



Evaluation of sexual function in females married to impotent males

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Abstract:

Background and objectives: Erectile dysfunction (ED) is the inability to achieve or sustain an erection for satisfactory sexual activity **Aim of work:** evaluate sexual functions of patients with erectile dysfunction and their female partners across different ED therapies. **Patient and methods:** A total of 100 married couples (the males age range from 51-60 years, the females age range from 38-45 years) were included in the study.. **Results:** female partners of ED patients who received sildenafil did not demonstrate improvements in frequency of pain during vaginal penetration, confidence of becoming aroused, frequency of satisfaction with arousal and maintenance of lubrication. **Conclusion:** This study linked treatment-related improvement in men's erectile function with observed improvements in women partner's sexual function mainly with Sildenafil.

Keywords: sexual functions; phosphodiesterase type 5 inhibitors intracorporeal injection; penile prosthesis insertion

1. Introduction:

Erectile dysfunction (ED) is defined as difficulty to obtain an adequate erection for a satisfactory sexual intercourse [1].

This identification of ED was recently affirmed by the Fourth International Consultation on Sexual Medicine (ICSM) [2].

Although, ED typically presents in the fifth and sixth decade of a man's life; yet, younger men are seeking medical advice from sexual

health professionals as a result of associated comorbidities pushing them to present to the office with symptoms of ED at an earlier age [3].

Consistently, Rosen et al [4] who had conducted a multi-centric international study that involved more than 27,000 men from eight countries, showed an ED prevalence of 8% and 11 % among those aged 20–29 years and 30–39 years, respectively. Treatments

include medical management of multi-drug regimens, oral therapy, intracavernosal injection, vacuum erection devices, and penile prostheses [5].

ED causes a negative impact on intimate relationships, quality of life, and self-esteem. Accordingly, their partners suffer with subsequent negative impact on quality of life leading to increased incidence of relationship breakdown [6].

Moreover, ED makes females feel that their partners are withdrawing, blame themselves with subsequent loss of self-confidence and being less attractive and even skeptical that their male partners are having relationships [7].

Also, women typically find intercourse less pleasurable when their male partners lose their erections [7].

Thus, ED may have a great substantial negative impact on couple's intimacy. Furthermore, it is postulated that sexual function reinforces pair-bonding of couples, while on the contrary ED may weaken a relationship [8].

We aimed in this study to determine the change in the sexual function of men suffering from ED who are receiving phosphodiesterase type 5 inhibitors (PDE5Is), intracorporeal injection (ICI) therapy or underwent semi-rigid penile prosthesis insertion (PPI) and the changes in sexual function of their female partners.

2. Patients and Methods:

A total of consecutive 50 ED patients and their partners and 50 male controls not suffering from ED and their partners were recruited in this observational study from November (2018) and April (2019). Due to drop outs detailed in figure (1), there were 90 couples in the treatment and control groups respectively. All the participants signed an informed consent and the institutional review board of Beni Suef faculty of medicine approved our research work that conforms to Helsinki declaration (1964). All the couples participating in the study were then divided into 4 groups; PDE5I group, ICI group, penile implant (Tube Promedon or Genesis Coloplast) and control groups. The guidelines for strengthening the reporting of studies in epidemiology (STROBE) were strictly followed in this observational study.

Group (1) included 30 patients and their female partners; managed by oral sildenafil given on demand for minimum two months of regular sexual relationship.

Group (2) included 30 patients and their female partners; managed by quadmix (Papaverine HCl 30mg/mL, Phentolamine Mesylate 2mg/mL, Prostaglandin E1 20mcg/mL, Atropine Sulfate 200mcg/mL, 5 mL vial Lyophilized) as a home therapy given on demand for minimum of two months of regular sexual relationship.

Group (3) included 30 patients and their female partners; who had undergone PPI that

was used for minimum of two months of regular sexual relationship.

Group (4) included 90 male controls and their partners. The International Index of Erectile Function (IIEF-15) questionnaire was used to evaluate the sexual function of the ED and healthy males at baseline. Also, IIEF-15 was used to determine the change in sexual function of ED males before and after therapy (sildenafil or quadmix) and after penile prosthesis implantation (PPI). The validated Arabic version of the female sexual function index (FSFI) questionnaire was used to evaluate the sexual function of the female partners at baseline. Also, it was used to determine the change in sexual function of healthy females of ED patients after initiation of therapy (sildenafil or quadmix) and after PPI.

