

ORIGINAL RESEARCH—EPIDEMIOLOGY

Prevalence of Sexual Concerns and Sexual Dysfunction among Sexually Active and Inactive Men and Women with Screen-Detected Type 2 Diabetes

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ABSTRACT

Introduction. Type 2 diabetes negatively impacts sexual health. Only limited information is available regarding sexual health among sexually inactive patients with type 2 diabetes.

Aim. The aim of this study was to examine the prevalence of sexual concerns among sexually active and sexually inactive men and women with type 2 diabetes and of sexual dysfunction (SD) among sexually active.

Methods. Data from the Anglo–Danish–Dutch Study of Intensive Treatment in People with Screen-Detected Diabetes in Primary Care–Denmark study was used. A total of 1,170 Danish patients with screen-detected type 2 diabetes attended a health examination, including assessment of sexual concerns using self-report questionnaires and of SD using the Female Sexual Function Index (FSFI-R) and the International Index of Erectile Function (IIEF-5) instruments.

Main Outcome Measures. The main outcome measures used regarding sexual concerns are the following: prevalence of failure to fill sexual needs, of experiencing sexual distress, finding it important to have a good sexual life, and additionally, prevalence of SD.

Results. Data regarding sexual activity status during the last 12 months were available among 583 men and 377 women. Seventeen percent of men and 47% of women reported to be sexually inactive, among whom 57% of men and 42% of women reported failure to fill sexual needs; 31% of men and 10% of women that it was important to have a good sexual life, and 32% of men and 11% of women that they were experiencing sexual distress. Around half of men and women were excluded from the SD analysis, mainly because of reporting lack of sexual intercourse during the last 4 weeks. Among those included, 54% of men and 12% of women were found to have SD.

Conclusions. Sexual inactivity is highly prevalent among middle-aged and older men and women with early type 2 diabetes and these patients often have sexual concerns. The high exclusion rates when assessing SD using the FSFI-R and IIEF-5 instruments makes it difficult to draw conclusions regarding the prevalence. Sexual health should be broadly assessed in both sexually active and sexually inactive people with type 2 diabetes. **Bjerggaard M, Charles M, Kristensen E, Lauritzen T, Sandbæk A, and Giraldi A. Prevalence of sexual concerns and sexual dysfunction among sexually active and inactive men and women with screen-detected type 2 diabetes. Sex Med 2015;3:302–310.**

Key Words. Diabetes Mellitus; Sexuality; Sexual Dysfunction; Primary Care

Introduction

Sexual well-being is positively associated with quality of life [1]. Type 2 diabetes negatively interferes with sexual health and function [2]. Previous research addressing sexuality among men and women with type 2 diabetes mainly describe sexual dysfunction (SD) assessed using screening instruments [3,4]. However, most widely used instruments for sexual function assessment primarily describe men and women who are sexually active, often with a partner [3,5]. People with type 2 diabetes are often middle-aged or older, and advancing age is usually related to reduced intimate contact or sexual activities and more physical sexual problems [6]. In previous studies of SD among people with type 2 diabetes, up to 50% of subjects have been excluded due to lack of sexual activity [7]. Thus, little is known about sexuality among sexually inactive people with type 2 diabetes. Previous research has shown that sexuality is also a positive factor in life among people who are not sexual active [8]. Therefore, more knowledge on sexuality among sexually inactive is desirable.

Sexuality comprises many levels of sexual behavior than having sexual intercourse. Thus, people's sexual well-being may not necessarily dependent on whether they have a SD or have sexual intercourse or not [9]. Whether a person has sexual concerns might therefore be a better indicator of their actual sexual well-being.

To our knowledge, no previous studies have examined sexual concerns, among both sexually active and inactive men and women with type 2 diabetes. Such knowledge may be desirable for identifying sexual problems important to the patient [9,10].

The Danish arm of the ADDITION study (Anglo–Danish–Dutch Study of Intensive Treatment In People with Screen-Detected Diabetes in Primary Care) [11] contains information of both sexual concerns (using self-reported questionnaires) and of SD (using previously reported instruments) and do therefore provides a unique opportunity to broadly assess sexual health in a well-characterized cohort of men and women with screen-detected type 2 diabetes.

In the present study, our main hypothesis was that a high percentage of both sexually active and inactive men and women with type 2 diabetes do not get their sexual needs fulfilled, and that this is distressing for them. We hypothesized that men more often than women report that a good sexual

life is important as well as they more often have a SD.

