

Prevalence and Risk Factors of Erectile Dysfunction among Khat Consumers in Mogadishu, Somalia, and to Explore the Impact of Lifestyle Choices, Psychological Health, and Khat Use on Sexual Function and Overall Well-Being

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Abstract:- Erectile dysfunction (ED) is increasingly acknowledged as a significant health concern that impacts men's quality of life across various demographics. While often associated with aging, recent evidence emphasizes the role of lifestyle choices, psychological factors, and substance abuse, especially in contexts like Somalia. In Mogadishu, the cultural practice of khat consumption and widespread drug abuse raise substantial issues regarding men's sexual health and overall well-being. This study aims to examine the distinctive patterns of ED among Somali men, delving into the interactions among these factors.

The objective of this research is to investigate the prevalence and risk factors linked to ED among individuals using khat and abusing drugs in Mogadishu, Somalia, by evaluating demographic characteristics, psychological and physiological contributors to ED, as well as the impact of lifestyle choices. A cross-sectional survey was conducted involving male participants in Mogadishu, utilizing structured questionnaires that addressed demographics, khat and drug usage, physical activity levels, body mass index (BMI), sexual desire, psychological stress, and histories of chronic diseases (such as diabetes and heart disease). Descriptive statistics were used to analyze the data, focusing on establishing correlations between lifestyle factors and the prevalence of ED.

The study yielded several notable findings: 63% of ED cases were found in men aged 50 and older, whereas only 8% were aged 20-30. A significant 79% of participants reported khat consumption, which was associated with a markedly higher prevalence of ED among users. Psychological issues were cited as the primary cause of ED in 42% of cases, with 33% attributing it to arterial disease and 17% to diabetes, while drug abuse was recognized by 8% as a contributing factor. Most participants indicated experiencing mild ED (46%), with 83% having heart disease and 92% facing complications related to diabetes. Lifestyle factors revealed a high prevalence of tobacco use (63%), and a substantial majority (79%) reported a lack of regular physical activity, with 75% classified as obese. Despite 63% using natural products purported to enhance sexual health, half indicated only a mild level of sexual desire, and emotional stress stemming from partner conflicts was reported by 71% of participants.

These findings highlight that erectile dysfunction represents a significant public health issue in Mogadishu, with psychological factors being more prominent than physical ones. Younger men are particularly influenced by psychological aspects leading to ED, and lifestyle choices, notably khat consumption and sedentary behavior, play a significant role in the prevalence of ED in this demographic. To effectively address erectile dysfunction, public health initiatives should prioritize psychological counseling to tackle underlying issues, implement health education campaigns to raise awareness about the dangers associated with khat and drug use, and promote community interventions that encourage physical activity and healthy eating habits. Further research, especially longitudinal studies, is necessary to enhance the understanding of the intricate relationship between khat consumption and erectile dysfunction among Somali men. Integrating mental health resources into ED treatment protocols may lead to improved health outcomes and a better quality of life for affected individuals.

Keywords: Khat, Addiction, Socio-Economic Effects, Erectile Dysfunction Somalia, Epidemiology, Prevalence.

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I. INTRODUCTION

Erectile dysfunction (ED) is a prevalent and complex disorder that can significantly affect an individual's quality of life. It often results from a combination of biological, psychological, and lifestyle factors that interact to influence the condition. Understanding these contributing elements is essential for accurate diagnosis and effective treatment.

The prevalence of ED varies significantly across different regions. In the United States, it is estimated to affect around 18.4% of men aged 20 and older, whereas in Canada, this figure increases to 49.4%. Hong Kong reports an even higher prevalence at 63.6%. A study from Qatar found that 66.2% of hypertensive patients experience ED, compared to 23.8% among non-hypertensive individuals. These discrepancies highlight how regional health factors and lifestyle choices can impact the prevalence of ED.

Khat consumption is widespread, with approximately 10 million individuals worldwide engaging in this practice, particularly in regions like the southwestern Arabian Peninsula and East Africa, as well as among immigrant communities in Europe and North America. Somalia is notably affected, with high rates of use in areas such as Mogadishu, Jubbaland, Puntland, and Hirshabelle. Khat has cultural significance, as men often gather to chew the leaves, especially when fresh supplies come in from Kenya.

