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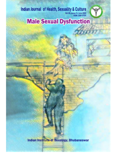

Review Article

Trends of sexual dysfunction among men: Existing policies across the globe and need for policies in the Indian context

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Abstract

Male sexual dysfunction (MSD) is considered taboo among people worldwide. In males, it comprises very complex physiological processes, including loss of libido, erectile dysfunction, premature ejaculation, delayed ejaculation, or no ejaculation, etc. Very little attention has been paid to male sexual health due to certain cultural beliefs that hold people from seeking medical attention at times of need. Issues related to sexual health should be recognized and addressed properly. Although several guidelines are available for the same, they are limited in scope. Health care practitioners need to be trained adequately in treating conditions related to sexual health, especially in men. New policies should be implemented for affordable healthcare and financial insurance for such treatments. Every window of opportunity should be utilized to spread awareness about the utility and benefits of modern non-pharmacological, medical and surgical strategies for MSD.

Introduction

According to the World Health Organization, the current working definition of sexual health is "a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled" (World Health Organization, 2017). Male sexual dysfunction can be described as any physical complaint that further turns into the inability to perform a sexual act; it comprises very complex physiological processes. Sexual dysfunction is a general term that can be explained by other terminologies such as erectile dysfunction (ED), premature ejaculation, loss of libido or failure of sexual ejaculation and delayed ejaculation (Chen et al., 2019).

The function of the male sexual system involves the coordination of the nervous, cardiovascular,

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endocrine, and reproductive systems. When the normal rhythm of these functions, as mentioned above, is altered, it causes certain ill effects on the normal sex life. The male reproductive system being sensitive is easily affected by many risk factors, such as chronic diseases (diabetes, cardiovascular diseases, chronic kidney disease, hyperlipidemia, and reproductive cancers), environmental pollution, drug toxicity, unhealthy lifestyle, smoking, alcohol consumption, etc., (Bairagi et al., 2011; Caretta et al., 2013; Chen et al., 2019 and Edey, 2017). Anti-hypertensive drugs, clofibrate, cimetidine, digoxin, anti-cancer drugs, and various hormonal agents have been linked to sexual dysfunction in males (Chen et al., 2019).

Male sexual dysfunction (MSD) is a common term used to refer to different conditions like erectile dysfunction (ED), premature ejaculation (PME), hypogonadism, delayed or inhibited ejaculation, loss of libido, etc. Sexual dysfunction is common among men of all ages, races and ethnicity. Studies show that 15% of couples are affected by sexual dysfunction due to male trends worldwide (Chen et al., 2019). Currently, the exact cause of MSD is not well understood in the literature.

MSD is considered a taboo among people worldwide. People with sexual health-related problems are looked down upon and judged for illicit sexual activity and poor genital hygiene. Various cultures and societal beliefs hold back people from seeking the required medical attention when in need. Issues related to sexual health are poorly recognized and addressed in India, and the health care practitioners are trained inadequately in treating conditions related to sexual health, especially in men. There is very little attention drawn to male sexual health compared to women (Singh et al., 2018). Access to specialists such as urologists, andrologists, and sexologists, is more commonly found only in the urban setup than in rural areas (Singh et al., 2018).

The rationale

The review paper covers the trends of MSD, existing policies, and policies required on male sexual dysfunction across the globe, with a special focus on India and South Asia. The study also analyses why men with ED complain of higher rates of absenteeism, presenteeism (impairment while present at work), and loss of work productivity than normal men. It also aims to investigate the need for policies on male sexual health and MSD to bring the attention of policymakers in developing countries.

Prevalence

Male sexual dysfunction can affect men of all age groups, but the incidence increases with age. Over 152 million men were affected with SD in 1995, and it is estimated that by 2025 the incidence count will increase to >320 million worldwide (McKinlay, 2000; Ayta et al., 1999).

The prevalence of male SD has increased very rapidly, and various factors play major roles in it, due to which the incidence varies in different countries. In Asian countries, the incidence varies from 0% to 95% in <60 years of men, while in European countries, this varies from 0.9% to 88.8% (Irfan et al., 2020). The main reason behind this is the difference in lifestyle and cultural practices in countries on both sides. In Asian countries, the problem is more prevalent, and incidence remains untreated compared to European countries due to cultural and traditional beliefs, the prevalence of old medicinal practices, social stigma, etc. (Ho et al., 2011). In some Asian countries, a sexual discussion is still treated as taboo, and thus it plays a major role in increasing incidences of complaints.