Aims

The aims of this study were to describe self-reported sexual concerns. This will be done by reporting the prevalence of: (i) failure to fill sexual needs; (ii) experiencing sexual distress; and (iii) finding it important to have a good sexual life among both sexually active and inactive; and by describing the prevalence of SD among sexually active men and women with type 2 diabetes.

Methods

Sample

Data for this study were collected at the follow-up examination of the ADDITION Denmark study. The design and rationale of the ADDITION study have been reported previously [11]. Briefly, ADDITION Denmark comprises two phases: a screening phase and a pragmatic cluster-randomized parallel group trial. All 40- to 69-year-old patients in 190 general practices in Denmark were invited to participate in a stepwise screening program for type 2 diabetes. Individuals were diagnosed according to the World Health Organization criteria as previously described [12]. Those diagnosed with type 2 diabetes were randomized to either routine care of diabetes or intensive treatment. Overall, 1,533 eligible patients with screen-detected diabetes agreed to participate in the trial. The study was approved by the local ethics committee and conducted in accordance with the principles of the 1996 Helsinki Declaration. All participants provided informed consent.

After an average of 5 years of follow-up, 1,170 (76%) of these participants were reexamined in test centers and asked to complete self-report measures, including measures of sexuality. A total of 414 women and 604 men (86% and 88% of the study population, respectively) answered one or more questions on sexuality and were included in the present study. Supplementary Figure S1 displays the participant flow.

Subject Measures and Study Procedures

Health assessments at follow-up were performed by centrally trained staff unaware of study group allocation, and following standard operating procedures. Examinations included biochemical, anthropometric, and questionnaire measures [13]. Sexual measures were assessed using self-report questionnaires. Participants completed questions

in private and then submitted them to study personnel. The use of medication to treat erectile dysfunction (ED) (phosphodiesterase type 5 inhibitors [PDE5 inhibitors]) was evaluated based on data regarding prescriptions redeemed from the pharmacy.

Outcome Measures

Study participants were asked eight general sex-related questions that have been previously used in big national health surveys (Supplementary Figure S2)—of which, questions 3, 5, and 8.4 were selected for this present study [14]. Based on the answers to these questions, three outcomes were defined:

1. “My sexual life does not meet my sexual needs,” if answering “no” or “not at all” to the question “Does your sexual life meet your sexual needs?”
2. “It is important for me to have a good sexual life,” if answering “very important” or “important” to the question “How important is it for you to have a good sexual life?”
3. “My sexual life gives me a lot of distress,” if answering, “agree a lot” or “agree” to the statement “My sexual life gives me a lot of distress.”

To examine sexual functioning, women and men were asked to complete the abbreviated versions of the Female Sexual Function Index (FSFI-R) and the International Index of Erectile Function (IIEF-5), respectively. The FSFI-R is a five-item version of the 19-item FSFI [4,15,16], which has adequate psychometric properties that are essentially equivalent to those of the full-scale measure [5]. The items are scored on a 5-point Likert-type scale, with responses ranging from 5 (*least functional*) to 1 (*most functional*), or 0 if the respondent has had no sexual intercourse, no sexual activity, or no partner. Respondents giving an answer of 0 are excluded when using the FSFI-R instrument. The FSFI-R total score is the sum of all the items representing each domain of sexual functioning, added to the mean score of the two items assessing satisfaction, and can range from 6 to 30. A score of 22.75 or more indicates overall SD. FSFI-R scores can be used to estimate the prevalence of a specific sexual problem by domain-specific item analysis, combining the percentage of women that score in the two lowest categories in each item (almost never, never, or a few times)—except for the pain domain where the opposite is true.

The IIEF-5—an abridged five-item version of the 15-item IIEF—is a validated self-administered questionnaire for clinical assessment of ED [3].

Each IIEF-5 item is scored on a five-point ordinal scale ranging from 1 (*least functional*) to 5 (*most functional*), with a response of 0 given if the patient had no sexual activity. Respondents who give an answer of 0 are excluded when using the IIEF-5 instrument. Hence, the possible scores for the IIEF-range from 5 to 25, with a score of 21 or less indicating overall SD. Using this instrument, ED can be classified into four categories: severe (5–7), moderate (8–11), mild to moderate (12–16), mild (17–21), and no ED (22–25).

