Effect of stroke on sexuality in the elderly

Stroke results in physical, psychological and social changes. Even when psycho-social implications of stroke are recognised, the effect of stroke on sexuality is rarely considered although it may often be of great importance to the patient. In this article, **Nia O'Doherty,** and **Drs Dylan Harris, Bella Richard and Pradeep Khanna** discuss the impact of stroke on sexuality, its prevalence, risk factors and management.

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Psychological consequences of stroke are numerous and often more disabling than motor or cognitive impairments. These can include feelings of fear, frustration and anger, adjustment reactions to new physical and cognitive limitations, depressions and also anxiety[1,2].

Sexuality, often a private concern, is not frequently addressed. Sexuality and sexual function encompass an array of meanings that have resulted in a range of measurements of sexual function such as coital frequency, erectile and orgasmic ability, vaginal lubrication, libido and sexual satisfaction[3,4].

Epidemiology of sexuality and stroke

Stroke can have an impact on sexual frequency, and post-stroke 33 to 64 per cent of patients have ceased sexual intercourse[4,5] and 72 to 83.3 per cent report decreased sexual frequency[3,6]. Decreased libido also occurs in 57 to 79 per cent of all patients and in up to 79 per cent of males and 66 per cent of females[4,5].

In male patients, erectile function is diminished or absent in 29 to 75 per cent[7]. However Hawton found that the majority of men regain erectile function post-stroke[8]. In females, 46 per cent have diminished or absent vaginal lubrication and 55 per cent have diminished or absent orgasmic ability[4,9]. In regard to sexual satisfaction there is increased dissatisfaction with sexual life frequently observed in up to 49 per cent of patients and 31 per cent of partners[1,3,4,10,11].

However, enhanced sexual activity has occurred post–stroke and between 3.2 and 11.1 per cent of patients experience enhanced sexual activity and increased libido[3, 4, 5,11]. Findings of the key studies on stroke and sexuality are highlighted in *Table 1*.

Table 1. Summary of key papers

Authors	Year	Number of patients	The main positive findings
Murray CD Harrison B[1]	2004	10 patients	Highlighted emotional findings post-stroke, particularly social withdrawal and increased pressure in maintaining/forming relationships
Giaquinto S Buzzelli S Di Francesco L Nolfe G[3]	2003	68 patients	Sexual decline and arousal in the post-stroke period. A negative impact on sexual activity was observed for physical disability. 3.2 per cent experienced enhanced sexual activity
Korpelainen JT Nieminen P Myllyla V[4]	1999	192 patients, 94 partners	Patients and partners reported decline in libido, coital frequency, and sexual satisfaction. Sexual dysfunction was related to depression and functional disability 19 subjects showed increased libido Psychological factors played an important role in the decline
Kimura M Murata Y Shimoda K Robinson RG[10]	2001	100 patients	Demonstrated decline in libido and sexual satisfaction post-stroke in males and females Post-stroke sexual dysfunction was related to the existence and severity of depressive disorder and activities of daily living. Sexual dysfunction in males was related to left hemisphere lesions
S. Buzzelli[11] di Francesco L S. Giaquinto G. Nolfe 1997[11]	1997	86 patients	Sexual decline observed post-stroke. Length of marriage had a negative effect on sexual function. Psychological factors influence sexual-decline
Greenburg E, Treger I Ring H[13]	2004	120 patients	Sexual dysfunction was reported in three per cent
Sjogren K Fugl Meyer AR[14]	1982	110 patients	Dependence, causing changes in roles of post-stroke patients is a predictor of sexual activity
Hawton K[8]	1984	50 male patients	Physical disability had been a problem in resuming sexual activity. A man's sexual response is not usually chronically impaired following stroke. Some partners experienced lack of desire, and fear of another stroke and poor communication added to this.

Factors affecting sexuality after stroke

Many factors have been suggested that may affect the sexual function of a stroke patient and these include demographic, physical and psycho-social factors[5,12].

Demographic factors affecting sexuality after stroke

These demographic factors include gender, marital status, age and education. These factors were not found to be significant by many authors in determining sexual function of a patient after a stroke[3,4,11,13]. However, a study by Buzzelli *et al*[11], found that the length of marriage had a negative impact on the patient's level of sexual function post-stroke.

Physical factors affecting sexuality after stroke

Site of lesion

Left sided lesions were found to be in a significantly higher frequency among a group of males with sexual dysfunction, in comparison to a group of males with no sexual dysfunction[10]. This has also been demonstrated by other authors[5,15,16].

