Sexual Dysfunction in Diabetic Females

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SUMMARY

Problems of sexual function in male diabetics are well-known, but studies have not been previously published documenting the incidence of such distress in diabetic females. One hundred and twenty-five diabetic women and 100 nondiabetic women between the ages of eighteen and forty-two were interviewed to determine the incidence of sexual dysfunction in these two groups. Forty-four of the 125 diabetic women (35.2 per cent) and six of the 100 nondiabetic women (6 per cent) reported complete nonorgasmic function in the preceding year, a difference significant at the P < .01 level. The appearance of sexual dysfunction in diabetic women correlated strongly with duration of diabetes, but there was little association with age, insulin dose, or such complications of diabetes as neuropathy, retinopathy, nephropathy or vaginitis. The term "secondary orgasmic dysfunction" is proposed for cases where impaired sexual response is felt to be on an organic basis, but appears only after a phase of normal sexual functioning. Diabetes *20*: 557-59, August, 1971.

Impairment of sexual function in the diabetic male has been well documented,[1-3] but the frequency of sexual dysfunction in female diabetics has not been previously reported. In 1967 Rubin[4] postulated that a diabetic woman's awareness of some of the problems associated with reproduction for her might adversely affect coital response, but remarked that information concerning sexual responsiveness of diabetic women was lacking. Despite a prolific literature dealing with reproduction and the diabetic, there are no published studies assessing patterns of sexual functioning in diabetic females in the reproductive years.

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METHODS

One hundred and twenty-five females between the ages of eighteen and forty-two with previously diagnosed diabetes mellitus were interviewed upon admission to the New England Deaconess Hospital between July 1, 1969 and July 1, 1970. Only women with admitted coital activity during the previous year were included in this study. A group of 100 hospitalized nondiabetic females in the same age group served as a control. All women in the control group had primary illness of at least three months' duration at the time of study. Information was obtained from both groups regarding marital status. menstrual and reproductive function, use of contraception, sexual history, and history of psychiatric care. The sexual history was an abbreviated form of an extensive standard sexual history described by Masters and Johnson.[5] Complete medical histories and physical examinations were performed for each patient.

RESULTS

All subjects studied were Caucasian. There was a close similarity in the two groups of women regarding age, religion, education, marital status, age at menarche, incidence of dysmenorrhea, parity, frequency of coital activity, sexual interest by self-estimation and history of psychiatric care (see table 1). There was, however, a marked difference in the incidence of sexual dysfunction between the two groups. Forty-four of 125 diabetic women (35.2 per cent) reported complete absence of orgasmic response during the year preceding inquiry, whereas only six of 100 nondiabetic women (6.0 per cent) reported nonorgasmic function during the same period. The difference is statistically significant ($P<.01$) with the use of the chi-square test with Yates' correction. Furthermore, all of the nonorgasmic women without diabetes had never previously experienced orgasm, while forty of the forty-four nonorgasmic diabetic women had been orgasmic in the past and had subsequently developed a pattern of sexual dysfunction. The onset

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TABLE 1

Characteristics of study groups

	Diabetics (N=125)	Nondiabetics (N=100)
Age (years)		
Mean	32.6	32.9
Median	32	33
Mode	30	34
Age at Menarche (years)	12.8	12.3
Marital Status		
Single	30%	24%
Married	64%	70%
Divorced	4%	6%
Widowed	2%	0%
Contraception		
None	49%	30%
Rhythm	16%	18%
IUD	1%	4%
Diaphragm	18%	14%
Jelly or Foam	8%	3%
Oral Agent	8%	31%
Education (years)	13.1	13.9
Dysmenorrhea	6%	10%
Parity	1.5	2.1
Frequency of Coitus (per week)	2.1	2.2
Sexual Interest*	2.9	2.8
History of Psychiatric Care	6%	3%
Orgasmic Dysfunction	35.2%	6.0%

*Self-estimation of sexual interest based on a scale of 0 to 5, with 0 indicating no interest and 5 indicating maximal interest in sexual activity.

of orgasmic difficulties in these instances was always gradual, most often developing over a period of six months to one year, and in all cases occurred following the onset of diabetes.

The correlation between duration of diabetes and frequency of sexual dysfunction was striking (see figure 1). There was little correlation between age at time of study and sexual dysfunction. There was no significantly greater evidence of more severe diabetes as measured by insulin dose, retinopathy, neuropathy, nephropathy, or vaginitis in those diabetics with impaired sexual functioning than in the normal diabetic women studied, and there was no significant reduction of sexual interest as evidenced both by coital frequency and self-estimation (see table 2).