Compared to the cases recorded in the whole world, southeast Asian countries only contribute to 22% of the population with the complaint of erectile dysfunction (Lewis, 2013). The issue of sexual health is related to social and cultural norms; thus, the incidence of male SD varies in all the countries of the same continent. Also, the incidence of different sexual problems differs in all Asian countries. In Thailand, 37.5% of men suffer from ED and 23% from premature ejaculation (Kongkanand, 2000), which has increased to 42.8% compared to the year 2000. The highest cases were seen in unemployed men (78.51% of 2,269 interviewed) (Permpongkosol

et al., 2008). The scenario is changing in Southeast Asian countries as the patients discuss these complaints with their spouses and family members. Also, they are coming forward to discuss this with medical practitioners. As a result, in Malaysia, 81.5% of cases of SD are self-reported by the patients to the out patient department (Nordin et al., 2019). In Malaysia, 26.8%-69% of males suffer from ED, 22.3% males from premature ejaculation, and 18.5% from hypogonadism (Ho et al., 2011; Khoo et al., 2008). In Singapore, 51.3%-73% of men suffer from ED and 12% from premature ejaculation (Chin, 2002; Tan et al., 2003).

In China, the incidences of different male SD vary in separate regions as in Mainland China, the incidence of ED is 38.3%, and premature ejaculation is 19.5% (Tan et al., 2003). The ratio differs in rural areas of Mainland China (Lau et al., 2005), While in Taiwan, 9%-17% of men suffer from ED and 13% of men from premature ejaculation (Chen et al., 2004), and in Hong Kong prevalence of ED is 63.6% and premature ejaculation is 24.7% among men (Lau et al., 2005).

In the northern part of India, 81% of men suffer from at least one sexual complaint (Singh et al., 2018), while in south India prevalence of ED is 43.5%, premature ejaculation is 10.9%, and 0.38% with an orgasmia and 0.77% with hypoactive sexual desire disorder (Sathyanarayana Rao, 2015).

Literature review

Ian Peate, in 2005 stated that adverse effects of smoking in a smoker could be seen throughout his life, affecting sperm count, diminishing reproductive health, male impotence, etc. (Peate 2005).

In 2007, a study on Asian men's thinking towards life events was conducted on 10934 adult men 20 to 75 years of age. They found out that 6.4% of them suffered from ED, and the prevalence was higher as age increased. These studies showed that most men would not seek treatment, and those who sought treatment preferred to take treatment from specialized doctors abroad rather than locally trained doctors. Those who were ready for treatment cited their main reason for treatment as the influence of their spouse (Tan HM et al., 2007). Michael S Sand also did a study in 2008 called Men's Attitudes to Life Events and Sexuality (MALES), taking a sample size of 27,839 men between 20-75 years of age from 8 different countries (United Kingdom, Italy, Mexico, Brazil, Spain, France, Germany, and United States) and found out that most of the male population defines masculinity as others sees them as being self-reliant, honourable, and being respected by their friends.

On the other hand, factors such as being physically attractive, sexually active, and successful with women were not on the list of important factors of masculinity. Also, they put more importance on a good job and a nice home rather than having good health or having a harmonious family as an important factor for the quality of life. These factors are not different in both the categories of men, whether with or without erectile dysfunction (Sand et al., 2008). In 2011, Polinski and Kesselheim stated that higher prices and treatment costs with lack of reimbursements led to a change in decisions for treatments instead of other public's moral attitude towards sexual performance (Polinski and Kesselheim, 2011). Affordable health care or health insurance would encourage an individual for proper treatment.

In 2019, Idweze et al. stated that the main reason for increasing incidences of male infertility in Nigeria might be the excessive use of sex enhancement herbs that contain a high amount of lead and cadmium. These metals are responsible for both chronic poisonings and infertility among men (Idweze et al., 2019).

Taylor, in 2019, stated that erectile dysfunction is often untreated or insufficiently treated, and by 2025 it will be prevalent among 300 million population worldwide. The main reasons behind untreated ED are either social stigma or poor communication between health care workers and patients. Thus pharmacists can play a major role in the treatment of ED through strategic promotion and support of professional pharmacists who will help the aging population (Taylor et al., 2019).

