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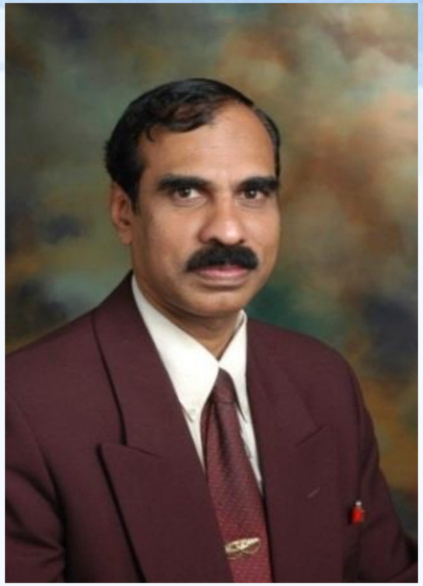
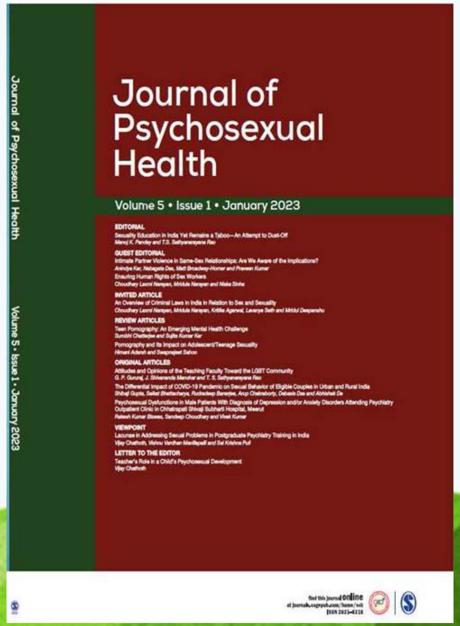


- **Editor, Journal of Psychosexual Health**
- **Past Gen. Sec. Indian Psychiatric Society**
- ***President Elect, South Asian Societies for Sexual Medicine (SASSM), Affl. to International Society for Sexual Medicine (2023-25)***
- **Formerly President: Indian Association for Geriatric Mental Health**
- **Formerly Editor, Indian Journal of Psychiatry(2004, 2007-2018)**
- **Co-Chair: Psychiatry & Human Sexuality Section – WPA**
- **Publications: Research and Review papers – 356**
- **Books & Book chapters: 26**
- **Awards & Orations: incl. Marfatia, DLN Murthy Rao, C.V. Raman Distinguished Scientist & Acharya Award – 28**
- **President: Karnataka Sexual Sciences Academy**



Assessment and Evidence Based management of Treatment Emergent Sexual side effects

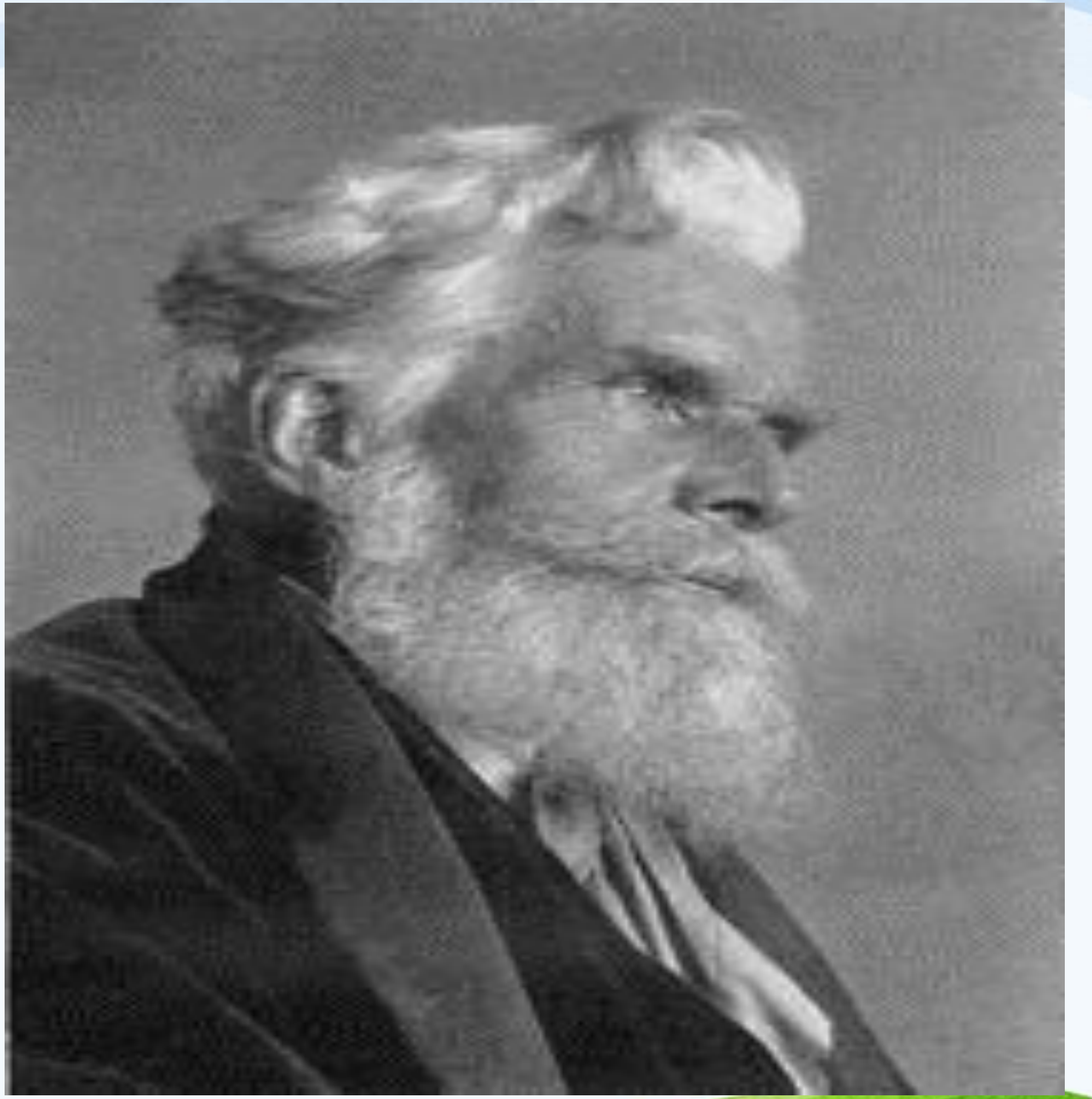
HUMAN SEXUALITY

"Sex lies at the root of life, and we can never learn to reverence life until we know how to understand sex."

H. Havelock Ellis

Determined by anatomy, physiology, culture, interpersonal relations and developmental experiences.

Multi-dimensional concept.



ICD – 10 (WHO, 1992)

Definition:

Sexual function covers the various ways in which an individual is unable to participate in a sexual relationship as he or she would wish (WHO, 1992)

Psychiatric conditions that can be associated with sexual dysfunction

Common	• Anxiety disorders • Mood disorders - Depression - Bipolar disorder • Schizophrenia • Eating disorder • Personality disorders • Somatoform disorders
Develop mental	• Intellectual disability • Autistic spectrum conditions
Substances	• Alcohol • Opioids • Cocaine • Cannabis • Stimulants
Neuro psychiatric	• Acquired brain injury - Head Injury - Stroke • Neurodegenerative disorders - Dementia • Epilepsy • Klein-Levin Syndrome • Kluver – Bucy Syndrome

- Range of difficulties
  - Relationship
  - Sexual Functioning
- Impairment in Quality of life
  Contribution from SD
- May not Voluntarily disclose
  - bearing on compliance with medications

COMPONENTS OF SEXUALITY (LEVINE, 2003)

1. Gender Identity
2. Orientation
3. Intention
4. Desire
5. Arousal
6. Orgasm
7. Emotional satisfaction - Personal Reflection

Identity

Sexual function

Positive Regard: Increased Sexual Abandon, Positive attitude, Frequent sex.

Negative Regard: Personal inhibition, Hostile & Critical attitudes, Limited sex.

Desire: Drive (Bio), Motivation (Psychological), Wish (Social)

INTERNATIONAL GUIDELINES FOR DIAGNOSTIC ASSESSMENT– Mezzich, Besganza, et al. (WPA 2000)

First component: STD Multi-axial formulation.

1. Clinical disorders
   a. Sexual disorders (Sexual dysfunctions, paraphilias & gender identity disorders)
   b. Other mental and general medical disorder
2. Disabilities (Social functioning)
3. Contextual factors
4. Quality of life

Second component: Idiographic or personalized formulation.

1. Contextualization of clinical problems
2. Patient's positive factors
3. Expectations for restoration and promotion of health.

First Component: Standardized Multiaxial Formulation (Sexuality Health Version)

Axis .1. Clinical disorders (as classified in ICD 10)

a. Sexual disorder (Sexual dysfunctions, paraphilias and gender identity disorders)

Disorders	Codes

b. Comorbities (coexisting mental and general medical disorders)

Disorders	Codes

Axis II: Disabilities

Areas of functioning

A. Personal care

B. Occupational (wage earner, student, etc)

C. With spouse or partner

D. With other relatives

E. Social in general

Degree of Disability

Score	Degree
0	None
1	Minimal
2	Moderate
3	Substantial
4	Severe
5	Massive

Contextual Factors

Problem Areas (to be specified)

Codes Z

- Family / house
- Education / work
- Economic / legal
- Cultural / environmental:
- Personal

- Axis IV: Quality of life

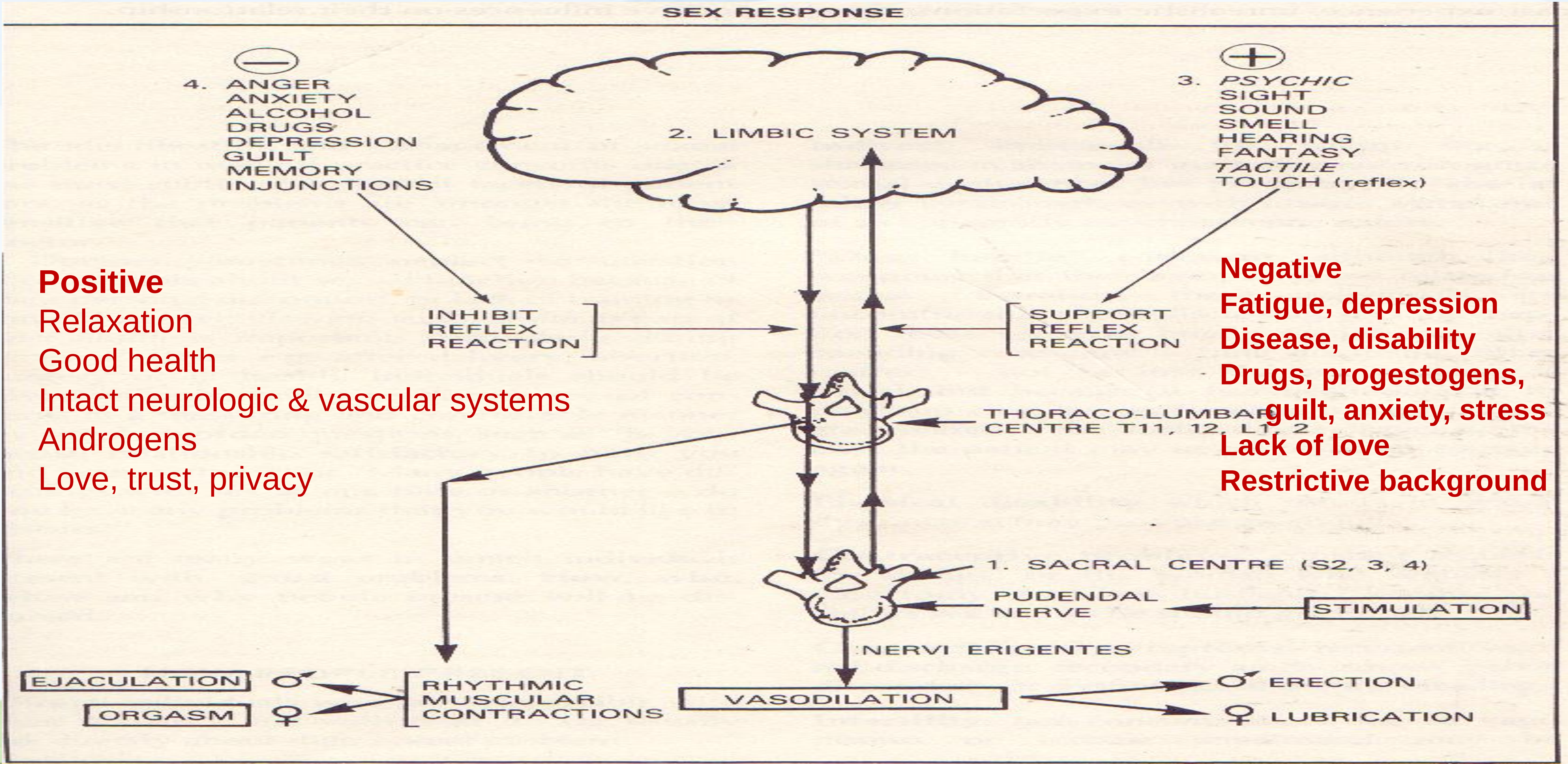
(perceived level of quality of life, from poor to excellent; patient marks one of the 10 points in the line below; this level can be determined through an appropriate multidimensional instrument or by direct global rating)

