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STUDY OF SEXUAL FUNCTIONING, SEXUAL CONCERNS AND SEXUAL SATISFACTION IN MALE STROKE SURVIVORS.

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ABSTRACT

Context: Post stroke sexual dysfunction in adult survivors frequently goes under-considered in medical practice. Sexual dysfunction following stroke is thought to result from multiple factors like organic and/or psychosocial and physical.

Aim: To study the sexual functioning, sexual concerns and sexual satisfaction in males stroke survivors.

Methods: It was a cross sectional questionnaire based study in the Neurological Rehabilitation department of a tertiary care Institute in 33 adult male stroke survivors in the age more than 21 years with at least 3 months of community dwelling post discharge. The sexual functions recorded were (1) libido/desire, (2) coital frequency, (3) sexual arousal (4) erectile function using IIEF score (5) ejaculation using PEDT score and (6) sexual satisfaction

Results: Thirty three eligiblemale stroke survivors in the age range from 25-54 years (mean 42.5 years) with post-stroke duration of 3-45 months (mean 16.6 months) were included in the study. Of them, 14 had experienced stroke within 12 months and 19 had experienced stroke > 12 months ago. Thirteen participants were sexually inactive and reported no coitus because of a loss of erection. The sexually active stroke survivors reported a moderate recovery of libido (60%), coital frequency (60%), erectile function (63%), orgasm (32%) and sexual satisfaction (25%) while others had poor recovery. Erectile dysfunction was present in 16 cases, an-ejaculation in 18 cases and premature ejaculation in 9 cases. Hypertension and depression with a history of smoking posed a higher risk of erectile dysfunctions.

Conclusion: Exploration of sexual dysfunctions and sexual counselling by clinicians should be part of the comprehensive stroke rehabilitation program in sub-acute care.

KEYWORDS : sexual functions; post stroke rehabilitation care

1. INTRODUCTION

Adult male stroke survivors frequently present with sexual dysfunctions like decreased libido, impotence or inability to ejaculate which are often under-recognized in medical practice. Even in stroke patients with no or mild physical disability, nearly half experienced a decrease in libido, coital frequency, sexual arousal, orgasm and sexual satisfaction [1].

The sexual response cycle [2] involves 3 neurobiological systems, input physiologic systems for inducing sexual arousal, spinal and meson-diencephalon-limbic in mediating sexual arousal, and output physiologic response in the genital region by sympathetic/ parasympathetic nervous system necessary for priming and executing a sexual activity. Multiple factors contribute to sexual dysfunctions, organic (i.e. stroke lesion, comorbidity) [3] and psychosocial (i.e. prior sexual activity [4] depression [5], anxiety, fear of stroke recurrence, loss of self-esteem, role changes) and physical {i.e. spasticity, fatigue, limb weakness, and loss of dexterity) [6] and medications [6,7]. It has been recommended that assessment of sexual dysfunction and sexual counselling by medical experts should be integrated into comprehensive stroke rehabilitation [3].

3. AIMS & OBJECTIVES:

To study the sexual functioning, sexual concerns and sexual satisfaction in male stroke survivors.

4. METHODOLOGY

A cross sectional questionnaire based study in the Neurological Rehabilitation department of a tertiary care Institute in Bengaluru in 33 adult male stroke survivors in the age more than 21 years with more than 3 months of community dwelling post discharge, neurologically stable and gave written informed consent to participate in the study. Individuals who had cognitive deficits, previous history of sexual dysfunctions and unwilling to participate were excluded.

Demographic & psychosocial data included:

age, sex, socioeconomic status, marital status, children, sexual activity status.

Comorbidity and history of hypertension, diabetes mellitus, ischaemic heart disease, smoking, drinking, depression, hyperlipidaemia and current medications was obtained.

Clinical data included:

stroke type, side, duration and current Scandinavian stroke score, sexual functions. Measures of sexual functions were (1) libido/desire, (2) coital frequency, (3) sexual arousal in men (erectile ability using IIEF score), (4) ejaculation in men (using PEDT score) and (5) sexual satisfaction and concerns was enquired.

International Index for Erectile Function (IIEF), [8] is a five-item questionnaire on 5 point Likert scale. A total score <8 suggests severe erectile dysfunction, a score between 9-16 suggests moderate erectile dysfunction and score 17-25 suggests mild/no dysfunction. Erectile dysfunction [9] was defined as the persistent inability to attain and maintain an erection sufficient to permit satisfactory sexual performance. It is commonly classified into three categories based on its aetiology, these include organic, psychogenic and mixed Erectile dysfunction.

Premature Ejaculation Diagnostic Tool(P.EDT), [10] is a five-item questionnaire that assesses control, frequency, minimal stimulation, distress and interpersonal difficulty. A total score 11-20 suggests a diagnosis of premature ejaculation, a score of 9-10 suggests a probable diagnosis while a score of <8 indicates a low likelihood. The International Society for Sexual Medicine (ISSM) [11] has defined premature ejaculation (lifelong and acquired) as a male sexual dysfunction characterised by ejaculation that always or nearly always occurs prior to or within about 1 minute of vaginal penetration (lifelong PE) or a clinically significant and bothersome reduction in latency time, often to about 3 minutes or less (acquired PE) with the inability to delay ejaculation on all or nearly all vaginal penetrations.

