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# Unveiling Opium Knowledge Level: A Gender-Based Analysis Among Tertiary Students

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**ABSTRACT**

The surge in opioid abuse has significantly impacted the general population, particularly affecting tertiary students. Opium misuse within this demographic presents a complex challenge influenced by various social, psychological, and environmental factors. Addressing this research gap, the study investigates the knowledge of opium-type drugs (opiate, heroin, morphine, and oxycodone) among tertiary students, with a specific focus on gender differences. Using a cross-sectional research design and a quantitative approach, data were collected from 296 tertiary students through Google Forms. Descriptive analysis, employing percentages and frequencies, revealed intriguing patterns in knowledge and lack of knowledge across genders regarding various opium drugs. In the opiates category, females demonstrate a slightly higher knowledge percentage (42.9%) compared to males (40.2%). Conversely, females show a significantly higher lack of knowledge about LSD (33.1%) compared to males (22.3%). Regarding heroin, males display a slightly higher knowledge percentage (43.2%) than females (40.9%); nevertheless, females have a notably higher lack of knowledge about heroin (10.1%) compared to males (5.8%). Knowledge about morphine is comparable between males (42.6%) and females (41.2%), but females exhibit a slightly higher lack of knowledge (9.8%) compared to males (6.4%). In the case of oxycodone, males exhibit a significantly higher knowledge percentage (16.2%) than females (9.1%); however, females show a notably higher lack of knowledge (41.9%) compared to males (32.8%). The analysis underscores diverse knowledge patterns among genders, emphasizing the need for targeted educational interventions. Overall, the study concludes that the knowledge level concerning opiates, heroin, and morphine is robust, shaped by widespread information dissemination, educational initiatives, and the involvement of healthcare professionals, collectively enhancing public awareness

**Keywords**: opium, drug, knowledge, tertiary, students

## 1. Introduction

Opium is a highly addictive narcotic drug derived from the poppy plant's unripe seed-pod (Papaver somniferum) latex (DEA, 2020; Ray et al., 2006). Common street names include Ah-pen-yen, Aunti, Aunti Emma, Big O, Black Pill, Chandoo, Chandu, Chinese Molasses, Chinese Tobacco, and others (DEA, 2020). Opium can be smoked, intravenously injected, or taken in pill form. Opium is also abused in combination with other drugs. Opium misuse results in diverse negative consequences that impact physical health, mental well-being, social dynamics, and economic aspects. The potential for addiction and respiratory issues, such as difficulties in breathing and

respiratory failure, pose physical risks (ALA, 2023; Nakhaee, et al., 2020). In terms of mental health, opium misuse not only impairs cognitive functions but also increases the likelihood of mental disorders like depression and anxiety, simultaneously straining social relationships due to behavioral changes (Rosof, et al., 2021; Siam, 2007; Zahra, et al., 2012). Additionally, illicit opium use may lead to legal problems, resulting in arrests and criminal charges (Ismail, et al., 2022; Laws of Malaysia, 2006). The consequences extend to occupational and academic realms, causing reduced productivity (Rehm, et al., 2007; Single, et al., 2003; Sorge, et al., 2020) and higher dropout rates among students (Bachman, et al., 2008; Bugbee, et al., 2019; Hjorth, et al., 2016). Health risks encompass the danger of overdose, especially when combined with other substances, and an increased risk of transmitting infections through needle-sharing (Bertoni, et al., 2011; Hrycko, et al., 2022; Meijerink, et al., 2013). The economic burden is evident in healthcare costs for treating opium-related issues and lost productivity due to absenteeism (Florence, et al., 2017; Kim, et al., 2022; Murphy, 2020). On the community level, opium misuse may contribute to higher crime rates (Bennett, & Holloway, 2009; Degenhardt, et al., 2013; Pierce, et al., 2017) and strain on healthcare systems (Dolati-Somarin, & Abd-Nikfarjam, 2021; Mirahmadizadeh, et al., 2022), potentially escalating into a public health crisis with epidemic potential (Blanco, et al., 2020), necessitating comprehensive interventions. Opium, commonly abused by adolescents (Hudgins et al., 2019; Nahvizadeh, et al., 2014), contributes significantly to this concerning trend. In the same year, approximately 1 in 4 young adults aged 18 to 25 were identified as current illicit drug users (Stover et al., 2019). The misuse of opioids has witnessed a significant increase in the past decade, affecting the general population, including university students (Tshitangano, & Tosin, 2016; Weyandt et al., 2022). Despite recognized risks, opioid use remains prevalent among adolescents and young adults in the U.S. (Hudgins et al., 2019). Individuals who misuse prescription opioids are more likely to engage in risky behaviours, such as using other drugs like heroin (Compton et al., 2016). According to the National Institute on Drug Abuse (NIDA), prescription opioids are the most commonly abuse prescription drugs in the United States (NIDA, 2014b), with approximately 2 million people diagnosed with opioid use disorder (NIDA, 2014a). Misuse can escalate to substantial consumption of opioids, leading to overdose, respiratory depression, and death (NIDA, 2014b).

