Original Article

TO COMPARE THE FREQUENCY OF SEXUAL DYSFUNCTION ASSOCIATED WITH RISPERIDONE, OLANZAPINE, AND QUETIAPINE, AMONG PATIENTS WITH CLINICALLY STABLE SCHIZOPHRENIA.

Dr. Hemanth Jyothirmai [1*], Dr. Charanya K [2]

[1*,2]Assistant Professor, Maheshwara Medical College & Hospital, Telangana, India.

***Corresponding Author:** Dr. Hemanth Jyothirmai
*Assistant Professor, Maheshwara Medical College & Hospital, Telangana, India.

ABSTRACT:

Sexual dysfunction can be caused by variety of physical and psychological causes like ageing process, thriving condition, medical illness, psychiatric diseases, drugs. Among the drugs anti hypertensives, antihistamines, diuretics, anti-depressants, benzodiazepines and antipsychotics are the common drugs causing sexual impairment. Sexual dysfunction is one of the commonest problem among the common people and people suffering from psychiatric diseases and people who are in treatment with psychotic medicines. Sexual dysfunction is very rarely reported spontaneously by patients, therefore, clinical trials of antipsychotic medicine depend on spontaneous reporting by patients to assess side effects on sexual dysfunction. Studies done so far has revealed significant rate of sexual impairment is seen with both atypical and typical antipsychotics and this side effect is particularly Important in many ways. It affects their self- esteem and causes problem for their sexual partners, compromises treatment compliance, interferes with their quality of life. Sexual dysfunction is one of the commonest problem in mood disorders, schizophrenia, and all other psychotic disorders**.** The reported prevalence of sexual dysfunction is 40 -80% in women and 45-85% in men.(3, 4, 5).

Atypical antipsychotics have been prescribed for treatment of schizophrenia now a days. The most common antipsychotics prescribed are risperidone, olanzapine, quetiapine, arpiprazole, ziprasidone, and amisulphride.

Atyical antipsychotics have wide range of action over positive, negative, affective, and cognitive symptoms of schizophrenia. When compared to typical antipsychotics, atypical antipsychotics produce less extra pyramidal symptoms like tremos, rigidity, tardive dyskinesia, dystonia, neuroleptic malignant syndrome and said to cause least sexual side effects. Now a days atypical antipsychotics are prescribed not only for psychosis or schizophrenia, they are prescribed for mania, bipolar disorders, bipolar depression, a typical depression, to control the behavioral disturbances in disruptive disorders, mental retardation, and treatment resistant depression. So although there are many mechanism by which antipsychotics cause sexual dysfunction, this study proves that hyperprolactinemia plays important role in causing sexual impairment. Risperidone being the drug causing hyperprolactenemia markedly,it causes more impairment in sexual dysfunction in both

males and females in this study impairment in ejaculation and orgasm had been more when compared to other studies done so far. Only the clinically stable patients were incorporated with a careful assessment on BPRS, as the patients' account is less reliable during the symptomatic phase. However, full remission is rarely achieved in schizophrenia, especially with respect to negative and cognitive symptoms.

KeyWords: anti-depressants, risperidone, olanzapine, quetiapine, antipsychotics, atypical antipsychotics.

