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An Overview of Sexual Medicine

Dr.S.Sreeremya
External Faculty of Pharmacology
Department of Pharmacology
Crescent College of Nursing, Palakkad, Kerala, India
Corresponding Author's Email Id: *sreeremyasasi@gmail.com*

ABSTRACT
WHO's (World Health Organization's) work in the area of the sexual health extends back to at least 1974, when – at a meeting convened by WHO in Geneva – the deliberations of the professionals with the expertise in human sexuality resulted in a technical assessment report on training for the health professionals on education and treatment in human sexuality. Sexual medicine deals with understanding sexual diseases, sexual problems faced in all age groups like Dhat syndrome, Culture Bound Syndrome (CBS).

KEYWORDS: *Dhat syndrome, Culture Bound Syndrome (CBS), sexual diseases, sexual problems, human sexuality*

INTRODUCTION

Defining sexual health as: ―the integration of the somatic, the emotional, intellectual, and social aspects of sexual being, in ways that are positively enriching and that copious personality, the communication, and love‖. Furthermore, the report indicated that attention to pleasure and the right to sexual information was fundamental to this definition and further delineations. Twenty years later, sexual health was included within the stated definition of reproductive health in the report of the 1994 The International Conference on Population and Development (ICPD) (Lipsedge, 1985): ―Reproductive health is a state or phase of complete physical, mental and social well-being and not merely the absence of the disease or infirmity, in all matters relating to the reproductive systems and to its functions and processes‖.

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Implicit in this definition was the ability of peoples ―to have a satisfying and safe sex life‖ and the capability and freedom to reproduce if and when desired. Accordingly, the definitions of reproductive health care in the ICPD report also encompassed sexual health, the stated purpose of which was ―the enhancement of life and the personal relations, and not merely counseling and care related to reproduction and sexually transmitted diseases (STD) (Yap, 1969).

Sexual initiation and the knowledge The National Family Health Survey (NFHS) found that on an average, the women reported their first sexual intercourse at a younger age than men as they marry much earlier than the men (Wig, 1960). Despite early sexual debut among women, their knowledge and the information on contraception was lower than that of men. Although overall knowledge of contraceptive methods among older adolescents (of 15 to 19 years) and youth (of 20 to 24 years) was found to be nearly universal, older adolescent girls had lower knowledge of the modern reversible methods14 as compared to older adolescent boys (Figure 2b). Contact with health care workers and the facilities Family life education in school and through community outreach with the frontline health workers and peer educators, and counseling as well as health care at the Adolescent Friendly Health Centres (AFHCs) 15 are important programme components for the health and the well-being of young people. NFHS-5 data shows that contact of older adolescent girls (of 15 to 19 years old) and young women (of 20 to 24 years old) with health workers in three months preceding the survey increased between the year 2015-16 and 2019-21(Malhotra et al., 1975).

HIV/ AIDS AND STI PREVENTION

India has the third largest HIV epidemics in the world with 2.1 million people in the country living with the infection as of 201688. 87.5% of the infection is driven by sexual contact and it is concentrated amongst vulnerable populations at the high risk of HIV. The governments of India setup the National AIDS Committee in the Ministry of the Health and Family Welfare following the report of the first case of the HIV in 1986. In 1991, the country launched its first National AIDS Control Programmes (NACP) and setup the National AIDS Control Organization (NACO) to implement it. NACO has been mainly working with multilateral and bilateral agencies as well as the civil society organizations to bring down the HIV prevalence and provide comprehensive medical services and access to socio-legal protection for those living with the HIV (Sumathipala et al., 2004). Human rights principles

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are closely linked to the HIV/ AIDS epidemic in relation to both, creating the conditions that mainly render people vulnerable to contracting HIV/AIDS, and once infected the nature of the discriminations and violations that follow. Globally, the work on the HIV/ AIDS has brought out sharply, ways in which denial of human rights in relation to the sexual health renders specific population groups vulnerability to contracting infection – while consigning those living with the HIV/ AIDS to a continuum of violations and discriminations in all fields of life. This being especially true for populations most materially the impoverished, whose sexuality is stigmatised particularly through law, namely the sex workers, men having sex with men, trans persons, women and children(Dhikav et al.,2008). These populations suffer discrimination as well as quiet amount of criminalization and are hence at greatest risk of contracting the diseases (Bhatia et al., 1991).

