EFFECT OF COITAL FREQUENCY ON PSYCHOLOGICAL ERECTILE DYSFUNCTION

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ABSTRACT

***Background**: Psychological erectile dysfunction is more common among men aged less than 50 years and commonly related to sexual behavior and satisfaction. **Aim of the work:** The objective of this work was to evaluate the effects of coital frequency on subsequent risk of psychological erectile dysfunction. **Patients and methods:** Data were analyzed from 500 Egyptian men patients; 20 to 50 years old (mean 39.2 years) presenting to out-patient clinics of Urology Department, Damietta Hospital, Al-Azhar University, complaining from persistent erectile dysfunction for 6 months, using International Index of Erectile Function questionnaires. Men with organic erectile dysfunction at entry were excluded from the analysis. **Results**: The overall incidence of psychological erectile dysfunction reported with men had sexual intercourse less than once per week was 55.8% (279 cases per 500 patient), dropping to 28.4% (142 cases in men reporting intercourse once to twice per week) and falling further to 16% (80 in those reporting intercourse 3 or more times per week). The risk of erectile dysfunction statistically increased in patients with less frequent intercourse compared with those with more frequent (55.8%vs16%) and was inversely related to the frequency of intercourse. No relationship between morning erections and incidence of moderate or severe erectile dysfunction was found. **Conclusion:** Psychological erectile dysfunction among men aged 20 to 50 years were statistically less common with high frequent sexual intercourse especially with multi-partner and variant type of sexual activity.*

INTRODUCTION

Erectile function is dependent on maintaining normal physiology, including both vascular and endocrine components. In the development of erectile dysfunction (ED), psychosocial factors such as depression, anxiety, low self-esteem, and problems in relationships, are involved, in addition to specific diseases including those related to atherosclerosis (as diabetes, hypertension, and cardiovascular diseases) so that psychological erectile dysfunction is common among men aged less than 50 years more than organic type which account for about 40% of erection problems (Camacho and Reyes 2005).

The most common causes of psychological erectile dysfunction are stress, unhappiness with the partner, and performance anxiety. In prevalence studies, erectile dysfunction has shown a strong effect on sexual activity, especially on coital frequency (Chen et al., 2004 and Riley et al., 2007). However, no previous studies have been found related to the evaluation of the effect of sexual activity on development of psychogenic erectile dysfunction so, this study aimed to evaluate the effects of coital frequency on psychological ED in absence of organic causes.

PATIENTS METHODS

Between December 2009 and June 2011, a total of 500 man aged 20 to 50 years presenting to out-patient clinics of Urology Department, Damietta Hospital, Al-Azhar University by persistent erectile dysfunction for 6 months. All patients were evaluated for the effects of coital frequency on sexual functions and psychological ED. Data were collected and analyzed from a population study that was conducted in all patients. All patients involved in our study were underwent detailed evaluation, include the following:

1. Complete medical history concerned on sexual history (type and duration of sexual activity, erectile capacity, frequency of intercourse, number and type of partner) and sexual functions which were assisted by International Index of Erectile Function (IIEF) as a gold standard measure of male sexual function, used in the majority of clinical center of ED for assessment of subjects' erectile function and severity of erectile dysfunction which calculated by scoring 5 questions that assessed separate domains of erectile function as follows (Rosen et al., 1999):
    a. Score >20, no erectile dysfunction.
    b. Score of 16 to 20, mild erectile dysfunction.
    c. Score of 11 to 15, moderate erectile dysfunction.

d. Score≤10, complete erectile dysfunction.

2. Complete physical (general and genital) examinations to exclusion systemic and local factor that may affect on sexual activity.
3. Investigations to exclude suspected organic causes if need as urine analysis, CBC, blood sugar, creatinine, liver functions and lipid profile.
4. Imaging study to excluding local causes when needed.

The patients in our study were divided according to average of frequency of sexual intercourse/week into 3 groups:

1. Group A: Low frequent intercourse (less than 1 times/week).
2. Group B: Moderate frequent intercourse (1 to 3 times/week).
3. Group C: High frequent intercourse (more than 3 times/week).