INTRODUCTION

Satisfying sexual experience is an essential part of all human life. Sexual function is our physiologic capacity for desire, arousal and orgasm. Sexual dysfunction can be caused by variety of physical and psychological causes like ageing process, thriving condition, medical illness, psychiatric diseases, drugs. Among the drugs anti hypertensives, antihistamines, diuretics, anti depressants, benzodiazepines and antipsychotics are the common drugs causing sexual impairment. Sexual dysfunction is one of the commonest problem among the common people and people suffering from psychiatric diseases and people who are in treatment with psychotic medicines. Sexual dysfunction is very rarely reported spontaneously by patients, therefore, clinical trials of antipsychotic medicine depend on spontaneous reporting by patients to assess side effects on sexual dysfunction. Studies done so far has revealed significant rate of sexual impairment is seen with both atypical and typical antipsychotics and this side effect is particularly Important in many ways. It affects their self-esteem and causes problem for their sexual partners, compromises treatment compliance , interferes with their quality of life. Sexual dysfunction is one of the commonest problem in mood disorders, schizophrenia, and all other psychotic disorders**.** The reported prevalence of sexual dysfunction is 40 -80% in women and 45-85% in men.(3, 4, 5). Atypical antipsychotics have been prescribed for treatment of schizophrenia now a days. The most common antipsychotics prescribed are risperidone, olanzapine, quetiapine, arpiprazole, ziprasidone, and amisulphride. A typical antipsychotics have wide range of action over positive, negative, affective, and cognitive symptoms of schizophrenia. When compared to typical antipsychotics, atypical antipsychotics produce less extra pyramidal symptoms like tremos, rigidity, tardive dyskinesia, dystonia, neuroleptic malignant syndrome and said to cause least sexual side effects. Now a days atypical antipsychotics are prescribed not only for psychosis or schizophrenia, they are prescribed for mania, bipolar disorders, bipolar depression, atypical depression, to control the behavioural disturbances in disruptive disorders, mental retardation, and treatment resistant depression.

So inorder to get little sexual side effects as a psychiatrist we must get a clear cut knowledge about the sexual side effects produced by atypical antipsychotics and which is safe to administer to the patients.

Although there are limitations and biases most of the studies had agreed the prevalence of sexual dysfunction in schizophrenic patients treated with antipsychotics ranging from 25% to 60%.(1, 2).

So far, researches done into psychotropic-induced sexual side- effects suffers from substantial methodologic limitations. Patients tend not to talk with their clinician about their sexual life. Psychiatrists and other doctors need to take the initiative to talk about the patient's sexual life in order to become informed about potential medication-induced sexual difficulties.

The major impact produced on sexual functioning in schizophrenic patients is by antipsychotics.There are lot of studies that about sexual
Dysfunction caused by typical antipsychotics as well as there are studies that compared typical and atypical antipsychotic drugs. But, there are only a few studies that have compared different atypical antipsychotic agents for sexual impairment. There are only few studies in Indian population regarding this.,
Various aspects that make us difficult to assess the sexual function related to psychotrophic medications are

1. Selection of patients.
2. Procedures used for sexual assessment.(directly questioning, or self report.)
3. Subjective or objective measurements.
4. Lack of baseline assessment.
5. Gender differences.
6. Hard to differentiate effects of psychopathology and effects of psychotropic medications.

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Various aspects that make us difficult to assess the sexual function related to psychotrophic medications are

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11. Gender differences.

Study design :
It is a cross sectional study.
Patients are selected through purposive sampling technique.

INCLUSION CRITERIA
Male and female patients between 18-40 years of age. Sexually active.
On regular treatment with stable doses of risperidone, quetiapine, or olanzapine for atleast six weeks after achieving clinical stability**.**

EXCLUSION CRITERIA
Patients having comorbid medical illness. Patients with comorbid psychiatric illness. Patients with primary sexual dysfunction.
Those who are on more than one antipsychotic drug or other drug affecting sexual function like

antidepressants and anti hypertensives. Substance abuse.

MATERIALS AND METHODS

The sample for this study is selected from out patient department, psychiatry, institute of mental health, chennai. it consists of 75 patients of schizophrenia meeting icd 10 criteria and who have attained clinical stability. and also 25 healthy volunteers from the care givers of the patient and staff of the hospital who were willing to partcipate in the study.so the total number of sample is 100.
This is cross sectional, hospital based study after getting the clearance from the local ethical committee clearance, the subjects were recruited for the study during january 2015 to june 2015 by purposive sampling technique. The sample was divided into four groups.
group1 ---------- 25 healthy volunteers
group2 ---------- 25 patients on olanzapine.
group3 ---------- 25 patients on quetiapine.
group4 ---------- 25 patients on risperidone.
none of these drugs were not administered for the purpose of the study.after getting written consent, the patie nts who were maintaining remission with one of these tablets in the oral form of tablets were enrolled into the study during their regular follow up. study related assessments were done on the same day of selecting the patients.
sample consists of both male and female patients between 18-40 years of age.
TOOLS USED;

