Mental health and sexuality in old age

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Diminished sexual function has been considered as normal in old age. Since long, erectile dysfunction is observed in elderly men[1], accompanied with lower quality of life [2-4]. A significant proportion of women are also affected. Traditionally, older women's sexual desires has been described as "not very much troubled with sexual feelings of any kind" [5],or rather "women are considered to be inherently less sexually inclined than men" [6-7]. The level of sexual desire in women is usually lower [8], when compared with men. Men and women differ in reasons for engaging in sexual behavior. Women give greater importance to love, affection, and commitment in a relationship,[11] while men emphasize on the importance of physical gratification [12]. Many theories have been proposed for gender differences observed in sexual behavior .The Socio-biological theory [13,14] proposes that women have a weaker drive to engage in sexual behavior because their primary evolutionary concern is to select a mate who will protect their offspring and provide a secure and intimate relationship. According to the social constructionist theory

environment cues shape the human sexual behavior such as customs, values and expectations about sexuality [14,15].

Mental health has great impact on sexual desire [10,16-19]. Lower levels of happiness or considerable sadness and anxiety or stress have been consistently reported to be associated with low sexual desire [16,18,19].

Psychiatric disability exerts a great impact on sexual function. There is a barrier [20] to healthy sexual expression for people with psychiatric disabilities, which includes, lack of privacy; history of childhood and/or adult abuse/trauma; social stigma; low self-esteem and self-confidence; decreased sexual desire; psychiatric symptoms that inhibit the formation of intimate relationships; and a lack of support and advocacy from service providers.

Impaired mental health may predispose an individual to high risk sexual behaviors such as, unprotected sex [21] , poor sexual hygiene, sexual indiscretion etc. The desire to create and preserve emotional and sexual intimacy often presents as a barrier to safer sex [22].

Prevalence of psychiatric disorders in elderly

Generally psychiatric disorders have lower prevalence among elderly than in people at other stages of the life cycle. ECA study reveals prevalence of 13.3% for 45-64years and 12.3% for 65years and above [23].

The prevalence of syndromal depression is about 5% or less, [24-29] while prevalence of significant depressive symptoms is about 15 percent in community samples of elderly persons . Risk factors include 4th to 6th decade of life [30-32],female gender [33,34],

widowhood [35-37], physical illness[36,38], educational attainment less than high school [34], impaired functional status [39], heavy alcohol consumption [40] and belonging to minority group or black [41]. Depressive symptoms in older persons are an important risk factor for development of cognitive impairment as well as functional decline [42,43] and has an important bearing on mortality if accompanied with physical illness.

Suicide rates increase with advancing age and appear to be rising. Depression is most often linked to suicide among older adults [44] and general prevalence of suicidal ideation is between .7and 18.7 percent[45,46] depending upon the population studied, but invariably more in females. Older adults use more lethal methods and appear to have the highest rates of completed suicide. Risk factors include female gender, minority community, rural dwellers etc.

Prevalence estimates of any anxiety disorders in late age range from 3.2[47] to 14.2% [48] & for GAD is from 1.2[49] to 7.3%,[50] while specific phobia (SP) ranging from 3.1% (6-month and 12-month)[50] to 10.2%[48].The risk factors associated with increased likelihood of having an anxiety disorder in late age are: (a) being female [50,51]; (b) having several chronic medical conditions [49]; (c) being single, divorced, or separated (compared with being married) [49,50,52] (d) lower education [49,50]; (e) impaired subjective health [50]; (f) stressful life events [53,54]; (g) physical limitations in daily activities [55]; (h) adverse events in childhood [56]; and (i) neuroticism [54,56].