Factors affecting and co-morbidities

Sexual dysfunction is not a single complaint but a term used for a group of complaints such as ED, early or delayed ejaculation, hypoactive sexual desire disorder, arousal disorder, anorgasmia, and many more. The incidence of sexual dysfunction is increasing worldwide due to changing lifestyle patterns, stress, the burden of work pressure, and changing social norms. The condition was more prevalent in India due to old practices and community beliefs. Men will not discuss the complaints in public or with family and medical practitioners as it was termed taboo. There are many factors responsible for this condition, which are as follows:

- **Age:** Age plays an important role in terms of sexual dysfunction. As age increases, the prevalence of MSD increases subsequently (Ayta et al., 1999, Ho et al., 2011; Hendrickx et al., 2016). In the case of erectile dysfunction, the incidence increases with age (Landripet, 2015). In the case of Asia, as age increases, sexual satisfaction also increases (Kim and Jeon, 2013; Moreira et al., 2006). While in the case of other countries, the ratio is different (Castellanos-Torres et al., 2013).
- **Socioeconomic and employment status:** Men with lower socioeconomic status have higher incidences of sexual dysfunction. Due to lower socioeconomic status, excess stress, lifestyle changes, poor access to the health care system, and other associated factors play an important role (Çayan et al., 2017).
- **Health literacy:** In individuals with insufficient health literacy, protection of normal health, compliance to treatment, and accurate, timely diagnosis are difficult. As literacy levels increase about ED due to systemic conditions such as diabetes and heart disease, it will be more important to individuals, leading to early medical help and an on-time diagnosis of the primary conditions (Demirbas et al., 2021).
- **Accommodation:** Residential area does not play a significant role in incidences of MSD but is important along with other factors (Carvalheira et al., 2014). In developing countries, more of the population lives in slum areas; thus, the incidence of MSD is more prevalent in such countries.
- **Marital status:** In Asian men, higher incidences of MSD are prevalent among unmarried men rather than married men (Quek et al., 2008).
- **Addiction:** Incidence of MSD is more in men addicted to alcohol, cigarettes (Peate, 2005), and tobacco smoking (Ho et al., 2011; Kongkanand, 2000; Ghalayini et al., 2010).
- **NCDs:** Increased percentage of MSD incidence is more with the presence of any other morbidities such as patients with diabetes mellitus the prevalence of MSD increases (Huang et al., 2014). The incidence of MSD is more prevalent with the patients of any mental complaints. In men with complaints of anxiety and depression, the incidence of early erectile dysfunction increases (Jern et al., 2012). Men with prostatitis have shown a higher incidence of MSDs (Permpongkosol et al., 2008; Cayan et al., 2017). Patients with urinary tract diseases show more prevalence of sexual dysfunction (Tang et al., 2015).
- **Cultural beliefs:** Many men pay more importance to a good career and economic stability than good sexual, physical, and mental health. This also results in an alternating prevalence of MSD in Asian countries (Tan et al., 2007). Also, the fear of getting bullied in social life leads to hesitation in seeking required medical consultation.
- **Religious beliefs:** Religious beliefs are one of the important factors that help determine whether a sexually dysfunctional person will seek medical assistance and early treatment from a professional doctor or sex therapist. These religious beliefs may act as a resistance force towards required treatment and influence early treatment dropout (Simpson et al., 1992).
- **Dietary factors:** The healthy dietary patterns have been associated with a decreased risk for ED in a recent study by Bauer et al. They have emphasized the consumption of healthy vegetables and fruits, including various nuts, legumes, and fish, among other sources of long-chain fats, with avoiding of processed

and red meats (Bauer et al., 2020). Inconsistent associations between intake of alcohol and ED have been observed in a prospective cohort (Ramírez et al., 2016).

The complaint of MSD is widespread due to a lack of proper knowledge of the issue. The issue is bigger in developing or third world countries due to their religious and community beliefs and practices. In Asian men's terms, masculinity is defined by having a good and promising career, performing well in their jobs, having more friends who praise them, leadership roles in the community, being bread owner of the society and thus, they used to pay less attention towards other important issues for happy and healthy life such as healthy lifestyle, exercise, good mental, physical and sexual health, good performance with partners. This was the main issue in Asian countries that despite the huge prevalence of MSD, there were fewer recorded cases in health care sectors. This is the belief that they carried for centuries. Instead of going to certified medical practitioners for the treatment of their complaints, Nigerian men would consume traditional drugs and medications rich in poisonous substances such as mercury and copper, which can cause chronic poisoning to them (Igweze et al., 2019). While the scenario in other parts, such as some European countries, is different, men recognize sexual complaints as an important part of their health care system. They can openly discuss it (Irfan et al., 2020).