1. Socio demographic data.
2. Clinical information sheet.
3. Brief psychiatric rating scale.
4. Changes in sexual functioning questionare.(csfq—male version)
5. Changes in sexual functioning questionare.(csfq—female version

RESULTS

Table-1 Total no of sample-100

Groups	Male	Female
Control group(G1)	**13**	**12**
Olanzapine(G2)	**14**	**11**
Quetiapine(G3)	**16**	**9**
Risperidone(G4)	**15**	**10**
TOTAL	**58**	**42**

TABLE-1 SHOWS THE TOTAL NO OF PERSONS PARTICIPATED IN THIS STUDY.OUT OF WHICH 25 ARE VOLUNTEER HEALTHY CONTROLS AND 75 PATIENTS OF

SCHIZOPHRENIA, OUT OF WHICH 58 MALES AND 42 MALES.IN QUETIAPINE GROUP LEAST NUMBER OF FEMALES PARTICIPATED.

AGE DISTRIBUTION AMONG THE SAMPLE(N=100).

	AGE GROUP	NO OF PERSONS	PERCENTAGE %
AGE	20 TO 25	10	10.00%
	26 TO 30	22	22.00%
	31 TO 35	25	25.00%
	36 TO 40	43	43.00%

Fig- 2.

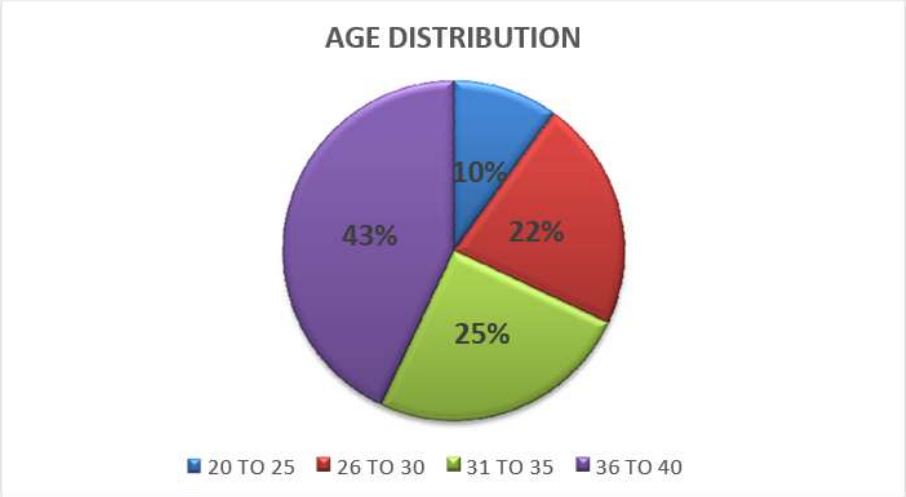

TABLE 3 and FIG2 SHOWS THE AGE DISTRIBUTION AMONG THE STUDY SAMPLE.(N=100).MOST OF THEM (43%) FALLS AGE GROUP BETWEEN 36-40.ONLY 10% OF THEM ARE AMON AGE SEX DISTRIBUTION AMONG THE SAMPLE (N=100).

SEX DISTRIBUTION							
			GROUP				Total
			CONTROL G1	**OLANZAPINE G2**	**QUETIAPIN G3**	**RISPERIDONE G4**	
SEX	Male	Count	13	14	16	15	58
		% within SEX	22.4%	24.1%	27.6%	25.9%	100.0%
	Female	Count	12	11	9	10	42
		% within SEX	28.6%	26.2%	21.4%	23.8%	100.0%
Total		Count	25	25	25	25	100
		% within SEX	25.0%	25.0%	25.0%	25.0%	100.0%