1 2 3 4 5 6 7 8 9 10

Poor

Excellent

Factors influencing sexual arousal



Positive

Relaxation

Good health

Intact neurologic & vascular systems

Androgens

Love, trust, privacy

Negative

Fatigue, depression

Disease, disability

Drugs, progestogens, guilt, anxiety, stress

Lack of love

Restrictive background

Mediators

Regulatory site	Pro – Erectile	Anti – Erectile
Brain	Dopamine Oxytocin Nitric Oxide Glutamic acid Andrenocorticotropin Acetylcholine Norepinephrine	Opioid Peptides Prolactin
Spinal Cord	Serotonin (5HT1c) Oxytocin Nitric oxide	Serotonin (5HT2, 5HT1a) GABA Dopamine
Penile nerves	Nitric Oxide Acetylcholine Vasoactive intestinal peptide Calcitonin gene-related peptide Substance P Adenosin triphosphate	Norepinephrine Neuropeptide Y
Corporal Tissue	Nitric Oxide Prostaglandin Bradykinin	Endothelin – I Angiotensin – II Thromboxane Histamine

Excitatory factors:

- Testosterone
- Estrogen
- Progesterone
- Dopamine

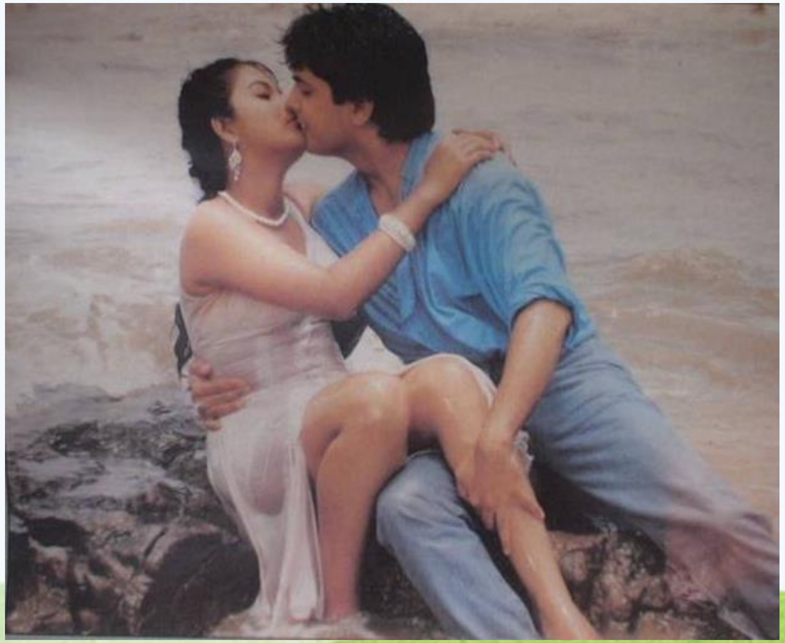
Inhibitory factors:

- Serotonin
- Prolactin
- Opioids

Dopamine

(Primarily excitatory)

- **mediates pleasure**
- **increases sex drive**
- **promotes orgasm**



- **D1 and D2 agonist→ facilitates erection in men**
- **Antipsychotic medications→ impair erection**
- **Increase in sexual behavior in females with levodopa and carbidopa (single report)**
- **Dopamine antagonism - Delayed or inhibited orgasm in women**

SEROTONIN

(Primarily inhibitory)

Animals: may facilitate, inhibit or have no effect on sexual behavior

decreases anxiety and aggressiveness

- symbiotic with estrogen
- facilitates Opioids and Progesterone

PARAXETINE: also a nitric oxide synthase inhibitor
↓ NO Levels & function.

Depends on receptor subtype

- **5HT1A facilitates sexual functioning**
- **5HT1A lowers the threshold for ejaculation**
- **5HT1B and 5HT 1C inhibits sex behaviors**
- **5HT2 impairs sexual functioning**

SSRI-induced sexual dysfunction was more severe in women than in men

Epinephrine

- Adrenergic activity - Flaccidity and produces detumescence.
- ά1- blockade -produces erection
- Arousal in woman- Adrenergic system becomes active
- Ephedrine ά- and β- agonist→ increase vaginal responses
- Plasma epinephrine non-significant increase prior to masturbation
- Decreased sexual arousal and orgasm – ά2 antagonism

Adrenergic ($Alpha_1$) Activity

(Primarily excitatory)

- enhances desire and arousal
- facilitates the action of dopamine, testosterone, acetylcholine, vasopressin and prostaglandins
- promotes peripheral vasoconstriction
- can cause erectile dysfunction and trigger ejaculation.
- Alpha Blockers:

Doxazosin(Cardura)
Prazosin (Minipress)

Adrenergic ($Alpha_2$) Activity

(Primarily inhibitory)

- decrease desire and arousal
- prompts peripheral vasoconstriction
- antagonizes alpha1 activity
- can decrease anxiety-related premature ejaculation
- Agonists:

Clonidine, Guanabenz, Guanfacine

- Antagonists:

Yohimbine

Norepinephrine

- **NE increases during sexual activity**
- **NE positively correlated with arousal and erection during masturbation and sexual activity**
- **NE-Increased up to 12-fold at orgasm**
- **Yohimbine- Increases NE activity useful in treating ED and anorgasmia**
- **Women-NE increased during masturbation, peaked at orgasm, and slowly declined following orgasm**

Beta$_2$(ß$_2$) Adrenergic Activity

(Primarily excitatory)

- vasodilator
- promotes nervousness, “stage fright”
- Beta Blockers

Propranolol, Metoprolol

Cholinergic Activity

(Primarily excitatory)

- once considered to be solely responsible for erection and lubrication mediated by parasympathetic nerves
- Anticholinergic Drugs

Acetylcholine

- Acetylcholine, together with VIP implicated in penile erection
- Human corpus cavernosum innervated by cholinergic nerves and contains cholinergic receptors
- Acetylcholine results in a relaxation of the smooth muscles
- Penile erection controlled at the level of the brain and spinal cord
- generates theta rhythms
- involved in both seizures and orgasm

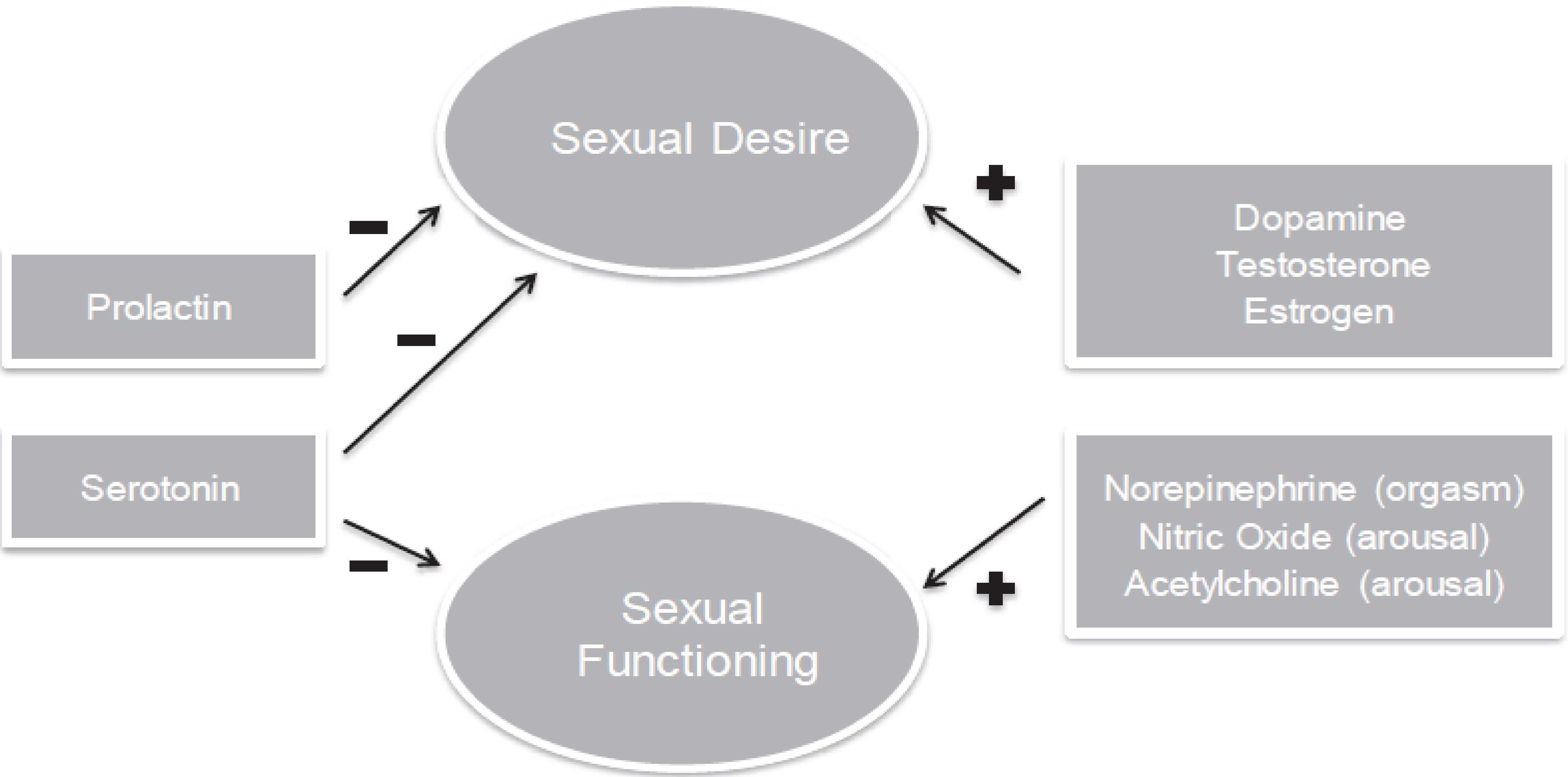


Fig. 1. Neurotransmitters and their effects on sexual functioning and sexual desire: increase (*plus sign*) and decrease (*minus sign*). (*Data from* Refs.[12,14,15])

Psychiatric Disorders

- Sexual Dysfunction
  - Both qualitative / Quantitative changes
- More than one problem (in both Male & Female)

  Desire ⟶ Arousal ⟶ Orgasm
- S.D leading to Psychiatric disorder
  - Depression following ED / feeling of inadequacy
- Many Psychiatric disorders
  - Sexual etiology
- Paraphilias – Constitute specific behavioral disorder

  Causative / consequential / coexisting
- Effect of Pharmacological agents

Psychosis

- **Poor quality of life**
  - **- known from time immemorial**
- **Various factors contribute**
  - **- acute, short duration**
  - **- episodic, good recovery in between**
  - **- Chronic, intractable course**
- **Acute group**
  - **- Usually reversible with clinical improvement**
- **Chronic**
  - **diminished sexual desire**
  - **poor interpersonal relationship**
  - **Anhedonia, asociality –**
  - **persistent & refractory to treatment**
  - **inappropriate & challenging sexual behavior**

Schizophrenia 30 – 60%

both in treated & untreated

More among institutionalized points

2/3rd of male & half of females

Non- institutionalized 1/10th males, ½ of females

Serretti A, Chiesa A, 2011.

