**Figure 4**).

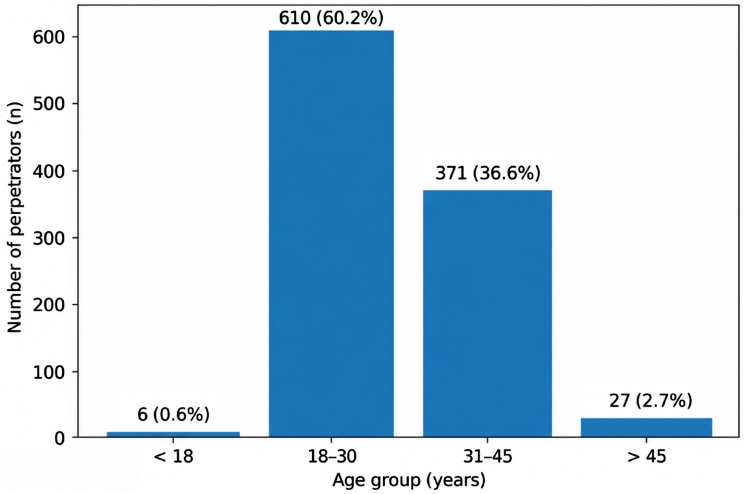


Figure 3. Distribution of perpetrators by age group (N = 1014).

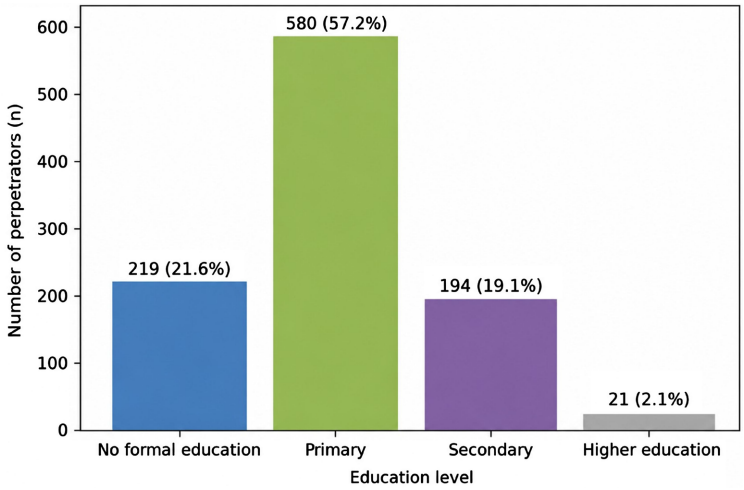


Figure 4. Distribution of perpetrators by educational level (N = 1014).

Other: traders, artisans, drivers/motorcyclists.

Perpetrators were predominantly labourers/manual workers (n = 412; 40.6%), followed by pupils/students (n = 316; 31.2%) and unemployed persons (n = 175; 17.3%). Other categories (traders, artisans, drivers, etc.) accounted for 10.9% of cases (n = 111) (**Figure 5**).

Marital status showed a clear predominance of single perpetrators (n = 934; 92.1%). Divorced perpetrators accounted for 6.6% of cases (n = 67), while widowed (n = 10; 1.0%) and married individuals (n = 3; 0.3%) were marginally represented (**Figure 6**).

Substance use was observed in 231 perpetrators, representing 22.8% of the sample. Tobacco use was the most frequent form (12.2%), followed by alcohol use (7.3%), drug use (2.4%), and combined alcohol and drug use (0.9%) (**Figure 7**).

Among the perpetrators, 588 (58.0%) were identified and 416 (41.0%) were apprehended. A small proportion were at large (n = 7; 0.7%) or unidentified (n = 3; 0.3%) (**Table 1**).

