Sexual dysfunctions in people with first-episode psychosis assessed according to a gender perspective

Le disfunzioni sessuali in pazienti con primo esordio psicotico valutati secondo una prospettiva di genere

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SUMMARY. Aim. Patients with chronic mental disorders often can suffer from sexual dysfunction. Nevertheless, the sexual functioning of new patients with first-episode psychosis has been little explored. The aim of this study was to investigate gender differences in sexual functioning in people with first-episode psychosis. **Methods.** A group of 40 males and 37 females with first-episode psychosis took part in the research. We administered a psychiatric protocol composed of the PANSS, UKU and SCID-DSM-IV diagnosis. **Results.** We found that the 42.5% of the male group had sexual dysfunctions while the percentage of the female group was 37.8%. The correlation between sexual dysfunctions and psychopathology did not reveal any association in males. However, in females, general psychopathology and positive symptoms are linked to the alteration of vaginal lubrication: (r=0.547; p=0.003) and (r=0.485; p=0.011), although orgasm alteration was also associated with general psychopathology (r=0.500; p=0.013). Moreover, we found a relation between the alteration of vaginal lubrication with depression (r=0.627; p<0.0001) and disorder of volition (r=0.600; p<0.001). **Discussion and conclusions.** These data suggest that the association between sexual dysfunctions and psychopathology regarded only women. Therefore, during the taking charge of patients it is fundamental to consider the gender-specific relationship between psychopathology and sexual problems.

KEY WORDS: sexual dysfunction, gender differences, first-episode psychosis, assessment, treatment.

RIASSUNTO. Scopo. I pazienti con un disturbo mentale cronico spesso possono soffrire di disfunzioni sessuali. La funzione sessuale dei nuovi pazienti con primo esordio psicotico è stata poco studiata. L'obiettivo di questo studio è quello di indagare le differenze di genere nella funzione sessuale in persone con primo episodio psicotico. **Metodi.** Hanno partecipato alla ricerca un gruppo di 40 uomini e 37 donne con primo episodio psicotico, a cui è stato somministrato un protocollo psichiatrico composto dalla PANSS, dall'UKU, e dalla SCID-DSM-IV per effettuare la diagnosi. **Risultati.** Nel gruppo maschile, il 42,5% dei pazienti aveva disfunzioni sessuali, mentre la percentuale nelle gruppo femminile è stata del 37,8%. Non c'è stata nessuna correlazione tra disfunzioni sessuali e psicopatologia negli uomini. Invece, nelle donne la psicopatologia generale e i sintomi positivi sono risultati associati all'alterazione della lubrificazione vaginale (r=0,547; p=0,003) and (r=0,485; p=0,011), sebbene anche l'alterazione nella risposta orgasmica è risultata correlare con la psicopatologia generale (r=0,500; p=0,013). Inoltre, è stata trovata un'associazione tra l'alterazione della lubrificazione vaginale con la depressione (r=0,627; p<0,0001) e il disturbo della volontà (r=0,600; p<0,001). **Discussione e conclusioni.** Questi dati suggeriscono che l'associazione tra disfunzioni sessuali e psicopatologia ha riguardato esclusivamente le donne. Pertanto, durante la presa in carico dei pazienti è fondamentale considerare l'associazione genere-specifica tra psicopatologia e problemi sessuali.

PAROLE CHIAVE: disfunzione sessuale, differenze di genere, primo episodio psicotico, valutazione, trattamento.

INTRODUCTION

Patients with mental disorders often can suffer from sexual dysfunction[1] and in most cases, pharmacological treatment causes sexual-dysfunction side-effects[2].

Generally, in psychotic patients sexuality is seriously affected by psychopathological disorders and by its related long-term pharmacological treatment[3]. Moreover, psychosis has a negative effect on personal and sexual relationships and the prevalence of sexual dysfunctions in psychotic patients is higher than in the non-psychotic population[4]. Some interesting studies have stated that therapists do not assess sexual problems in psychotic people with negative repercussions on partners and on the couple[5]. Nevertheless, for a psychiatric patient, the loss of sexual function occurs in addition to severe psychopathological symptoms and the quality of life dramatically worsens[6]. On the other hand, at the stage where pathology is not influenced by many years of cognitive deterioration and antipsychotic drug treatment and patients are at the beginning of symptoms exacerbation, we speak about first episode psychosis[7].