FIG-3

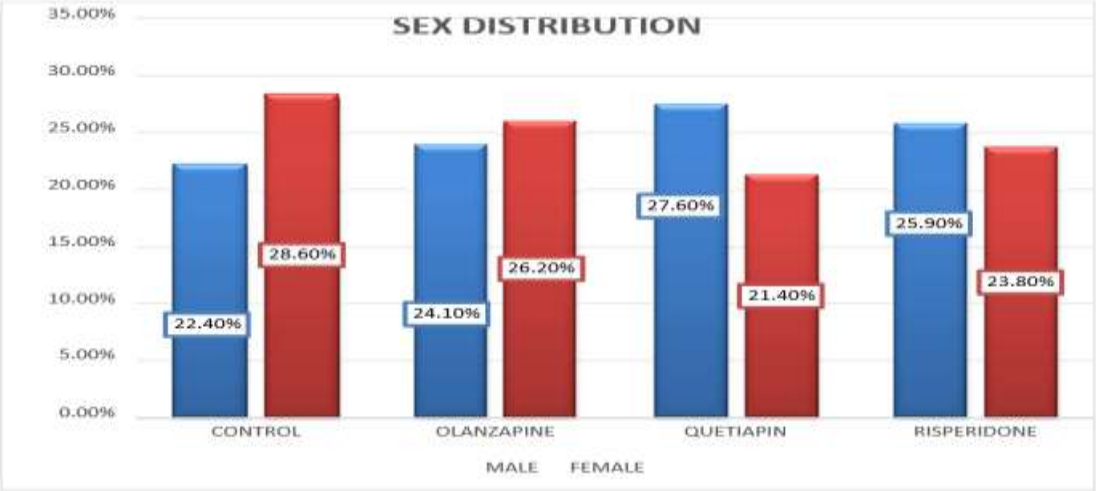

TABLE-10 **FAMILY HISTORY OF PSYCHIATRIC ILLNESS**

YES	NO
25%	75%

25% OF SAMPLE HAD FAMILY HISTORY OF PSYCHIATRIC ILLNESS.

FIG-9

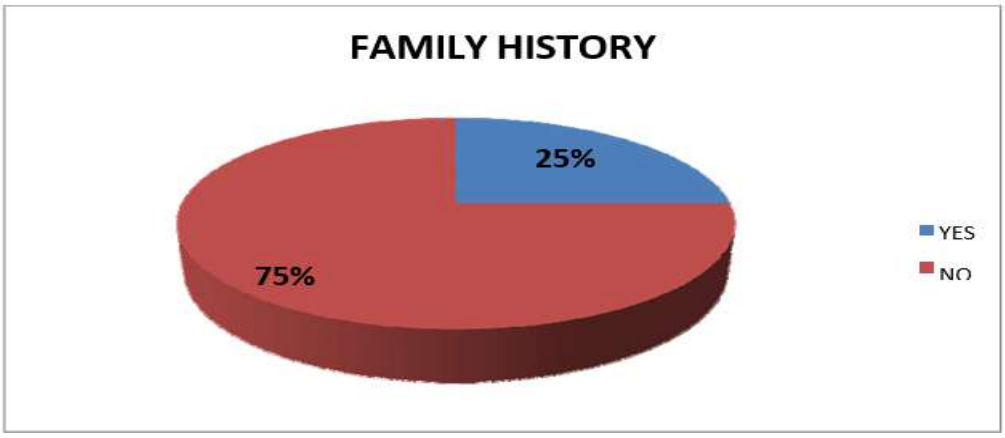

TABLE-10 SHOWS AND FIG-9. 25% OF SAMPLE HAD PSYCHIATRIC ILLNESS.75% OF SAMPLE DID NOT SHOW ANY PSYCHIATRIC ILLNESS MEAN AGE OF FOUR GROUPS

CONTROL GROUP MEAN AND SD	OLANZAPINE GROUP MEAN AND SD	QUETIAPINE GROUP MEAN AND SD	RISPERIDONE GROUP MEAN AND SD
31.5 + 5.3	33.4 + 5.5	34.0 + 5.9	33.9 + 5.2

OVER ALL MEAN FOR AGE-- 33.2 + 5.4

THE MEAN AGE IS 33.2 IN OUR STUDY, AS SAMPLE CONTAINS THE AGE GROUP OF 18 TO 40.AND ALL OF THEM ARE MARRIED AND WHO ARE SEXUALLY ACTIVE.