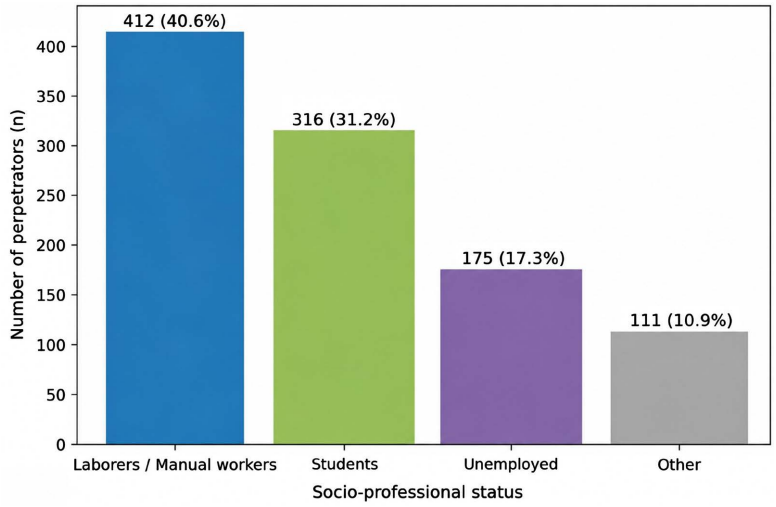


Figure 5. Distribution of perpetrators by socio-professional status (N = 1014).

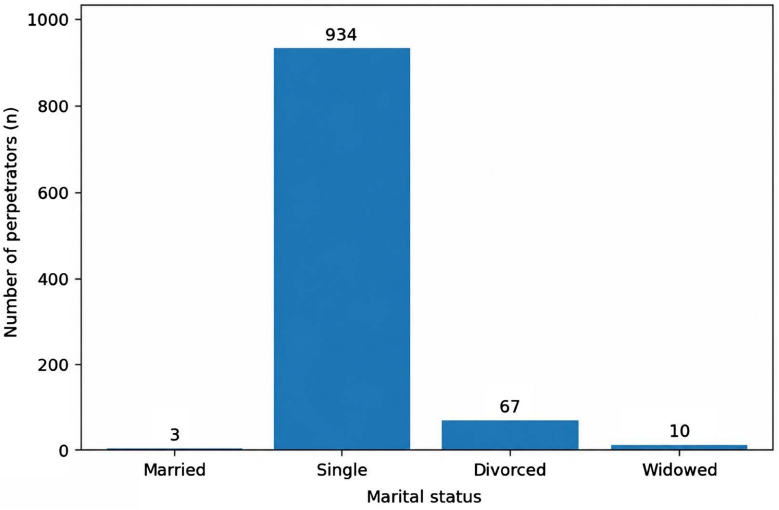


Figure 6. Distribution of perpetrators by marital status.

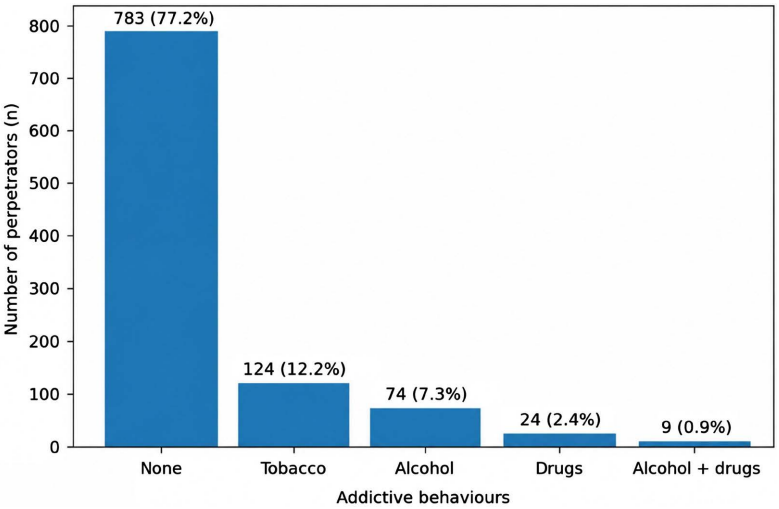


Figure 7. Distribution of perpetrators by addictive behaviours (N = 1014).

Table 1. Distribution of perpetrators according to judicial status (n = 1014).

