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## **Prevalence and Pattern of Sex Enhancement Drug Use Among Adult Males in Ido-Ekiti, Nigeria: A Community-Based Cross-Sectional Study**

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## ABSTRACT

Sex enhancement drug consumption has become increasingly visible across several African settings, yet community-level prevalence data remain limited. This study examines the prevalence and pattern of sex enhancement drug use among adult males in Ido-Ekiti, Ekiti State, Nigeria. A descriptive cross-sectional design was employed among 362 adult males aged 18–65 years selected through multistage sampling. Data were collected using a semi-structured questionnaire and analysed with SPSS version 27.0. The prevalence of lifetime use of sex enhancement drugs was 38.7%. Alcohol 26.0% and local herbal preparations 21.3% constituted the most frequently reported substances, followed by orthodox pharmaceutical agents 9.1% and nutritional supplements 5.8%. Usage was largely occasional, with 26.5% reporting use 1–2 times and 1.9% reporting daily use. Most users reported use within marital or regular partnerships 17.4%, though a proportion reported use with casual partners 13.5%, sex workers 11.9%, and women they struggled to win 5.5%. The dominant source of procurement was roadside vendors 81.4%. The findings reveal substantial community-level engagement with sex enhancement substances, characterised by informal acquisition and episodic consumption. These results highlight the need for structured sexual health engagement strategies that address patterns of non-medical performance enhancement within community settings.

**KEYWORDS:** Sex enhancement drugs; prevalence; usage pattern; male sexual health; Nigeria

## INTRODUCTION

Sexual performance enhancement has become an increasingly visible aspect of men's health behaviour in many societies, shaped by shifting expectations around intimacy, bodily control, and the pursuit of sexual confidence. Research on men's sexual health shows that pharmaceutical agents originally developed for clinically diagnosed erectile dysfunction are now used in recreational contexts by men without medical indications. Studies report that phosphodiesterase type 5 inhibitors are often taken to prolong intercourse, increase perceived stamina, or meet relational expectations that frame sexual performance as a marker of competence and desirability (Klein & Shindel, 2023). This expansion of use reflects a broader cultural moment in which sexual performance is increasingly treated as something that can be optimised through biomedical means.

Alongside pharmaceutical products, herbal aphrodisiacs and alcohol-based preparations remain widely used across African settings. Ethnopharmacological research documents the circulation of locally prepared mixtures marketed for enhancing libido, penile rigidity, or sexual endurance, often drawing on long-standing cultural knowledge systems (Amoah et al., 2022). Public health studies in West Africa also highlight the popularity of herbal and alcohol-infused aphrodisiacs among men who view these products as accessible, potent, and aligned with cultural expectations surrounding virility and relational responsibility (Fiaveh, 2020; Owaba et al., 2021; Mensah et al., 2025). These practices are often embedded within wider constructions of masculinity in which sexual performance is linked to social identity, respect, and fulfilment of partner expectations.

Evidence from Nigeria and neighbouring countries shows considerable variation in prevalence depending on population group, age, and methodological approach. Recent Nigerian studies report the use of sexual stimulants among young and middle-aged men, with motivations ranging from performance enhancement to concerns about sexual adequacy or genital size (Nna et al., 2016; Ibrahim & Zango, 2021; Adaki, 2026). Ghanaian research similarly

identifies widespread use of sexual enhancement products, including herbal mixtures and over-the-counter pharmaceuticals, particularly in urban and peri-urban communities where commercial marketing and peer influence are strong (Fiaveh, 2020). These findings suggest that sexual performance enhancement is not an isolated behaviour but part of a wider constellation of practices shaped by cultural norms, interpersonal expectations, and evolving ideas about male sexuality.

Despite the growing body of research in selected Nigerian cities, community-based evidence from Ekiti State remains limited. Ido-Ekiti represents a culturally cohesive yet socially dynamic locality where traditional herbal preparations coexist with pharmaceutical and alcohol-based products. This environment provides a distinctive context for examining how men navigate different forms of sexual enhancement substances and how these choices intersect with local beliefs, interpersonal expectations, and access to health information. The absence of empirical data from this setting restricts understanding of the scale and pattern of use, as well as the social meanings attached to these practices.