Despite the high rates of khat consumption, there is limited research on the prevalence and risk factors associated with ED among Somali men who chew khat and abuse drugs. Preliminary observations suggest that many Somali men experience ED, potentially linked to prolonged khat use, tobacco consumption, physical inactivity, high body mass index (BMI), and the misuse of substances like sildenafil (Viagra) and tramadol.

The physiological process of achieving an erection involves intricate interactions between the nervous, arterial, venous, and sinusoidal systems. ED, characterized as the inability to obtain or maintain a sufficiently rigid erection for sexual activity, can stem from disruptions in any of these systems. Common organic causes include cardiovascular diseases, atherosclerosis, hyperlipidemia, hypertension, diabetes, obesity, neurological disorders, low testosterone levels, and substance abuse. Psychological factors can exacerbate organic ED, and stress or mental health issues may also independently contribute to the condition.

The high prevalence of ED among Somali men with diabetes and hypertension underscores the necessity for routine screening for this condition in these populations. Addressing both the physical and psychological aspects of

ED is vital for improving men's health and overall quality of life. Engaging in physical activity and other preventive measures for cardiovascular disease and diabetes may also help preserve erectile function.

While khat users often report feelings of well-being and heightened mental alertness, the negative aftereffects can include insomnia, numbness, and decreased concentration. Excessive khat use can lead to significant social, health, and economic challenges. Understanding the broader implications of khat consumption is crucial for addressing its impact on public health.

Erectile dysfunction encompasses various conditions related to reproductive health and sexual performance. Discussing ED can be sensitive due to cultural and religious norms. The process of achieving an erection involves a complex interplay of the brain, hormones, nerves, muscles, and blood circulation. Mild to moderate ED affects approximately 10% of men per decade, leading to about 50% of men experiencing ED in their 50s and 60% in their 60s. Although ED can affect men at any age, it is more prevalent among older individuals, who often have health issues that necessitate medications impacting erectile function.

As men age, they may require more stimulation to achieve an erection and experience longer intervals between erections. Given the strong link between ED, metabolic syndrome, and cardiovascular disease, cardiac assessments may be indicated for men presenting with ED symptoms.

Minimally invasive interventions to manage ED symptoms include lifestyle modifications, oral medications, injected vasodilator agents, and vacuum erection devices. Surgical options are generally reserved for patients who cannot tolerate nonsurgical treatments, experience adverse effects from medications, or have underlying conditions such as penile fibrosis or vascular insufficiency.

Erectile dysfunction is defined as the inability to achieve or maintain an erection adequate for satisfactory sexual performance, affecting a considerable percentage of men at least occasionally. Two primary mechanisms involved in male erections are reflex erections and psychogenic erections. Reflex erections occur through direct stimulation of the penile shaft and are controlled by peripheral nerves and the lower spinal cord, while psychogenic erections are triggered by erotic or emotional stimuli and involve the brain's limbic system. The severity of ED is typically categorized as mild, moderate, or severe, often using the five-item International Index of Erectile Function (IIEF-5) questionnaire, where scores range from

1–7 indicating severe dysfunction to 22–25 indicating no erectile dysfunction.

II. OBJECTIVE

"To evaluate the prevalence and risk factors of erectile dysfunction among khat consumers in Mogadishu, Somalia, and to explore the impact of lifestyle choices, psychological health, and khat use on sexual function and overall well-being."

III. DESIGN

This study utilized a cross-sectional design involving 240 adult male khat chewers alongside healthcare professionals, including cardiologists, endocrinologists, and urologists. Erectile dysfunction (ED) was evaluated through

a simple, single-question format administered during a self-paced, computer-assisted self-interview.

A cross-sectional approach facilitates the examination of the relationship between khat consumption and the occurrence of erectile dysfunction at a specific time. This method allows for simultaneous assessment of participants' exposure status and the condition of interest, offering a snapshot of ED prevalence among khat users and valuable insights from healthcare providers regarding the issue.

This methodology is effective in identifying potential correlations and patterns, which could guide future research and interventions aimed at addressing erectile dysfunction in this demographic.