Data Analysis and Statistics

Sample characteristics at follow-up were presented as unadjusted means, medians, or percentages. Sample characteristics were presented stratified according to sexual activity status. Men and women were considered sexually active if they answered, “yes” to the question “In the last 12 months, have you been sexually active (any activity that is sexually arousing to you, including masturbation)?” Comparisons between sexually active and sexually inactive participants and between people with and without SD were made using Pearson chi-squared test for categorical variables, *t*-tests for continuous data, and Mann–Whitney *U*-test for non-normally distributed data. The prevalences of the sexual characteristics were described separately for sexually active and inactive participants. To assess the validity of the determined prevalences, responders were compared with non-responders (people who did not answer relevant sexual questions). The overall prevalence of SD was calculated as the number of participants with SD divided by the total number of participants included in the SD analysis. We found no interaction between treatment groups and sexual outcomes; therefore, all analyses were pooled. All analyses were conducted using Stata software (version 12, StataCorp LP, College Station, TX, USA) and $P < 0.05$ was considered to indicate statistical significance.

Results

Among the 1,018 study participants, data regarding sexual activity during the last 12 months were available from 377 women and 583 men of whom 176 women and 102 men reported to be sexually inactive. Table 1 presents the patients’ follow-up characteristics and show that sexual inactive differ significantly from sexual active on the following characteristics: The proportion of macro-vascular illness was found to be nearly twofold higher in sexually inactive women with diabetes than in sexually active women with diabetes ($P = 0.042$); the

Table 1 Sample characteristics at follow-up of participants answering question regarding sexual activity status during the last 12 months

	Women			Men			P
	Overall N = 377	Sexually active N = 201	Sexually inactive N = 176	Overall N = 583	Sexually active N = 481	Sexually inactive N = 102	
Intensive group, n (%)	224 (58.4)	118 (58.7)	106 (60.2)	349 (59.9)	288 (59.9)	61 (59.8)	0.989
Age (years)	65.0 (7.0)	63.1 (7.1)	67.2 (6.3)	64.9 (6.7)	63.9 (6.7)	69.5 (5.0)	<0.001
Current smoker, n (%)	75 (20.1)	40 (20.1)	35 (20.0)	139 (24.2)	114 (24.0)	25 (25.0)	0.683
Alcohol (units/week)*	0 (0;5)	2 (0;6)	0 (0;4)	7 (0;14)	7 (1;15)	6 (0;12)	0.154
Body mass index (kg/m ²)	31.3 (6.7)	31.3 (6.2)	31.3 (7.2)	30.4 (4.5)	30.5 (4.6)	30.1 (4.3)	0.478
HbA1c (% hemoglobin)*	6.3 (6.0;6.7)	6.3 (6.0;6.8)	6.3 (6.0;6.7)	6.4 (5.9;6.9)	6.4 (5.9;6.8)	6.5 (6.1;6.9)	0.115
Diabetes duration (years)	5.9 (1.3)	5.8 (1.3)	6.0 (1.3)	5.9 (1.4)	5.9 (1.4)	6.2 (1.3)	0.022
Systolic blood pressure (mm Hg)	130.6 (17.5)	130.3 (17.1)	131.0 (17.9)	137.5 (16.8)	137.6 (16.7)	136.6 (17.2)	0.575
Diastolic blood pressure (mm Hg)	82.1 (10.9)	82.9 (10.4)	81.2 (11.4)	84.3 (10.1)	84.9 (10.0)	81.5 (10.1)	0.003
Retinopathy, n (%) †	26 (8.2)	9 (5.5)	17 (11.3)	67 (13.2)	53 (12.7)	14 (16.1)	0.389
Macro-albuminuria, n (%) ‡	17 (5.3)	6 (3.4)	11 (7.7)	26 (4.6)	20 (4.2)	6 (6.3)	0.364
Macro-vascular illness, n (%) §	39 (10.7)	15 (7.6)	24 (14.2)	109 (19.3)	84 (18.1)	25 (24.8)	0.125
Low self-reported mental health, n (%) Σ	88 (23.3)	36 (17.9)	52 (29.6)	133 (22.8)	104 (21.6)	29 (28.4)	0.137
Low self-reported physical health, n (%) ΣΣ	23 (6.1)	13 (6.5)	10 (5.7)	48 (8.2)	33 (6.9)	15 (14.7)	0.009
Taking anti-depressant, n (%)	34 (9.0)	19 (9.5)	15 (8.5)	28 (4.8)	19 (4.0)	9 (8.8)	0.037
Taking beta-blockers, n (%)	97 (26.5)	46 (23.6)	51 (29.8)	151 (26.9)	117 (25.4)	34 (34.0)	0.078
Married, n (%)	248 (66.5)	154 (77.4)	94 (54.0)	420 (72.7)	353 (74.0)	67 (66.3)	0.458

