

# An audit of self-awareness of erectile dysfunction in diabetes

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Erectile dysfunction (ED) in people with diabetes is under-reported in both primary and secondary care. Individuals do not report concerns about ED for many reasons, including personal, social and cultural. To assess the prevalence and self-reporting of ED in a multiethnic diabetes clinic population, a prospective audit was carried out using a self-administered validated ED questionnaire. The prevalence of ED was 88.6%, showing an increasing but not significant trend with increasing age and worsening HbA<sub>1c</sub> level. Given that ED is thought to be a marker of endothelial dysfunction, as well as being distressing, every effort should be made to overcome the barriers to patient reporting.

Erectile dysfunction (ED) is a common and distressing complication of diabetes. Reported prevalence of ED in people with diabetes varies widely, but has been found to be as high as 90% (Malavige and Levy, 2009). However, ED is often neglected and underdiagnosis remains common (Chu and Edelman, 2002). This may be due to reticence on the part of both patient and healthcare professional to discuss ED, which can be affected by social, personal and cultural factors.

## Background

Erectile dysfunction (ED) has been defined as the persistent or recurrent inability to attain and maintain an erection sufficient to permit satisfactory sexual performance (National Institutes of Health, 1993), and is common in people with diabetes. Diabetes and hypertension are both independent risk factors for ED (Ledda, 2000). It is estimated that by 2025 there will be

4.2 million adults in the UK with diabetes, over half of whom will develop significant vascular comorbidities (Diabetes UK, 2010; Gray et al, 2010). If current clinical practice continues, the number of men with distressing symptoms of ED will therefore also be set to increase.

## Prevalence and pathophysiology

At present, the prevalence of ED in people with diabetes varies between 35% and 90%, with differences likely to be attributable to different methodologies and population characteristics between studies (Malavige and Levy, 2009). The pathophysiology of diabetes-induced ED is multifactorial and may be a result of vascular disease, autonomic neuropathy, hypogonadism or a combination of these (Callandar, 2007). Low testosterone levels are associated with reduced insulin sensitivity and type 2 diabetes (Kapoor et al, 2005). There are significant differences between people with ED with or

## Article points

1. There are many reasons why some people do not report concerns with erectile dysfunction (ED), including personal, social and cultural.
2. This prospective audit of ED in a multiethnic population showed a high prevalence (88.6%) of ED with only one individual previously seeking treatment from his GP.
3. Given that ED is thought to be a marker of endothelial dysfunction, as well as being distressing, every effort should be made to overcome the barriers to patient reporting.

## Key words

- Erectile dysfunction
- Questionnaire

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without diabetes; people with diabetes and ED have been shown to present with increased severity of disease than those without, and be more resistant to treatment (Penson et al, 2003; Malavige and Levy, 2009).

**Associations**

There are a variety of factors connected with diabetes that have been studied to evaluate associations with the severity of ED. These include glycaemic control, disease duration, micro- and macrovascular complications, smoking, age, hypertension, hyperlipidaemia and a sedentary lifestyle. However, the only consistent factor found to be associated with

the severity of ED is age, although some studies suggest a link with duration of diabetes (Siu et al, 2001; Malavige and Levy, 2009; Lu et al, 2009).

ED is increasingly being recognised as a surrogate marker of endothelial dysfunction. This has resulted in the evaluation of ED as a predictor of microangiopathic events and therefore as an early clinical indicator of cardiovascular disease (Hermans et al, 2009; Tamler, 2009).

**Self-reporting of erectile dysfunction**

One study found that only 58% of men seek help for ED (Rosen et al, 2004) after waiting an average of 17 months (Bayer Healthcare, 2007). ED can have profound adverse effects on quality of life and wellbeing, and has been associated with depression (Steidle et al, 2006). The loss of self-esteem associated with ED can also impact on relationships and can confound the psychological impact of ED. This may be one of many reasons for the low rate of self-referral for symptoms of ED.