Though all types of anxiety disorders are prevalent in old age, phobic anxiety disorder is among the most common mental disturbances in late life as revealed in the ECA study[23]. Community based prevalence estimates have suggested that about

5 percent of adults aged 65 years and older meet criteria for an anxiety disorder [57,58]. Prevalence studies of panic disorder and obsessive-compulsive disorder in older samples revealed low rates of less than .5percent [47,58,59]. The prevalence of generalized anxiety disorder in other studies among older adults is higher, ranging from 1.1 percent [59] to 17.3 percent [60] .Subsyndromal anxiety symptoms are reported in up to 17 percent of elderly men and 21 percent of elderly women [61]. The prevalence estimates for OCD, panic disorder (PD), and PTSD among the elderly appear to be the lowest, a pattern that is somewhat similar to what is seen among younger adults.

Based on an analysis of more than 45 prevalence studies carried out between 1945 and 1985, Jorm and colleagues [62] developed the following rule of thumb - the prevalence of dementia doubles with every five years of age, reaching 11 percent at age 80 to 84 years, 21 percent at age 85 to 89 years, and 39 percent at age 90 to 94 years. Incidence studies have revealed a similar age related pattern of increased incidence [63-66]. Studies of the incidence of Alzheimer's disease do not show marked gender differences in incidence rates [67]. In addition to advancing age, several other personal characteristics have been explored as risk factors for onset of Alzheimer's disease and other dementias, including family history of dementia, Parkinson's disease or Down's syndrome; head trauma; hypothyroidism; and depression.

Alcohol consumption is common (10 – 20% use alcohol daily) among older adults [68]. Up to 10.5% of male and 3.9% of female may qualify for alcohol dependence using DSM IV criteria [69,70]. Alcohol dependence is often accompanied with cognitive impairment [71], depression [40] and sexual dysfunction. Misuse of prescription medications may be due to depression and physical

problems in old age [72,73] and are characterized by female gender [74-76], use of health services [75],use of illicit substances[77], functional impairment [76] and increased age[75,78].

Although sleep disturbance is common among patients of all ages, older adults are particularly vulnerable. A large study of over 9,000 older adults of > 65yrs found that 42per cent have difficulty in initiating and maintaining sleep. Follow up assessment 3yrs later revealed that 15percent of participants who did not report sleep difficulty at baseline had disturbed sleep, suggesting an annual incidence rate of approximately 5percent [79].

In a large series of randomly selected community dwelling older adults (age 65-95yrs) 81per cent have sleep-disordered breathing, and is more prevalent among institutionalized elderly adults (rates ranging from 33-70%), particularly those with dementia, compared with elderly people living independently [80]. Risk factors associated with sleep-disordered breathing include older age, male gender, obesity, and symptomatic status, use of sedating medications, alcohol consumption, family history, race, smoking, and upper airway congestion. Research suggests that approximately 50per cent of those who snore also have sleep-disordered breathing [81],which is a risk factor for ischemic heart disease, stroke, congestive heart failure [82], hypertension and cognitive impairment [83].

Restless Legs Syndrome (RLS) is also prevalent and increases with age and is about two fold common among women as compared with men[84]. Approximately 70per cent of patients with RLS also have co-morbid Periodic Limb Movements in Sleep (PLMS), however only about 20per cent of those with PLMS report RLS. PLMS is more common among older adults compared with

younger adults, with approximately 45per cent prevalence among older adults compared with 5-6 per cent prevalence in younger adults [85].

Rapid Eye Movement (REM) sleep behavior disorder includes walking, speaking, eating in sleep and can also be violent and harmful for the patient's bed partner. It is most prevalent among older adult males [86]. It has been associated with narcolepsy and other idiopathic neurodegenerative disorders such as Lewy body dementia, multiple systems atrophy and Parkinson's disease.

Studies examining insomnia have estimated that up to 40-50 per cent of adults over the age of 60, report disturbed sleep [87]. People from all age groups with chronic sleep difficulty show poorer attention, slower response times, problems with short-term memory and decreased performance levels. However, insomnia in older adults increases the risk for falls, cognitive impairment, poor physical functioning and mortality [88-91]. Sleep difficulty has also been linked to decreased quality of life and increased symptoms of anxiety and depression [92]. Insomnia is most often co-morbid with medical or psychiatric illnesses, medication use, circadian rhythm changes and other sleep disorders [93]. There is a positive relationship between the amount of sleep complaints and the medical conditions, such as cardiac disease, pulmonary disease, stroke and depression, [94,95] heart disease, diabetes mellitus, arthritis, chronic pain, cancer and respiratory disease [97]. Medications known to have negative effects on sleep are â-blockers, bronchodilators, corticosteroids, decongestants, diuretics, stimulating antidepressants, and other cardiovascular, neurologic, psychiatric and gastrointestinal medications.