Statistical analysis:

The collected data were organized, tabulated, and statistically analyzed using the Epi info program (Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, USA) on a Microsoft windows-based personal computer. The collected data were coded, entered, analyzed, and tabulated. Mean \pm SD and paired t test were the statistical methods used in the present study. A $p < 0.05$ was the accepted level of significance during the study.

3. Results:

The mean age of ED patients and male controls was 53.8 ± 8.89 years and 51.93 ± 9.96 years, $p = 0.186$, respectively. The mean age of

ED patients' partners and female controls was 38.79 ± 4.61 years and 39.1 ± 4.75 years, $p = 0.656$, respectively (Table 8). The majority of ED patients and male controls received medium level of education which was of no statistical significance (49, 54.4%, 51, 56.7%, respectively), whereas the ED patients' partners and female controls were illiterate (30, 33.3%, 30, 33.3%, respectively). The difference in level of education among male and female participants was of no statistical significance (0.92, 1, respectively). There was a highly significant difference in sexual function between ED patients and male controls 28.8 ± 6.6 and 69.9 ± 2.81 , $p < 0.001$, respectively (. Also, there was a highly significant difference in sexual function between ED patients' partners and female controls 17.1 ± 3.3 and 27.1 ± 1.2 , $p < 0.001$, respectively.

Sexual function of ED patients and their partners improved significantly after initiation of ED treatment (oral PDE5I, ICI, or insertion of implant) as they became 57.2 ± 9.9 and 24.7 ± 3.1 , respectively. The partners of ED males who received sildenafil demonstrated significant improvements in all items of the FSFI-19 compared to baseline except frequency of satisfaction with arousal (3.07 ± 0.37 , 2.83 ± 0.43 , $p = 0.07$), frequency of lubrication (3.32 ± 0.55 , 3.47 ± 0.86 , $p = 0.381$), difficulty of becoming lubricated (3.61 ± 0.83 , 3.6 ± 0.81 , $p = 0.713$) and finally maintenance of lubrication (4 ± 0.77 , 4 ± 0.74 , $p = 1$).

The partners of ED males who underwent PPI demonstrated significant improvements in all items of FSFI-19 compared to baseline except the frequency of pain during vaginal penetration (3.86 ± 0.58 , 3.93 ± 0.45 , $p=0.477$), confidence of becoming aroused (3.86 ± 0.58 , 3.93 ± 0.45 , $p=0.477$), frequency of satisfaction with arousal (3.07 ± 0.37 , 3.03 ± 0.49 , $p=0.712$) and finally maintenance of lubrication (4.37 ± 0.49 , 4.23 ± 0.73 , $p=0.354$) (Table 3). Moreover, all ED males who underwent penile implant had revealed significant improvement over all their sexual function including erectile function, intercourse satisfaction, orgasmic function, sexual desire and finally overall satisfaction (16 ± 1 , 23 ± 1.2 , $p<0.001$; 5 ± 0.4 , 11 ± 1.2 , $p<0.001$; 2 ± 0.0 , 6 ± 0.8 , $p<0.001$; 4 ± 0.5 , 8 ± 1 , $p<0.001$; 2 ± 0.3 , 5 ± 0.7 , $p<0.001$, respectively).

The partners of ED males who received ICI demonstrated significant improvements in all items of the FSFI-19 compared to baseline except level of desire (2.6 ± 0.67 , 2.63 ± 0.85 , $p=0.869$) and maintenance of lubrication (3.53 ± 0.82 , 3.47 ± 0.82 , $p=0.423$). All ED males who received ICI had revealed significant improvement over all their sexual function including erectile function, intercourse satisfaction, orgasmic function, sexual desire and finally overall satisfaction (17 ± 1.6 , 18 ± 1.8 , $p=0.02$; 5 ± 1.3 , 8 ± 1.3 , $p<0.001$; 2 ± 0.5 , 5 ± 0.8 , $p<0.001$; 2 ± 0.6 , 5 ± 0.8 , $p<0.001$; 2 ± 0.3 , 4 ± 0.8 , $p<0.001$, respectively).

4. Discussion:

ED affects over 50% of men aged 40-70 [2], a few studies have shown that partners of men with ED will have secondary female sexual dysfunction as a consequence [5].