The present study addresses this gap by generating empirical evidence on the prevalence and pattern of sex enhancement drug use among adult men in Ido-Ekiti. The study focuses on four key objectives: establishing the prevalence of sexual enhancement drug use, identifying the types of substances consumed, examining the frequency and contextual pattern of use, and determining the primary sources of procurement. These objectives provide a foundation for understanding how sexual enhancement practices are shaped within this community and contribute to wider research on men's health behaviour in West Africa.

## **METHODS**

### **Study Design and Setting**

This descriptive cross-sectional study was carried out in Ido-Ekiti, the administrative headquarters of Ido-Osi Local Government Area in Ekiti State, Nigeria. Ido-Ekiti comprises two political wards and ten settlements, representing a semi-urban community with mixed occupational and socio-economic characteristics. The town hosts a range of health facilities, including one Federal Teaching Hospital that serves as the major referral centre for surrounding communities, three primary healthcare centres providing basic medical services, one private clinic, and several informal drug sales outlets that function as common points of access for over-the-counter medications. This setting provided an appropriate environment for assessing patterns of sex enhancement drug use among adult males.

### **Study Population**

The study population consisted of adult males aged 18 to 65 years who were permanent residents of Ido-Ekiti. Eligibility required residence within the selected households and willingness to participate. Individuals who declined consent, those with chronic debilitating illness that could impair participation, and psychiatric patients were excluded to ensure reliability of responses and protect vulnerable groups. The focus on adult males reflected the study's aim of examining sex enhancement drug use within a demographic most likely to engage with such products.

### **Sample Size and Sampling Procedure**

The minimum sample size was determined using Fischer's formula, applying a prevalence estimate of 67.6% from previous Nigerian research on sex enhancement drug use. This yielded a required sample of 337 participants. To

accommodate potential non-response, an additional 10% was added, resulting in 370 questionnaires being distributed. Of these, 362 were completed and returned, giving a response rate of 97.8%.

A multistage sampling technique was employed to ensure representativeness. In the first stage, one of the two political wards in Ido-Ekiti was selected by simple random sampling. In the second stage, five settlements within the chosen ward were randomly selected. Systematic sampling was then used to select households within each settlement, with sampling intervals determined by the estimated number of households. Within selected households, eligible adult males were recruited consecutively until the required sample size was achieved. This approach ensured broad coverage across the community while maintaining methodological rigour.

### **Data Collection**

Data were collected using a semi-structured, self-administered questionnaire designed to capture relevant socio-demographic characteristics and detailed information on the prevalence and pattern of sex enhancement drug use. The questionnaire was structured into clearly defined sections to facilitate ease of completion and improve data quality. Trained research assistants supervised questionnaire distribution and collection, provided clarification when needed, and ensured completeness before retrieval.