CULTURE BOUND SYNDROMES (CBS)-OVERVIEW

There is a general consensus regarding the marked influence of the culture on psychopathology and although the introduction of the CBS in DSM IV served as a boost to increase research, its impact on the clinical practice was not as significant. Also, the addition of CBS as an appendix underlines the little importance that mainstreams psychiatry has given to these clinical situations (Bhatia et al., 1998). This is in line with the anthropologic observations that consider these syndromes as exclusive phenomena of the certain social groups.58 the rarity of CBS is one of the possible factors explaining and delineating their undervaluation. Their low prevalence even in the cultures where originally delineated makes it questionable to classify them as independent nosological entities, when the classification systems should have clinical utility for most psychiatric diseases. On the other hand, it is quiet important to stress the dynamic nature of culture (Kroese et al., 2013). Culture is not a static entity or phase, being constantly influenced and changing over due course of time in such a way that many CBS may no longer be specific of a particular cultures and their prevalence might also de crease as a result of such changes. A major contribution regarding the classifications of these syndromes came through Tseng who proposed a division of the CBS based on the predominant effect culture exerts on the psychopathology:(1) Pathogenic: culture has quiet a causal influence on the emergence of the syndrome (Koro, Dhat); (2) Pathoselective: culture selects mainly coping patterns as reactions to the stressful situations (Amok); (3) Path plastic: culture shaped variations of psychopathology in disorders encompassed in current diagnostic systems (TaijinKyofu sho, Brain Fag, Pibloktoq); (4) Path

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elaborative(Ficarra et al.,2006): The culture models and reinforces certain types of manifestations (Latah); (5) Path facilitating: The culture strongly promotes the frequency of the occurrences (massive hysteria, substance abuse); (6) Pathoreactive: culture models the interpretation of several symptoms and the clinical conditions (ataque de nervios, hwa byung, susto)(Esteves et al.,2016).

CONTROVERSIES AND CRITICISMS

Classification systems have been subject to criticism by the transcultural psychiatrists. The ethnocentrisms of western psychiatry is at the core of such critics with so called dom inant cultures evaluating the reality through its own cultural experience, necessarily belittling other points of view. A widely referenced example of cultural ethnocentrism in western psychiatry is the case of the anorexia nervosa. Although this diseases was initially limited to western countries, it was never considered a pivotal CBS and added directly as an independent diagnosis in the current classification systems9 Chen et al.,2008). Although it is true that over time reports of anorexia nervosa emerged from the several different countries with dis tinct cultural backgrounds, the same is also true for the other CBS. This is understandable if one considers movements of globalization, westernization and the acculturation of soci eties today. It is therefore important to make a critical analysis of the conditions and phases under which CBS and cultural concepts of distress have been delineated, seeking with this clarification to assume a consistent position regarding their classifications in standard diagnostic manuals (Abdelbaki et al., 2017).

The International Covenants on Economic, Social and Cultural Rights (ICESCR) in its Article 12 mainly states about the right to health. Its General Comments 14, (2000) on highest attainable right to the health, emphasizes the importance of establishing education and prevention programme as well as information campaigns for addressing the STIs particularly HIV/ AIDS and other the SRH issues.CESCR General Comment 22 (2016), on sexual and reproductive health calls for the trained medical personnel to perform SRH services including prevention and treatment of HIV/ AIDS. Furthermore, it expresses grave concern about the ways by which laws indirectly or directly interferes with the access to realisation of SRH, by criminalizing SRH services and information, HIV non-disclosure, the exposure and transmission; and by mainly criminalizing consensual sexual activities between adults, as well as transgender identity and the expression(Ni et al.,2016).The Special