Medical professionals can also be reserved about enquiring after symptoms of ED. This can be due to embarrassment, supposed triviality or fear of privacy infringement (Abbasian, 2002). It may also be due to lack of awareness of the correlation between diabetes and ED. Asking about sexual health remains a low priority for many GPs, particularly when it comes to older people (Andrews and Piterman, 2007).

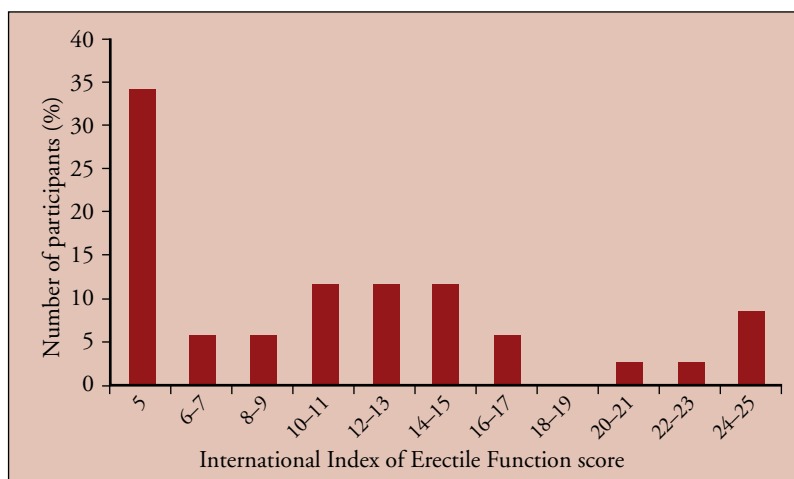


Figure 1. The distribution of the participants' International Index of Erectile Function score.

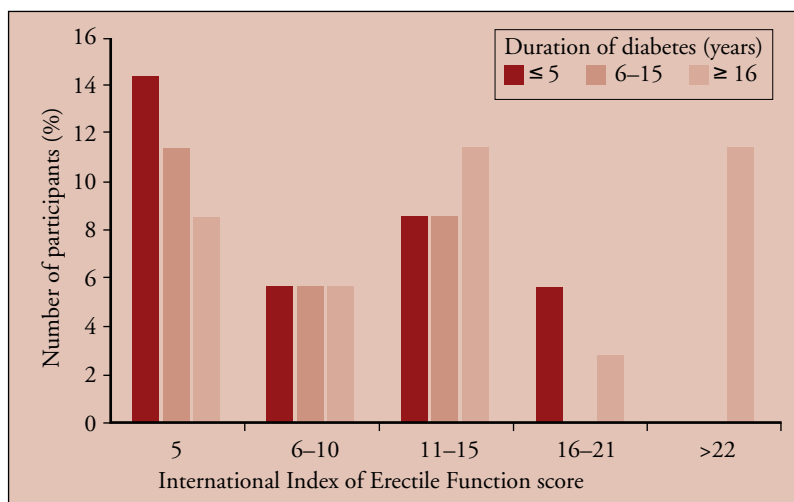


Figure 2. The distribution of the participants' International Index of Erectile Function score and duration of diabetes.

**Cultural factors**

There are few previous studies on ED in diabetes within a multicultural population. One study carried out in India reports that the presentation of sexual disorders continues to be strongly influenced by culturally held beliefs (Kendurkar et al, 2008). A poor grasp of the English language and insufficient knowledge of the healthcare system can also create barriers to healthcare. Johnson et al (2000) were concerned that the quality of healthcare delivered to people from ethnic groups by healthcare professionals was inadequate, primarily due to a lack of cultural awareness from NHS staff.

## The audit

### Aim

The aim of this study was to assess the prevalence and self-reporting of ED in a cross-section of men with diabetes in a multi-ethnic clinic population.

### Methods

This was a prospective audit of consecutive people attending a weekly outpatient hospital diabetes clinic over 1 month. A self-administered validated ED (International Index of Erectile Function [IIEF]) questionnaire was given to each individual after their consultation. A diagnosis of ED was made with a score of  $\leq 21$  out of 25 (Rosen et al, 1997). Epidemiological and clinical data were obtained from case notes and electronic records. The power of the study was too low to perform statistical analysis and multivariate regression analysis but trends of results were analysed.