Data are mean (standard deviation) unless otherwise indicated. *Median (25th, 75th percentile). †Retinopathy defined as either non-proliferative or proliferative according to the Early Treatment Diabetic Retinopathy Study (ETDRS). ‡Macro-albuminuria defined as an albumin/creatinine ratio on spot urine > 25 mg/mmol. §Macro-vascular complications defined as at least one self-reported complication (stroke, heart attack, or operation/instrumentation on the heart). Σ defined as a score at or below the lowest quartile on the mental component of the SF-36 scale. ΣΣ defined as a score at or below the lowest quartile on the physical component of the 36-item Short Form Health Survey (SF-36).

Table 2 Prevalence of sexual characteristics stratified by sexual activity status

	Women			Men		
	Overall N = 348	Sexually inactive N = 169	Sexually active N = 179	Overall N = 509	Sexually inactive N = 98	Sexually active N = 411
My sexual life does not meet my sexual needs, n (%)	91 (27)	69 (42)	22 (12)	152 (30)	55 (57)	97 (24)
It is important for me to have a good sexual life, n (%)	123 (35)	17 (10)	106 (59)	338 (67)	30 (31)	308 (75)
My sexual life gives me a lot of distress, n (%)	24 (9)	13 (11)	11 (7)	90 (19)	26 (32)	64 (16)

Sexual characteristics at follow-up of participants in the Danish arm of the Anglo–Danish–Dutch Study of Intensive Treatment In People with Screen-Detected Diabetes in Primary Care (ADDITION), who responded to sexual questions regarding needs, importance, and distress. Participants were categorized as “I do not get my sexual needs covered” if they answered “no” or “not at all” to the question “Does your sexual life meet your sexual needs?”. Participants were categorized as “It is important for me to have a good sexual life” if they answered “very important” or “important” to the question “How important is it for you to have a good sexual life?”. Participants were categorized as “My sexual life gives me a lot of distress” if they answered “agree a lot” or “agree” to the statement “My sexual life gives me a lot of distress.”

mean duration of diabetes in years was longer in sexually inactive men than in sexually active men ($P = 0.022$) and sexually inactive people were older than sexually active people in both sexes ($P < 0.001$).

Sexual Characteristics

Five hundred nine men and 348 women answered questions regarding sexual concerns. Table 2 presents the results. Among those who reported no sexual activity during the last 12 months, 165 women and 96 men provided reasons for this lack of sexual activity, including no interest (35% of women and 36% of men), a physical problem that made it difficult or unpleasant (4% of women and 32% of men), no partner (34% of women and 13% of men), that their partner had a physical problem that made it difficult or unpleasant (16% of women and 14% of men), or something else (19% of women and 20% of men). Among the men who answered “something else,” one-third reported that this reason was ED.

Compared with responding women, non-responding women were older (67.4 vs. 65.0 years). Compared with responding men, non-responding men were older (68.1 vs. 64.9 years) and less likely to be taking beta-blockers (8.1 vs. 26.9%). No other statistically significant differences were found (data not shown).

SD

The analysis of SD included 163 sexually active women (mean age, 62.8 years) and 345 sexually active men (mean age, 63.5 years). A total of 251 women (60%) were excluded due to a lack of sexual activity or sexual intercourse ($n = 186$) or no partner ($n = 28$) during the last 4 weeks, or because they did not provide complete data ($n = 37$). A total of 259 men (43%) were excluded due to a lack of sexual intercourse during the last 4 weeks ($n = 223$),

or because they did not provide complete data ($n = 36$).

We determined the prevalences of SD among sexually active women (Table 3) and men (Table 4). Twenty-one percent of men with ED had redeemed prescriptions for ED medication. Among participants with SD, 35% of women and 28% of men reported that they experienced sexual distress. Compared with women without SD, women with SD were more likely to report low mental health (42.1% vs. 16.7%). Compared with men without SD, men with SD had significantly higher hba1c levels (6.4% vs. 6.3%), were more likely to report

Table 3 Prevalence of overall sexual dysfunction and domain-specific problems among sexually active women ($n = 163$)

Overall	12%
Problems with sexual desire	50%
Problems with sexual arousal	34%
Problems with lubrication	36%
Problems with orgasm	36%
Lack of satisfaction with partner	8%
Lack of satisfaction with sexual life	8%
Pain during penetration	10%

A score of ≥ 22.75 on the Female Sexual Function Index (FSFI-R) was used as the cut-off to define overall sexual dysfunction. Each domain in the FSFI-R analysis was scored on a 5-point Likert-type scale. A domain-specific problem was defined as the percentage of women who scored in the two lowest categories for each item—except for the pain domain where the opposite was true.