Each group was sub-divided into 2 groups according to the number of partners to:

1. Solitary partner: Single wife or girlfriend (extramarital).
2. Multi-partner: Multiple wives or girlfriend (extramarital) or both.

Inclusion criteria:

- Men younger than 50 years and older than 20 years.
- Men with stable sexual life or sexual activity for 2 years.
- Men with psychogenic ED.

Exclusion criteria:

- Men older than 50 years and younger than 20 years.
- Men with history of unstable sexual live or sexual activity.
- Men with normal EF (IIEF-5 score>20).
- Men with organic ED.
- Patients with co morbidities as hypertension and diabetes.

The effect of frequency of intercourse on the incidence of psychological erectile dysfunction was assessed among 500 men involved in our study.

The statistical significance (defined as 2-tailed P≤.05) of the relationship between intercourse frequency and erectile dysfunction was assessed by proportions test and suitable tests for analysis of incidence rates.

RESULTS

This study included 500 healthy young men (39.7 ± 9ys, range) less than 50 years complaining from erectile dysfunction and concerned on sexual history and activity from sexual maturation.

Age and frequency of coitus:

The mean age at baseline was 39.٢ years, and the youngest patients (20-30ys) had statistically have infrequent coitus compared to the oldest group (31-40ys and 41-50ys), respectively (Table 1).

Age and psychological erectile dysfunction:

The incidence of ED was statistically increasing with aging (24.6 vs. 35.6 vs. 38.8) and most of patients (56.2%) were mild in severity, while severe ED was statistically more common with oldest group (2.4% vs. 11.8%)(Table 2).

Number of partners in relations to ED:

87.8% of the men were married and 389 (77.8%) of all patient had sexual activity restricted only to single partner and most of patients (83.4%) complaining from mild to moderate ED (Table3).

Number of partners in relations to frequency of coitus:

The incidence of ED was statistically more common in patients who had history of low frequent sexual activity with single partner in comparing to patients with high frequent sexual activity and multi-partner (55.8% vs. 6.2%)(Table 4).

Frequency in relations to ED:

ED was reported statistically significant increasing with men had sexual intercourse less than once /week in comparing to other groups with moderate and high coital frequency (55.8% vs. 28.4% vs15.8%)(Table 5).

Type of coitus in relations to ED:

ED was reported statistically significant increasing with men had solitary fixed type of sexual activity (vaginal or anal or oral) in comparing to group with variant and unfixed type of sexual activity (65.4 vs. 34.6%)(Table 6).

Table (1): Frequency rate of coitus in relations to age of patients.

Age of patients / Coitus frequency	20-30 (n=123)		31-40 (n=178)		41-50 (n=199)		Total (n=500)	
	N	%	N	%	N	%	N	%
High (>3 time/week)	26	5.2	34	6.8	19	3.8	79	15.8
Moderate (1-3 time/week)	59	11.8	40	8.0	43	8.6	142	28.4
Low (<1 time/week)	38	7.6*	104	20.8*	137	27.4*	279	55.8

*P≤0.05 # P>0.05

Table (2): Degree of severity of ED in relations to age of patients.

Age of patients / Severity of ED	20-30 (n=123)		31-40 (n=178)		41-50 (n=199)		Total (n=500)	
	N	%	N	%	N	%	N	%
Mild (EFS*=16-20)	63	12.6	122	24.4	96	19.2#	281	56.2
Moderate(EFS=11-15)	48	9.6	44	8.8	44	8.8#	136	27.2
Severe (EFS≤10)	12	2.4	12	2.4	59	11.8*	83	16.6
Total numbers of patients	123	24.6	178	35.6	199	38.8*	500	100

***EFS:** Erectile Function Score. *P≤0.05 # P>0.05

Table (3): The numbers of partner of patients in relations to ED.

Partner numbers / Severity of ED	Single (n=389)				Multiple (n=111)					
	Wife		Extramarital		Wives		Extramarital		Both	
	N	%	N	%	N	%	N	%	N	%
Mild	190	38	25	5	23	4.6	15	3.0	28	5.6
Moderate	100	20	9	1.8	19	3.8	5	1.0	3	0.6
Severe	59	11.8	6	1.2	15	3.0	1	0.2	2	0.4
Total	349	69.8	40	8	57	11.4	21	4.2	33	6.6

*P≤0.05 # P>0.05

Table (4): Number of partners in relations to frequency of coitus.

