British Society for Sexual Medicine Guidelines on the Management of Erectile Dysfunction in Men—2017

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ABSTRACT

Background: This is an update of the 2008 British Society for Sexual Medicine (BSSM) guidelines.

Aim: To provide up-to-date guidance for U.K. (and international) health care professionals managing male sexual dysfunction.

Methods: Source information was obtained from peer-reviewed articles, meetings, and presentations. A search of Embase, MEDLINE, and Cochrane Reviews was performed, covering the search terms "hypogonadism," "eugonadal or hypogonadism or hypogonadal or gonadal," and "low or lower testosterone," starting from 2009 with a cut-off date of September 2017.

Outcomes: We offer evidence-based statements and recommendations for clinicians.

Results: Expert guidance for health care professionals managing male sexual dysfunction is included.

Clinical Translation: Current U.K. management has been largely influenced by non-evidence guidance from National Health Service departments, largely based on providing access to care limited by resources. The 2008 BSSM guidelines to date have been widely quoted in U.K. policy decision making.

Conclusions: There is now overwhelming evidence that erectile dysfunction is strongly associated with cardiovascular disease, such that newly presenting patients should be thoroughly evaluated for cardiovascular and endocrine risk factors, which should be managed accordingly. Measurement of fasting serum glucose, lipid profile, and morning total testosterone should be considered mandatory in all newly presenting patients. Patients attending their primary care physician with chronic cardiovascular disease should be asked about erectile problems. There can no longer be an excuse for avoiding discussions about sexual activity due to embarrassment. **Hackett G, Kirby M, Wylie K, et al. British Society for Sexual Medicine Guidelines on the Management of Erectile Dysfunction in Men—2017. J Sex Med 2018;XX:XXX—XXX.**

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INTRODUCTION

The current U.K. management of erectile dysfunction (ED) is largely evidence-based medicine and this guideline updates the previous 2008 British Society for Sexual Medicine (BSSM) publication on the management of ED. The major resource used for National Health Service (NHS) reference has been the Health Service Circular (HSC) 1999,[1-3] a non-evidence-based document defining guidance for good clinical practice, largely on economic grounds, for those patients qualifying for treatment under the U.K. NHS. Guidance by the National Institute for Health and Care Excellence (NICE) is the strongest influence, but NICE can only review issues identified by the Department of Health rather than those highlighted by clinicians. The guidelines presented

here were developed by a multidisciplinary expert panel from the Committee of the BSSM. The principal aim of these guidelines is to enable physicians and other health care professionals to manage ED in line with recent evidence, modern research, and clinical opinion, while adhering to the correct interpretation of current Department of Health regulations. Source information was obtained from peer-reviewed articles, meetings, and presentations, A search was performed, covering the search terms "hypogonadism," "eugonadal or hypogonadism or hypogonadal or gonadal," and "low or lower testosterone," starting from 2009 with a cut-off date of September 2017. Embase, MEDLINE, and the Cochrane Central Register of Controlled Trials databases were searched, with a limitation to reviews, meta-analyses, or meta-analysis of randomized controlled trials. A total of 4,202 records were identified and screened for relevance, of which 71 publications were selected for inclusion.

ED BACKGROUND

Epidemiology

ED has been defined as the persistent inability to attain and/or maintain an erection sufficient for sexual performance. Although ED is not usually perceived as a life-threatening condition, it is closely associated with many important physical conditions and may affect psychosocial health. As such, ED has a significant impact on the quality of life of patients and their partners.[4]

Several large epidemiological studies have shown a high prevalence and incidence of ED worldwide.[4–6] In the Massachusetts Male Aging Study, the prevalence of ED was 52% in non-institutionalized 40- to 70-year-old men in the Boston area: 17.2%, 25.2%, and 9.6% for minimal, moderate, and complete ED, respectively.[4] The incidence of ED, calculated from longitudinal data in the Massachusetts Male Aging Study, was 26 new cases per 1,000 per year.[7] A large European study of men aged 30–80 years reported a prevalence of 19%.[6] In the Men's Attitude to Life Events and Sexuality Study, which included 20- to 75-year-old men from 8 countries (United States, United Kingdom, Germany, France, Italy, Spain, Mexico, and Brazil), the ED prevalence, assessed by International Index of Erectile Function (IIEF), ranged from 22% in the United States to 10% in Spain.[8] All studies showed a steep age-related increase. These epidemiological studies provide different estimates of the prevalence of ED, which can be explained by the methodological designs in the different surveys. In particular, the estimates were influenced by the development of the IIEF and similar assessment tools in 1998, and minor changes in the definition of the condition. The age and the socio-economic status of the populations also differed between the studies.

Risk Factors

Penile erection is a complex neurovascular phenomenon under hormonal control that includes arterial dilatation, trabecular smooth-muscle relaxation, and activation of the corporal veno-occlusive mechanism.[9] The development of ED is attributable to neuronal, vascular, hormonal, and metabolic factors, mediated through endothelial and smooth-muscle dysfunction. The risk factors for ED (age, sedentary lifestyle, obesity, smoking, dyslipidemia, and the metabolic syndrome), are very similar to the established risk factors for cardiovascular disease.[10,11]

In addition to the risk factors for ED, ED itself is a cardiovascular risk factor conferring a risk equivalent to a current moderate level of smoking. The fact that ED is found more commonly in men with hypertension, dyslipidemia, acute coronary syndrome, diabetes mellitus (DM), metabolic syndrome, and lower urinary tract symptoms (LUTS)/benign prostatic hyperplasia (BPH) led to the recognition that ED is an important marker of future cardiovascular risk.[10,11] ED is associated with the severity of ischemic heart disease, in terms of plaque burden, and number of coronary arteries affected. ED is believed to be a sentinel marker for future cardiovascular events, occurring 3–5 years before an event, based on the arterial size hypothesis.[10,11]

The predictive value of ED and coronary artery disease is most impressive in younger men aged 40–49 years, where traditional risk assessment tools are unhelpful. Data from the Olmsted County Study suggested a 50-fold relative risk with incident ED in younger men.[12] These findings were supported by a long-term study from Western Australia where men with incident ED had 7 times the cardiovascular risk compared with men without ED.[13] In men with DM, incident ED was a better predictor of cardiovascular events than hypertension, dyslipidemia, and microalbuminuria.[14]

ED confers a 1.46 increased risk for cardiovascular disease.[11,15] A recent meta-analysis of 12 prospective studies involving 36,744 men found ED to be an independent marker of cardiovascular events such as hospitalization and mortality,[16] in addition to conventional risk factors (age, weight, hypertension, DM, dyslipidemia, and smoking). The authors of this finding suggested that ED should be included in future cardiovascular risk calculations.[11]

Long-term follow-up from the European Males Aging Study concluded that ED and low testosterone independently predicted early death and that early detection of these 2 conditions represented an opportunity to detect a small number of men at high risk of early death.[17] We endorse recent evidence suggesting that the practical predictive value of ED now merits re-classification of ED as an independent risk factor for cardiovascular disease (especially in men younger than 45 years) with modification of established risk calculators.[18]

The Need for ED Guidelines

The prescription of newer treatment options for ED are generally within the scope of primary care practice, and pharmacological agents for oral, intra-cavernosal, and intra-urethral use are widely available. As a result, treatment strategies have