Six of the forty-four nonorgasmic diabetic women and all of the nonorgasmic women in the control group reported difficulty in vaginal lubrication during sexual stimulation. None of these women used oral contraceptives, and in each case examination of vaginal mucosa and vaginal cytology showed adequate estrogen effect and no evidence of infection. Two of the diabetic women in this group returned to orgasmic function

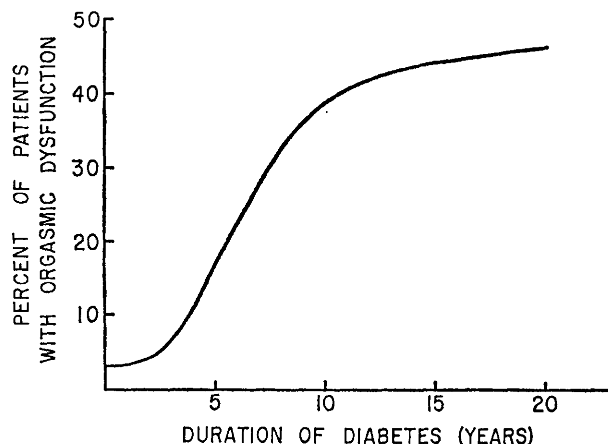

FIG. 1. Relation of duration of diabetes mellitus to incidence of sexual dysfunction in 125 female diabetics between the ages of eighteen and forty-two.

within one month of the use of an artificial lubricant and brief instructions to wife and husband.

Only four diabetic women complained of dyspareunia, and two of these women were orgasmic. The two remaining diabetics who complained of pain and lack of orgasm had chronic monilial vaginitis. After appropriate therapy for husband and wife, one of these women promptly reverted to orgasmic functioning.

No specific etiology of the sexual dysfunction could be implicated in the remaining cases. Careful sexual histories failed to elicit evidence supporting a psychogenic etiology except in the four diabetic women who had never been orgasmic. In these four cases, religious orthodoxy with rigid anti-sexual attitudes developed during childhood was felt to be the major determinant in two instances, whereas strong negative feelings toward the marital partner were felt to be the prime factors in the remaining two cases.

TABLE 2

A comparison of diabetic women with normal sexual responsiveness (NSR) and orgasmic dysfunction (OD)

	NSR (N=81)	OD (N=44)
Mean Age (years)	32.8	32.1
Duration of Diabetes (years)	5.2	8.8
Daily Insulin Dose (units)	45.4	48.3
Retinopathy	38.3%	45.5%
Neuropathy	18.5%	22.7%
Nephropathy	14.8%	15.9%
Vaginitis	4.9%	4.5%
Coital Frequency (weekly)	2.2	1.9
Sexual Interest*	2.8	3.0

*See footnote in table 1.

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DISCUSSION

Evidence of an increased incidence of sexual dysfunction in diabetic females is not entirely unexpected.[4] A variety of etiologic factors may be of importance in this regard, including neuropathy, susceptibility to infection, microvascular changes, and the chronicity of, and attendant psychosocial adaptation to, the disease. It is not possible to implicate any of these factors as the major determinant of impaired sexual functioning in diabetic females on the basis of data collected in this report, however.

Masters and Johnson[5] have defined two broad categories of orgasmic dysfunction in the female: primary and situational orgasmic dysfunction. Primary orgasmic dysfunction is the lack of orgasmic response throughout a woman's life, whereas situational orgasmic dysfunction is that in which a woman has experienced at least one instance of orgasmic expression, regardless of the type of activity that produced this response. The majority of nonorgasmic diabetic women described in this study did not suffer from primary orgasmic dysfunction, nor do they readily fit into the diagnostic category of situational orgasmic dysfunction. It is proposed that the term "secondary orgasmic dysfunction" be used to describe such cases where the impaired sexual response is felt to be on an organic basis but has developed only after a phase of normal sexual functioning. It should be noted that psychogenic dysfunction must be ruled out by careful history taking, with particular attention directed to the patient's attitude toward her partner and other factors such as the severe emotional trauma following sexual assault.

Recently, Goldman and coworkers[6] have reported a decreased carbohydrate tolerance in a small group of impotent males demonstrated by prednisone-glucose tolerance testing. Masters and Johnson[5] had previously made a preliminary report on an increased number of abnormal oral glucose tolerance tests in impotent males when compared to a normal male population. Studies of carbohydrate metabolism in nonorgasmic women have not yet been described but would appear to be of interest in light of the above findings. Reports of decreased sexual interest and diminished orgasmic function in women using oral contraceptives have been inconclusive,[7,8] and to date no correlation has been attempted between impaired glucose tolerance and changes in sexual functioning in users of oral contraceptives.

The present study is limited by the inherent errors of individual response to historical questioning which may be of an emotional nature. It may be argued that diabetics are more accustomed to questioning by a physician by virtue of their illness than are a comparable group of nondiabetic hospitalized women, and that factual bias may thus have been introduced. Similarly, it may be true that a higher frequency of depressive symptoms in diabetics may contribute to the observed differences in sexual impairment between the two groups studied. It is hoped, however, that these findings will stimulate further studies of the incidence, etiology, treatment and prognosis of sexual dysfunction in diabetic women and will direct the attention of the practicing physican to a matter of concern for his female diabetic patients.

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