Partner / Coitus frequency	Single						Multiple					
	Wife		Extramarital		Both		Wives		Extra-marital		Both	
	N	%	N	%	N	%	N	%	N	%	N	%
High	37	7.2	5	1.0	3	0.6	17	3.4	9	1.8	8	1.6
Moderate	78	15.6	12	2.6	5	1.0	20	4.0	9	1.8	17	3.4
Low	223	44.6	17	3.4	8	1.6	20	4.0	3	0.6	8	16
Total N0	338	67.6	35	7.0	16	3.2	57	11.4	21	4.2	33	6.6

*P<0.05 # P>0.05

Table (5): Effect of frequency of intercourse on incidence of ED.

ED / Coitus Frequency	Mild		Moderate		Severe		Total	
	N	%	N	%	N	%	N	%
High	39	7.8	24	4.8	16	3.2	79	15.8
Moderate	68	13.6	46	9.2	28	5.6	142	28.4
Low	174	34.8	66	11.2	39	7.8	279*	55.8
Total numbers of patients	281	56.2	136	27.2	83	16.6	500	100

*P<0.05 # P>0.05

Table 6: Effect of type of coitus on incidence of erectile dysfunction.

ED / Type of coitus	Mild		Moderate		Severe		Total	
	N	%	N	%	N	%	N	%
Solitary	182	46.4	96	19.2	49	9.8	327#	65.4
Variant	99	19.8	40	8.0	34	6.8	173	34.6
Total numbers of patients	281	56.2	136	27.2	83	16.6	500	100

*P<0.05 # P>0.05

DISCUSSION

Erectile dysfunction is defined as the inability to achieve or maintain an erection sufficient for sexual intercourse. The prevalence of the disorder is age-related and varies depending on the degree of dysfunction. Erectile dysfunction affects men of all ages, from very early adulthood (when almost 10% of men are affected), to old age (76% of men aged 80 years and over are affected) (Chew et al., 2000).

Although the frequency of sexual intercourse declines with age, sexual activity remains an important part of the lives of the majority of middle-aged and elderly people throughout the world. Studies found that regular sexual activity was especially important to middle aged not only improved their health condition but they also lived longer. The majority of men and women believed that satisfactory sex is essential to maintain a relationship (Papaharitou et al., 2006).

The women with steady romantic relationships with frequency of sexual behaviors may have impact on both their relationship with the partner and their interest in men outside the partnership. It has been found that the frequency of penile–vaginal intercourse (PVI) is correlated positively with a number of relationship quality components (Costa and Brody, 2007).

The goal of this study was to assess to degree of individual differences in frequency of sexual activity in last 6 months in related to occurrence of psychological ED. We can safely say a good and regular sex is an important part of our lives but what impact of excessive sexual activity on the sexual functions on the long run?.

Coital frequency has been reported to be affected by function of marital and extra-marital status, relationship, duration, number (of children) and sex of children, religious affiliation, income, education, fertility intentions, age, race, self-assessed health and time spent in work. Covariates such as susceptibility condition of wife, age of wife, age of husband, couple's marital duration, and number of surviving children have strong effects on the risk of sexual intercourse (Islam and Khan, 1993).

The psychological erectile dysfunction can be differentiated from organic form by history and characteristic features as sudden onset, related condition and nocturnal or morning erections that can be argued by self-

assessed erectile problems provide a more relevant measure of erectile dysfunction (Arduca, 2003).

In our study, we assessed the frequency of intercourse during the last six months before occurrence of erectile dysfunction and excluding for the other major risk factors. Therefore, our results provided a strong support for a causal role of coital frequency in relation to preserving erectile functions.

Some authors was concluded that couples with higher satisfaction more routinely participate in intercourse, and greater penile-vaginal intercourse frequency leads to a better relationship, which further supports penile-vaginal intercourse frequency that gave evidence that frequent intercourse is associated with happier long-term relationships (Brody and Weiss, 2011).