- Pre-occupied with sexual fears, wishes, delusions and hallucinations
- Sexual themes in delusion (Hallucinations)
- Sexual jealousy
  - Delusional disorder – Freud.
    - Persecutory Delusion
    - Sexual jealousy
- Erotomania
  - Schizophrenia / Mania
- Excessive sexual fantasy

Psychotropics & issues involved

- ameliorate serious debilitating conditions.
- Stopping medications may have profound negative effects.
- Only some aspects of their use understood, many are not.
- Research excludes systemic medical problems, multiple medications.
- Correlations sometimes impossible.

MOOD DISORDERS

- ↓LIBIDO – Well known
- Severe Dep. – Well pronounced
- Many factors – gender, age, socio-cultural
- treated with A.D - 78%
- Anxiety Disorders - 80%
- Co-morbidities / Physical Disorders
- ↑Sexual dysfunction-multicentric study

Dell'Osso L, Carmassi C, et al ; 2009

↑Unipolar dep. 40% Bipolar 48.8%

- Atypicality / Reverse Neurovegetative signs

↑desire

- Men: sexual activities / promiscuity

↑Confidence, disinhibition

Euphoria ↑desire

Bipolar disorder presenting as Bulimia

Indian J. Psychiat., 1993, 35(2), 127-130

THE GENETICS OF AFFECTIVE DISORDER -A PEDIGREE STUDY

T.S.SATHYANARAYANA RAO, VASUMATHY S.RAO, S.SHIVAMOORTHY, K.KURUVILLA

SUMMARY

A study on the genetics of affective disorder was carried out using pedigree methodology. The index case presented with features of bulimia which was diagnosed to be Bipolar affective disorder. The pedigree was analyzed for 4 generations and included evaluation of 76 individuals, of whom the oldest was 103 years of age. The evaluation was done clinically to demonstrate various concepts concerning affective syndromes, the presence and extent of gene borne influences and mode of inheritance. Data was compared with other genetic research studies and suggestions for further research are made.

INTRODUCTION

The term Affective disorder, though it encompasses conditions marked by pervasive pathological changes in mood (Jeste & Lohr, 1990), has all along eluded definition, contributing to the varied estimates of its prevalence in the general population, as well as a multitude of theories to explain its causation. Even though the Bio-psycho-social model is accepted for the aetiology of all the major psychiatric conditions, it is agreed that heredity plays an overwhelming role in affective disorders. Genetic studies in general are beset with uncertainties in behavioral research and this uncertainty is particularly evident in affective disorders; it extends from epidemiological issues to genetic hypotheses involving nature of illness, expressivity, linkage, biochemical correlates etc. (Mahmood et al, 1983; Kidd, 1987).

The evidence for a genetic basis has come

though there is disagreement over the exact prevalence among relatives. Jeste and Lohr (1990) represent the agreed figure in the literature. The important findings are:

UNIPOLAR DEPRESSION:

1. The life-time incidence in the general adult population is fifteen to twenty percent.
2. Forty to sixty percent of affected individuals have a first degree relative with an Affective disorder.
3. The morbidity risk for an Affective disorder in the relatives or probands with unipolar disorder is 13% for parents, 15% for siblings and 21% for children.
4. The relatives of unipolar patients are at a much higher risk for developing unipolar than bipolar illness.

BIPOLAR DISORDER:

1. The life time incidence in the general adult population is one to two percent.
2. Eighty to ninety percent of individuals with Bipolar

ANTIDEPRESSANTS

- Mood disorders – most have difficulties
- Half will have some problem
- Loss of interest – varied effects on life

Single most common dysfunction reported

- Depressive disorders themselves affect functioning
- Depression: low libido, emotional withdrawal, performance anxiety
- Detail history & evaluation must
- Note of Pre existing medical problems (diabetes, PVD, IHD, etc)
- Earlier studies only in self report

leading to low reported rates

Fluoxetine: initial report 1.9% later studies 30-40%

Receptor profiles of antidepressant drugs

- *Compared with other available antidepressants, agomelatine has a novel pharmacological profile*

	Melatonergic		Serotonergic					Noradrenergic			Dopaminergic	ACh	Histaminergic
	MT_1	MT_2	$5\text{-}HT_{1A}$	$5\text{-}HT_{2A}$	$5\text{-}HT_{2C}$	$5\text{-}HT_3$	Reuptake inhibition	α_1	α_2	Reuptake inhibition	Reuptake inhibition	M_1	H_1
TCA			↓	A-	A-		+	A-	A-	+		A-	A-
Fluoxetine			↓		(weak)		+						
Paroxetine			↓				+		A-	+		A-	
Escitalopram			↓				+						
Venlafaxine			↓				+			+			
Duloxetine			↓				+			+	+		
Mirtazapine				A-	A-	A-			A-				A-
Agomelatine	A+	A+			A-								

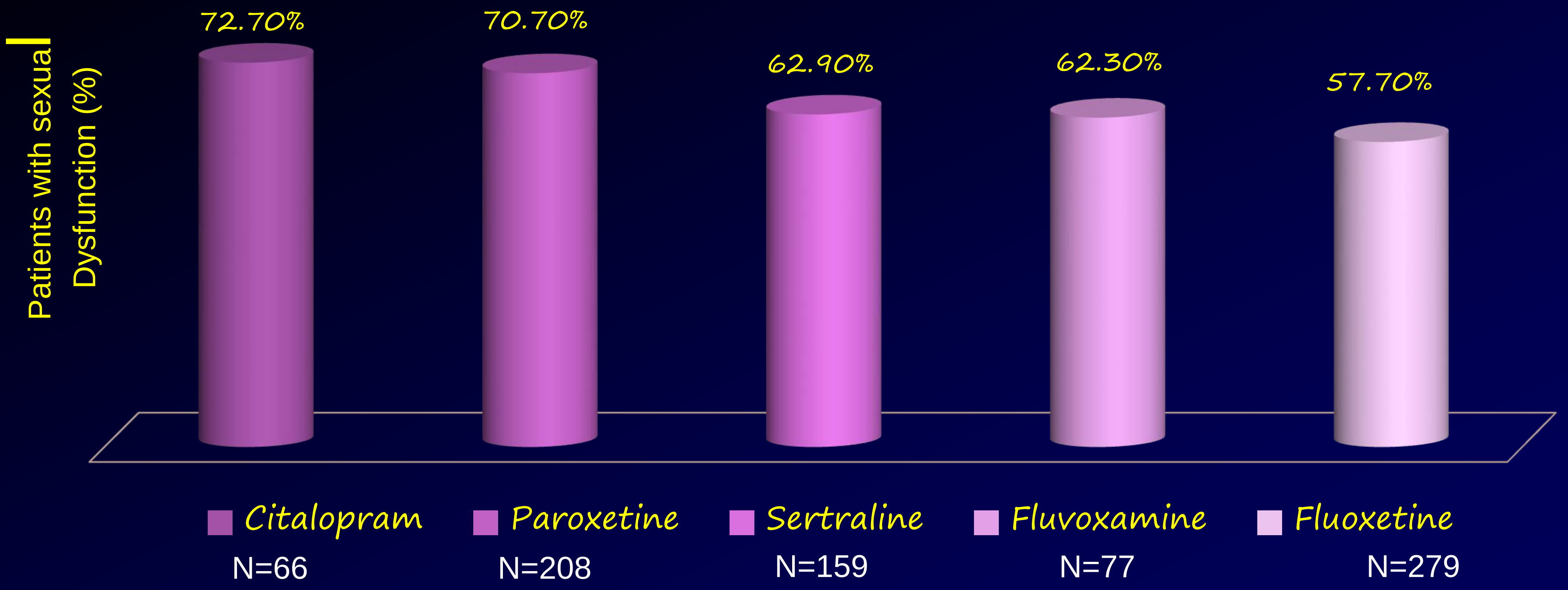
Specific sexual side effect rates (%) with individual antidepressants in a multicenter study in 1010 evaluable patients

(**P*<0.05 paroxetine versus other antidepressants

	Fluoxetine N=279	Paroxetine N=208	Fluvoxamine N=77	Sertraline N=159	Citalopram N=66	Venlafaxine N=55	Mirtazapine N=49
Decreased libido	50.2	63.9	48.1	54.7	62.1	60.0	20.4
Delayed orgasm	49.5	63.9	54.5	56.6	63.6	61.9	18.4
Anorgasmia	39.1	52.8	37.6	47.1	51.5	41.8	8.2
Erectile/lubrication dysfunction	21.8	41.4*	20.8	28.9	34.8	40.0	14.2

Montejo AL, Llorca G, Izquierdo JA, et al. Incidence of sexual dysfunction associated with different antidepressant agents. A prospective and multicenter study in 1022 patients. J Clin Psychiatry. 2001;62(suppl 3):10-21

Prevalence of sexual dysfunction with SSRIs



Montejo AL, Llorca G, Izquierdo JA, et al. Incidence of sexual dysfunction associated with different antidepressant agents. A prospective and multicenter study in 1022 patients. J Clin Psychiatry. 2001;62(suppl 3):10-21

Vilazodone Impact on Overall Sexual Function Comparable to Placebo

Change from Baseline in CSFQ Total Score					
	Treatment	**N**	**Week 8**	**Week 24**	**Week 52**
2nd Phase III Trial					
Males	Vilazodone	96	0.6		
	Placebo	109	1.8		
Females	Vilazodone	137	1.9		
	Placebo	122	2.3		
Long Term Safety Trial					
Males	Vilazodone	184	1.5	1.7	2.6
Females	Vilazodone	399	2.3	3.4	4.5

Increasing scores of Change in Sexual Function Questionnaire (CSFQ) represent improvement in sexual function.
A mean change of +3.0 points on the CSFQ total score is considered clinically significant
N = total enrolled in the treatment arm

Antidepressants and Sexual Dysfunction: Is Vortioxetine Among the Exceptions?

Journal of Psychosexual Health
4(3) 155–156, 2022

DOI: 10.1177/26318318221116038
journals.sagepub.com/home/ssh
SAGE

T. S. Sathyanarayana Rao[1] and Chittaranjan Andrade[2]

Depression is associated with impaired sexual functioning.[1] Most antidepressant drugs include reduced sexual desire, erectile dysfunction, or orgasmic dysfunction in their adverse effect profile.[2] So, in patients who are treated with antidepressants, antidepressant-related sexual dysfunction may replace depression-related sexual dysfunction, creating a situation that is far from desirable.

What is the mechanism of antidepressant-induced sexual adverse effects? Antidepressant drugs that inhibit serotonin reuptake, such as the selective serotonin reuptake inhibitors (SSRIs), may decrease sexual desire and delay or prevent sexual orgasm.[3,4] Antidepressant drugs that are anticholinergic, such as the tricyclic antidepressants, may interfere with erection.[5] Obviously, antidepressants that have both mechanisms, such as clomipramine, could have a wider range of negative action on sexual functioning.[6]

Few antidepressants that are presently available carry a low to no risk of treatment-emergent sexual dysfunction. These include bupropion, mirtazapine, agomelatine, vilazodone, and vortioxetine.[7-9] Agomelatine has failed as an antidepressant in India; bupropion and vilazodone do not enjoy a large market share; and mirtazapine, while effective and popular as an antidepressant, carries the disadvantage of increasing sleep, appetite, and weight.[8] So, that leaves vortioxetine.