### Results

A total of 35 men (mean age of 57 years; five had type 1 diabetes and 30 had type 2 diabetes) had a complete evaluation. Six men declined to answer the questionnaire. Of the study group, 26% were Asian, 20% African–Caribbean, 3% Chinese and 51% Caucasian. The prevalence of ED was 88.6% (*Figure 1*). Age, HbA<sub>1c</sub> level, blood pressure, ethnicity, presence of macro- and microvascular complications of diabetes, medications, as well as the duration, type and treatment of diabetes were assessed and analysed. There was an increasing but not significant trend of ED with increasing age and worsening HbA<sub>1c</sub>, but no other trends of note. *Figure 2* shows that there was an increased reporting of ED from people who had a shorter duration of diabetes. All ethnicities were affected, with Asian and Black African or African American people least likely to have or report concerns with ED. Only one person had previously sought treatment for ED from his GP.

## Discussion

### Prevalence

There was a high prevalence of ED in this study population. This could be due to the population requiring assessment in a secondary care diabetes clinic, indicating poor glycaemic control or the presence of a complication of diabetes. The average HbA<sub>1c</sub> level was 8.3% (67 mmol/mol) (range 5.9–15.4% [41–145 mmol/mol]). It is possible that the high rate of response and the possible perceived gain of referral for treatment may account for the high prevalence of ED.

### Associations with ED

There is an increasing trend of ED with increasing age and HbA<sub>1c</sub> level, as shown in other studies and discussed previously.

**“Erectile dysfunction (ED) is a common and a significantly under-reported problem in this multiethnic population. Every effort should be made to overcome the barriers to self-reporting of symptoms of ED.”**

There was an increased reporting of ED from people who had a shorter duration of diabetes. This is different to results from previous studies. It may be due to individual perception of “normal” when reporting symptoms or a consequence of the small sample size. All ethnicities were affected, with Asian and Black African or African American people least likely to have or report concerns with ED. This has also previously been reported in the literature; Smith et al (2009) reported that “Asian and black men were less likely to have severe ED relative to white men” after adjusting for age, socioeconomic status, comorbidities and lifestyle characteristics.

#### Self-reporting

Several people commented that they had been struggling with ED for “years” but had been too embarrassed to talk to a doctor or had assumed there was no treatment. These are two of a host of reasons why only one person may have previously sought treatment from his GP. It does serve to illustrate that it is important for the healthcare professional to initiate enquiries into ED symptoms rather than wait for the individual to volunteer information. Routine enquiries in primary care during an annual diabetes review would be one solution to this. A study of over 450 men with diabetes in Devon found that the majority of hospital and GP patients indicated that they would wish to be proactively and routinely asked about ED during their annual review visit, with only 4% not wanting this (Lockett et al, 2007).

ED is an “awkward” topic in many cultures, and some men may find talking to a male healthcare professional about ED easier than a female. In the study by Lockett et al (2007) 22% of responders indicated that they would prefer this. However, talking to a healthcare professional of the opposite sex about sexual matters is particularly taboo in Asian culture and therefore the percentage of people in Birmingham not happy to talk to a female healthcare professional about ED is likely to be much higher than in areas with a smaller Asian population. Written questionnaires such as the IIEF are a good way of overcoming this, but sensitivity is still required.

Limitations of this study include its small sample size, which limited the ability for statistical analysis. A larger study over a longer period of time would improve the power of the study. Additionally, extending the study to primary care would broaden the study population.

#### Conclusion

ED is a common and a significantly under-reported problem in this multiethnic population. Every effort should be made to overcome the barriers to self-reporting of symptoms of ED. Increasing awareness and educating healthcare professionals about the issues involved, as well as routinely using simple validated questionnaires, can facilitate the management of such people. ■

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