First-episode psychosis is preceded by a latency period characterized by a subclinical situation, where mental functioning is still largely unaffected and the social functioning is not still irremediably compromised[8]. These patients are often young and during the psychiatric assessment it is fundamental to investigate many aspects, including sexual behaviour[9] and the related impact on daily life.

Van Bruggen explained that people with first-episode psychosis present a higher prevalence of sexual dysfunctions and are less satisfied with their sexuality, pointing out on the antipsychotic medications that have not necessarily a direct impact on sexuality[10]. Recently, also the survey by Malik investigated these aspects in the first year of psychopharmacological treatment, with a particular focus on hormonal alterations and related sexual dysfunctions, although the main side effects caused by an increase of prolactin have regarded endocrinological dysregulations as amenorrhea, galactorrhea and gynecomastia[11].

Despite the controversial role of drug side-effects, it is known that the most frequent sexual dysfunctions in youth adult people with first episode psychosis are ejaculatory disorders and erectile dysfunction in men, hypolubrication and anorgasmia in women, a decrease of sexual desire or libido in both the sex[1,6,12].

Nevertheless, there is still little information regarding the relation between symptoms and sexual dysfunctions in people with first-episode psychosis, above all on the basis of a gender perspective.

In this regard, many studies have investigated the existence of gender differences in first-episode psychosis from a psychopathological point of view, where various neuroendocrinological and behavioural factors are involved[13]. Literature suggests that men show more negative and obsessive-compulsive symptoms, they are more incline to substance abuse, as cannabis, and develop psychotic symptoms earlier than women[14].

Instead, women have higher social support during the phase that precedes the crisis with an important protective role for the social functioning[15], although they also show more depressive, anxious and affective symptoms[16]. Conversely, any researchers have found no gender differences with respect to the symptoms of schizophrenic people[17] and others have found that men showed higher levels of negative symptoms only if they were younger than 18 years old[18].

On the whole first-episode psychosis is less incident in women than in men but, in the case of women, it seems that the prognosis is better[13].

Hence, the gender issue concerning people with first-episode psychosis is more complicate in the cases where is also compromised the sexual function of young persons with a mental disorder. The above cited differences regarding the mental health and the gender could have a sex-specific influence also on sexual health in subjects at the beginning of a mental disease.

Therefore, the aim of the study is to investigate gender differences in sexual functioning in a group of patients with first-episode psychosis; and to assess the relationship between sexual functioning and psychotic symptoms by gender.

MATERIALS AND METHODS

Sample recruitment

Parc Sanitari Sant Joan de Déu and Pediatric Hospital San Joan de Déu recruited 90 consecutive first-episode psychosis patients who were administered a psychiatric assessment protocol that provided socio-demographic and clinical characteristics. Two expert clinical psychologists assessed and diagnosed all patients according to DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition)[19] criteria and through the SCID (Structured Clinical Interview for DSM-IV)[20].

Of the 90 patients who were recruited, 13 were excluded due to errors or omissions in completing the psycho-diagnostic tools.

Most of the sample was composed of young men averagely aged 20.85 and young women averagely aged 20.32. All patients had been taking second-generation antipsychotics less than three months.

Patients were required to provide their written informed consent and the Parc Sanitari Sant Joan de Déu Ethic Committee approved this study.

Patient group inclusion criteria

We included young men and women with first-episode psychosis not associated with other organic or psychopathological conditions.

Patients with an onset of symptoms for no more than one year and with two or more psychiatric symptoms on the DSM-IV-TR (point A) schizophrenia diagnosis were included.

Patient group exclusion criteria

We excluded men and women suffering from other organic conditions such as metabolic, cardiovascular and endocrine disorders or neurological injury; women of non-reproductive age or menopausal women were also excluded.

Main outcome measures

Psychometric assessment

All patients were assessed through the use of the psychiatric protocol composed of PANSS[21,22] and UKU scales[23,24].

PANSS is the Positive and Negative Syndrome Scale, made up of 30 items and four domains: positive symptoms, negative symptoms, general psychopathology and total score. Responses are rated on a 7-point Likert-type severity scale ranging from 0 (absence of symptoms) to 7 (maximum severity of symptoms).