### **Data Analysis**

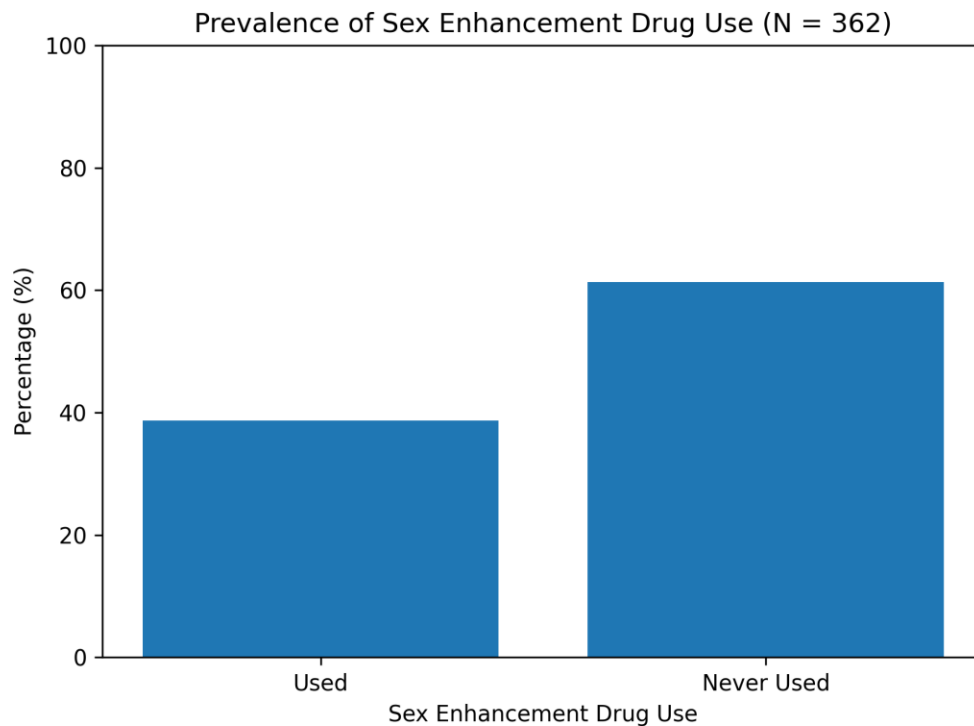
Completed questionnaires were coded and entered into IBM SPSS Statistics version 27.0 for analysis. Descriptive statistics were generated and presented as frequencies and percentages to summarise socio-demographic variables and patterns of sex enhancement drug use. Data cleaning procedures were undertaken prior to analysis to ensure accuracy and consistency.

## **RESULTS**

A total of 370 questionnaires were distributed within the selected settlements, of which 362 were completed and analysed, yielding a response rate of 97.8%. All respondents reported prior sexual experience (100%). The results below present the prevalence and pattern of sex enhancement drug use within the study population.

### **Prevalence of Sex Enhancement Drug Use**

The lifetime prevalence of sex enhancement drug use was 38.7% (n = 140), while 61.3% (n = 222) reported never having used any substance to enhance sexual performance. Figure 1 presents the distribution of users and non-users. The magnitude of reported use indicates that performance enhancement is not peripheral but represents a substantial behavioural phenomenon within the community.



**Figure 1:** Prevalence of sex enhancement drug use among respondents (N = 362).

**Types of Substances Used**

Among those who reported use, alcohol constituted the most frequently cited substance (26.0%), followed by local herbal preparations (21.3%). Orthodox pharmaceutical agents accounted for 9.1%, while nutritional supplements comprised 5.8%. These findings are presented in Table 1. The distribution reflects a pluralistic pattern of consumption in which culturally embedded herbal products and alcohol coexist alongside biomedical interventions.

**Table 1:** Types of Sex Enhancement Substances Used (N = 362)

Substance Type	Frequency (n)	Percentage (%)
Orthodox drugs	33	9.1
Local herbs	77	21.3
Alcohol	94	26.0
Nutritional supplements	21	5.8

Note. Percentages calculated from total sample (N = 362). Multiple responses permitted.

**Frequency of Use**

Frequency of use demonstrated predominantly episodic engagement. Occasional use (1–2 times) was reported by 26.5% of respondents, while 10.2% reported use 3–4 times. Daily use (>5 times) was uncommon (1.9%). Table 2 summarises these frequency patterns. The low proportion of daily use suggests that enhancement practices are

largely situational rather than habitual within this setting.

**Table 2.** Frequency of Sex Enhancement Drug Use (N = 362)

Frequency Category	Frequency (n)	Percentage (%)
Never used	222	61.3
1–2 times (occasional)	96	26.5
3–4 times	37	10.2
>5 times (daily)	7	1.9

Note. Percentages calculated from total sample (N = 362).

### Context of Use

The relational context of use further illustrates behavioural patterning. The most common context was within marriage or with a regular sexual partner (17.4%). However, use was also reported with casual partners (13.5%), sex workers (11.9%), and women described as difficult to win (5.5%). These distributions are shown in Table 3. The findings indicate that enhancement practices extend beyond therapeutic need and intersect with competitive and performance-oriented sexual encounters.