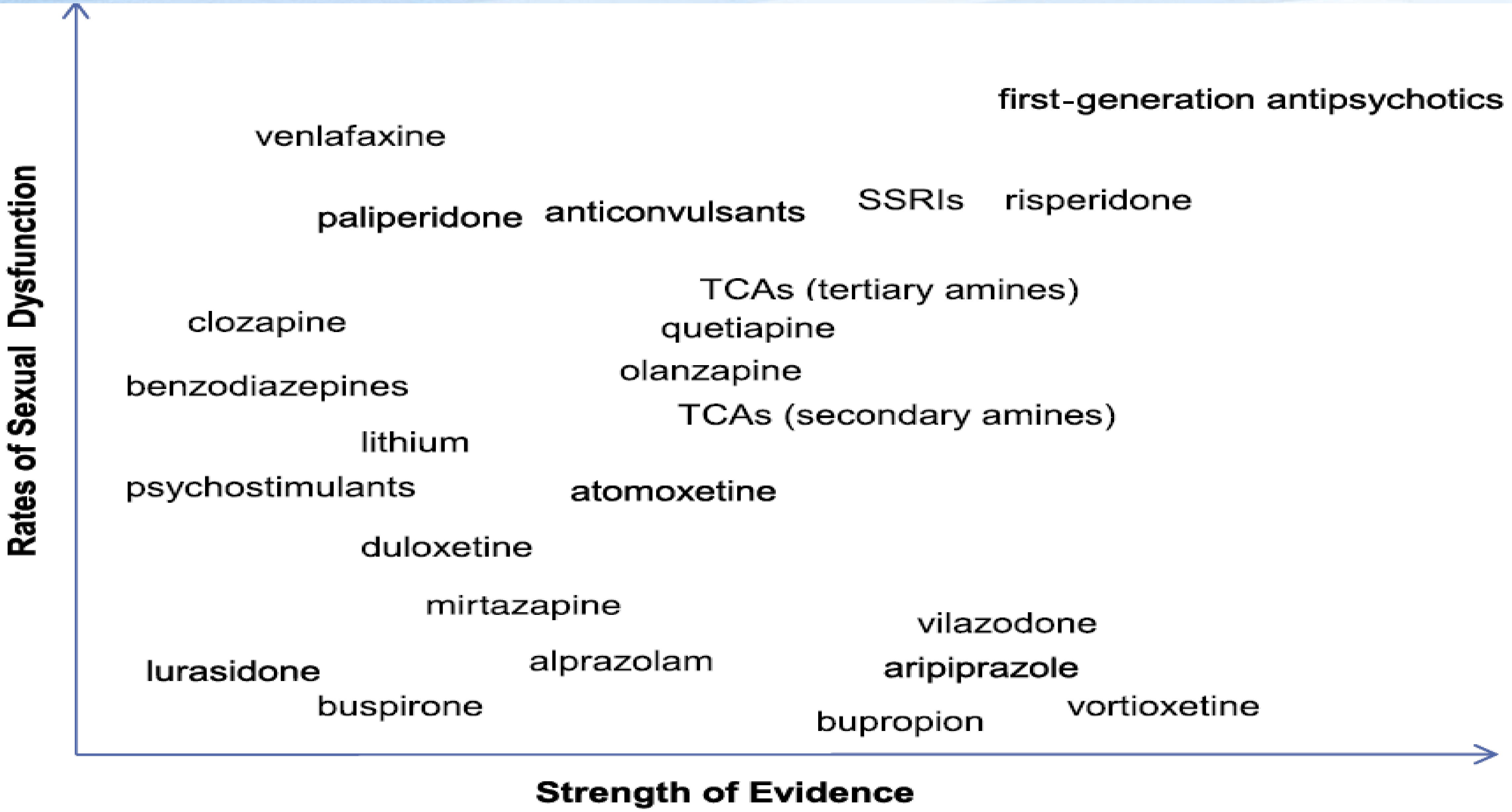
But first, both vilazodone and vortioxetine inhibit the reuptake of serotonin; so why are they free from sexual adverse effects? A possible explanation is that both also act on 5HT1a receptors at which vilazodone is a partial agonist[10] and vortioxetine is a full agonist[11]; this action may be a mitigating element against the sexual dysfunction that is related to serotonin reuptake inhibition.

If one discounts atypical antidepressants such as brexanolone and esketamine, vortioxetine is the most recent antidepressant, worldwide. Vortioxetine was approved for the treatment-emergent suicidal ideation[12] and, because of its long half-life,[13] a low risk of discontinuation syndrome, even upon sudden withdrawal of the drug.[12] So, what is the evidence for the favorable sexual adverse effect profile of vortioxetine?

In the regulatory, industry-driven, short-term randomized controlled trials (RCTs), the incidence of treatment-emergent sexual adverse events was 1.6% to 1.8% with vortioxetine (5-20 mg/d) as compared with 1.0% with placebo.[12] In an industry-driven RCT conducted in 361 healthy adult volunteers,[13] paroxetine (20 mg/d) but not vortioxetine (10 and 20 mg/d) was associated with increased sexual adverse effects relative to placebo; whereas both doses of vortioxetine were associated with less sexual adverse effects than paroxetin, this was statistically significant only with the 10 mg/d dose.

In a pooled analysis from 7 short-term, industry-driven RCTs conducted in patients with MDD or generalized anxiety disorder, Jacobsen et al[14] found that treatment-emergent sexual adverse events were not significantly higher with any dose of vortioxetine (5-20 mg/d) as compared with placebo; however, only the 5 mg/d dose was non-inferior to placebo. Establishing the assay sensitivity of the pooled analysis, sexual adverse events were significantly higher with duloxetine 60 mg/d as compared with placebo, vortioxetine 5 mg/d, and vortioxetine 10 mg/d (but not vortioxetine 15 and 20 mg/d).

Perhaps the most important RCT of all was that of Jacobsen et al.[15] These authors examined sexual adverse events in a direct comparison between vortioxetine and escitalopram. The sample comprised 447 patients who had responded to sertraline, paroxetine, or citalopram. The mean age of the sample was about 40 years. The sample was 59% female. These patients were randomized to receive vortioxetine (10-20 mg/d) or escitalopram (10-20 mg/d) for 8 weeks; more than three quarters of the sample in each group received



Gregorian RS, Golden KA, Bahce A, et al. Antidepressant-induced sexual dysfunction. Ann Pharmacother 2002;36(10):1577–89.

Psychoactive substances

- Illicit compounds
- Alcohol disinhibiting, confidence
- Small doses: Facilitates ↑ physical contact
- Large doses: Impair performance
- Descriptive studies

  72% one or more S.D
- Largely reversible

Management of treatment emergent sexual dysfunction

Waiting for Spontaneous Remission

Spontaneous remission occurs after almost 4-6 months

5-10% of subjects.

Reduction in the daily dosage of medications

Done under caution

Preferably in patients with improvement in target symptoms.

DRUG HOLIDAY

- Discontinuing SSRIs after Thursday morning dose -then restart at their previous dose on Sunday at 12:00 noon over four weekends.
- Clients taking sertraline and paroxetine reported a significant improvement in their sexual functioning, ie, improved libido and sexual satisfaction.
- Drug holidays may impair therapeutic efficacy and lead to withdrawal symptoms
- Withdrawal symptoms may render the individual unable to engage in sexual activity.
- ‘Performance’ anxiety which might further compound the problem.

Management of treatment emergent sexual dysfunction

Switching to another Antidepressant

Antidepressant with favorable or less proneness to cause sexual adversities is to be selected .

Bupropion, Mirtazapine, Vilazodone, Agomelatine, Moclobemide- these drugs does not have a proven efficacy for monotherapy in OCD.

SSRI or SNRI with less propensity to cause SD like Fluoxamine (26% of patients develop SD), Escitalopram (37%), Duloxetine (42%) can be tried.

Management of treatment emergent sexual dysfunction

Drugs to relieve SD due to Antidepressants

RCT placebo controlled studies have suggested a beneficial effect of augmentation with Bupropion - alleviate depressive symptoms also.

Agents like Mirtazapine -proposed to be efficacious in both males and females

Management of treatment emergent sexual dysfunction

Phosphodiesterase 5 inhibitors

Sildenafil

Tadalafil

Vardenafil

B.Musicki, T. Liu, G. A. Lagoda, T. J. Bivalacqua, T. D. Strong, and A. L. Burnett, "Endothelial nitric oxide synthase regulation in female genital tract structures," Journal of Sexual Medicine, vol. 6, supplement 3, pp. 247–253, 2009.

MANAGEMENT OF ANTIPSYCHOTIC INDUCED SD

- Use of dopamine agonists to treat typical antipsychotics induced sexual dysfunction did not bring desirable changes.
- Use of Levodopa caused exacerbation of psychotic symptoms, while apomorphine caused severe nausea
- Buspirone, Amantidine, Yohimbine, Cyproheptadine and Lorantadine were also tried Adequate evidence of efficacy is lacking

Angrist B, Gershon S. Clinical response to several dopamine agonists in schizophrenic and nonschizophrenic subjects. Adv Biochem Psychopharmacol. 1977;16:677-80.

Schiavi RC, Segraves RT. The biology of sexual function. Psychiatr Clin North Am. 1995 Mar;18(1):7-23.

Michelson D, Bancroft J, Targum S, et al. Female sexual dysfunction associated with antidepressant administration: a randomized, placebo-controlled study of pharmacologic intervention. Am J Psychiatry 2000;157(2):239–43.

ARIPIPRAZOLE

- As an augmentation agent to antidepressants such as SSRIs, SNRIs, and bupropion,
- Aripiprazole resulted in improvement in depression and SD assessed with the Massachusetts General Hospital Sexual Functioning Inventory at 52 weeks.

Clayton *et al. BMC Research Notes* 2014, 7:459
http://www.biomedcentral.com/1756-0500/7/459

BMC Research Notes

RESEARCH ARTICLE Open Access

Comparison of adjunctive use of aripiprazole with bupropion or selective serotonin reuptake inhibitors/serotonin–norepinephrine reuptake inhibitors: analysis of patients beginning adjunctive treatment in a 52-week, open-label study

Anita H Clayton[1*], Ross A Baker[2], John J Sheehan[3], Zachary J Cain[3], Robert A Forbes[2], Sabrina Vogel Marler[4], Ronald Marcus[4], Robert M Berman[4] and Michael E Thase[5]

Abstract

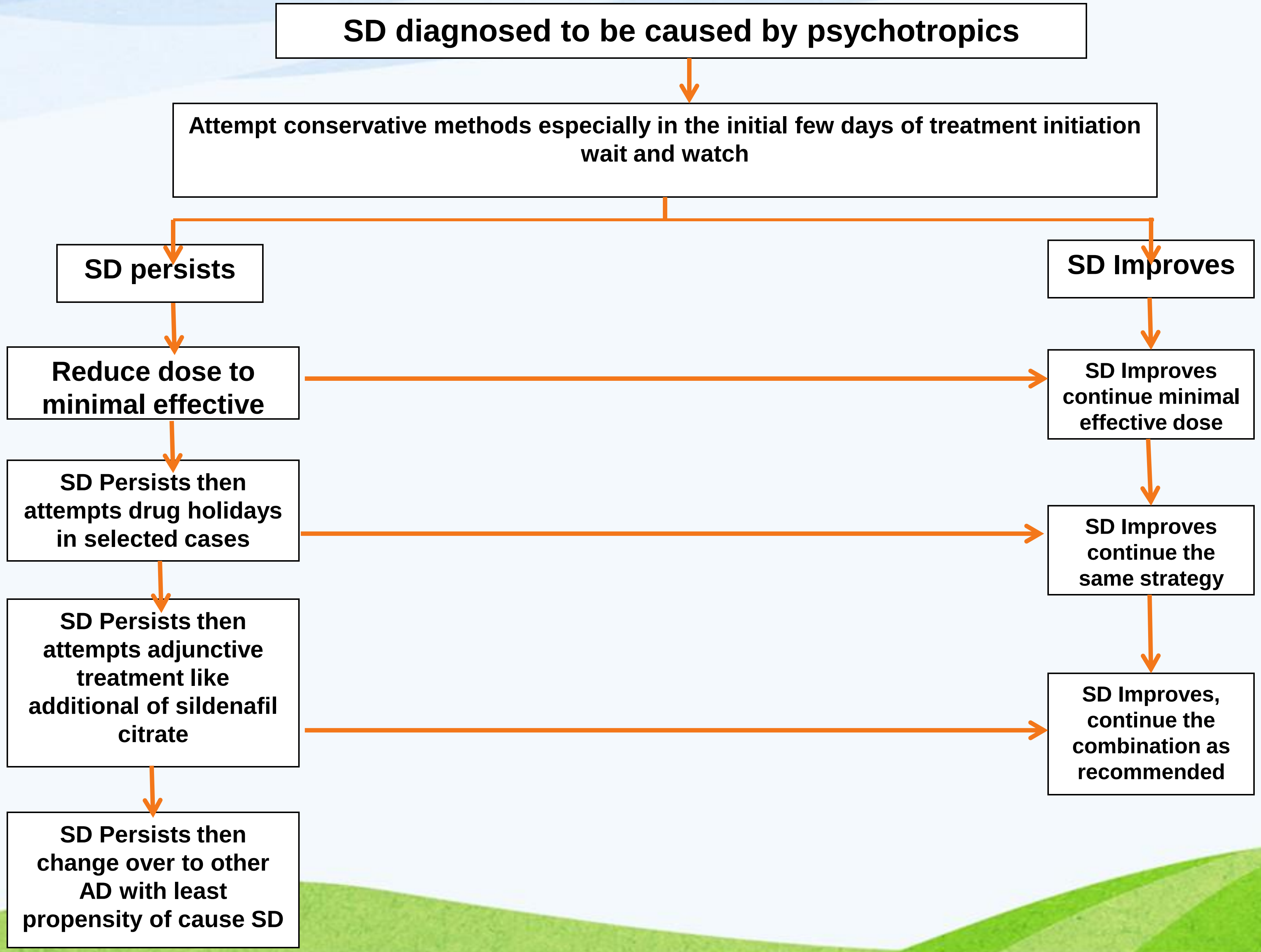
Background: This post hoc analysis assessed the safety, tolerability and effectiveness of long-term treatment with aripiprazole adjunctive to either bupropion or selective serotonin reuptake inhibitors (SSRIs)/serotonin–norepinephrine reuptake inhibitors (SNRIs) in patients with major depressive disorder (MDD).