## 2. Literature Review

The surge in opioid misuse over the past decade has had a profound impact on the general population, with tertiary students being particularly affected (Weyandt et al., 2022). Notably, the National Survey on Drug Use and Health highlighted the highest prevalence of past-year opioid use among young adults aged 18 to 25 (SAMHSA, 2018). The 2017 National Survey on Drug Use and Health (NSDUH) unveiled alarming statistics, indicating that approximately 11.4 million individuals misuse opioids, with around 2.1 million grappling with opioid use disorder (SAMHSA, 2018). In West Virginia, a 2017 analysis reported a concerning surge in drug overdose deaths, reaching at least 818 in 2016—an almost 13% increase from the preceding year (Ahmad et al., 2021). Notably, about 86% of these deaths involved at least one opioid (Ghose, et al., 2022). Opioid-related deaths are rapidly increasing, and approximately 68% of the 702,000 drug overdose deaths in the United States from 2013 to 2017 involved opioids (NIDA, 2019; Scholl, et al., 2020). It is also reported that prescription opioids (vs illicit opioids) are the first opioids to be abused (Cicero, et al., 2014), with almost 30% of patients prescribed opioids for chronic pain misusing them (Vowlew, et al., 2015) and about 12% developing opioid use disorder (OUD) (Vowlew, et al., 2015). Indeed, opium abuse in Malaysia is not an exception, as research indicates that in 2020, there were approximately 4.5 thousand cases of opiate abuse in the country (SRD, 2023).

The misuse of opium among tertiary students is a complex issue influenced by various factors encompassing social, psychological, and environmental elements. Recognizing the diversity of contributing factors is crucial, as individual cases may vary. Peer pressure plays a significant role in influencing tertiary students to experiment with substances, including opium, driven by a desire to fit in or gain acceptance within specific social groups (Costello, et al., 2021; Keyzers, et al., 2020). Additionally, the demanding nature of tertiary education, marked by high stress and academic pressure, may lead some students to turn to opium as a coping mechanism (Bugbee, et al., 2019; Leta, et al., 2015; Sinha, 2008). Students grappling with mental health issues, such as anxiety, depression, or trauma, are more vulnerable to substance misuse, with drugs serving as a means to self-medicate and alleviate emotional distress (Ahmadi, 2004; Becker, et al., 2008; Khoury, et al., 2010). Furthermore, curiosity and a penchant for experimentation may contribute, particularly in the absence of awareness about the risks and consequences of opium use (Heydari, et al., 2015). The accessibility and availability of opium or opioid-based drugs in certain environments further contribute to misuse, as students may be more inclined to experiment when substances are readily accessible. Moreover, opium might serve as a coping mechanism for some students navigating personal challenges, traumas, or difficult life situations, potentially leading to a cycle of dependency if alternative coping strategies are not promoted or available (Hyman, et al., 2009). Finally, insufficient awareness and education about the dangers of opium misuse can contribute to its prevalence among tertiary students, highlighting the need for educational programs on substance abuse prevention (Abraham, et al., 2020; Hudgins et al., 2019). Knowledge is a powerful tool in the fight against drug abuse. It plays a pivotal role in prevention, intervention, treatment, and community well-being. An informed and educated approach helps create a society that is better equipped to address the challenges posed by drug abuse. A research study carried out by Hussin et al. (2014) among tertiary students revealed a limited understanding of the effects of opium abuse. Nonetheless, within the student population, there exists a subgroup with direct exposure to opium, as well as a smaller faction whose friends are involved in opium abuse. This suggests that there are still students lacking awareness about opium, making them susceptible to its abuse. It is important to note that the study did not specifically delve into the categorization of opium within this subgroup. Merely possessing general knowledge about the opium category is insufficient for tertiary students. They need to be acquainted with the specific types of drugs within the opium category, aligning with their intellectual capacity. Consequently, the study aims to fill this gap by examining the knowledge levels of opium-type drugs, specifically opiates, heroin, morphine, and oxycodone, among tertiary students, with a focus on gender differences. In conducting this study with tertiary students, ethical considerations took precedence, emphasizing the importance of informed consent and participant protection. The research meticulously outlined its objectives, confidentiality measures, and data handling procedures, securing consent through a designated form. Participants were granted the flexibility to withdraw at any stage, confirming their understanding and agreement by expressing consent through the designated form. Furthermore, to safeguard confidentiality during data collection via Google Forms, the researcher prioritized anonymity, implemented rigorous privacy controls, and communicated transparent privacy policies. This approach ensured both data security and participant confidentiality.

