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Sexual issues in dementia: An overview

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Abstract
Dementias are the most common type of neurodegenerative disorders. Behavioral disturbances are seen in 50-80% of patients suffering from these disorders. Sexually inappropriate behaviors are not as common as other behaviors seen in dementia but may be seen in 7-30% subjects. These behaviors cause a lot of distress to all those who are affected along with shame and embarrassment. Sexual behaviors in dementia lie on a spectrum that may range from mild or benign to severe. There are no rigorous clinical studies for the treatment of these behaviors and there is no fixed classification for the types of behavior either. There is sparse data that suggest efficacy for some commonly used treatment modalities in dementia. In this chapter, we review the various aspects of these behaviors, their types and the available treatment for the same.

Keywords: Sexual issues, Dementia, Sexuality, Sexually inappropriate behavior.

Introduction
Dementia is a neuropsychiatric disorder characterized by memory loss, impairments in cognition, behavioral disturbances and problems in activities of daily living. It is the most common disorder seen in geriatric patients affecting about 5-10% of people above the age of 65 years and 20-40% of people older than 75 years.[1] The most common form of dementia is Alzheimer's-type dementia (AD) followed by vascular dementia. Behavioral disturbances are common in dementia.[2] These can be defined as behaviors that are unsafe and disruptive and that interfere with the care of the patient in any given environment. Around 60-65% of patients with dementia will have behavioral disturbances at any one point in time.[3] These disturbances contribute to increased morbidity, greater health care resource utilization, and premature institutionalization.[4] The most distressing amongst the behavioral disturbances are sexual symptoms that can serve to be distressing as well as embarrassing for the family members.[5] This article aims to provide the busy clinician an overview of the various sexual symptoms that may be seen in dementia and methods employed to manage the same.

Epidemiology
Studies have demonstrated that 7-30% of patients with dementia may exhibit sexual symptoms.[6] There are no large scale studies that are epidemiological in nature and that have been done to look at sexual symptoms per se. clinically though these symptoms may be commoner and are under-reported due to embarrassment and non-inquiry by clinicians that may result in an under-reporting of the same. Research in this regard is needed both in the Indian and western context.[7]

Types of Sexually Inappropriate Behaviours in Dementia
There are various forms of inappropriate sexual behavior seen in dementia. These lie on a spectrum from mild to severe and may manifest in various forms.[8-9]

1. Sexual talk and foul language
2. Sexual jokes and sexually suggestive gestures and remarks.
3. Exposing oneself to others.
4. Public masturbation.
5. Kissing and hugging that exceeds what is normal.
6. Disrobing and moving about without clothes.
7. Touching the breasts, buttocks, and genitals of staff and family members.
8. Attempting sexual intercourse and oral sex.
9. Requesting genital care from the staff and family members.
10. Reading and watching pornographic material.
11. Sexually deviant behaviour.
12. Attempting to sexually assault staff and servants.
13. Collecting and hoarding sexual books and magazines.

Causes of Sexually Inappropriate Behaviour in Dementia
Neurobiological Factors
Certain brain systems have been implicated in the neurobiology of inappropriate sexual behaviors in dementia viz. the frontal lobes, the temporo-limbic system, the striatum, and the hypothalamus. Each of these systems has specific roles in various sexually inappropriate behaviors that may be seen in dementia.[10]

Frontal Lobes
The frontal lobe has the sexual center of the brain and mediates the expression of sexual behaviors. Dysfunction of the frontal system typically involves disinhibition rather than hypersexuality which is a hallmark of sexually inappropriate behavior in dementia.[11-12]

Temporo-Limbic System
Sexual behaviors are mediated through the temporo-limbic system in both humans and animals. Both temporal lobes have been implicated in behaviors that are auto-erotic in nature and self-stimulatory behaviors that may be seen in dementia.[13] Hypersexual behaviors have also been reported after temporal lobe degeneration. The right temporal lobe has been implicated in altered sexual behaviors as it modulates

emotions and the understanding of the effect associated with sexual arousal.[14]

Striatum

Sexual behaviors which are repetitive, habit like and obsessive in nature are associated with lesions of the striatum and its connections with the cerebral cortex.[15]

Hypothalamus

Lesions to the hypothalamus can lead to an increase in sexual behavior. Increased sexual drive and hypersexuality is a hypothalamic dysfunction.[16] The right hypothalamus and periventricular area can cause hypersexuality as seen in mania.[17]