The aim of this study was to assess the sexual function in the female partners of men with ED and the impact of ED treatment whether oral PDE5I's, ICI, or penile implant surgery of the male partner on improving both male and female sexual function scores. Our study demonstrated highly significant improvements in the sexual function of all ED patients who received different treatment modalities for ED as well as their female partners. Several studies have previously demonstrated the positive impact of different ED treatment modalities on male sexual function scores.

Palumbo et al [9] stated that sildenafil citrate is an effective and well-tolerated therapy for men with ED of different etiologies with an overall success rate of 77%. In the same context, Steidle et al [10] had demonstrated improved erectile function and an increased intercourse success rate of ED patients who received sildenafil with subsequent positive improvement in Self-Esteem subscale and Sexual Relationship domain. Furthermore, Mulhall et al [11] had demonstrated better satisfaction for ED patients who were shifted from sildenafil to ICI although both of them had the same erectile performance.

Similarly, Akdemir et al [12] had asserted these results in a long term study. As expected, our study could be seen in alignment with the aforementioned studies as regards improvement in sexual function of ED patients after receiving different treatment modalities for ED.

On the other hand, few studies evaluated female sexual function in the female partners of men with ED. Similar to these studies, our study showed that female partners of men with ED have low sexual function scores that significantly improved after the treatment of the males ED. Our study also had the advantage that we included an age matched control group (female partners of men not complaining of ED) and the results showed that the female sexual function scores were significantly better in the control group. Even fewer studies compared the change of sexual function of female partners of ED males who received different treatment modalities for ED. Ichikawa et al [13] had reported relatively high levels of treatment satisfaction in partners of males who received sildenafil using FSFI questionnaire in addition to questions prepared by the authors to evaluate the efficacy of treatment, sexual satisfaction and changes in quality of life. This could be explained by the fact of improved erectile function and increased intercourse success rate in ED men after sildenafil intake [13]. However, Heiman et al [14] underscored the importance of involving the female partners in ED treatment

discussions due to the interplay of sexual function and sexual satisfaction measures among members of couples consisting of ED men and sexually healthy women reporting infrequent satisfactory sexual intercourse.

They observed significant improvement in sexual arousal, lubrication, orgasm, satisfaction, and pain in the women after the treatment of male ED [15].

Thus, female sexual function is affected by male erection status and may improve after the treatment of male sexual dysfunction [15] had revealed significant satisfaction of 52.6% of female partners after inserting AMS Spectra penile prosthesis for their partners using FSFI and Erectile Dysfunction Inventory of Treatment Satisfaction (EDITS) questionnaires through telephonic interviews at the third, sixth, and 12th months after the penile surgery. These findings were confirmed by Akdemir et al [12] who asserted these results in a long term study. Our study had shown that the sexual function of female partners was significantly improved compared to baseline especially desire, arousal, orgasm and overall satisfaction except some of their sexual functions including frequency of satisfaction with arousal, frequency of lubrication, difficulty of becoming lubricated and finally maintenance of lubrication that were not positively impacted which implies treating their male partners. The low scores can be a subjective experience of sexual well-being rather than distress as they were healthy [16].

Also, there are frequent errors in the scoring and interpretation of FSFI results [16]. Furthermore, it may well be that these aspects of female sexual function take a longer time to improve than the other aspects. Interestingly, our study had shown that female partners of ED males who received ICI demonstrated the best sexual function scores compared to the other groups.

Our study has the advantages of the fact that studies from African counties (Muslim culture) are still lacking. Furthermore, this study extends this observation to an Egyptian sample providing a more universal aspect of this basic observation. Secondly, there is still scant literature on female satisfaction of men with ED. Nevertheless our study has its limitations. Our sample was small which could be seen as a major limitation of our study. In addition, we followed up the patients for short duration which could be considered a second limitation of this study. Thirdly, we used only FSFI to evaluate the sexual function of the female partners as it is worth mentioning that FSFI scoring system appears to provide more detailed information on sexual function [17].

5. Conclusion:

Female partners of men with ED have significantly low sexual function scores compared to controls. Treatment of ED has a significant positive impact on most aspects of the sexual function scores of the female partners however some sexual functions may not be positively impacted. Thus, female

partners should be counseled not to expect sexual nirvana after ED therapy for their male partners.

6. References:

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