UKU is the Side Effect Rating Scale and is much used in psychiatric assessment to evaluate drug effects; it is also an instrument for assessing the current psychobiological condition of patients. This test also assesses sexual function through specific items with possible responses that range from 0 [Sexual Dysfunction (SD) absent] to 3 (maximum severity of SD).

We took into account the following UKU sexological items: 4.11 Increase in sexual desire (increased desire to engage in sexual activity); 4.12 Decrease in sexual desire (decreased desire to engage in sexual activity); 4.13 Erectile dysfunction (difficulty in obtaining or maintaining erection); 4.14 Ejaculatory alteration (premature or delayed); 4.15 Orgasm alteration (difficulty in obtaining or experiencing orgasm satisfaction); 4.16 Alteration of vaginal lubrication (vaginal dryness with sexual stimuli).

Information about the antipsychotic drugs and doses were collected and calculated according to risperidone equivalence doses [25].

Statistical analysis

All the data were divided between men and women and each alpha error lower 5% indicated statistical significance.

Continuous variables were represented statistically as means and standard deviations and we used Student's t-test for the comparison.

Dichotomous variables, instead, were represented statistically as absolute and percentage frequencies. The difference between dichotomous variables was tested using the Chi-square test or Fisher's exact test when appropriate.

We used non-parametric statistics with Spearman's correlation coefficient with bivariate analysis for the relation between sexual functioning and psychotic symptoms. Bonferroni correction was done in order to provide a protection against Type I error. Univariate logistic regression was used to test the impact of drug doses and the age on sexual dysfunctions. All tests were performed using SPSS 17.

Table 1. Demographic and clinical characteristics

	Men n=40	Women n=37
Age - mean (sd)	20.85 (6.9)	20.32 (7)
Primary education - n (%)	21/40 (52.5)	23/37 (62.16)
Secudary education - n (%)	13/40 (32.5)	7/37 (18.91)
University degree - n (%)	6/40 (15)	7/37 (18.91)
Have a relationship - n (%)	29/40 (72.5)	30/37 (81.08)
Sexual dysfunction - n (%)	17/40 (42.5)	14/37 (37.84)
Risperidone equivalences doses (mg/day) - mean (sd)	6.39 (5.18)	5.79 (3.82)

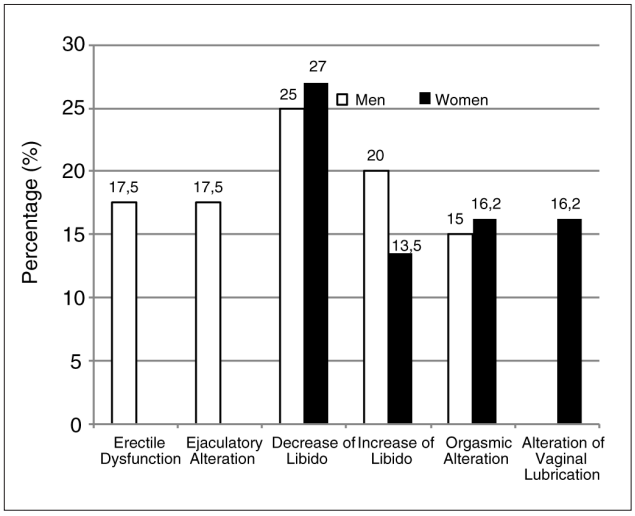

Figure 1. There are no significant differences in the frequency of sexual dysfunction between men and women in the decrease of libido, increase of libido and orgasm alteration (p=0.8; χ^2=0.026), (p=0.3; χ^2=0.8), (p=1; χ^2=0) respectively.

RESULTS

The socio-demographic and clinical characteristics, listed in Table 1, show that there were no significant differences between men and women.

The percentage of different forms of sexual dysfunction is equal to 17.5% in the case of male erectile and ejaculatory dysfunction; the percentage of decreased libido in men is 25% and 27% in women, whereas the percentage of increased libido is 20% in men and 13.5% in women. Orgasmic alteration affects 15% of the male group and 16.2% of the female group, while alteration of vaginal lubrication is present in 16.2 % of women (Figure 1).

Table 2 shows that there is a strong and significant correlation between male erectile dysfunction and ejaculatory alteration and between erectile dysfunction and orgasmic alteration; moreover there is also a strong correlation between ejaculatory alteration and orgasmic alteration.