## 3. Methodology

Throughout this study, a cross-sectional research design (Knottnerus & Muris, 2003) was employed, utilizing a quantitative approach to gather data from tertiary students at a single time point. The sample, comprising 296 tertiary students participating in the Student Development program, was selected through simple random sampling. These students volunteered to participate in the study. The research data were collected through a questionnaire developed specifically for this study by the researcher. The questionnaire aimed to assess the knowledge level across seven

categories of various types of drugs, employing a dichotomous scale (1 = YES; 2 = NO; 3 = UNSURE). In the questionnaire, a "YES" response indicates the respondent has knowledge or awareness of the specific illicit drug mentioned, whereas "NO" signifies a lack of knowledge about that substance. Additionally, choosing "UNSURE" reflects uncertainty or a lack of confidence in the respondent's knowledge, suggesting insufficient information to confirm or deny familiarity with the mentioned illicit drug. Responses marked as NO or NOT SURE were scored as 0, while YES responses received a score of 1. Administered as part of the student development program, this questionnaire typically takes approximately 15 minutes. The content validity of the questionnaire was assessed by a panel of two experts who evaluated the questions' terminology, clarity, and representativeness. Data collection was facilitated through Google Forms, a versatile and accessible web-based platform that allows respondents to participate easily across various devices (Kayode-Sanni, 2022). The platform's real-time response collection feature enabled swift access to data, supporting efficient analysis and decision-making processes. Additionally, Google Forms prioritizes security by employing encryption for data transmission and storage, ensuring a secure and cost-effective method for data collection (Chernikov, 2023). A descriptive analysis, employing percentages and frequencies, was conducted to analyse the demographic characteristics and assess knowledge related to opium drug category awareness among tertiary students. The analysis was performed using SPSS version 26.

## 4. Result

The analysis reveals that 296 individuals, comprising 145 males and 151 females, partook in this study, with an average age of 21.7 years. Regarding family income, 7.09% (n=21) were classified within the Top 20% (T20) category, 32.77% (n=97) fell under the Middle 40% (M40), while the majority, constituting 60.13% (178), belonged to the Bottom 40% (B40). The racial breakdown demonstrated 65.5% (n=194) of Malay participants, 22.3.% (n=66) Chinese participants, 6.8% (n=6.8) Indian participants, and 5.4% (n=16) categorized as other races. Admission to higher institutions displayed 30.4% (n=90) based on STPM, 56.1% (n=166) through matriculation, 8.4% (n=25) via diploma qualifications, and 5.6% (n=15) through other credentials. Subsequently, the analysis explores the participants' knowledge levels across seven drug categories, as depicted in Table 1.

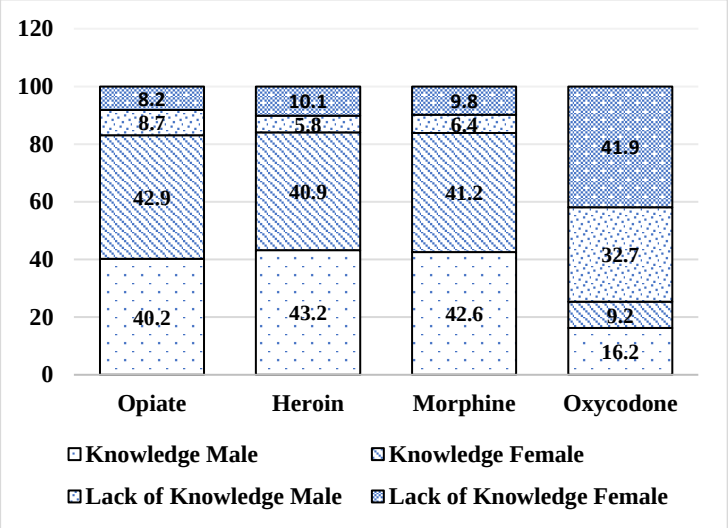
Table 1: Knowledge Levels Across Seven Categories of Drug Types Among Participants According to Gender