The frequency rate of sexual activity was significantly increasing in early aging (20-30 years) than middle age (40-50 years) (38.8 vs. 24.6) and this agreed with others suggesting that frequency rate of sexual activity is a basic life course pattern of decline in the frequency of marital coitus, and there is no single underlying temporal variable (men's ageing, women's ageing or increasing marital duration) (Brewis and Meyer, 2004).

Our findings indicated that intercourse at least once per week protected against the development of erectile dysfunction. The incidence of erectile dysfunction was twice as high among men reporting intercourse less than once / week compared with those having intercourse once / week and more than 4 times higher than those having intercourse 3 times or more /week. This result indicated that regular sexual activity preserved potency in a similar fashion as physical exercise maintained functional capacity. This was in agreement with the study of the relationship between regular intercourse and potency. They conclude that regular exercise protects against sexual dysfunction (Koskimäki et al., 2008).

The most likely mechanism for our observation was that regular sexual activity itself preserved desire and libido through self-confidence, happiness and relationship (psychological satisfaction) in addition to preserving of vascular function through maintained cavernosal reactivity and prevented cavernous fibrosis. Common causal factors affecting both the frequency of intercourse and the development of erectile dysfunction should be considered as a possible alternative explanation as androgen levels which may be able to boost sexual drive and sexual performances.

In agreement with Goh et al. (2004) and Goh et al. (2010), our findings, should not be interpreted of low coital frequency as indication of sexual dysfunction and coital frequency must be viewed within the cultural context of the population.

CONCLUSION

Psychological erectile dysfunction among men aged 20 to 50 years statistically less common with high frequent sexual intercourse especially with multi-partner and variant type of sexual activity.

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الملخص العربى

أثر تكرار الممارسات الجنسية على الضعف الجنسى النفسى

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**قسم الأمراض الجلدية والتناسلية - كلية طب الازهر (دمياط)

يكثر الضعف الجنسى الناتج عن أسباب نفسية بين الرجال الذين تقل أعمارهم عن خمسين عاما والذين يتمتعون بصحة جيدة دون وجود أسباب عضوية تحول دون أداء الوظائف الجنسية بشكل طبيعى وهو ما يدفعنا للبحث عن أسباب هذا الضعف الجنسى النفسى.

والدراسة تهدف الى تقييم أثر تكرار الممارسة الجنسية على مع دل حدوث الضعف الجنسى الناتج عن أسباب نفسية (غير عضوية) وقد أجريت الدراسة على ٥٠٠ مريضا من الذكور تتراوح أعمارهم ما بين ٢٠ إلى ٥٠ عاما وذلك فى الفترة ما بين ديسمبر ٢٠٠٩ وحتى يونيه ٢٠١١ من المترددين على عيادة المسالك البولية بمستشفى طب الازهر بدمياط والذين يعانون من درجات متفاوتة من الضعف الجنسى الغير عضوى (النفسى) حيث تمت دراسة تفصيلية تاريخية لنشاطهم الجنسى فى مرحلة ما قبل معانتهم المرضية من حيث عدد مرات الممارسة الجنسية أسبوعيا وعدد المشاركين معهم سواء كن زوجات او غير زوجات وكذلك نوعية الممارسة وتنوعها.

وقد تبين من خلال الدراسة أن معدلات الإصابة بالضعف الجنسى النفسى تقل مع تزايد معدلات الممارسة الجنسية (أكثر من ثلاث مرات أسبوعيا) وتنوعها وتعدد الأطراف المشاركة فيها بينما تكثر معدلات الإصابة مع ندرة الممارسات الجنسية (أقل من مرة أسبوعيا) لتصل الى ٥٥% من نسبة الحالات المصابة و خاصة فى حال إقتصارها على أنواع ثابتة من الممارسات أو أطراف ثابتة من المشاركين وخاصة فى حالات الزواج الفردى وهو ما يتفق مع الدراسات القليلة التى تناولت مثل هذه الجوانب.

وبناء علي نتائج الدراسة يتضح أن تكرار الممارسة الجنسية أسبوعيا يساعد فى الحفاظ على كفاءة الوظائف الجنسية كما أن تنوعها وتنوع أطرافها يقلل معدلات الإصابة بالضعف الجنسى النفسى المنشأ .