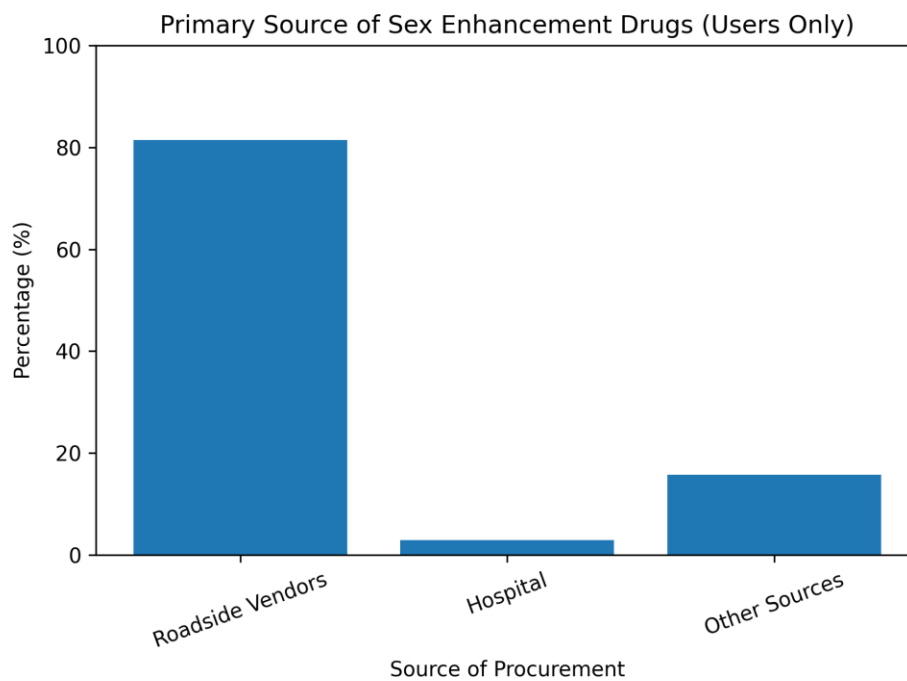
**Table 3.** Relational Context of Use (Users Only, n = 140)

Context	Frequency (n)	Percentage (%)
Wife/regular partner	63	17.4
Casual partner	49	13.5
Sex worker	43	11.9
Lady struggled to win	20	5.5

Note. Percentages calculated from total sample (N = 362).

### Source of Procurement

Informal acquisition dominated procurement patterns. The majority of users reported obtaining substances from roadside vendors (81.4%), while hospital sources accounted for only 2.9%. Other retail or informal channels comprised the remainder. Figure 2 illustrates the dominance of informal supply routes. The concentration of access within unregulated commercial settings underscores the prominence of non-clinical pathways in the circulation of sex enhancement substances within the study area.



**Figure 2.** Primary source of procurement among users (n = 140).

## DISCUSSION

This study shows that 38.7% of adult men in Ido-Ekiti have used sex enhancement substances. The prevalence aligns with broader African research that documents substantial non-medical use of sexual stimulants among men across different age groups and social settings. Recent studies in Ghana and Nigeria have reported comparable levels of use, particularly in communities where sexual performance is closely tied to expectations of masculinity and relational responsibility (Amoah et al., 2022; Adamu et al., 2022). These parallels suggest that the patterns observed in Ido-Ekiti reflect wider regional dynamics rather than isolated local behaviour.

Alcohol emerged as the most commonly used enhancer in this study. This finding is consistent with research showing that men often associate alcohol consumption with increased sexual confidence, reduced inhibition, and perceived improvements in performance (Mollaioli et al., 2020; Dumbili, 2024; George, Blayney & Davis, 2024). Alcohol's accessibility and social acceptability may also contribute to its prominence, particularly in contexts where formal sexual health services are limited or underutilised. The strong presence of local herbal preparations further reflects the enduring role of traditional aphrodisiacs in West African sexual health practices. Ethnopharmacological studies have documented the widespread use of herbal mixtures marketed for libido enhancement, stamina, or penile rigidity, often grounded in long-standing cultural knowledge systems (Roychoudhury et al., 2022; Bubnova & Galchenko, 2024).