| | **YES** | | | | **NO** | | | | **UNSURE** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Male** | | **Female** | | **Male** | | **Female** | | **Male** | | **Female** | |
| **Opium** | **%** | **n** | **%** | **n** | **%** | **n** | **%** | **n** | **%** | **n** | **%** | **n** |
| Opiate | 40.2 | 119 | 42.9 | 127 | 5.7 | 17 | 4.4 | 13 | 3 | 9 | 3.7 | 11 |
| Heroin | 43.2 | 128 | 40.9 | 121 | 4.4 | 13 | 7.4 | 22 | 1.4 | 4 | 2.7 | 8 |
| Morphine | 42.6 | 126 | 41.2 | 122 | 3.7 | 11 | 7.8 | 23 | 2.7 | 8 | 2 | 6 |
| Oxycodone | 16.2 | 48 | 9.1 | 27 | 21.6 | 64 | 35.1 | 104 | 11.1 | 33 | 6.8 | 20 |

Opium, a highly addictive narcotic sourced from the opium poppy plant, is prone to abuse and misuse. This study specifically focuses on five distinct opium-derived drugs—opiates, heroin, morphine, and oxycodone—exploring the levels of understanding among male and female participants. Table 1 reveals differences in participants' knowledge levels concerning opioids, highlighting gender-based disparities. Male participants demonstrated slightly higher knowledge of three types of opiates (Heroin: 43.2%, Morphine: 42.6%, Oxycodone: 16.2%) compared to

female participants (Heroin: 40.9%, Morphine: 41.2%, Oxycodone: 9.1%). However, when considering all opiates collectively, female participants exhibited a slightly higher overall knowledge level (42.9%) compared to male participants (40.2%). Based on the study's findings, it can be concluded that there are gender-based disparities in the level of knowledge about various opium-derived drugs. While male participants demonstrated slightly higher knowledge in specific categories such as heroin, morphine, and oxycodone, the overall knowledge level was slightly higher among female participants when considering all opiates collectively. These differences suggest that gender may play a role in shaping individuals' awareness of different types of opium-derived drugs. The study underscores the importance of considering gender-specific factors in educational efforts and interventions related to opium misuse. The levels of knowledge and lack of knowledge among tertiary students based on gender are illustrated in Figure 1.

Figure 1: Gender-Based Variation in Knowledge and Lack of Knowledge Among Tertiary Students




The analysis of knowledge percentages and disparities between males and females concerning various types of opium drugs reveals intriguing trends, as illustrated in Figure 1. In the opiates category, females demonstrate a slightly higher knowledge percentage (42.9%) compared to males (40.2%). Conversely, females exhibit a significantly higher lack of knowledge about LSD (33.1%) compared to males (22.3%). For heroin, males exhibit a slightly higher knowledge percentage (43.2%) than females (40.9%), yet females have a notably higher lack of knowledge about heroin (10.1%) compared to males (5.8%). Knowledge about morphine is similar between males (42.6%) and females (41.2%), but females show a slightly higher lack of knowledge (9.8%) compared to males (6.4%). In the case of oxycodone, males demonstrate a significantly higher knowledge percentage (16.2%) than females (9.1%); nevertheless, females show a notably higher lack of knowledge (41.9%) compared to males (32.8%). Overall, females generally exhibit a slightly higher knowledge percentage in the opiates category, while males show slightly higher knowledge percentages for heroin. However, significant differences in lack of knowledge become evident, with females displaying notably higher percentages of lack of knowledge about LSD, heroin, and oxycodone compared to males. This suggests that, overall, females may possess a better understanding of opiates, while males may have a more specific knowledge advantage in heroin. The variations in knowledge and lack of knowledge patterns underscore gender-specific differences in awareness of different opium drugs, highlighting the need for targeted educational interventions to address these disparities.

## 5. Discussion

For this study, four types of opium were studied to assess the knowledge level among tertiary students namely, opium, heroin, morphine, and oxycodone. The analysis revealed a robust knowledge among participants regarding opiates, heroin, and morphine, while a noticeable knowledge gap surfaced regarding oxycodone. Several factors may contribute to the potential for female tertiary students to demonstrate a slightly higher level of knowledge about opiates. Firstly, targeted health education initiatives or campaigns focusing on opiate and substance abuse prevention could increase female engagement and receptiveness, potentially resulting in an elevated level of knowledge. Additionally, the commonly observed open communication styles among females and their willingness to discuss sensitive subjects such as drug awareness may facilitate a deeper understanding of opiates and contribute to heightened knowledge. Moreover, being part of social networks that emphasize health and well-being may expose females to peer influences that enhance overall awareness. Research also suggests that females may perceive risks differently than males, potentially motivating them to actively seek information and education on opiates. Furthermore, the effectiveness of media campaigns or information dissemination about opiates in reaching and resonating with female audiences could contribute to heightened awareness. Lastly, in the academic setting, if the curriculum or academic discussions address substance abuse topics, females may engage more actively in these conversations, further augmenting their higher level of knowledge.