On the other hand, there is a significant and strong correlation between female alteration of vaginal lubrication with decreased libido and orgasmic alteration. Additionally, there is a strong correlation between decreased libido and orgasmic alteration.

The correlation analysis between sexual dysfunction and psychopathological symptoms (Table 3) shows a significant female correspondence between psychopathology and sexuality, with a clear difference regarding gender.

In fact, in men there is not a significant association between psychopathological domains or symptoms of the PANSS and sexual dysfunction assessed by UKU.

On the contrary, in women the alteration of vaginal lubrication is positively linked to: positive symptoms, general psychopathology symptoms, but also with items of the depressive spectrum of the PANSS general domain such as depression (PG.6) and disorder of volition (PG.13).

Moreover, in the female group, orgasmic alteration is also positively linked to general psychopathology (Table 3). Fi-

Table 2. Correlation among disorders of sexual function (UKU)

	Men r; (p)					Women r; (p)			
	Erectile dysfunction	Ejaculatory alteration	Decrease of libido	Increase of libido	Orgasmic alteration	Alteration of vaginal lubrication	Decrease of libido	Increase of libido	Orgasmic alteration
Erectile dysfunction	1	.670; (.0001)	NS	NS	.735; (.0001)	NA	NA	NA	NA
Ejaculatory alteration	.670; (.0001)	1	NS	NS	.929; (.0001)	NA	NA	NA	NA
Decrease of libido	NS	NS	1	NS	NS	.596; (.001)	1	NS	.648; (.0001)
Increase of libido	NS	NS	NS	1	NS	NS	NS	1	NS
Orgasmic Alteration	.735; (.0001)	.929; (.0001)	NS	NS	1	.733; (.0001)	.648 (.0001)	NS	1
Alteration of vaginal lubrication	NA	NA	NS	NS	NS	1	.596; (.001)	NS	.733; (.0001)
Erectile dysfunction	1	.670; (.0001)	NS	NS	.735; (.0001)	NA	NA	NA	NA

Table 3. Correlation between sexual dysfunctions (UKU) and psychopatological symptoms (PANSS)

		Men r; (p)					Women r; (p)			
PANSS	UKU	Erectile dysfunction	Ejaculatory alteration	Decrease of libido	Increase of libido	Orgasmic alteration	Alteration of vaginal lubrication	Decrease of libido	Increase of libido	Orgasmic alteration
Positive		NS	NS	NS	NS	NS	.485; (.011)	NS	NS	NS
Negative		NS	NS	NS	NS	NS	NS	NS	NS	NS
General		NS	NS	NS	NS	NS	.547; (.003)	NS	NS	.500; (.013)
Depression (PG.6)		NS	NS	NS	NS	NS	.627; (.0001)	NS	NS	NS
Disorder of volition (PG.13)		NS	NS	NS	NS	NS	.600; (.001).	NS	NS	NS
Total		NS	NS	NS	NS	NS	NS	NS	NS	NS

NS: not significant; NA: not applicable; PG: PANSS General; Bonferroni Correction: p=0.016 for PANSS domains and p=0.002 for PANSS items.

nally univariate logistic regression shows that antipsychotic drugs do not significantly influence sexual function and age does not even predict sexual dysfunction. Only in the ejaculatory alteration age has a significant impact (Table 4).

DISCUSSION

These results show that almost half (40.25%) of all our patients experiencing a first-episode psychosis suffer from some form of sexual dysfunction and that there are no differences in gender prevalence. As in other studies, we also found out that antipsychotic drugs do not influence sexual function in the initial phase of pharmacological treatment[11] and this evidence highlights once again the importance of an adequate assessment of sexual function in the newly diagnosed patients with psychosis episode[5].