Pharmaceutical use accounted for 9.1% of reported consumption, a lower proportion than herbal and alcohol-based substances. Several factors may explain this pattern. Pharmaceutical enhancers are often more expensive, require some level of medical engagement, and may carry stigma associated with erectile dysfunction diagnosis. Even so, the presence of pharmaceutical use outside clinical settings raises important sexual health considerations. Studies have

shown that unsupervised use of phosphodiesterase type 5 inhibitors can expose users to risks related to contraindications, counterfeit products, and inappropriate dosing (Yafi, Sharlip & Becher, 2018; Vanhee et al., 2023). These concerns are heightened in environments where regulatory oversight is limited.

The frequency of use in this study indicates that most men consume enhancers episodically rather than habitually. Only 1.9% reported daily use, suggesting that enhancement is typically situational and linked to specific relational or performance contexts. This pattern mirrors findings from Ghana, where men described aphrodisiac use as a response to particular sexual expectations rather than a continuous practice (Fiaveh, Okyerefo & Fayorsey, 2015; Manortey, Mensah & Acheampong, 2018; Fredua-Agyeman, 2023). Such episodic use may reflect attempts to manage perceived performance pressures rather than ongoing physiological dependence.

Relational contexts of use extended beyond marital relationships into casual and transactional encounters. This pattern indicates that sexual enhancement is intertwined with broader performances of masculinity, competitiveness, and expectations of sexual endurance. Research across West Africa has shown that men often view sexual performance as a key marker of social identity and relational competence, which can motivate the use of enhancers in diverse sexual settings (Mutebi, 2022).

The dominance of informal vendors as supply sources, accounting for 81.4% of procurement, highlights the limited role of medical gatekeeping in this domain. Informal acquisition bypasses essential safeguards such as dosage regulation, medical screening, and assessment of contraindications. Pharmacovigilance studies have raised concerns about the risks associated with unregulated enhancement products, including contamination, adulteration, and inaccurate labelling (Bhagavathula, Elnour & Shehab, 2016; Chiang et al., 2017; Yéléléh-Okouma et al., 2012). These risks underscore the need for targeted public health interventions that address both the demand for enhancement substances and the unregulated markets through which they circulate.

## **CONCEPTUAL CONTRIBUTION**

This study contributes conceptually by foregrounding sex enhancement practices as a meaningful component of men's health behaviour in a context where cultural expectations, informal markets, and relational pressures intersect. Existing research often treats sexual enhancement as either a clinical issue or a behavioural risk, yet the patterns observed in Ido-Ekiti show that enhancement practices operate within a wider social logic shaped by ideas of masculinity, performance, and relational responsibility. The study advances understanding by demonstrating how men navigate multiple substance types, shifting relational contexts, and unregulated supply chains in ways that reflect both agency and constraint. It also highlights the importance of examining sexual performance enhancement beyond biomedical framings, drawing attention to the cultural and interpersonal meanings that underpin episodic use. By situating these practices within everyday social life rather than clinical pathology, the study offers a more grounded conceptual lens for interpreting men's sexual health behaviour in West African settings. This perspective opens space for rethinking how sexual health interventions are designed, moving towards approaches that recognise the cultural embeddedness of enhancement practices and the complex motivations that sustain them.

## **LIMITATIONS**

This study offers important insights into sex enhancement substance use among adult men in Ido-Ekiti, yet several limitations should be acknowledged. The cross-sectional design captures behaviour at a single point in time, which restricts the ability to explore changes in use or motivations over time. Self-reported data may also be influenced by

recall challenges or social desirability pressures, particularly given the sensitivity of sexual health topics. Although the study achieved strong participation, the sample reflects one locality within Ekiti State, which limits the extent to which the findings can be generalised to other communities with different cultural, economic, or demographic characteristics. The study did not include biochemical verification of substance use, meaning that reported patterns rely entirely on participant accounts. Finally, the research did not explore the perspectives of women or healthcare providers, both of whom play important roles in shaping sexual health behaviour and access to information. These limitations highlight the need for further work that builds on the present findings through broader sampling, longitudinal approaches, and multi-stakeholder engagement.