In developing and third-world countries, poor access to primary health care services plays a major role in many disorders. In the case of male sexual dysfunction, this scenario also plays a major role. Due to less accessibility to basic health care services, the incidence of MSD remains untreated (Tan et al., 2007). Providing basic treatment for MSD costs up to 1 billion dollars worldwide (Polinski and Kesselheim, 2011). There is a major necessity for policies on MSD in the community and the pharmaceutical industry, which also plays a major role in treating MSDs. Due to increasing awareness about the complaints and drugs related to it, such as viagra, the prevalence of MSD is decreasing as people are coming forward and discussing the topic and asking for treatment which is a ray of hope (Taylor et al., 2019 and Ho et al., 2011). However, a major portion of the population still is unaware of the issue and its importance.

Due to all these factors and social norms, this is a major problem prevalent in the world, and it is very difficult to fight against it, but by good policies, awareness, and strengthening of our health care services, we can face it.

Guidelines for prevention

The Diagnostic and Statistical Manual of Mental Disorders Fourth Revision (DSM-IV) clearly states that related clinical judgments should consider individual's ethnic, cultural, religious, and social backgrounds (Segal, 2010). These facts undermine the need for proper guidelines that focus on the specific needs of Indian patients, rather than focusing alone on pharmacotherapy, but also the soft and hard skills required for counseling patients. However, no such comprehensive guidelines addressing the issue of sexual counseling exist. In contrast, various attempts have been made toward standardizing the pharmacological practices in certain forms of MSD all over the globe.

The guide on a diet for ED recommends that eating a healthy diet that includes fruits, vegetables, whole grains, olive oil, nuts, and fish, such as the Mediterranean diet, can help treat ED. When an individual follows a healthy diet plan, it helps the body keep working in order and helps maintain the right body weight, optimum sugar levels in the blood, and helps decrease blood level damage. Diet and good lifestyle habits like regular exercise, no smoking, and managing depression are important to maintain good health (Erectile Dysfunction Food and Diet Guide 2021 by IASH India).

Acute Ischemic Priapism: An AUA/SMSNA guideline states the role of imaging, adjunctive laboratory testing, early involvement of a specialist urologist while presenting to the emergency room, improves the use of conservative therapies, enhances data for counseling on risks of ED and surgical complications if any, and inclusion of latest and standard surgical techniques and if required,easy

prosthesis placement (Bivalacqua et al., 2021). European Association of Urology guidelines on priapism states that ischaemic priapism is the most common and idiopathic form which is usually seen after blunt perineal trauma. It is an emergency condition that needs intervention within 4-6 hours, including decompression of the corpora cavernous by aspiration and intracavernous injection of sympathomimetic drugs (Mottet, 2021).

Guidelines for treatment

European Association of Urology (EAU) guidelines state that erectile dysfunction is highly prevalent, and 15-20% of men have severe ED. Erectile dysfunction and cardiovascular disease share common risk factors (Hatzimouratidis et al., 2021). The diagnosis of ED is made by recording medical and sexual history and validated questionnaires. The treatment includes phosphodiesterase type 5 inhibitors (PDE5-Is), including sildenafil, tadalafil, and vardenafil. These have high efficiency and safety rates, even in difficult to treat patients with diabetes mellitus. Patients who do not respond to PDE5 inhibitors are administered intracavernous injections, vacuum constriction devices, intraurethral alprostadil, or implantation of a penile prosthesis. The penile prosthesis has a 20-30% prevalence (Hatzimouratidis et al., 2021). In contrast, guidelines for treating ED issued by the Journal of American Medical Association state that three different therapies, including vacuum constriction devices, vasoactive drug injection therapy, and penile prosthetic implants, are effective.