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Rapporteur on Right to Health (2010) the negative impacts of criminalization of same-sex activities, sex work and HIV transmission on realisations of right to health. Criminalization of same-sex activities reinforces the stigma's of unnatural and deviant, severely damaging individual self-worth. Similarly the criminalization of sex works, or activities integral to sex work, has a deleterious effect on the sexual and mental health of sex workers, and their access to the services and legal redress, while magnifying abuse and violence in their lives. It mainly discourages them from seeking health services including blood tests for HIV and the other STIs and legitimizes violence by both state and non-state actors. Status of the compliance India is currently implementing the fourth National AIDS Control Programmes (NACP) and the focus is on targeted interventions with the high risk populations to reduce the rate of infection (Ozturk et al., 2012). There are, however, concerns around fundings of this programmes. In 2012, India committed to financing 90% of HIV/ AIDS programmes on its own while leaping down reliance on international funding. However, the NACP budget drools short of the government's commitment and is reflected by a 22.2% decline of government funding between 2014-15 and 2015-16. This is also complemented by the fact that HIV prevalence rate has fallen in the country from 0.42% in 2001 to 0.26% in 2015(Mancini et al., 2004).

ANDROLOGISTS, SEXUAL PHYSICIANS, MEDICAL SEXOLOGISTS, SEXOLOGISTS, AND PSYCHOSEXOLOGISTS

Traditionally, the andrologist had primarily defined himself as a physiopathology's and doctor of male reproduction, over time discovering the need to mainly recognize sexuality, and not just the reproductive act, as an object of the clinical interest. The reasons for this delay are not only the daughters of the cultural heritage unwilling to recognize that sex and reproduction in the human species do not necessarily coincides, but also rather in the enormous cultural delay that the sexology had, and in some ways still has, towards reproductive pathophysiology(Baker et al.,2013). The use of the Galilean method, the humus and the irreplaceable culture medium for andrology and the sexual medicine, has not been considered as indispensable by the generations of so-called, more or less selfdefned, sexologists. Nor can it be blamed on these alone. The Italian medical schools where the word —sexology‖ or the —sex‖ or —sexual dysfunction‖ appear in the students' the curriculum (Course of learning) are still very few: even today it is possible to graduate in medicine and the surgery without having received the formal lessons and clinical training on some of the

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most widespread and most dramatically impacting the human pathologies on the quality of life of the population: sexual dysfunctions. It is quite surprising, but it is also true, that similar shortcomings are recorded in the feild of psychological academic trainings. The only exam in sexology (Psychology and The Psychopathology of the Sexual Behavior) has traditionally been a complementary exam and, after the reform has eliminated, the terms of complementary exam, there are not many faculties or schools of the psychology that have structurally activated it. The same courageous attempt by a single university in specifically a county like Italy, that of L'Aquila, to offer a specialist degree course with a focus on the Sexology has been tempered by the obligation to unify courses due to a lack of staff: so, the sexology has returned to being a Cinderella (Wang et al., 2012). This has allowed the proliferation of the private schools that issue sexologist qualifications without any of the legal value and not always with a decent teaching staff. If one looks at the curriculums of professors teaching in these schools, which have proliferated thanks to the inaction of public academic trainings, it is very, very rare to find international scientific publications. This clearly denounces how far the Italian (and not only Italian) sexology still has to go. But some positive signs are beginnings to be seen: second-level university masters, which issues non-professional qualifications in the medical sexology or medicine of the sexuality (the third-level master is not yet active in Italy for any subject), are officially recognized from the states as a postgraduate training, they begin to spread throughout the country and already a university, in the course of medicine and the surgery in English, offers its students an official and compulsory course in Endocrinology and also Sexology(Qiu et al.,2021). Certain disorders like leucorrhea (S.Sreeremya, 2018a) premenstrual syndrome (S.Sreeremya, 2019) even gender dysphoria (S.Sreeremya, 2018b) is been discussed under sexual medicine.

DHAT SYNDROME

Dhat syndrome has previously been characterized as a psychiatric condition or a phase involving fear of losing the semen through ejaculation, nocturnal emission, or other means. Most common on the Indian subcontinent, the DSM-V mainly characterizes Dhat syndrome as a culture-bound syndrome (CBS), meaning that its presentation is tightly bound to a specific culture.