Research suggests that the secretion of endogenous melatonin decreases with age resulting in decreased sleep efficiency and increased incidence of circadian rhythm disturbances [98]. As people age, they experience deterioration of the SCN, resulting in less synchronized sleep-wake circadian rhythms due to decreased responsiveness to external cues[99].Additionally, the amplitude of the circadian rhythm may decrease with age. This can result in increased night time awakenings [100]. Most older adults also experience a shift or advance in circadian sleep rhythms.

Sleep difficulty a hallmark symptoms of menopause is seen with approximately 25-50per cent of women undergoing menopause, reporting sleep complaints compared with approximately 15per cent of the general population [101]. Evidence suggests that sleep architecture disruption in menopausal women is associated with vasomotor symptoms, such as hot flashes[101]. A study by Okatani & colleagues [102] found that postmenopausal women with insomnia have lower levels of melatonin compared with their cohorts.

Types of sexual dysfunction

The prevalence of lack of interest in sex for women in the US 50-59years of age has been about 27%, slightly lower than the rates found in younger women [103]; however rates of 38% to 49% were noted for women 57–85 years of age [104]. Though its prevalence increases with age, the proportion of women distressed about their low desire actually decreases with age [105].

Approximately 36% to 43% of women 57–85 years of age report difficulty with vaginal lubrication during sexual activity [104]. Arousal difficulties may have underlying psychological, vascular, neurologic, or endocrinological etiologies [106].

Up to 38% of women > 57 years of age report an inability to experience climax [104]. While some women have never experienced orgasm, which may be due to inexperience, religious inhibitions or emotional or sexual trauma, others have problems after previously enjoying a satisfying sex life. As with the other female sexual disorders, if a women "had it, lost it and wants it back" for herself, treatment will generally have a more favorable outcome [107]. It is more common with unmarried women, without a college degree [103], poor relationship quality, low self-esteem and negative attitudes toward sex.

11 to 18% of women between 57–85years of age report pain during intercourse [104]. Two common sexual pain disorders include dyspareunia and vaginismus and are characterized by difficulty and pain with vaginal penetration. DeUgarte and colleagues [106] have suggested a division of dyspareunia into three categories for ease of diagnosis: pain with intromission (often secondary to vestibulitis, vaginismus, or superficial vaginal lesions), mid-vaginal pain (often secondary to vaginal dryness, surgical scars, etc) and deep-thrust dyspareunia (secondary to endometriosis, pelvic adhesions, neoplasm, or interstitial cystitis). There is often a negative feedback cycle, wherein the discomfort and humiliation of attempted penetration leads to a phobic avoidance of any sexual contact [108]. Psychological factors contributing to vaginismus may include psychosexual conflicts, strict religious upbringing which associates sex with sin, a history of sexual abuse or rape, or emotional disconnect between sexual partners [109].

In the US, the NSHAP study looked at 1455men aged 57–85years and their sexual behaviours [110,111]. The most common sexual problems reported by the men are highlighted below as combined averages for the three age groups, with the percentage who were

bothered by these problems in parentheses: lack of interest, 28% (65%); erectile dysfunction, 37% (90%); anxiety about performance, 27% (75%); and inability to climax, 27% (73%). The prevalence of all these increased with age, but this was not the case for premature ejaculation, which affected 28% overall (71% of whom were bothered by the problem) and which was more prevalent among the lower age groups.

Impact of Mental Illness on Sexual behavior

A number of studies have been conducted to know the sexual behavior of adults with Severe Mental Illness (SMI) [112-114] which shows a lower overall frequency of sexual activity and the below average occurrence of marital & long-term relationships in SMI than in the general population.