In the context of males potentially demonstrating a significantly higher level of knowledge about substances such as LSD, heroin, and oxycodone, several influencing factors emerge. Media and popular culture representation play a pivotal role, with males potentially having increased exposure to portrayals and references in films, music, and literature related to these substances, shaping an elevated awareness. Additionally, socialization and peer influence within male-dominated social circles might cultivate more prevalent discussions about drug use, consequently contributing to a higher level of knowledge. The educational background of males, encompassing exposure to information or discussions regarding the effects and risks of these substances in academic programs, may result in a deeper understanding. Furthermore, certain male-oriented subcultures or communities could explicitly emphasize drug-related knowledge, influencing a heightened level of awareness. Research also indicates that males may exhibit a greater inclination toward risk-taking behavior and sensation-seeking, contributing to increased interest and exploration of information about substances such as LSD, heroin, and oxycodone. Moreover, lazy people might be more inclined to actively seek information about these substances online, where readily available information fosters a proactive approach to knowledge acquisition.

The shared knowledge about morphine among males and females can be attributed to various factors. Initially, educational programs and health campaigns addressing opiates, including morphine, might lack significant gender-specific variations in their design and implementation. An equal exposure to comprehensive educational materials, lectures, or campaigns covering the effects, risks, and characteristics of morphine could result in comparable knowledge levels for both genders. Discussions within society and depictions in the media may contribute to a mutual understanding of morphine among males and females, as popular culture, news, or documentaries present information in an accessible manner. Moreover, the physiological and medical aspects of morphine might not be significantly influenced by gender differences. If the information primarily focuses on the pharmacological properties, medical uses, and potential side effects of morphine, both males and females may acquire and retain this knowledge at a similar level. Additionally, it is plausible that the academic curriculum or educational materials accessible to both genders are

structured to ensure equal exposure to information about morphine, thereby contributing to standardized and consistent knowledge levels regardless of gender

The discussion examines the factors influencing gender-specific knowledge levels about opiates and morphine among tertiary students. For females, targeted health education campaigns, communication styles, social network influences, distinct risk perceptions, and the effectiveness of media contribute to their slightly higher knowledge of opiates. On the other hand, males might exhibit a significantly higher knowledge regarding substances like LSD, heroin, and oxycodone, influenced by media exposure, socialization, educational background, male-oriented subcultures, and a potential inclination toward risk-taking behaviour. The shared knowledge about morphine across genders is linked to potential gender-neutral educational programs, societal discussions, and media portrayals. The physiological aspects of morphine, with a primary focus on pharmacological properties, are seen as contributors to a consistent knowledge level across genders. The academic curriculum is suggested as a factor ensuring equal exposure to information related to morphine**.**

## 6. Limitation of Study

The study faces challenges in generalizing its findings due to several reasons. Firstly, constraints in sample size could limit the applicability of the results to larger populations. Additionally, a narrow research design that focuses solely on specific aspects without considering broader variables might restrict the universal relevance of the findings. Finally, online surveys may yield rushed or incomplete responses, potentially resulting in lower-quality data that inadequately captures participants' perspectives or behaviours. Nonetheless, these study results can serve as a foundation for future research expansion.

## 7. Conclusion

In conclusion, understanding the intricacies of opium misuse is indispensable for tertiary students, serving as a vital protective measure against engagement in risky behaviours linked to opium abuse. The acquisition of knowledge not only raises awareness of potential risks but also empowers tertiary students to make informed decisions, resist peer pressure, and proactively prevent the initiation of opium use. The spotlight on opium misuse's impact on academic performance underscores the need to prioritize studies, compelling tertiary students to recognize opium's adverse effects on cognitive functions and prioritize their educational pursuits. This knowledge equips tertiary students to identify early signs of opium abuse, enabling timely and effective intervention. In emergencies, possessing this knowledge becomes a valuable asset, imparting crisis management skills for potential life-saving actions. This heightened awareness underscores the practical significance of a comprehensive understanding of substance misuse, enabling tertiary students to act responsibly, prioritize academics, identify signs of abuse, and respond effectively in emergencies.

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