Methods: Data from de novo patients (did not participate in 2 previous studies) in a 52-week, open-label safety study of adjunctive aripiprazole after documented inadequate response to 1–4 antidepressant treatments (ADTs; SSRI, SNRI, or bupropion) were analyzed post hoc. Assessments included safety and tolerability, sexual functioning (Massachusetts General Hospital Sexual Functioning Inventory [MGH-SFI]) and Clinical Global Impressions–Severity (CGI-S).

Results: Forty-seven patients received bupropion plus aripiprazole and 245 received an SSRI/SNRI plus aripiprazole; 19 (40.4%) and 78 (31.8%), respectively, completed 52 weeks of treatment, and 46 and 242, respectively, received ≥1 dose of study medication (safety sample). Median time to discontinuation (any reason) was 184.0 days. Overall, 97.8% of patients in the bupropion group and 93.8% in the SSRI/SNRI group experienced ≥1 adverse event. The most common treatment-emergent adverse events were fatigue (26.1%) and somnolence (21.7%) with bupropion and fatigue (23.6%) and akathisia (23.6%) with an SSRI/SNRI. Mean change in body weight at week 52 (observed cases) was +3.1 kg for bupropion and +2.4 kg for an SSRI/SNRI. Treatment-emergent, potentially clinically relevant abnormalities in fasting glucose occurred in 8.3% of patients with bupropion and 17.4% with an SSRI/SNRI; for abnormalities in fasting total cholesterol, the incidence was 25.0% and 34.7%, respectively. Mean (SE) change from baseline in fasting glucose was 1.4 (1.9) mg/dL with bupropion and 2.7 (1.5) mg/dL with an SSRI/SNRI. Baseline MGH-SFI item scores indicated less severe impairment with bupropion versus an SSRI/SNRI; in both groups most MGH-SFI items exhibited improvement at week 52. Mean CGI-S improvement at week 52 (last observation carried forward) was −1.4 with bupropion and −1.5 with an SSRI/SNRI (efficacy sample).

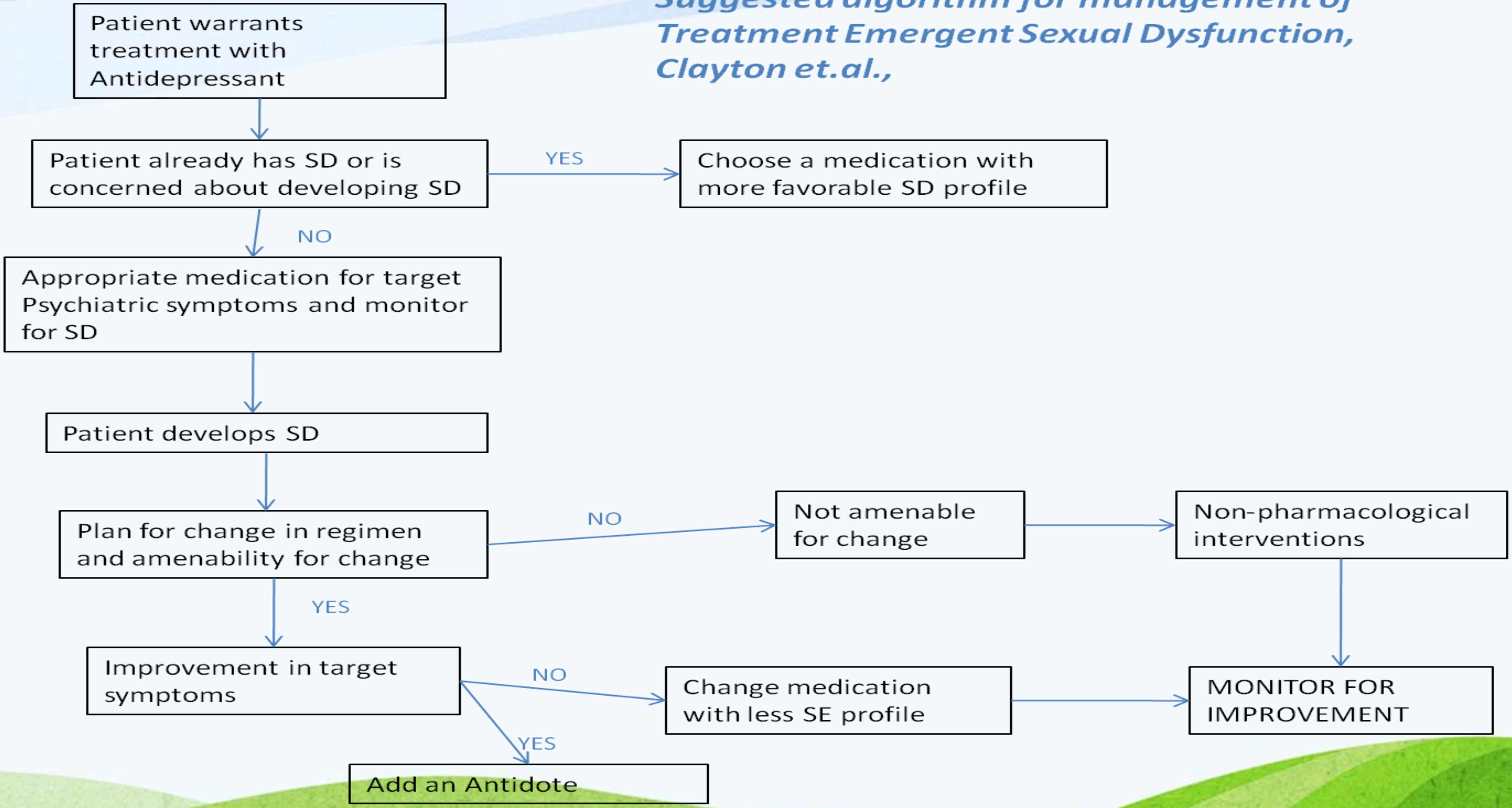
(Continued on next page)

Treatment of medication – induced SD- general steps



Antidepressants

Suggested algorithm for management of Treatment Emergent Sexual Dysfunction, Clayton et.al.,



<table>
<tr><th>DOMAIN OF SEXUAL FUNCTIONING</th><th>FIRST LINE</th><th>SECOND LINE</th><th>THIRD LINE</th></tr>
<tr><td>LIBIDO:
Females & Males</td><td>Adding Dopaminergic agent</td><td>Switching Antidepressant</td><td>Augmentation with antidote</td></tr>
<tr><td>AROUSAL:
Females</td><td rowspan="2">Adding Dopaminergic agent</td><td rowspan="2">Switching Antidepressant</td><td></td></tr>
<tr><td>Males</td><td>Augmentation with Sildenafil, Tadalafil.</td></tr>
<tr><td>ORGASM:
Females</td><td rowspan="2">Adding Dopaminergic agent</td><td>Switching Antidepressant</td><td></td></tr>
<tr><td>Males</td><td>Reducing dose of Antidepressant</td><td>Switching Antidepressant</td></tr>
</table>

CARRY HOME MESSAGE

Important issues

- Pre-morbid Sexual Functioning
- Primary Psychiatric Disorder
- Co-morbid psychiatric disorder
- Co-morbid Physical illness
- Psychotropic Medications
- Concomitant Medications

Sexual functioning involves complex psychological, interpersonal and medical factors.

e.g.: MI – Depression – SSRIs.

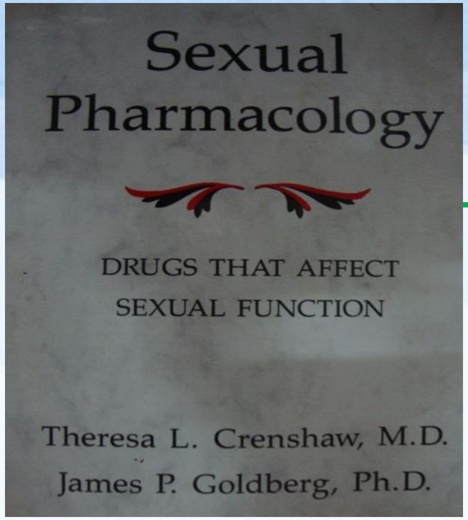
Peripheral Vascular disease?

cardiac medications?

depression? marital problems?

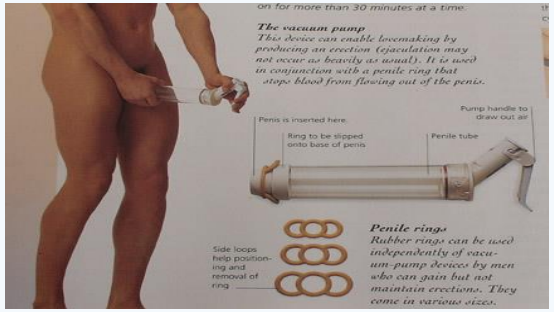
antidepressant use?

Single psychotropic – unrealistic?



Matrix of treatment strategies

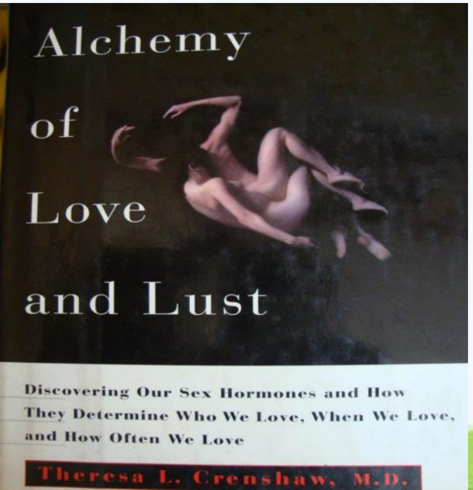
	Initiator	Conditioner
Central	Apomorphine Melanotan Oxytocin Trazodone	Testosterone Yohimbine Serotonin (5-$HT_{1C\ \&\ 2C}$)
Peripheral	PGE_1 (ICI, TU, TD) Papaverine VIP+Phen (ICI)	Sildenafil Other PDE5I Others



Other

Counseling

Prosthesis



Reversal of sexual dysfunction

- **Several Approaches**
- **Determine sexual functioning before Rx**
- **Attend to medical, psychological & interpersonal issues**
- **Choice of drugs**

  AGOMELATINE
  DESVENLAFAXINE
  MILNACIPRANE / DULAXETINE
  BUPROPIONE
  MIRTAZEPINE / NEFAZODONE
  TIANEPTINE HCL
  VORTIAXETINE
  HERBAL PREPARATIONS
- **Briefly stopping offending drugs**

  Shorter acting drugs - more benefit
  Long active fluoxetine – No change
- **Switching drugs**
- **Reversal with**

  amantadine, Dextro-amphetamine
  Cypropheptadine, Pramipexole
- **SILDENAFIL**

CONCLUSION

- The best measure of quality of life is sexual functioning.
- Practitioner persistently fail to acknowledge about sexual dysfunction-due to lack of knowledge about sexual dysfunction and treatment among health care professionals.
- First step in treating sexual dysfunction is becoming aware of its association
- Patients willingly discuss about sexual problems, if the healthcare professional broaches the topic.
- By identifying and treating sexual dysfunction, practitioners will not only help to enhance patient’s quality of life, but also make complicated treatment more bearable

SEXUAL DYSFUNCTION AND OCD

- Earlier studies showed 73% of OCD patients had strong dissatisfaction about their sexuality

Freund B, Steketee G. Sexual history, attitudes and functioning of obsessive-compulsive patients. J Sex Marital Ther. 1989;15(1):31-41.