Reported rate of current sexual activity in patient with SMI varied between 30 and 70 percent. Between one-third and one-half of people in treatment for SMI are reported to be sexually active at any given point in time and women with SMI as compared to men are more likely to be sexually active which is often associated with unprotected, high-risk sexual behaviors [112, 114-126], homosexual activity and concurrent sexual partnerships [116, 119-125, 127, 128]. Only a small number will find and maintain a longer-term sexual relationship, either through marriage or though other social arrangements [112, 129, 130]. Sexual isolation among people with SMI is thought to result from the stigma of mental illness[131-137] or the nature of psychiatric illness and /or its treatment [138-140]. They are often viewed as undesirable marriage /relationship candidates, resulting from cultural stereotypes towards people with mental illnesses which portray them as dangerous, unpredictable and socially undesirable [140-142], and are sometimes rejected or avoided

by others because of the negative stigma of mental illness [143-147]. Additionally, partners of a mentally ill person often experience difficulty in coping with the symptoms of psychiatric disorders in the partner, [148-151] which often leads to a break in the relationship when these burdens become overwhelming [152,153].

With the exception of mania, which is associated with high rates of sexual "promiscuity" [126,154], psychiatric illnesses generally decrease libido [139] and medications taken for treatment diminish the sexual capacity [137,138,146,155-158]. Pharmacotherapy has significant sexual side effects, ranging from reduced libido to various forms of physiological sexual dysfunctions [138,155-160] often resulting in poor compliance to medications [160].The society may impose special challenges for satisfying sexual needs and finding suitable partners. Though the people with mental illness have a right to have sex while in treatment, many are not allowed to date or have sex while in treatment programs [132-136]. Many are restricted to institutions where there is no acceptance of or explicit rules against sexual expression of any kind [161].

The people with mental health problems have, on average lower self esteem than the general population [145,162-164]. They may lack many of the social skills necessary to attract others and to succeed in romantic partnerships [147,165,166] and thus abandon goals pertaining to sexual relationships, marriage and family [164]. They also may avoid relationships or withdraw from social interaction altogether to avoid rejection, thereby reducing access to potential sexual partners [131,122,167,168]. At the same time, people with SMI, especially women, are particularly vulnerable to experiencing abuse in sexual relationships, which may undermine their willingness to enter into future relationships [122,169].

Impact of Mental Illness on Sexual Function

The prevalence of sexual dysfunctions is higher in persons with mental disorders, particularly those being treated with psychotropic medications [170]. For instance, sexual dysfunction has been reported in as many as 30-60% of patients with schizophrenia treated with antipsychotic medications [171], up to 78% of individuals with depression treated with antidepressants [172,173] and up to 80% in patients suffering from anxiety disorders [174,175].

Schizophrenia

Sexual dysfunction in schizophrenia can be conceptualized as a complex state. Many of them often have schizoid, paranoid or schizotypal personality which is often associated with lack of sexual desire, inappropriate approach for intimacy and incompatible behavior for romantic/sexual relationship. Positive symptoms specially paranoia and infidelity are known causes for poor sexual and marital health in patients with schizophrenia. Negative symptoms such as anhedonia, avolition and blunted affect have cumulative deteriorating consequences which can lead to any kind of sexual dysfunction. Treatment with antipsychotics, treatment emergent obesity and associated depression simultaneously result in precipitation or exacerbations of sexual dysfunction.

A recent study [176] concluded that 82% of men and 96% of women with schizophrenia, have at least one sexual dysfunction. Male patients reported less desire for sex and had sexual intercourse or masturbation less frequently. Female patients reported less enjoyment which was associated with negative symptoms and general psychopathology. There was no gender difference

between sexual dysfunction and type of antipsychotic medications prescribed.

Typical antipsychotics [177-179] have been associated with higher incidence of sexual dysfunction when compared to the atypicals [180,181]; specially orgasmic function, enjoyment of sex and sexual satisfaction, desire and erectile function. Among atypicals, risperidone almost has similar sexual side effect profile as those of typical antipsychotics while quetiapine has lowest sexual side effects [182-185].