Psychological Factors

Psychological factors for sexually inappropriate behavior in dementia are unclear. The expression of sexuality involves complex psychological, and environmental factors that may cause such behavior. Sexual manners are learned behaviors that may be forgotten as a result of dementia. In other cases, it may be related to a psychological need for intimacy that has been sexualized.[18] People with dementia may feel disconnected from others, and they may have lost the ability to speak or to communicate their desires and needs. Consequently, they may be acting out a strong need for human connection and touch which may be misinterpreted as sexual.[19]

Researchers have coined a term iatrogenic loneliness that has been induced by staff attitudes and organizational structures that discourage or fail to accommodate any form of intimate relationship within the institutional setting. This may be expressed as sexually inappropriate behavior by the patient with dementia.[20] The patient with dementia just craves the touch itself. People with dementia may confuse staff and other residents with a much-loved partner and respond out of that misinterpretation.[21]

Assessment of the Patient

One must obtain a comprehensive history, including a thorough sexual history. History should be obtained from the caregivers or family members or patient if possible. It must be determined that these behaviors are truly sexual and inappropriate and not just a yearning for closeness and warmth. Misinterpretation by staff at nursing homes must be looked into. One must carry out a good mental status and physical examination.[22] Laboratory data including routine tests and neuroimaging studies may be done when needed. Neuropsychological testing may help determine the patient's level of cognitive functioning and extent of memory impairments.[23]

Management

There are few systematic studies on the treatment of sexually inappropriate behavior in dementia.[24] Most of the data available to us are from anecdotal case reports or case series. The type of treatment depends upon the distress caused by the situation, type of sexually inappropriate behavior, underlying medical conditions and whether the patient is at home or institutionalized. Both non-pharmacological and pharmacological treatments have been used in the management.[25-26]

Non Pharmacological Treatments

One has to determine what social cues are misinterpreted and leads to behavior. Modification of these cues usually leads to a reduction in these inappropriate behaviors.

Supportive Psychotherapy

Psychotherapy is especially useful for spouses of patients who have inappropriate behaviors. They often need reassurance and support that these behaviors are secondary to the illness and not a reflection of their relationship which may cause depression. It may also be useful to view their partner's sexual requests as a call for closeness and reassurance rather than just sexual.[27]

Behavior Modification

When inappropriate behaviors occur, one must sensitively explain to the patient who can understand that such behaviors are unacceptable. One must prevent confrontation and should not cause excessive guilt or shame. Never ignore or laugh at the behavior as they may then be encouraged. Distraction may be a very useful technique in some cases. [28-29]

Environmental Changes

In nursing homes, single rooms and provision for the spouse meeting the patient may help reduce the frequency of such behaviors. Avoidance of external cues such as over stimulating television or radio programs is helpful.[30] In patients with a tendency to expose themselves or masturbate in public, trousers that open in the back or that are without zippers may be helpful. Provision for adequate social activity is helpful.[31]

Changing the attitudes of the family, caregivers, and staff in nursing homes is very essential. The care of dementia patients at a nursing home demands a high degree of technical and interpersonal skills. Caregivers are often caught between moral norms, society, nursing home rules, a person's rights and providing appropriate care for their patients.[32]

Sex education programs for the family, the caregivers, and the staff at the nursing homes can add to the quality of life of a demented person. Emphasis on the need for normal sexual expression while preventing inappropriate sexual behaviors should be emphasized.[33]

Pharmacological Treatments

There are no systematic studies or randomized double-blind placebo-controlled trials for any of the drugs that are used to treat sexually inappropriate behaviors in dementia.[34] Medication should only be used when all other treatment methods have failed. One must start medicine at a low dose and go slow in increasing the dose. One must monitor for side effects and inform staff and relatives about the same. Some medicines may precipitate or worsen these behaviors and must be discontinued or avoided. There are many medications that have been used in the management of such behaviors.[35]

Selective Serotonin Reuptake Inhibitors

These medicines are known to decrease inappropriate behaviors by their effects on anxiety and obsessive thinking as well as their sexual side effects. They also reduce the levels of sex hormones and can treat comorbid depression and anxiety disorders. The common side effects seen with these medications are gastrointestinal disturbances, headache, insomnia, and sexual dysfunction. All the SSRIs have been used in small case series and anecdotal case reports in the management of these problems.[36] There have been case reports with Paroxetine showing some amount of success and Escitalopram too has been used.[37-38] There have been reports of successful elimination of such behaviors when Paroxetine has been combined with Clomipramine.[39] However side effects need monitoring and patients may need to be started on an antacid when on these medications