In this regard, erectile and ejaculatory dysfunction are the most common sexual dysfunctions in male patients and these sexual disorders occur in patients at the same time with an high comorbidity[26]. Additionally, both the above-mentioned sexual dysfunctions had a strong positive correlation with or-

Table 4. Univariate Logistic Regression regarding the impact antipsychotic dosis and age on sexual functioning

	Men OR; CI-95%; (p)					Women OR; CI-95%; (p)			
	Erectile dysfunction	Ejaculatory alteration	Decrease of libido	Increase of libido	Orgasmic alteration	Alteration of vaginal lubrication	Decrease of libido	Increase of libido	Orgasmic alteration
Antipsychotic dosis*	.857; .636-1.155; (.311)	.860; .653-1.133; (.284)	.890; .714-1.110; (.1303)	1.089 .887-1.338; (.416)	.877; .683-1.126; (.302)	1.087; .812-1.454; (.577)	1.075; .833-1.387; (.579)	1.020; .769-1.354; (.888)	1.139; .814-1.592; (.447)
Age	1.1449; .982-1.333; (.085)	1.158; 1.015-1.321; **(.03)**	1.087; .973-1.213; (.139)	.746; .488-1.140; (.176)	1.152; .995-1.333; (.058)	.866; .635-1.181; (.384)	.918; .722-1.166; (.483)	.916; .641-1.308; (.629)	1.057; .685-1.632; (.802)

* mg/d equivalences of risperidone; OR=Odds Ratio.

gasmic dysfunction, so demonstrating the linearity of phases of sexual behaviour according to the DEPOR model of sexual response[27,28]. In these cases, literature suggests an integrate treatment focused on psychological and pharmacological treatment for the care of sexual function[29], to avoid the mutual reinforcement of these male sexual symptoms together to the possible female partner distress[30,31].

On the other hand, in the female group, sexual arousal response is often associated with desire; in fact the alteration of lubrication had a strong positive correlation with decreased libido. This aspect confirms that in women the phase of desire plays a central role in the sexual behaviour[32]. When female patients have an alteration of vaginal lubrication or orgasmic response, they also have a lack of desire confirming the Kaplan's sexuality model that puts desire at the apex of sexual response[27,28]. In the male group no direct association exists between sexual arousal disorder or orgasmic alteration and lack of desire, highlighting the first important gender differences that we found in our patients.

When we associated sexual functioning with psychopathology, we did not find any significant link between psychopathology and sexual dysfunctions in the male group, while this relation was very present in women. Regarding this essential evidence, we could affirm that the correlation between sexual dysfunctions and psychopathological symptoms is gender-specific. In particular, female alteration of vaginal lubrication is associated with the depressive spectrum (depression and disorder of volition), general psychopathology and positive symptoms. Also orgasmic alteration is linked to general psychopathology confirming the fundamental role of mental health for in the female sexual pleasure[33].

Therefore, our results according to a gender perspective suggest that in women sexuality is more linked to the psychopathological condition compared to men, and the strong connection between psychopathology and female sexuality is also present at the beginning of a mental disorder.

These aspects highlight that in the female population sexual behaviour mostly depends on psychological and relational health, while in men it depends on direct sexual stimuli[34]. From this point of view, sexual functioning represents an important index of psychological health more in women than in men. On the whole, after our assessment we can state that the association between sexual dysfunction and psychopathology assessed in men is absent, while in females this association is extended to two important phases of the sexual response cycle: sexual arousal and orgasmic pleasure[35].

In this regard, we can hypothesize that in female youth patients with FEP the psychotic symptoms and anhedonia significantly influence the cycle of sexual response and directly generate sexual dysfunctions. Moreover, we know that female sexuality is very linked to hormonal states, as puberty, pregnancy, menstrual cycle and menopausal age that expose sexual function to various vulnerability factors[36-38].

Hence, the strong association between PANSS general domain with alteration of vaginal lubrication and orgasmic alteration in women represents an important clinical aspect to take into consideration during the psychological, pharmacological and psycho-educational treatment of female patients with FEP.

Limitations

The relatively low number of patients represents the main limit of this investigation[39]. Another limit is the lack of information about the levels of hormones, such as sex hormones and the prolactin and their impact on sexual functioning[40]. Finally, the lacking of the clinical history and also of the history of life with possible experiences of trauma or sexual abuse in the assessed patients is a limit of this study.

CONCLUSIONS

To conclude, we can state that sexual symptoms are very common in the above-described patients, therefore the sexological assessment is fundamental to establishing the mutual influence between sexuality and psychopathology. In first-episode psychosis patients there is a gender-specific correlation between sexual dysfunctions and psychopathological symptoms that seems to be stronger in the women. The understanding of this aspect is necessary to determine both psychiatric and sexological treatment.

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