Judicial status	Frequency (n)	Percentage (%)
Identified	588	58.0
Apprehended	416	41.0
At large	7	0.7
Unidentified	3	0.3
Total	1014	100

Substance use was significantly more frequent among perpetrators aged 18 - 30 years (27.0%) than among those aged over 30 years (16.3%). This association was statistically significant (OR = 1.78; 95% CI: [1.25 - 2.54]; p = 0.002), indicating a higher likelihood of substance use among younger perpetrators (**Table 2**).

Table 2. Association between age group and addictive behaviors among sexual assault perpetrators (n = 1014).

Age group	Substance use n (%)	No substance use n (%)	Total	OR	95% IC p-value
18 - 30 years	165 (27.0)	445 (73.0)	610	1.78 [1.25 - 2.54]	0.002
>30 years	66 (16.3)	338 (83.7)	404	1 (Ref.)	-
Total	231 (22.8)	783 (77.2)	1014	-	-

Perpetrators with substance-use behaviours were more frequently apprehended (52.0%) than those without substance use (37.8%). This difference was statistically significant (OR = 1.62; 95% CI: [1.18 - 2.23]; p = 0.003), suggesting a higher probability of apprehension among perpetrators who used substances (**Table 3**).

Table 3. Association between addictive behaviors and the arrest of sexual assault perpetrators (n = 1014).

Addictive Behaviors.	Apprehended n (%)	Not apprehended n (%)	Total	OR	95% IC p-value
Substance use (Yes)	120 (52.0)	111 (48.0)	231	1.62 [1.18 - 2.23]	0.003
Substance use (NO)	296 (37.8)	487 (62.2)	783	1 (Ref.)	-
Total	416 (41.0)	598 (59.0)	1014	-	-

Assaults involving multiple perpetrators were more frequently associated with apprehension (53.1%) than those committed by a single perpetrator (39.7%). This association was statistically significant (OR = 1.94; 95% CI: [1.12 - 3.36]; p = 0.013) (**Table 4**).

Table 4. Association between the number of perpetrators and arrest status (n = 1014).

Number of perpetrators	Apprehended n (%)	Not apprehended n (%)	Total	OR	95% IC p-value
≥2 perpetrators	52 (53.1)	46 (46.9)	98	1.94 [1.12 - 3.36]	0.013
1 perpetrator	364 (39.7)	552 (60.3)	916	1 (Ref.)	-
Total	416 (41.0)	598 (59.0)	1014	-	-

Perpetrators aged 18 - 30 years were more frequently apprehended (45.1%) than those aged over 30 years (34.9%). This difference was statistically significant (OR = 1.68; 95% CI: [1.23 - 2.30]; p = 0.001), indicating a higher probability of apprehension among younger perpetrators (Table 5).

Table 5. Association between age group and arrest of sexual assault perpetrators (n = 1014).

Age group	Apprehended (n, %)	Not Arrested. (n, %)	Total	OR	95% IC p-value
18 - 30 years	275 (45.1)	335 (54.9)	610	1.68 [1.23 - 2.30]	0.001
>30 years	141 (34.9)	263 (65.1)	404	1 (Ref.)	-
Total	416 (41.0)	598 (59.0)	1014	-	-

4. Discussion

This study highlights a relatively homogeneous profile of sexual assault perpetrators in Conakry, dominated by young men, socially vulnerable individuals, and a substantial proportion with substance-use behaviours. Statistical analyses identify factors associated with both offending and apprehension, contributing to a better understanding of the phenomenon in a still poorly documented African context.

1) Sociodemographic Profile and Criminal Dynamics

The exclusive predominance of males (100%) is consistent with international data, confirming that sexual assaults are predominantly perpetrated by men regardless of geographic context [9] [10]. This consistency highlights the importance of structural determinants related to gender norms, power relations, and social constructions of masculinity. The high proportion of perpetrators aged 18 - 30 years (60.2%), together with a mean age of 29.8 years, is consistent with the classic age-crime curve described in contemporary criminological literature [11] [12]. The significant association between younger age and apprehension (OR = 1.68; 95% CI [1.23 - 2.30]; p = 0.001) suggests that this age group was more frequently represented among sexual assault perpetrators and was also more exposed to judicial response. This observation could be explained by greater impulsivity, lower ability to anticipate consequences, and greater visibility of acts.