Table 1: Characteristics of Patients with Erectile Dysfunction in Somali men living in Mogadishu

Variables	Frequency	Percentage %
AGE		
20-30 years	20	8%
31-40 years	30	12%
41-50 years	40	17%
Above 51 years	150	63%
Total	240	100%
CHEWING KHAT		
Yes	190	79%
No	50	21%
Total	240	100%
TAKING MEDICINE		
Yes	220	92%
No	20	8%
Total	240	100%
CAUSES OF ERECTILE DYSFUNCTION		
Psychological	100	42%
Arterial disease	80	33%
Diabetic	40	17%
Drug abuse	20	8%
Total	240	100%
Category of ED		
Mild	110	46%
Moderate	80	33%
Sever	50	21%
Total	240	100%
HEART DISEASE		
Yes	200	83%
No	40	17%
Total	240	100%
DIABETIC COMPLICATION		
Yes	220	92%
No	20	8%
Total	240	100

Table 2: Factors Associated with Erectile Dysfunction Among Khat Chewers and Drug Abuse in Somali men living - Mogadishu

VARIABLES	Frequency	Percentage %
TOBACCO OR TABOO USE		
Yes	150	63%
No	90	37%
Total	240	100%
PHYSICAL ACTIVITY		
Yes	50	21%
No	190	79%
Total	240	100%
BODY MASS INDEX (KG/M2)		
Obesity	180	75%
Overweight	25	11%
Underweight	20	8%
Normal	15	6%
Total	240	100%
SILDENAFIL (VIAGRA) USE		
Yes	60	25%
No	30	12%
Others like natural products	150	63%
Total	240	100%
LEVEL OF SEXUAL DESIRE		
Mild	120	50%
Moderate	80	33%
Sever	40	17%
Total	240	100%
EMOTIONAL STRESS AND ANXIETY		
Yes	170	71%
No	70	29%
Total	240	100

IV. DISCUSSION

Erectile dysfunction (ED) is defined as the inability to achieve or maintain an erection sufficient for sexual intercourse. While the term "impotence" is sometimes used, it is less common today. Contrary to international studies suggesting that ED prevalence increases with age, this research found that 63% of ED patients in Mogadishu, particularly those involved in khat and drug abuse, were men aged 50 and older. In contrast, only 8% of respondents were between 20 and 30 years old.

When surveyed about their khat use, 79% of participants reported being khat chewers, indicating that khat users are more affected by ED than non-users. The high rate of drug abuse among Somali men is largely driven by stress related to unemployment, the prevalence of infectious diseases, and the country's deteriorating infrastructure. This study revealed that 92% of respondents acknowledged drug use. Regarding the causes of ED, 42% attributed their condition to psychological factors, 33% to arterial disease, 17% to diabetes, and 8% to drug abuse. When asked about the severity of their ED, 46% reported mild symptoms,

while 21% indicated severe ED. Additionally, 83% of participants reported having heart disease, and 92% had complications related to diabetes.

In a further inquiry regarding lifestyle habits, respondents were asked about khat chewing, tobacco use, physical activity, body mass index (BMI), sexual desire, and emotional well-being. Among the participants, 63% reported tobacco use, while 79% did not engage in regular physical activity. The findings on BMI indicated that 75% of respondents were classified as obese, particularly with central obesity attributed to heavy meals consumed twice a day and late-night eating, often consisting of high-calorie foods. Only 6% reported a normal BMI.

When discussing the use of sildenafil (Viagra), 63% of participants preferred natural products and nutrients believed to enhance testosterone levels and improve sperm quality, including honey, milk, meat, eggs, black seed oil, and fenugreek. Regarding sexual desire, 50% of respondents reported mild levels, whereas 17% indicated severe levels. Additionally, 71% of participants experienced emotional stress and anxiety, primarily due to conflicts with partners

arising from difficulties related to drug use and unemployment.

In summary, erectile dysfunction presents a significant public health issue in Mogadishu, with psychological factors being more prevalent than physiological ones. The impact of psychological ED appears to be more pronounced among younger men, with a decreasing prevalence in older age groups. While further research is needed, particularly community-based case-control studies, it is premature to dismiss the role of khat chewing in this complex issue.

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