Thus, safe guidelines recommended are [170] - (1) adjusting medication to minimal effective dose; (2) switching to atypical antipsychotics: quetiapine, olanzapine, ziprasidone or clozapine; (3) psychotherapy: couple/family intervention to restore the relationship; (4) in males, addition of a PDE-5inhibitor (sildenafil, vardenafil, tadalafil).

Depression

Loss of sexual interest is a common feature accompanied with unipolar (upto 72%) and Bipolar (77%) depression, [186] which may increase with severity of depression . Erectile dysfunction and premature ejaculation (in upto 90% cases),[187] & reduced nocturnal penile tumescence(in upto 40% cases) [188,189] have been observed.

Treatment emergent inhibition of orgasm, impairment in desire and arousal and less sexual satisfaction has been reported, specially with selective serotonin reuptake inhibitors (in 34to 78% cases)[190-195]. Paroxetine has the highest rate of sexual dysfunction, specially delayed ejaculation [4,43,46] while bupropion has the lowest .

The therapeutic approaches include [170] switching to medications that cause less sexual dysfunction (bupropion, mirtazapine, nefazodone, reboxetine), reducing the dose, skipping the drug for a day or two before planned sexual contact, using a molecule with a short half life and drug holidays. An adjunctive such as cyproheptadine, mianserin, amantidine, dextroamphetamine, methylphenidate, pemoline, sildenafil and duloxetine may be useful in reducing the sexual side effects. [190, 196-200]

Anxiety Disorders

High level of anxiety is known to be associated with sexual dysfunction [174]. Monteiro and his colleagues [201] found a high percentage of sexual pathology in untreated patients with OCD of whom, upto 24% were virgins and another 9% had not had sex for years.

Performance anxiety or fear of scrutiny by others is hypothesized to be the underlying mechanism [202] as observed in 'heterosocial anxiety' [203] . Social phobia in men is reported to be associated with premature ejaculation [204], impairment in sexual enjoyment and subjective sexual satisfaction [205]. Women have more impairment in desire, arousal, sexual activity and subjective satisfaction [205].

PTSD is known to affect sexual functioning (in upto 80% cases)[174, 175,206,207]: Erectile Dysfunction and premature ejaculation were the most frequent among males [175]. PTSD patients are frequently treated for symptoms of anxiety and depression, mainly with anxiolytics and antidepressants resulting into greater sexual dysfunction in some cases[208]. Treating with sildenafil significant improves erection, desire, orgasm and sexual satisfaction [209].

Eating Disorders

Patients with anorexia nervosa are associated with less sexual interest, impaired sexual growth and function, fear of intimacy [210-214] and an unsatisfactory sexual relationship [211] which were absent before onset of illness, [213] but may persist even after treatment resulting in sexual and marital discord [214].

Personality Disorders

Hysterical personality is reported to have decreased sexual activity and lower orgasmic capacity. Pelsser, [215] has described individuals with BPD who have had a varied sexual functioning; like sexual promiscuity, sexual avoidance,[216] higher levels of sexual assertiveness, greater erotophilic attitudes, higher sexual esteem, greater sexual preoccupation, sexual depression and sexual dissatisfaction [217].

Dementia

There is limited information about the impact of dementia on sexual functioning. Zeisss [218] reported 52% of Alzheimer's patients to have erectile dysfunction which is thought to be extremely distressing to the spouse.[219] Haddad and Benbow reported a range of sexual problems in dementia. Common sexual problems are reduction in sexual drive or sexual apathy [220], increased libido [221], sexually inappropriate behaviours[222], disrupted sexual relations with spouse and inability to give consent for sexual activity [223].

Sexual issues are usually neglected in the elderly. Sexual dysfunction is more prevalent in old age than adults and is

considered as part of the aging process. High prevalence of psychiatric morbidity increases this problem many folds. Appropriate treatment may improve sexual functioning in the elderly and thus can lead to improved quality of life. However more research is needed to deal with this issue.

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