2) Socioeconomic Vulnerability and Structural Determinants

Low educational attainment and the predominance of disadvantaged occupational categories highlight the potential importance of socioeconomic determinants in violent behaviour.

These findings are consistent with social criminology models, particularly strain theory and ecological approaches to delinquency, which link insecurity, marginalisation, and deviant behaviours [13] [14]. In African urban contexts characterised by rapid population growth and marked socioeconomic inequalities, these factors may be amplified, favouring the emergence of risk behaviours. Our findings highlight the potential importance of socioeconomic and behavioural factors in sexual assault, in line with recent evidence from comparable contexts in sub-Saharan Africa and Europe [15] [16]. These findings underscore the need to integrate social and educational interventions into prevention strategies.

3) Marital Status and Social Control

The high proportion of single individuals (92.1%) observed in our study could reflect a lower level of informal social control, often associated with marital stability. Recent studies suggest that structured social bonds may have a protective role against deviant behaviours, although this relationship remains complex and multifactorial [17].

4) Addictive Behaviors: A Major Determinant

The prevalence of addictive behaviors (22.8%) represents a major finding. The significant association between younger age and substance use (OR = 1.78; 95% CI [1.25 - 2.54]; p = 0.002) confirms the particular vulnerability of this population. Furthermore, the association between addictive behaviors and arrest (OR = 1.62; 95% CI [1.18 - 2.23]; p = 0.003) suggests that psychoactive substance use plays a dual role: facilitating the commission of offenses through disinhibition and impulsivity, and increasing vulnerability to arrest. This observation is consistent with contemporary criminological models that incorporate disinhibition and reduced executive control under the influence of psychoactive substances. These findings are in agreement with recent studies highlighting the impact of alcohol and drugs on aggression and the impairment of inhibitory control [18] [19].

5) Organization of Sexual Assaults and Judicial Response

Most assaults involved a single perpetrator (90.3%), which is consistent with international literature [19]. However, group assaults were significantly associated with a higher probability of apprehension (OR = 1.94; 95% CI [1.12 - 3.36]; p = 0.013). This observation may be explained by greater visibility of the events, a larger number of potential witnesses, and organisational complexity facilitating perpetrator identification. It also highlights the need for a specific approach to collective violence in security policies.

6) Public Health and Forensic Medicine Implications

The findings of this study highlight clearly identified risk factors, particularly younger age, socioeconomic vulnerability, and addictive behaviours. These factors should be incorporated into prevention strategies through educational programmes targeting young people, substance-use prevention policies, and strengthening social and community networks. From a forensic medicine perspective, the multisource approach represents a major methodological contribution, allowing for improved perpetrator identification and enhanced quality of judicial evidence.

5. Conclusion

This study highlights a relatively homogeneous profile of sexual assault perpetrators in Conakry, dominated by young men who were mostly single, had low educational attainment, and came from disadvantaged socioeconomic backgrounds. The non-negligible proportion of substance-use behaviours and their significant association with apprehension highlight the relevance of psychoactive substances in the dynamics of these assaults. Statistical analyses identified factors associated with both offending and apprehension, including younger age, substance-use behaviours, and group assaults. These findings underscore the importance of individual and social factors in sexual violence while highlighting specific features of the Guinean urban context. The multisource approach, integrating medico-legal data, victim statements, and information from security services and judicial authorities, represents an important methodological contribution that may improve the completeness of perpetrator identification. Despite limitations inherent to the retrospective nature and characteristics of the data, this study provides useful evidence for understanding a phenomenon that remains poorly documented.

Author Contributions

All authors contributed to the conception and design of the study. Data collection, data analysis, and interpretation of the results were conducted collaboratively. The initial manuscript was drafted and subsequently reviewed and revised by all authors. All authors critically reviewed the manuscript, approved the final version, and agreed to be accountable for all aspects of the work.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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