- SD in MDD-76% GAD-64% OCD-50%.

Kendurkar A., Kaur B.: major Depressive Disorder, Obsessive Compulsive Disorder and Generalized Anxiety disorder. Do the sexual dysfunctions differ? Prim care companion J Clinic Psychiatry 2008; 10:299-305.

Excitatory Substances	ENDOGENOUS Inhibitory Substances
Adrenergic ($Alpha_1$) Activity	Adrenergic ($Alpha_2$) Activity
Adrenergic ($Beta_1$) Activity	Angiotensin II (Ang II)
Calcitonin –Gene- Related – Peptide (CGRP)	Cortisol
Cholinergic Activity	Estrogen (male only)
Dehydroepiandosterone (DHEA/DHEAS)	Melatonin
Dopamine (DA)	Monoamine Oxidase (MAO)
Endothelium –derived Relaxing Factor (EDRF)	Neuropeptide Y (NPY)
Estrogen (female only)	Opioids
Excitatory Peptides	Progesterone
Growth Hormone (GH)	Prolactin
Histamine	Serotonin (5-HT)
Luteinizing Hormone Releasing Hormone (LHRH)	Thyroid Hormone*
Nitric Oxide (NO)	Vasoconstrictive Peptides (Ang II and NPY)
Oxytocin	
Prostaglandins	
Substance P (SP)	
Testosterone	
Vasoactive Intestinal Peptide (VIP)	
Vasopressin	
Zinc (replacement value only)	

Second Component: Idiographic Formulation

1. Clinical problems and their contextualization

   Multiaxial Formulation,

   Clinician, patient, partner and family,

   Bio-psycho-social issues

2. Positive factors of the patient

   resources pertinent to treatment and health promotion,

   e.g., maturity of personality, abilities and talents,

   self-awareness,

   motivation for change,

   capacity for sexual fantasies and playfulness,

   social supports and resources,

   personal and spiritual aspiration

3. Expectations on restoration and promotion of health

   expectations on types of treatment and outcoaspirations on health status and quality of life.

LOVE BRIGADE (Crenshaw, 1996)

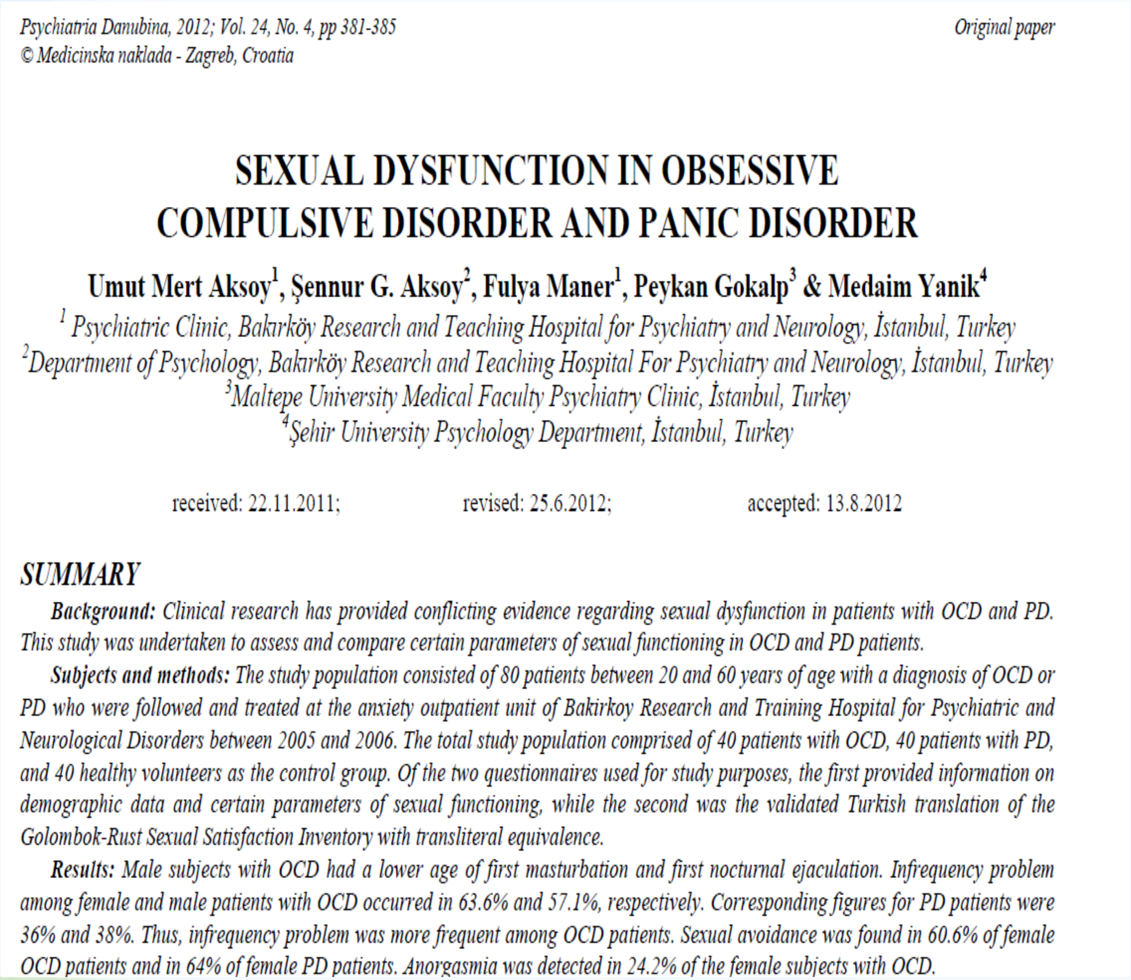
DHEA	MOTHER OF ALL HORMONES
PHEROMONES	SEXUAL SIGNAL
OXYTOCIN	HORMONAL SUPERGLUE
PEA	THE MOLECULE OF LOVE
ESTROGEN	MARILYN MONROE
TESTOSTERONE	MARLON BRANDO - WARMONE
DOPAMINE	DESIRE PERSONIFIED - SEX ADDICTION
PROGESTERONE	NATURAL SEX OFFENDER
PROLACTIN	HORMONE OF NURSING
VASOPRESIN	MONOGAMY MOLECULE
LHRH,GH OTHERS	
NITRIC OXIDE..	POLE VAULTER
CARBON MONOXIDE	FOUNTAIN OF LOVE

SEXUAL DYSFUNCTION AND OCD

- One third of population with OCD reported obsessions with sexual themes.
- This sympatomatology interfered with sexual satisfaction, particularly for those concerned with bodily secretions.
- Subjective physiological arousal is a significant predictor for reduced control over sexual thoughts

Freund, B. & Steketee, G. (1989) Sexual history, attitudes and functioning of obsessive-compulsive patients. Journal of Sexual & Marital Therapy, 15(1), 31-41.

SEXUAL DYSFUNCTION AND OCD


Psychiatria Danubina, 2012; Vol. 24, No. 4, pp 381-385
© Medicinska naklada - Zagreb, Croatia
Original paper

SEXUAL DYSFUNCTION IN OBSESSIVE COMPULSIVE DISORDER AND PANIC DISORDER

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received: 22.11.2011; revised: 25.6.2012; accepted: 13.8.2012

SUMMARY

Background: Clinical research has provided conflicting evidence regarding sexual dysfunction in patients with OCD and PD. This study was undertaken to assess and compare certain parameters of sexual functioning in OCD and PD patients.

Subjects and methods: The study population consisted of 80 patients between 20 and 60 years of age with a diagnosis of OCD or PD who were followed and treated at the anxiety outpatient unit of Bakirkoy Research and Training Hospital for Psychiatric and Neurological Disorders between 2005 and 2006. The total study population comprised of 40 patients with OCD, 40 patients with PD, and 40 healthy volunteers as the control group. Of the two questionnaires used for study purposes, the first provided information on demographic data and certain parameters of sexual functioning, while the second was the validated Turkish translation of the Golombok-Rust Sexual Satisfaction Inventory with transliteral equivalence.

Results: Male subjects with OCD had a lower age of first masturbation and first nocturnal ejaculation. Infrequency problem among female and male patients with OCD occurred in 63.6% and 57.1%, respectively. Corresponding figures for PD patients were 36% and 38%. Thus, infrequency problem was more frequent among OCD patients. Sexual avoidance was found in 60.6% of female OCD patients and in 64% of female PD patients. Anorgasmia was detected in 24.2% of the female subjects with OCD.

- Lower rate of marriage,
- Sexual intercourse difficulties
- Reduced sexual experience
- Related to sexual dissatisfaction encountered during the disease process

SEXUAL DYSFUNCTION AND OCD

FEMALES

- 9% of female subjects had anorgasmia
- 22% had sexual arousal phase problems

MALES

- 25% of the males had lower sexual arousal
- 12% had premature ejaculation
- 6% had erectile disorder
- 39% of the patients displaying sexual dissatisfaction

Monteiro WO, Noshirvani HF, Marks IM, Lelllott PT. Anorgasmia from clomipramine in obsessive-compulsive disorder. A controlled trial. Br J Psychiatry. 1987 Jul;151:107-12.

SEXUAL DYSFUNCTION AND OCD

- Sexual disgust ($t=4.48$, $p<0.001$)
- Less sexual desire ($t=5.52$, $p<0.001$)
- Decreased sexual arousal ($t=4.28$, $p<0.001$) Orgasm difficulty ($t=4.94$, $p<0.001$), than controls.
- Neither medication nor OCD phenotypes did affect outcome.

Vulink NCC, Denys D, Bus L, Westenberg HGM. Sexual pleasure in women with obsessive-compulsive disorder? J Affect Disord. 2006 Mar;91(l):19-25.

SCALES

1.Arizona Sexual Experience Scale

2.Change in Sexual Functioning Questionnaire

3.Sexual effects Scale

4.Psychotropic Related Sexual Dysfunction Questionnaire.

Have adequate properties (including validity, reliability, andsensitivity to change)

Can be used to monitor sexual function and satisfaction prior to and during antidepressant treatment

GENETICS OF ANTIDEPRESSANT INDUCED SD

- Interindividual variations in Pharmacokinetics
- “Poor metabolizer” status for cytochrome P450 2D6 contributes to sexual dysfunction with paroxetine.
- Genetic variation in P-glycoprotein-affects its blood-brain barrier transfer
- 11 SNPs are associated with sexual dysfunction associated with the antidepressants fluvoxamine, milnacipran,and paroxetine.
- GG and the AA genotype of the 5-HT2A receptor 1438 G/A polymorphism.

K. Kurose, K. Hiratsuka, K. Ishiwata et al., “Genome-wide association study of SSRI/SNRI-induced sexual dysfunction in a Japanese cohort with major depression,” Psychiatry Research,vol. 198, no. 3, pp. 424–429, 2012.

J. R. Bishop, J. Moline, V. L. Ellingrod, S. K. Schultz, and A. H.Clayton, “Serotonin 2A -1438 G/A and G-protein beta3 subunit C825T polymorphisms in patients with depression and SSRI associated sexual side-effects,” Neuropsychopharmacology, vol.31, no. 10, pp. 2281–2288, 2006.