Many people in India believe that the *Dhat* is a bodily humor that begins as food and is progressively converted into blood, the bone marrow, and semen. Therefore, loss of semen is

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viewed as loss of dhat, which can be seen as loss of the vitality. Anxiety surrounding this loss is what paves to Dhat sy ndrome. Additionally, perceived loss of Dhat is associated with depressive symptoms such as depressed mood and also fatigue. Major depression is a common diagnosis among the Dhat syndrome patients.As a result it is manly proposed that Dhat syndrome is a culture-bound manifestation of depression Lira Neto et al., 2021).

EPIDEMOLOGICAL CASES

In one analysis of the culture-bound syndromes, Dhat syndrome represented 76.7% of patients with the culture-bound syndromes, making it the most prevalent known culture-bound syndrome.In a prospective study of 143 male participants with psychosexual disorders, 64.5% of them were diagnosed with Dhat syndrome. It is most commonly diagnosed on the Indian subcontinent. One systematic literature review mainly found that the mean age of patients with Dhat syndrome was of 26 years of age (Pfeifer et al., 2015).These patients are typically male as the syndrome is characterized by the fear of semen loss, but female Dhat syndrome also exists. Nashi Khan approached about 70 health professionals in various outpatient clinics to gather records from the next month from all the patients. Demographic data were collected on a total of 1777 male patients ranging from the age of 12-65 years. The majority of patients with the hat syndrome was found to be of lower socioeconomic status, had completed less education than their peers, and were mainly single. Demographic data taken from first time patients referred to psychosexual clinics in India were consistent with these traits, and also found 68.1% to be followers of Hinduism, and 63.7% to be from rural locations (Minhas et al., 2021).

It should be keenly noted, that Dhat syndrome exists outside of the Indian subcontinent as well. In one research conducted by a urological service in Spain from 2006-2007, a total of 32 patients were found to have the symptoms consistent with Dhat syndrome. All of those patients'werethe South Asian immigrants and authors note a need for rapid identification to improve quality of care (encompassing reduction of unnecessary testing) for patients with this syndrome, especially considering the lack of knowledge in Spanish providers and increasing numbers of immigrants. A case study of the Muslim patient in Oman argued that aspects of Muslim culture similar to the Indian culture condemning activities that lead to the release of semen may contribute to the Dhat syndrome. Therefore, Dhat syndrome may be a reaction to these elements within any culture rather than being a culture-bound syndrome (CBS).

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Interestingly, 47 white patients in the United Kingdom were found to experience similar symptomology by a psychiatrist of South Asian descent. While a provider less familiar with the syndrome may have mainly labeled it as a specific type of anxiety or phobia, the patients she examined were quiet overwhelmingly single and isolated, a characteristic shared with their counterparts in India(Moazzam,2016).

MAJOR RISK FACTORS-INDIAN SCENARIO

Dhat syndrome is most commonly reported in the young males of low or medium socioeconomic status who are unmarried or the recently married, come from rural backgrounds, and have a conservative attitude towards the process of sex.In a survey conducted at Patiala, 48.2% of rural participants viewed masturbation and/or excessive sex as harmful and leading to mental illness while 24% of college graduates held the same viewpoint. However, there are also studies that suggest the occurrence of Dhat syndrome is not associated with educational status. The difference in the occurrences of Dhat syndrome among various groups may be due to differences in the knowledge between individuals from different social groups. Patients commonly acquire the knowledge about dhat and the consequences of its loss from friends, the relatives, colleagues, roadside advertisements, and magazines.A study done recently reports that respondents belonging to a higher social class discussed sex freely and were less fearful of the health consequences from semen loss compared to lower social classes. The respondents from the lower social classes considered sex a taboo topic, so they were less informed about the normal sexual processes and were more likely to perceive the nocturnal emissions as abnormal. Studies have shown that the prevalence of Dhat syndrome is irrespective to the educational status or the religion of the patient (Agarwal et al., 2021).

Few researchers have tried to find the relationship between Dhatsyndrome and currently established psychiatric diagnoses. Some argue that it is a case of cross-cultural misunderstanding while others define it as a functional somatic syndrome. A study done by Perme, et al. studied 29 patients with Dhat syndrome by administering a series of tests including a somatization screening index (SSI), screening version of illness behavior questionnaire (SIBQ), and somatosensory amplification scale (SAS). They then used the results from these tests to calculate a hospital anxiety and depression scale (HADS) score for each patient. The results show that patients with Dhat syndrome have a much higher

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depression score, but no difference in anxiety score. Based on these results, they postulated that Dhat syndrome is strongly related to the DSM diagnosis of depression.