### **IMPLICATIONS FOR POLICY AND PRACTICE**

The findings have several implications for sexual health policy and practice in Ekiti State and similar settings. The high reliance on informal vendors suggests a need for stronger regulatory oversight of enhancement products, particularly those marketed as herbal or natural. Policies that support routine monitoring of product safety, clearer labelling, and enforcement against harmful or adulterated substances would help reduce health risks. Public health programmes should integrate discussions of sexual performance into broader men's health initiatives, recognising that concerns about virility and relational expectations often shape behaviour. Community-based interventions that acknowledge cultural beliefs while promoting safer practices are likely to be more effective than approaches that rely solely on clinical messaging. Strengthening collaboration between regulatory agencies, community leaders, and healthcare providers could create a more coherent response to the growing use of enhancement substances. Ultimately, addressing the issue requires a combination of regulatory action, culturally grounded education, and improved access to supportive sexual health services.

### **RECOMMENDATIONS**

Future research should consider adopting mixed-methods or longitudinal designs to capture the evolving nature of enhancement practices and the social meanings attached to them. Including women, healthcare workers, and informal vendors would provide a more comprehensive understanding of the relational and structural factors that shape men's decisions. Studies that examine the chemical composition of locally prepared herbal mixtures would also be valuable, given the prominence of these substances in the community. At the community level, sexual health education should be expanded to address non-medical performance enhancement directly, offering clear guidance on safer use, potential risks, and the importance of informed decision-making. Engagement strategies should be culturally sensitive and delivered through trusted community structures, including religious groups, local associations, and youth networks. Strengthening the capacity of primary healthcare providers to discuss sexual performance concerns without stigma may also encourage men to seek formal advice rather than relying solely on informal markets.

### **CONCLUSION**

This study shows that sex enhancement substance use among adult men in Ido-Ekiti is both common and shaped by a mix of cultural expectations, relational pressures, and the accessibility of informal markets. The prevalence of 38.7% indicates that enhancement practices form a visible part of men's sexual health behaviour in this community. Alcohol and locally prepared herbal mixtures remain central, reflecting long-standing cultural familiarity and the perception that these substances offer reliable support for sexual performance. Pharmaceutical enhancers appear

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less frequently, yet their presence outside clinical settings highlights an emerging pattern that warrants attention.

Most men reported episodic rather than habitual use, suggesting that enhancement is typically linked to specific relational or performance situations rather than ongoing dependence. The fact that use occurs across both marital and non-marital contexts points to the broader social meanings attached to sexual performance, including expectations of endurance, competence, and relational fulfilment.

The dominance of informal vendors as supply sources raises important concerns for sexual health and consumer safety. Informal markets often operate without regulatory oversight, which increases the likelihood of exposure to unsafe or adulterated products. These findings point to the need for structured sexual health engagement strategies that acknowledge the cultural significance of enhancement practices while promoting safer decision-making. Community-based education, improved access to sexual health services, and targeted awareness initiatives could support men in navigating these substances more safely and with better information.

#### **AUTHOR CONTRIBUTION**

All authors played a substantive role in shaping this study and developing the manuscript. The work was conceptualised by F.N.E., O.T.O., E.N.N., E.O.O., E.A.K., L.F.F., E.F.C., C.O.A., C.C.O., O.B.J., S.O., C.P.U., O.O.J., W.G.N., I.P.O., and N.M.B., who also designed the overall study framework. Data analysis, data interpretation, and validation of findings were carried out collaboratively, with each author contributing to the discussions that informed the final results. G.M.Y. and K.O.O. prepared the initial manuscript draft, covering the introduction, methods, results and discussion. Co-authors strengthened the analysis, offered detailed revisions and enhanced the clarity and coherence of the final document. Every author reviewed the complete manuscript, approved the final version and accepted responsibility for the integrity of the work.

#### **COMPETING INTEREST**

The authors declare no competing interests.

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