C. S. Liang, P. S.Ho, and K. T. Chiang, “SuHC. 5-HT(2A) receptor-1438 G/A polymorphism and serotonergic antidepressantinduced sexual dysfunction in male patients with major depressive disorder: a prospective exploratory study,” Journal of SexualMedicine.

ANTIDEPRESSANTS AND SD

- Method of research
- Pooled data from clinical trial

Paroxetine 3%

Sertraline 17%

Fluvoxamine 0.1%

Fluvoxetine 0%

Grimsley , Jann MW. Paroxetine, sertraline, and fluvoxamine: new selective serotonin reuptake inhibitors. Clin Pharm. 1992 Nov;11(11):930-57

ANTIDEPRESSANTS AND SD

- Based on spontaneous reporting of adverse reactions

Fluoxetine	19%
Sertraline	22%
Paroxetine	61%

ADRAC. SSRIs and genitourinary disorders. Aust Adv Drug Reac Bull1996; 15: 11

Double blind rct,based on aer-comparing two ssris effects different phases of SRC

Def of SD	Drug and dosage	n	Prevelance of SD
Impotence in men	Paroxetine 20-50 Fluvoxamine 50-150	30 30	21% 14%
Ejaculatory abnormality in men	Fluvoxamine 50-150 Paroxetine 20-30	30 30	7% 17%
Decreased libido	Paroxetine 20-30 Fluvoxmine 50-150	30 30	17% 13%

Kiev A1, Feiger A. A double-blind comparison of fluvoxamine and paroxetine in the treatment of depressed outpatients. J Clin Psychiatry. 1997 Apr;58(4):146-52

ANTIDEPRESSANTS AND SD

MDD,dysthymia,panic,OCD,GAD,Bulimia,Personality disorders.

Decreased libido, delayed or absent orgasm, delayed or absent ejaculation, imp.

Fluoxetine 23	**54%**
Paroxetine 23	**65%**
Fluvoxamine 114	**59%**
Sertraline 89	**56%**

Montejo-González AL, Liorca G, Izquierdo JA et al. SSRI-induced sexual dysfunction:fluoxetine, paroxetine, sertraline and fluvoxamine in a prospective, multicenter, and descriptive clinical study of 344 patients. J Sex Marital Ther1997; 23: 176–94

Prospective randomized double blind study based on self reporting

Def of SD	Drug and dosage	n	Prevelance of SD
Orgasm Dysfunction	Bupropion150-400 Sertraline 50-200 Placebo	120 119 121	15% 40% 10%

Croft H. Settle E, Jr. Houser T, et al. A Placebo-controlled comparison of the antidepressants efficacy & effects on sexual functioning of sustained release bupropion & sertraline Clin Ther 1999:12;643-658.

Retrospective non randomized non blind. Questionnaire based study. No baseline evaluation done.

Defn of SD	Drug and dosage	n	Prevelance of SD	Diagnosis
Change in libido	Bupropion SSRI	22 85	14% 50%	MDD OCD ADHD
Change in arousal	Bupropion SSRI	22 85	11% 57%	
Change in intensity of orgasm	Bupropion SSRI	22 85	14% 38%	
Change in duration of orgasm	Bupropion SSRI	22 85	18% 48%	

Mode ll JG, Katholi CR, Modell JD, DePalma RL. Comparative sexual side effects of bupropion, fluoxetine, paroxetine, and sertraline. Clin Pharmacol Ther 1997; 61: 476 –487.

META ANALYSIS

Medication	Number of patients	% of sexual dysfunction
PLACEBO	605	14.2
BUPROPION	645	10.38
MIRTAZAPINE	49	2.32
FLUVOXAMINE	244	25.81
ESCITALOPRAM	305	37.04
DULOXETINE	274	41.6
IMIPRAMINE	54	7.24
FLUOXETINE	1718	70.76
PAROXETINE	1261	16.86
CITALOPRAM	654	78.59
VENLAFAXINE	610	79.83
SERTRALINE	970	80.3

Serretti A , Chiesa A : Treatment - emergent sexual dysfunction related to antidepressants: a meta - analysis. J Clin Psychopharmacol 2009; 29:259 - 266.

Management of treatment emergent sexual dysfunction

Phosphodiesterase 5 inhibitors

In women – Role of nitric oxide and its interplay with estrogen are less understood

Phosphodiesterase type 5 inhibitor enhancement of nitric oxide-cGMP in nonadrenergic-noncholinergic signaling for women seems similar to men

Release of nitric oxide results in vasodilatation in clitoral and vaginal tissues

B.Musicki, T. Liu, G. A. Lagoda, T. J. Bivalacqua, T. D. Strong, and A. L. Burnett, “Endothelial nitric oxide synthase regulation in female genital tract structures,” Journal of Sexual Medicine, vol. 6, supplement 3, pp. 247–253, 2009.

Management of treatment emergent sexual dysfunction

Phosphodiesterase 5 inhibitors

Prospective randomised placebo controlled trials have demonstrated that PDE-5 inhibitors are efficacious in resolving sexual dysfunction associated with antidepressants

Studies of men with erectile dysfunction and depressive symptoms (but not

undergoing antidepressant treatment) indicate that prescription of PDE-5 inhibitors is often accompanied by a reduction in depressive symptom severity, an enhancement of quality of life, and an improvement in interpersonal relationships.

Animal models- Flinders depressive rat phenotype-passage of Sildenafil through blood brain barrier-Central muscaranic receptor blockade-Antidepressant like activity

B.Musicki, T. Liu, G. A. Lagoda, T. J. Bivalacqua, T. D. Strong, and A. L. Burnett, “Endothelial nitric oxide synthase regulation in female genital tract structures,” Journal of Sexual Medicine, vol. 6, supplement 3, pp. 247–253, 2009.

R. C. Rosen, S. N. Seidman, M. A. Menza et al., “Quality of life, mood, and sexual function: a path analytic model of treatment effects in men with erectile dysfunction and depressive symptoms,” *International Journal of Impotence Research*, vol. 16, no. 4, pp. 334–340, 2004.

Management of treatment emergent sexual dysfunction

- A six week open label study using Amanatidine, a dopamine reuptake inhibitor showed some statistical improvement in sexual functioning.
- Use of low doses of selegline, which is a selective Monoaminooxidase B inhibitor did not show any effect on improving sexual functioning.

Valevski A, Modai I, Zbarski E, Zemishlany Z, Weizman A.Effect of amantadine on sexual dysfunction in neuroleptic-treated male schizophrenic patients. Clin Neuropharmacol. 1998 Nov-Dec;21(6):355-7.

Berry MD1, Juorio AV, Paterson IA. Possible mechanisms of action of (-)deprenyl and other MAO-B inhibitors in some neurologic and psychiatric disorders. Prog Neurobiol. 1994 Oct;44(2):141-61.

FGAs

- First-generation antipsychotics, specifically chlorpromazine, Pimozide, Thioridazine, and Thiothixene have been associated with decreased sexual desire and erectile dysfunction.
- Multiple case reports reviewed point toward Thioridazine, with the highest frequency of SD, followed by Trifluoperazine.

Kotin J, Wilbert DE, Verburg D, et al. Thioridazine and sexual dysfunction. Am J Psychiatry 1976;133(1):82–5.

Comp of HPL and CLOZAPINE

Sexual Disturbances During Clozapine and Haloperidol Treatment for Schizophrenia

Martina Hummer, M.D., Georg Kemmler, Ph.D., Martin Kurz, M.D., Ilsemarie Kurzthaler, M.D., Harald Oberbauer, M.D., and W. Wolfgang Fleischhacker, M.D.

Objective: The aim of this study was to evaluate the frequency and course of sexual disturbances associated with clozapine and haloperidol and their potential influence on compliance with medication regimens in patients with schizophrenia. **Method:** The authors prospectively investigated 153 patients with schizophrenia who received clozapine (N=100) or haloperidol (N=53) in a drug monitoring program. **Results:** The frequency of sexual disturbances was lower in female patients than in male patients. There was no statistically significant difference between the patients taking haloperidol and those taking clozapine in the frequency of these disturbances. Clozapine plasma levels had a significant effect on diminished sexual desire and functional disturbances in male patients. Functional disturbances and diminished sexual desire did not have any influence on compliance in patients taking either haloperidol or clozapine. **Conclusions:** There was no statistically significant difference between haloperidol and clozapine in regard to their propensity to induce sexual side effects.

(Am J Psychiatry 1999; 156:631–633)

- Sample size 153
- Haloperidol-50,Clozapine-100
- AJP 1999
- 18 weeks prospective study
- Every week evaluation done
- Investigator asked about menstrual changes, erectile dysfunction, ejaculatory problems and orgasmic difficulties

Comp of HPL and ARP

Sexual Disturbances During Clozapine and Haloperidol Treatment for Schizophrenia

Martina Hummer, M.D., Georg Kemmler, Ph.D., Martin Kurz, M.D.,
Ilsemarie Kurzthaler, M.D., Harald Oberbauer, M.D., and W. Wolfgang Fleischhacker, M.D.

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(Am J Psychiatry 1999; 156:631–633)

- 60% men and 30% women had sexual dysfunction

- Though clozapine has lower affinity to dopamine receptors there was no difference in terms of sexual side effects when compared to haloperidol

Psychoneuroendocrinology. 2006

- Small study n=27
- CSFQ scale was administered at start and at end of 12 weeks
- Randomized into Risperidone(4mg), Quetiapine(400mg) and Fluphenazine(12.5mg)
- Fluphenazine-78%
- Quetiapine-50%
- Risperidine-42%

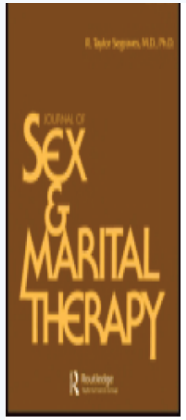
COMPARISON OF RISPERIDONE AND OLANZAPINE

- N=46
- Pts were switched off to Risperidone and Olanzapine
- Pts were not told they were evaluated for sexual dysfunction
- Pts were evaluated after 6 weeks using Sexual dysfunction questionnaire.
- RSPN gp- 52% SD
- OLZ gp-12% SD
- 32% in RSPN gp had ED
- Switching to quetiapine did not show any improvement

H. Knegtering , Marco Boks , Carl Blijd , Stynke Castelein , Robert J. van den Bosch & Durk Wiersma . A Randomized Open-Label Comparison of the Impact of Olanzapine Versus Risperidone on Sexual Functioning. Journal of Sex & Marital Therapy Volume 32, 2006 - Issue 4

POINT PREVELANCE STUDY

- Spain
- N=636
- No baseline evaluation
- Other medications were allowed
- No randomization
- Quetiapine-18%
- Haloperidol-38%
- OLZ -38%
- RSPN-42%



Routledge
Taylor & Francis Group

Journal of Sex & Marital Therapy

ISSN: 0092-623X (Print) 1521-0715 (Online) Journal homepage: http://www.tandfonline.com/loi/usmt20

Frequency of Sexual Dysfunction and Other Reproductive Side-effects in Patients with Schizophrenia Treated with Risperidone, Olanzapine, Quetiapine, or Haloperidol: The Results of the EIRE Study

J. BOBES , M. P. GARC A-PORTILLA , J. REJAS , G. HERN NDEZ , M. GARCIA-GARCIA , F. RICO-VILLADEMOROS & A. PORRAS

POINT PREVELANCE STUDY

- American Study
- N=238
- OLZ,RSPN and QUT
- Inpatient study
- QUT had lower scores

Matthew J, Paul A. Nakonezny, Brianne Magouirk Bettcher, Thomas Carmody, Robert Fisher, A. John Rush. Sexual dysfunction associated with second-generation antipsychotics in outpatients with schizophrenia or schizoaffective disorder: An empirical evaluation of olanzapine, risperidone, and quetiapine.Schizophrenia research. September 2006Volume 86

POINT PREVELANCE STUDY

Large international naturalistic study

Monotherapy

Funded by olanzapine manufacturers

n=3838

Rated at 3, 6 and 12 months

Rating loss of libido, impotence, amenorrhea, galactorrhea

HPL-71%

RSPN-68%

QUT-60%

OLZ-56%

Effects of atypical and typical antipsychotic treatments on sexual function in patients with schizophrenia: 12-month results from the Intercontinental Schizophrenia Outpatient Health Outcomes (IC-SOHO) study

Original Research Article

European Psychiatry, Volume 21, Issue 4, June 2006, Pages 251-258

Martin Dossenbach, Yulia Dyachkova, Sebnem Pirildar, Martin Anders, Afaf Khalil, Aleksander Araszkiewicz, Tamara Shakhnovich, Aly Akram, Jan Pecenak, Margaret McBride, Tamas Treuer

Abstract

MONOTHERAPY VS POLYPHARMACY

- A cross-sectional observational
- N= 827
- Clinically stable subjects with schizophrenia
- Treated with greater than 1 antipsychotic medication experienced more SD than those taking any single second-generation antipsychotic.
- In this study, women on antipsychotics experienced the same level (68%) of SD as healthy controls.