ALLIANCE guidelines (Kalra et al., 2013) are an exhaustive coverage of the counseling and related non-pharmacological methods used to treat MSD. It is a multi disciplinary team of experts who guide counseling in sexual dysfunction to healthcare professionals. Various concepts of medical care that are provided include the bio-psychosocial model, therapeutic patient education, patient and couple care, shared decision making, minimizing the discomfort of change, and coping skills training. This includes counseling the patients regarding the required investigations, physical activity, and yoga. The ALLIANCE guidelines also discuss the cognitive behavioral therapy, couple and family centered therapy in details, along with the pharmacological, device, and invasive therapy. These conclude with an emphasis on enhancing community awareness of MSD. These guidelines serve as a comprehensive, updated composition of evidence and experience for healthcare professionals working with MSD patients.

Existing policies

American Urological Association (Erectile dysfunction: AUA guideline, 2018)

1. Men with ED symptoms should have a complete medical, sexual, and psychological history and a physical examination, and selected laboratory tests. (Clinical Concept)
2. Validated questionnaires should be used to assess the severity of ED, monitor therapy effectiveness, and guide future management for males with ED. (Expert Advice)
3. Men should be informed that ED is a risk factor for underlying cardiovascular disease (CVD) and other health problems that should be evaluated and treated. (Clinical Concept)
4. Morning serum total testosterone levels in males with ED should be tested. (Moderate Recommendation; Grade C Evidence)
5. Specialized testing and evaluation may be required for some men with ED to guide treatment. (Expert Advice)

American Academy of the Family Physician (Rew and Heidelbaugh, 2016)

The American Academy of Family Physicians also states that oral PDE5-Is are the firstline of treatment for ED. Second-line of treatment includes alprostadil and vacuum devices. Surgically implanted penile prostheses are an option when all other options are ineffective (Najari & Kashanian, 2016).

Sexual dysfunction is a significant health issue in males though it is not new as it has been prevalent for 5000 years as per the Egyptian literature (Shamloul and Ghanhem, 2013; Shah, 2005). It

affects the personal, marital, and social life of the individual, which can be both cause and effect at the same time. Therefore, male sexual dysfunction needs to be understood from the bio-psycho-social perspective and requires a multi-dimensional approach to dealing with it. It helps in the holistic management of male sexual dysfunction. Despite having several guidelines for the management of MSD, their scope is limited, as they focus predominantly on ED and premature ejaculation. However, they do include the investigations and pharmacological aspects in detail; sexual counseling and gloss over the soft skills required for sexual dysfunction management are not explained. Since these guidelines are developed as per the western population, a few of the unique features and challenges of South and West Asian andrology are not addressed.

A few recent studies have highlighted the differences between Asian and North American populations affected by MSD (Kalra et al., 2013). The lower reported rates of ED in these populations could be attributed to a better lifestyle or the patient's lack of willingness to disclose. Future research needs to look at this. It is also likely that these people's reliance on complementary and alternative medicine to improve their sexuality leads to MSD not being reported. Another cause could be Asian men's poor health-seeking behavior. Patients from India and other Asian countries frequently have high expectations of their medical providers, such as a more robust male personality capable of maintaining a close relationship through dialogue while providing competent therapeutic intervention.

Furthermore, acceptable body language and physical contact may differ across cultures. What may seem like a threatening physical touch to an American patient might be assumed as a friendly gesture by an Asian patient. Thus, due to all the causes and factors prior, sexual health was ignored by both males and females. However, after awareness and prevalence of STDs such as HIV, the importance of sexual health and sexual hygiene is being accepted and acknowledged by the populations worldwide. Still, apart from the complete acceptance, there is a long way to go as we need to acknowledge the problem on higher governance levels. Some important policies need to be framed worldwide to tackle the situation.

Conclusion

MSD may be an individual's problem or a couple's internal matter. Sexual dysfunction affects an individual's normal functioning and health in multiple ways and may lead to significant psychological and psychiatric issues if not managed well. Untested treatments supplied by unqualified practitioners must also be made more widely known due to a lack of evidence and the possibility of risk, discomfort, and harm. Future advancements in ED care are likely to keep pace with ongoing progress in the field of sexual medicine. Counseling is a fundamental and essential aspect of management because no medical or surgical therapy is complete without it. Sexual counseling is a difficult task that involves both in-depth knowledge of soft skills and an extensive understanding of hard skills. In patients with MSD, inadequate counseling may also reduce the efficacy and efficiency of pharmacological or invasive therapy.

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