The right hemisphere has also been suggested to be dominant to sexual function[17]. Coslett *et al* found that right hemisphere stroke led to major sexual dysfunction in comparison to left hemisphere stroke in a study of 26 men with unilateral strokes[17]. In addition, damage to the dominant hemisphere has been implicated in causing sexual decline, with damage to the non-dominant hemisphere causing sexual excitation[13]. These results are conflicting and other studies show no correlation[3,4,8].

Physical disability

Physical disability was found to have a negative impact on sexual activity[3,6,18]. Hawton[8] found that of the 50 men included in his study, the majority experienced difficulties due to physical disability. In spite of this, difficulties were overcome by two thirds of the men by trying new sexual positions[8]. Dependence of a stroke patient on their partner has been implicated in causing changes in sexuality[6].

Medication

Whilst the majority of patients are on a wide variety of pharmacological agents, as a whole they have not been implicated in affecting sexual function other than antidepressants and anti-hypertensives[4,11,19].

Psycho-social factors affecting sexuality after stroke

Depression

Post-stroke sexual dysfunction has been shown to be closely related to the degree of depression shown with the Geriatric Depression Scale[4,10]. Conversely other authors have indicated no relationship between sexual dysfunction and depression[3,11].

Psychological fears

Many psychological fears may affect the sexual function of an individual. Salvatore *et al*[3] found that 25 per cent of male partners and 21 per cent of female partners feared relapse in their partners (the patient) that contributed to sexual dysfunction. Korpelainen *et al*[4] discusses other fears that patients have, regarding sexuality, impotence and functional disability. Patients often have reduced self-esteem concerning their desirability to others, in both married and single patients[1]. Lack of communication between the patient and their partner also presents a problem[4,8].

High level of pre-morbid sexual activity

It has been suggested that a high level of pre-morbid sexual activity is indicative of maintained sexual activity post-stroke in males[8], but this has not been supported elsewhere[3].

Based on the perceived factors influencing the impact of stroke on sexuality, a variety of assessment tools have been used in considering sexual function in post-stroke patients:

- Semi-structured interviews[1,8]
- Questionnaires – including detail of pre-stroke and post stroke sexual function[4]
- Assessment of depression, e.g. using the Geriatric Depression Scale[4], Hamilton Rating Scale for Depression[10], Beck Scale and Centre for Epidemiologic Studies Depression Scale[3]
- Assessment of physical disability, e.g. using the Rankin Scale[4] and Functional Independence Measure[11].

Inclusion of data from partners of patients has also been reported by some authors (partners completing questionnaires on their sexual activity separately to the patient)[3,4].

The impact on the partner post-stroke

Partners experienced reduced desire, fear of relapse of the patient, and anxiety at having sexual intercourse with an unwell person, as well as experiencing decreased libido (in up to 65 per cent), sexual activity and satisfaction[3,4,8]. In addition, 27 per cent of spouses are said to have ceased sexual intercourse post-stroke[3]. Breakdown of marriage due to a reduction in sexual intercourse is an extreme outcome but has been described[1].

Management

Management of altered sexuality following stroke is difficult particularly as there is no consensus agreement about the risk factors involved. It is important to screen patients for contributing psychological problems. e.g. depression as well as rehabilitating physically.

Most studies suggest that counselling should form part of the 'routine' management of patients who have suffered a stroke to facilitate discussion within a couple to address interpersonal problems[1,3,4,8,13]. In one study approximately half of the patients and spouses displayed an interest in sexual counselling[4]. In the first instance, there must be a greater awareness and acknowledgement of this problem among physicians and other members of the multidisciplinary team, particularly as patients may be reluctant to discuss symptoms relating to sexuality.

Conclusion

Sexual dysfunction following stroke is a prevalent problem for both patients and their partners but is under recognised by the multidisciplinary stroke team. It has been demonstrated repeatedly that patients have experienced loss of libido, decreased frequency of intercourse, decreased arousal and decreased satisfaction with their

Key points

- Stroke results in psychological as well as physical disability.
- It has been demonstrated that stroke has a negative effect on a number of aspects of sexuality: sexual frequency, libido, sexual organ function and sexual satisfaction.
- A number of demographic, physical and psychosocial factors may influence the impact of a stroke on a patient's sexuality.
- Impairment of sexuality as a consequence of stroke is poorly recognised by the multidisciplinary stroke team.
- Recognition of the problem, managing the risk factors and counselling for the patient and their partner form the basis of management.

sexual health. Factors that may be implicated in this decline are many and at present there are no conclusive answers; it is likely to be combination of the physical and psycho-social factors identified. Counselling of a couple as part of the rehabilitation programme may help to focus on some of their concerns ■ GM

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