Ucok A, Incesu C, Aker T, et al. Sexual dysfunction in patients with schizophreniaon antipsychotic medication. Eur Psychiatry 2007;22(5):328–33.

META ANALYTIC STUDY

- A 2009 meta-analysis
- Lower rate of SD with the prolactin-sparing antipsychotics Quetiapine, Ziprasidone, Perphenazine, and Aripiprazole (16%–27%)
- Compared with prolactin-raising antipsychotics olanzapine, Risperidone, Haloperidol, Clozapine, and Thioridazine (40%–60%).

Serretti A, Chiesa A. A meta-analysis of sexual dysfunction in psychiatric patientstaking antipsychotics. Int Clin Psychopharmacol 2011;26(3):130–40.

CLOZAPINE and LURASIDONE

- Clozapine has been noted to have high rates of SD but lower rates than olanzapine, Risperidone, Quetiapine, and typical antipsychotic medications.
- Clozapine has not been associated with prolactin elevations
- A study looking at pretreatment and post-treatment SD in depressed subjects with Lurasidone found significantly greater (14%) reduction of sexual symptoms versus 9% with placebo

Serretti A, Chiesa A. Sexual side effects of pharmacological treatment of psychiatric diseases. Clin Pharmacol Ther 2011;89(1):142–7.

Clayton AH, Baker RA, Sheehan JJ, et al. Comparison of adjunctive use of aripiprazole with bupropion or selective serotonin reuptake inhibitors/serotoninnorepinephrine reuptake inhibitors: analysis of patients beginning adjunctive treatment in a 52-week, open-label study. BMC Res Notes 2014;7:459.

ARIPIPRAZOLE

- Seems to have lowest sexual dysfunction when compared to other antipsychotics
- There was also reported improvement in delayed ejaculation and orgasm in a 42-subject observational study
- Several other comparison studies included in a 2014 review of Risperidone, olanzapine,and Haloperidol report less SD in Aripiprazole as a tertiary outcome

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ScienceDirect

European Psychiatry 22 (2007) 433–443

EUROPEAN PSYCHIATRY

http://france.elsevier.com/direct/EURPSY/

Original article

A multicentre, randomized, naturalistic, open-label study between aripiprazole and standard of care in the management of community-treated schizophrenic patients Schizophrenia Trial of Aripiprazole: (STAR) study

Robert Kerwin [a], Bruno Millet [b], Erik Herman [c], Csaba M. Banki [d], Henrik Lublin [e], Miranda Pans [f], Linda Hanssens [f,*], Gilbert L'Italien [g], Robert D. McQuade [h], Jean-Noël Beuzen [i]

[a] *Institute of Psychiatry, London, England*
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FINISH


JUST
RIED
JS

Assess motivation and psychological sophistication

Low/ inadequate

High/ adequate

Pharmacotherapy

non-pharmacological

Failure

Clinical Practice Guidelines for Management of

- Substance Abuse Disorders
- Sexual Dysfunctions &
- Sleep Disorders

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Task Force on
Clinical Practice Guidelines
for Psychiatrists in India

CLINICAL PRACTICE GUIDELINES FOR MANAGEMENT OF SEXUAL DYSFUNCTIONS

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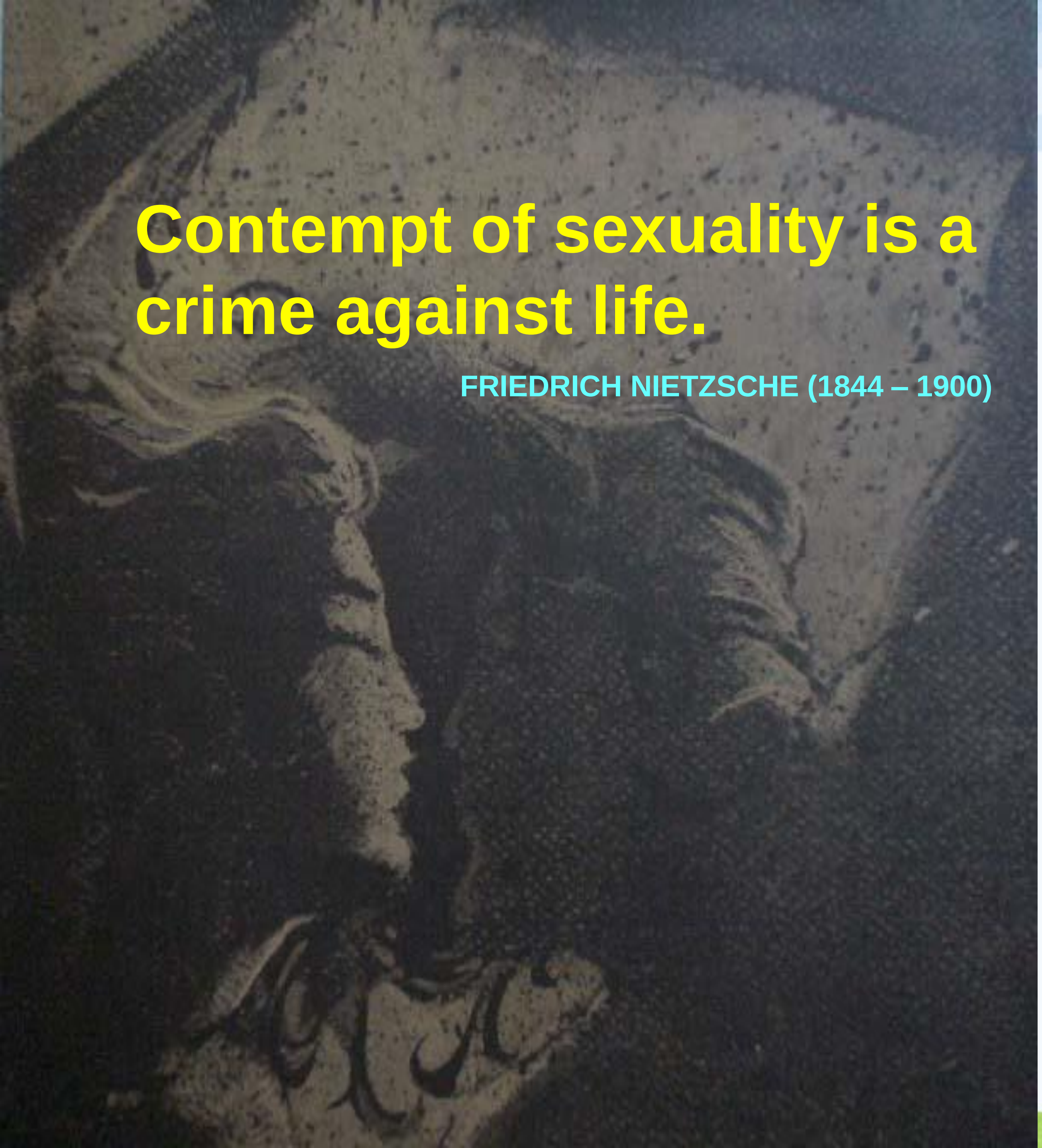
INTRODUCTION

Sexual dysfunction is a major healthcare issue and therefore it deserves attention, consideration, proper investigation, and appropriate treatment. The purpose of these guidelines is to present a framework for the evaluation, treatment, and follow-up of the patient/couple, who presents with sexual dysfunction. These guidelines also discuss the cause and, the available treatments to recognize and rectify disorders of sexual functioning. These guidelines address the complexity involved in diagnosing the various aspects of the disorder and offer an organized system of care for the couple. The guidelines are evidence based, to a large extent. We hope that these guidelines would help in facilitating proper management and avoiding unnecessary expense and inconvenience.

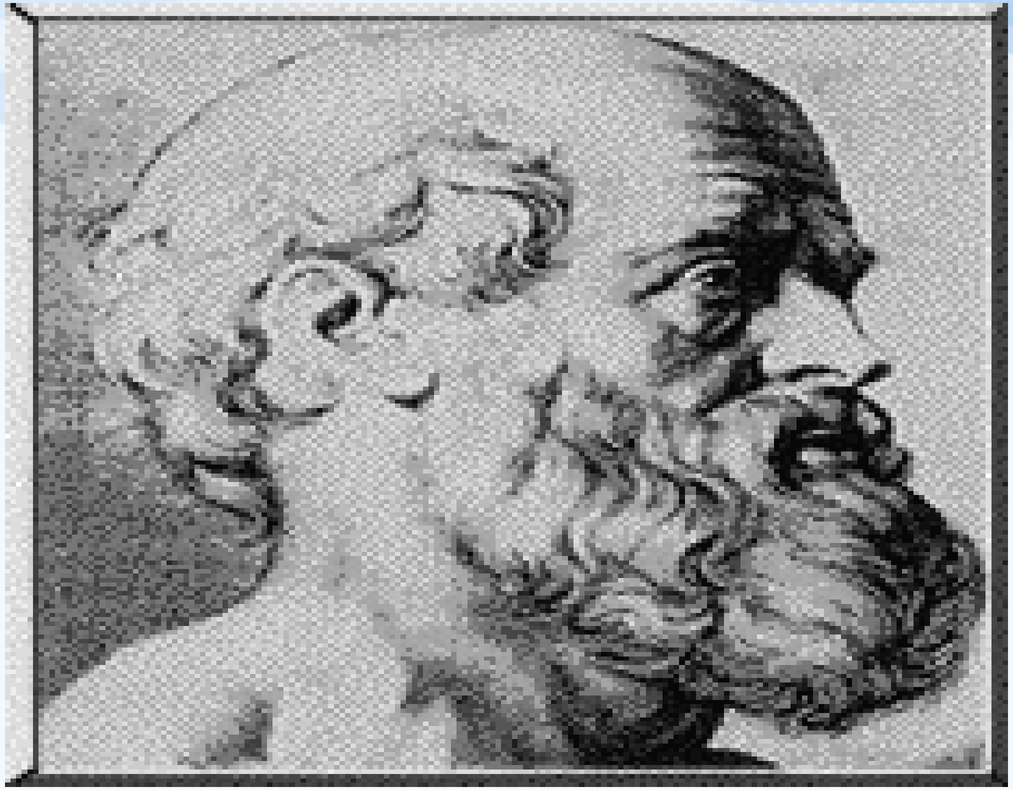
Sexual problems are highly prevalent in men and women, yet frequently under-recognized and under-diagnosed in clinical practice. Even among clinicians who acknowledge the relevance of addressing sexual issues in their patients, there is a general lack of understanding of the optimal approach for sexual problem identification and evaluation (Hatzichristou, 2004). It is important to understand that sexual functioning is a complex bio-psycho-social process, coordinated by the neurological, vascular and endocrine systems. While evaluating sexual functioning of an individual it is important to incorporate family, societal and religious beliefs, health status, personal exper-ience, ethnicity and socio-demographic conditions, and psychological status of the person/couple. In addition, sexual activity incorporates interpersonal relationships, each partner bringing unique attitudes, needs and responses into the coupling. A breakdown in any of these areas may lead to sexual dysfunction.

Problems of sexual dysfunction may be lifelong or acquired, general or situational. Adequate attention to these aspects during the history taking will educate the often-uninformed patient regarding the complex nature of sexuality, and prepare him for understanding treatment and outcome realities. The rational selection of therapy by patients is only possible following appropriate



Contempt of sexuality is a crime against life.

FRIEDRICH NIETZSCHE (1844 – 1900)



"To cure sometimes
To comfort always
To Hurt the least
To harm never"


please...
Do Not
Disturb