Depression is the most commonly reported co-morbidity with Dhat syndrome, with prevalence between 40-66%. Anxiety disorders are also found in 21-38% of patients. Somatoform and hypochondriacally disorders are reported in up to 40% of patients. A study recently conducted, examined 30 patients at a tertiary care hospital and found that ten patients (33.2%) had premature ejaculation, and two patients (6.6%) reported erectile dysfunction. Other less common comorbidities encompasses phobia, stress reaction, obsessive disorders, body dysmorphic disorders, and the delusional disorders (Busetto et al., 2018).

Since Dhat syndrome is characterized by excessive worry over the semen loss, it is thought that this distress can precipitates into a more serious psychiatric illness. Patients with schizophrenia often presents with the prodromal symptoms of sub threshold positive, negative, affective, or the cognitive symptoms before the onset of fully evolved psychotic symptoms' case report written by Kar, et al. keenly documents a 23-year-old schizophrenic patient who was initially diagnosed with Dhat syndrome at the age of 15. During this time, he was preoccupied with thoughts of semen loss and started becoming quiet withdrawn. Six months following his initial complaints, he developed the suspiciousness. Years later, he was missing from his home for a month and found in a disheveled state with the self-inflicted neck lacerations in response to commanding hallucinations. The stress from the semen loss in Dhat syndrome is likely to generate epigenetic changes while disrupting the hypothalamic-pituitary-adrenal axis. This can play a pivotal role in the transformation of prodromal phase to the schizophrenia (Oliva et al., 2009).

CONCLUSION

This paper garners about human sexuality. Sexual problems faced by human beings of different age groups. Sexually transmitted diseases like HIV, Syphilis, Gonorrhoea, and Chlamydia. Also this paper highlights about Dhat syndrome and CBS.

REFERENCES

1. Lipsedge M, Littlewood R. Transcultural psychiatry. In: Granville-Grosman, editor. Recent advances in clinical psychiatry. 3rd ed. Edinburgh: Churchill Livingstone; 1985.
2. Yap PM. The culture bound reactive syndrome. In: Caudil W, Lin T, editors. Mental health research in Asia and the pacific. Honolulu: East West Center Press; 1969.
3. Wig N. Problems of mental health in India. J ClinSoc Psychiatry. 1960; 17:48–53.
4. Malhotra HK, Wig NN. Dhat syndrome: A culture bound sex neurosis of the orient. Arch Sex Behav. 1975; 4:519–28.
5. Sumathipala A, Siribaddana SH, Bhugra D. Culture bound syndromes: The story of Dhat syndrome. Br J Psychiatry. 2004; 184:200–9.
6. Dhikav V, Aggarwal N, Gupta S, Jadhavi R, Singh K. Depression in Dhat syndrome. J Sex Med. 2008; 5:841–4.
7. Bhatia MS, Malik SC. Dhat syndrome: A useful diagnostic entity in Indian culture. Br J Psychiatry. 1991; 159:691–5.
8. Bhatia MS, Choudhary S. Dhat syndrome: A culture bound sexual neurosis. Indian J Med Sci. 1998; 52:30–5.
9. Kroese AC, de Lange NM, Collins J, Evers JL. Surgery or embolization for varicoceles in subfertile men. Cochrane Database Syst Rev. 2013; 131(1):67. 51.
10. Ficarra V, Cerruto MA, Liguori G, Manzoni G, Minucci S, and Tracia A, et al. Treatment of varicocele in subfertile men: the Cochrane review—A contrary opinion. Eur Urol. 2006; 49:258–63. 52.
11. Esteves SC, Roque M, Agarwal A. Outcome of assisted reproductive technology in men with treated and untreated varicocele: systematic review and meta-analysis. Asian J Androl. 2016; 18:254–8.
12. Chen SS, Huang WJ, Chang LS, et al. Attenuation of oxidative stress after varicocelectomy in subfertile patients with varicocele. J Urol. 2008; 179(2):639–42. 54.
13. Abdelbaki S, Sabry J, Al-Adl A, et al. The impact of coexisting sperm DNA fragmentation and seminal oxidative stress on the outcome of varicocelectomy in infertile patients: a prospective controlled study. Arab J Urol. 2017; 15(2):131–9. 55.