TABLE 12--MEAN DAIL Y DOSES OF THE THREE DRUGS

OLANZAPINE (MG)	QUETIAPINE(MG)	RISPERIDONE(MG)
12.8 + 4.8	112 + 43.4	5.6 + 2.0

THE MEAN DAILY DOSES OF THREE DRUGS WERE FOUND TO BE 12.8(4.8) MG, 112(43.4) MG, AND 5.6(2.0) MG FOR OLANZAPINE, QUETIAPINE, AND RISPERIDONE, RESPECTIVELY. THEIR MEAN CHLORPROMAZI NE EQUIVALENT DOSES WERE 256 MG, 149.3MG, AND 280MG FOR OLANZAPINE, QUETIAPINE AND RISPERIDONE RESPECTIVELY.

TABLE—13. MEAN CHLORPROMAZINE EQUIVALENT DOSES FOR THREE DRUGS

OLANZAPINE	QUETIAPINE	RISPERIDONE
256MG	149.3MG	280MG

MEAN AGE OF FOUR GROUPS

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22 Over all sexual impairment among study groups

SEXUAL DYSFUNCTION * GROUP							
			GROUP				Total
			CONTROL	**OLANZAPINE**	**QUETIAPIN**	**RISPERIDONE**	
SEXUAL DYSFUNCTION	YES	Count	5	13	12	15	45
		% within TOTAL SCORE	11.1%	28.9%	26.7%	33.3%	100.0%
		% within GROUP	20.0%	52.0%	48.0%	60.0%	45.0%
	NO	Count	20	12	13	10	55
		% within TOTAL SCORE	36.4%	21.8%	23.6%	18.2%	100.0%
		% within GROUP	80.0%	48.0%	52.0%	40.0%	55.0%
Total		Count	25	25	25	25	100
		% within TOTAL SCORE	25.0%	25.0%	25.0%	25.0%	100.0%
		% within GROUP	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE-23

Chi-Square Tests			
	Value	**df**	**p VALUE**
Pearson Chi-Square	9.172[a]	3	0.027

Table - 24 comparison of sexual dysfunction among both sexes

CONTROL GP (G1)		**OLANZAPINE (G2)**		**QUETIAPINE (G3)**		**RISPERIDONE (G4).**	
MALE	**FEMALE**	**MALE**	**FEMALE**	**MALE**	**FEMALE**	**MALE**	**FEMALE**
15.38	**25.00**	**57.14**	**45.45**	**50.00**	**44.44**	**66.67**	**50.00**
%	**%**	**%**	**%**	**%**	**%**	**%**	**%**

CONCLUSION

The results of this study allow some conclusion to be made as to which atypical antipsychotics is markedly and significantly safer than other as far as sexual side effects are concerned.

Comparing to risperidone and olanzapine, quetiapine showed significant lower sexual side effects males in this study have shown slightly higher sexual side effects when compared to females as it also Did not differ significantly.

As each stage of sexual function depends upon other stages, it is difficult to say certainly this drug can cause impairment in certain domain of sexual stage. Desire is the commonest sexual side effect to get impaired in treatment with atypical antipsychotics.

As there are only very limited studies in Indian culture, however in future, such a research with

similar methodology should be done an attempt should also be made to compare individual drugs at higher and lower doses a study of prolactin levels is also a useful complimentary procedure also higher the sample size, better the inference the cause for less sexual impairment by quetiapine may be due to its minimal effect on prolactin level.

So although there are many mechanism by which antipsychotics cause sexual dysfunction, this study proves that hyperprolactinemia plays important role in causing sexual impairment.

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