Table 4 Prevalence of erectile dysfunction, both overall and stratified by severity, among sexually active men ($n = 345$)

Overall	54%
Mild	26%
Mild–Moderate	13%
Moderate	9%
Severe	7%

A score of ≤ 21 on the International Index of Erectile Function (IIEF-5) was used as the cut-off to define overall erectile dysfunction (ED). ED is classified into four categories based on IIEF-5 scores: severe ED (5–7), moderate ED (8–11), mild–moderate ED (12–16) and mild ED (17–21).

low mental health (27% vs. 15%) and low physical health (10% vs. 4%), had a higher body mass index (30.8 vs. 29.7 kg/m²), and were older (64.2 vs. 62.6 years). Other variables did not significantly differ between groups (data not shown).

Discussion

The present study showed that there is a high prevalence of sexual inactivity among middle-aged and elderly patients with screen-detected type 2 diabetes; that many sexually inactive patients did not fulfill their sexual needs; and that there is a high prevalence of SD in the male population.

There are few prior studies of sexuality among healthy Danish middle-aged and older men and women. Two previous studies of 60-year-old men and women showed sexual inactivity among 20% of men and 25% of women, when sexual activity was defined as sexual intercourse within the last 12 months [17,18]. The present study showed a similar prevalence of sexual inactivity among men, even though our study included *any activity that was considered sexually arousing* in the definition of sexual activity. Therefore, the prevalence of sexual inactivity was probably higher in this population of both men and women with type 2 diabetes, compared with the studies of healthy Danish men and women, if defining sexual activity as having sexual intercourse.

Previous studies of older people without diabetes have reported that sexuality is still a positive factor in life among sexually inactive individuals [8]. Our present results showed that among half of sexually inactive men and women with type 2 diabetes their sexual life did not meet their sexual needs, and sexually inactive men and women reported sexual distress more frequently compared with sexually active. These results suggest that sexually inactive men and women are concerned about their lack of sexual activity and some are even distressed. Therefore, clinicians and researchers should pay attention to sexuality also among sexually inactive people with type 2 diabetes and address their concerns. There may be sexual issues that are important to identify among sexually inactive patients, which are overlooked if one only addresses SD among sexually active patients.

Sexual activity was found to be related to age, duration of diabetes and co-morbid macrovascular illnesses supporting the findings of previous research [2,6].

When using the IIEF and FSFI instruments to evaluate SD, men and women who have not been sexually active during the last 4 weeks are either excluded or, among men, sometimes categorized as having severe ED [5,19]. These instruments have been criticized for these limitations. Consistent with prior findings, our study showed extremely high exclusion rates when using these instruments, making it difficult to draw any conclusions regarding the prevalences [7,20]. Women in the present study showed a much lower prevalence of SD compared with those reported in previous studies of women with type 2 diabetes, which have ranged from 42% to 60% [21–23]. One can only speculate why, but one can hypothesize that it may be due to the exclusion of sexually inactive women or that women with sexual problems did choose not to answer questions related to sexuality. Among men in the present study, the overall prevalence of ED was similar to those reported in previous studies of men with type 2 diabetes, which have ranged from 49% to 56% [24–26]. This cohort might, however, differ from other cohorts with diabetes as participants were diagnosed with diabetes by screening. Although the study was carried out during subsequent follow-up and the mean duration of diabetes was around 6 years after the date of diabetes diagnosis, they may differ from other populations with diabetes.

Compared with the participants included in the analyses of SD, those who were excluded were older. This likely contributed to an overall underestimation of the prevalence of SD among both men and women in this present study.

The results of this study highlighted several problems linked to the use of SD screenings instruments. In this study, we included a question regarding the patient's reason for sexual inactivity. A common reason given for lacking sexual activity during the last 12 months was "*Having a physical problem that made it difficult or unpleasant to have sexual activity.*" Furthermore, one-third of men with a physical problem that made sexual activity difficult reported that this physical problem was ED. These findings support the assumption that exclusions of sexually inactive men leads to an underestimation of the prevalence of SD and illustrate that SD must also be considered among sexually inactive patients.