Antipsychotics

There are no known clinical trials in the elderly on the use of antipsychotic medications in the treatment of these behaviors, but clinical experience and evidence point to their efficacy.[40] These drugs are thought to decrease sexually inappropriate behavior by their dopamine-blocking effects. Dopamine is a prosexual neurotransmitter. Atypical antipsychotics have been used far more than typical and have shown greater efficacy. Quetiapine and Risperidone have been used in most cases but side effects like extrapyramidal reactions and drowsiness must be monitored.[41-42] Also one has to be careful when using these drugs in patients with diabetes and hyperlipidemia. Risperidone has been used the maximum while case reports with Olanzapine and Amisulpride also exist.[43-44]

Trazodone

Trazodone is an older antidepressant drug which is a presynaptic reuptake inhibitor and a mild postreceptor agonist of serotonin. Case series have reported efficacy of the drug in reducing sexually inappropriate behavior. The dose range for trazodone that may be used is 100 and 500 mg a day in divided doses. The response was thought to be due to the calming effect of the drug and not its antidepressant effect. One must monitor for side effects like headache, dry mouth, sedation, orthostatic hypotension, and weight gain while on the drug.[45] Priapism (painful erection) occurs in 1 in 6000 patients and can be distressing if it happens in a case of dementia or with an already existing prostate problem.[46]

Anti-androgens

The commonly used antiandrogens are medroxyprogesterone acetate (MPA) and cyproterone acetate (CPA). They act by the reduction in serum testosterone level which will impair sexual functioning, and this, in turn, will eliminate the inappropriate behaviors. MPA is progesterone that decreases the level of testosterone by inhibiting the levels of pituitary luteinizing hormone (LH) and follicle stimulating hormone (FSH). The major side effects are sedation, increased appetite, weight gain, fatigue, loss of body hair, hot and cold flashes, mild diabetes, decreased ejaculatory volume, and symptoms of depression. These drugs have sparse evidence in the form of case reports.[47]

Estrogens

These medications act by reducing LH and FSH secretion and thereby reducing testosterone production. The common estrogens are diethylstilbestrol (DES) and conjugated estrogens. Common side effects include fluid retention, nausea, vomiting, impotence, and gynecomastia. One must be careful while starting any hormonal medications in older patients due to the various side effects present.[48]

Gonadotrophin-releasing Hormone Analogs

These medications suppress testosterone production by stimulating the secretion of pituitary LH and FSH. This results in an increase in estrogen production, thereby decreasing the level of testosterone. Leuprolide acetate is the common gonadotrophin-releasing hormone (GnRH) analog used in clinical practice. These drugs must be used continuously to maintain their effectiveness.[49]

The use of hormonal agents for the treatment of inappropriate sexual behavior in the elderly is sensitive in many ways. The side-effect profile of these drugs and the social stigma associated with using them are seen as chemical castration. The same treatment has been used in sex offenders with high sex drives and thus must be used with caution in patients with dementia.[50]

Cimetidine

Cimetidine is an H2 receptor antagonist with antiandrogen effects. Anecdotal case reports exist in the management of patients with the drug though no major studies are available.[51]

Pindolol

It is a beta blocker that has been used to augment SSRIs and in agitation and hypersexual behaviors. Common side effects of pindolol are fatigue and hypotension. This drug is thought to reduce inappropriate behavior by decreasing adrenergic drive and thus decreasing agitation, aggression, and inappropriate behavior.[52]

Mood Stabilizers

There are no major reports on the use of mood stabilizers in the treatment of inappropriate sexual behaviors, though these are widely used in clinical practice. Common side effects of these medications are tremors, sedation, falls, and weight gain.[53]

Cholinesterase Inhibitors

Cholinesterase inhibitors such as donepezil, rivastigmine, and galantamine have been found to be effective in treating cognitive dysfunction and behavioral disturbances associated with dementia. However, there are no reports on the use of these medications in the treatment of inappropriate sexual behaviors associated with dementia.[54]

Memantine

The N-methyl D-aspartate (NMDA) receptor antagonist memantine has been approved for the use in moderate to severe dementia. There are no current reports on their use in elderly patients with inappropriate sexual behavior.[55]

Conclusion

Dementia is a public health problem which shall escalate in the years to come. Behavioral problems associated with dementia are very common and are a major source of distress. These behaviors are also the most common reason for the placement of a patient suffering from dementia in nursing home care. There are limited data on the various aspects of these behaviors and their management. Future research should not only focus on effective treatment but also on early detection and prevention of such behavior and their sound pharmacological management. This will reduce undue suffering for both the patients and their caregivers and also enhance the quality of life and dementia care for all those concerned.

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