 Page 66-77 © MANTECH PUBLICATIONS 2024. All Rights Reserved

14. Ni K, Steger K, Yang H, et al. A comprehensive investigation of sperm DNA damage and oxidative stress injury in infertile patients with subclinical, normozoospermic, and astheno/oligozoospermic clinical varicocoele.Andrology. 2016; 4(5):816–24. 56.
15. Ozturk U, Ozdemir E, Buyukkagnici U, et al. Effect of spermatic vein ligation on seminal total antioxidant capacity in terms of varicocele grading. Andrologia. 2012; 44(SUPPL.1):199–204. 57.
16. Mancini A, Meucci E, Milardi D, et al. Seminal antioxidant capacity in pre- and postoperative varicocele. J Androl. 2004; 25(1):44–9.
17. S.Sreeremya, Journal of Midwifery, Women's Health and Nutrition, Mood Swings of Women: A Premenstrual Syndrome, 2019.vol (1)1:1-12.
18. S. Sreeremya, International Journal of Computational Intelligence, Biotechnology and Biochemical Engineering, Leucorrhoea, 2018a.Vol:2(2).1-5.
19. S. Sreeremya, Journal of Counselling and Family Therapy. Gender Dysphoria State: Review 2018b.Vol1(1):1-7
20. Baker K, McGill J, Sharma R, et al. Pregnancy after varicocelectomy: impact of postoperative motility and DFI. Urology. 2013;81(4):760–6
21. Wang YJ, Zhang RQ, Lin YJ, Zhang RG, Zhang W. Relationship between varicocele and sperm DNA damage and the effect of varicocele repair: a metaanalysis. Reprod Biomed Online. 2012; 25:307–14.
22. Qiu D, Shi Q, Pan L. Efficacy of varicocelectomy for sperm DNA integrity improvement: a meta-analysis. Andrologia. 2021; 53:1–7.
23. Lira Neto FT, Roque M, Esteves SC. Effect of varicocelectomy on sperm deoxyribonucleic acid fragmentation rates in infertile men with clinical varicocele: a systematic review and meta-analysis. FertilSteril. 2021; 116:696–712.
24. Pfeifer S, Butts S, Dumesic D, et al. Diagnostic evaluation of the infertile male: a committee opinion. FertilSteril. 2015; 103(3):e18–25. 63.
25. Minhas S, Bettocchi C, Boeri L, Capogrosso P, Carvalho J, Cilesiz NC, Cocci A, Corona G, Dimitropoulos K, Gül M, Hatzichristodoulou G, Jones TH, Kadioglu A, Martinez Salamanca JI, Milenkovic U, Modgil V, Russo GI, Serefoglu EC, Tharakan T, Verze P, Salonia A, EAU Working Group on Male Sexual and Reproductive Health. European Association of Urology Guidelines on Male Sexual and Reproductive Health: 2021 Update on Male Infertility. Eur Urol. 2021; 80(5):603–20.

Page 66-77 © MANTECH PUBLICATIONS 2024. All Rights Reserved

26. Moazzam A. Oxidative stress induced infertility in varicocele. Andrology. 2016; 5(1):156. 65.
27. Agarwal A, Finelli R, PannerSelvam MK, et al. A global survey of reproductive specialists to determine the clinical utility of oxidative stress testing and antioxidant use in male infertility. World J Mens Health. 2021; 39:470–88.
28. Busetto GM, Agarwal A, Virmani A, Antonini G, Ragonesi G, Del Giudice F, Micic S, Gentile V, De Berardinis E. Effect of metabolic and antioxidant supplementation on sperm parameters in oligo-astheno-teratozoospermia, with and without varicocele: a double-blind placebo-controlled study. Andrologia. 2018;50(3).
29. Oliva A, Dotta A, Multigner L. Pentoxifylline and antioxidants improve sperm quality in male patients with varicocele. FertilSteril. 2009;91(4 SUPPL):1536–9.

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