Additionally, our results demonstrate that restricting the assessment of SD to individuals who have been sexually active within the last 4 weeks will further exclude people who are less frequently sexually active, which will be more common with

increasing patient age. Instruments for assessing SD should be modified to include people who are more rarely sexually active, especially in older populations.

Finally, screening for SD using only FSFI-R and IIEF-5 might fail to identify people experiencing distressing sexual issues, as these tools do not include any evaluation of the patient's own judgment of their sexual well-being.

It may be useful to reconsider the current assessment of sexuality in research settings, and to revise the available screening instruments assessing SD as well as other elements evaluating sexuality, including sexual distress.

Among men found to have ED, only 21% was found to receive pharmacological treatment. These results do not directly reveal the level of attention given to sexual issues among patients with type 2 diabetes in general practice, but does however suggest an insufficient effort. This suspicion is supported by another Danish study in which only 33% of men with type 2 diabetes reported that their general practitioner had brought up sexuality in the consultation [27]. The results suggest that general practitioners could improve their sexual effort when dealing with patients with type 2 diabetes. By raising the topic in the consultation potential, sexual concerns could be identified, the etiology could be evaluated, and a suitable treatment could be initiated. Among men there is often an organic component in the etiology why the treatment is often directed toward an improvement of the glycemic- and metabolic control and symptomatic treatment with for example a PDE5-inhibitor [28]. However, there are many other opportunities, not mentioned here. Among women the treatment possibilities are fewer due to lack of documentation of an organic etiology [29]. However, exercise is well documented to reduce inflammation [30]. Furthermore, lubricants and hormonal replacement therapy are often effective. Finally, it might be relevant to discuss the many alternative ways to express sexuality as kisses and hugs, etc. with the patients.

Strengths and Weaknesses

Our study has several strengths. The population was well described and has a high overall response rate. Therefore there were only small restrictions in generalizing data on sexually inactivity to the target population. Furthermore, this study did not restrict the evaluation of sexuality to participants who were sexually active, who had

a sexual partner, or who had recently had sexual intercourse. Being sexually active was defined according to sexual activity status during the last 12 months rather than the last 4 weeks, which might give a more realistic picture of the extent to which middle-aged and older people with type 2 diabetes are sexually inactive.

Our study also has several limitations. We used self-administered questionnaires to collect information regarding sexuality, which resulted in respondent burden and missing data. Some people with type 2 diabetes do not know that sexual problems are common complications and many are embarrassed of them, which may have led some participants to withhold information. Furthermore, questions used to describe sexual concerns are developed by experts in sexology, but are however not validated. This has to be taken into account when concluding on the results. Furthermore, we found that non-responders were older compared with responders. It is possible that non-responders are more likely to be sexually inactive, and thus find it less relevant for them to answer questions on sexuality, which *could lead to underestimation of the prevalences of sexually inactivity and SD*. We did not ask the participants about their sexual orientation and gender of partner, and can therefore not elucidate whether that has an influence on fulfillment of sexual needs, sexual function or distress. We did not include people without diabetes, and thus we cannot determine whether the present findings are restricted to people with type 2 diabetes. From the study, it was not possible to get information whether the participants had tried to seek help for a sexual problem or if they were interested. We only had information on how many men, had received a prescription for pharmacological treatment of ED. Finally, we did not take into account that some conditions, like for example testosterone deficiency in men, urinary incontinence in women, and obesity are associated to diabetes and also influence sexuality negatively [2,31]. These associations were not the focus of this article, but might of course be highly relevant to consider as a competing reason to the sexual problems among men and women with diabetes when dealing with these patients clinically.

Conclusion

Sexual inactivity was found to be highly prevalent among middle-aged and older men and women

with screen-detected type 2 diabetes. Many sexually inactive reported that their sexual needs were not met, and sexually inactive experienced sexual distress more often than sexually active. SD was present in around half of the men and in around one-tenth of the women. However, the present results should be interpreted cautiously as exclusion rates were extremely high and several of the excluded patients reported SD. Only 21% of men with ED received pharmacological treatment. We suggest that researchers and clinicians should broadly evaluate sexuality among both sexually active and inactive people with type 2 diabetes.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

Figure S1 Flowchart.

Figure S2 General sex-related questions.