5. RESULTS:

There were 33 male stroke patients in the age range from 25-54 years (mean 42.5 years). The stroke duration was 3-45 months (mean 16.6 months). Of them, 14 had experienced stroke within 3-12 months and another 19 had experienced stroke more than 12 months ago. Of all stroke survivors, 18 (43%) had a current Scandinavian stroke score>40 indicating good functional recovery and 15(30%) stroke survivors had

a current Scandinavian stroke score<40. The site of stroke lesion was right hemisphere in 18 cases and left hemisphere in 15 cases. Before stroke, all patients had normal sexual arousal, activity and satisfaction and very rare erection or ejaculation problem. Of the 31 married stroke survivors, 28 had completed their family (20 had 2-3 children, 8 had 1 child and 3 had no children). After stroke, 2/3rd of them lost their job and became dependent for caregiving, emotional and financial support on their spouses (wives).

Thirteen sexually inactive stroke survivors reported no coitus because of a loss of erection. Factors like belief in stroke affecting sexual functions, being married but no discussion with one's partner about sexuality, an unwillingness for sexual activity, older age group contributed to the loss of libido and prevented them in participating in sexual activity.

Twenty sexually active stroke survivors considered sexuality as important, and were willing to participate in sexual activity but did not discuss their sexuality with their partners. In our study, stroke survivors reported a moderate recovery of libido (60%), coital frequency (60%), erectile function (63%), orgasm (32%) and sexual satisfaction (25%). But low coital frequency was associated with factors like a belief in stroke affecting sexual functions, older age group, a low Scandinavian stroke score, history of hypertension or heart disease and prevented them from frequently participating in sexual activity. Stroke survivors frequently experienced erectile dysfunction in 16 cases, an-ejaculation in 18 cases and premature ejaculation in 9 cases.

A moderate to severe erectile dysfunction (IIEF score<11) was associated with a history of hypertension or heart disease, depression, smoking, diabetes mellitus and other comorbid conditions & current medication and low Scandinavian stroke score. Post stroke depression was present in 16(48.5), and patients taking antidepressants had 6.2 times a higher risk (OR=12.94) of moderate to severe erectile dysfunction. Hypertension was present in 31(62%), and patients taking anti-hypertensives had 1.9 times a higher risk (OR=3.8) of moderate to severe erectile dysfunctions. History of smoking 19(57.6%) and alcohol abuse 13(39%) was more often found in the male patients. Smokers had 1.7 times higher risk (OR=3.4) of moderate to severe erectile dysfunction. Other common medications used were anti-platelets in 15(45%), anti-lipemics in 14(42.4%) patients.

Table 1: Characteristics of male sexual dysfunctions and degree of satisfaction

All Male subjects(N=33)		
Sexual Function		***After stroke***
Libido/Desire	***Absent***	***12(36.4%)***
	Decreased	***18(54.5%)***
	Normal	***3(6%)***
Arousal/Erection	***Never***	***13(39.4%)***
	Rarely	***5(15%)***
	Often	***11(33%)***
	Normal/Always	***5(15%)***
Coital Activity Frequency	***Never***	***13(39.4%)***
	bi-Monthly	***10(30%)***
	monthly	***5(15%)***
	Weekly	***5(15%)***
Ejaculation	***Absent***	***18(54%)***
	Decreased	***9(27%)***
	Normal	***5(15%)***
Orgasm	***Absent***	***18(54%)***
	Decreased	***9(27%)***
	Normal	***5(15%)***
Sexual Satisfaction	***Extreme Dissatisfied***	***14(42.4%)***
	Quite Dissatisfied	***11(33%)***
	Quite Satisfied	***8(24.3%)***

Table 2: Clinical comorbid risk factors for sexual dysfunctions.

	Moderate - Severe Erectile dysfunction	***Normal/Mild Erectile dysfunction***	***RR (95%CI)***	***OR (95%CI)***
Depression on Rx	***15***	***1***	***6.1(1-41)***	***12.5 (1.4-111)***
Non depressed	***12***	***10***		
Hypertensive on Rx	***15***	***4***	***1.9(0.8-4.3)***	***3.8(0.8-17)***
Non hypertensive	***7***	***7***		
Smokers	***17***	***5***	***1.7 (0.85-3.4)***	***4.8 (0.85-19)***
Non smokers	***5***	***6***		

Sexual life dissatisfaction was considered a major concern by majority stroke survivors 25(75.4%). Poor functional recovery and future risk of stroke appeared to be next important concern of the male patients rather than impotence. Other common concerns were a lack of discussion with one's partner about sexuality and misbeliefs such as stroke affects sexual functions and contributed to the worries of our male stroke patients.

All the patients had insufficient information about post stroke sexual dysfunctions and they wanted counselling from a physician in hospital or rehabilitation centre, with two-thirds wishing to receive counselling within a year of stroke.

3. DISCUSSION

The present study had male stroke patients (N=33) in the age range from 25-54 years (mean 42.5 years). The stroke duration was 3-45 months (mean 16.6 months). Of them, 14 had experienced stroke within 3-12 months and 19 had experienced stroke >12 months ago. The site of stroke lesion was right hemisphere in 18 cases and left hemisphere in 15 cases. Before stroke, all patients had normal sexual arousal, activity and satisfaction and very rare erection or ejaculation problem. Most patients were married and completed their family. After stroke, 2/3rd of them lost their job and became dependent for caregiving, emotional, and financial support on their spouses (wives).

Sexually active stroke survivors (N=20) considered sexuality was important, and were willing to participate in sexual activity but did not discuss their sexuality with their partners. Factors like belief in stroke affecting sexual functions, a history of hypertension or heart disease, low Scandinavian stroke score and comorbid conditions, prevented them from frequently participating in sexual activity. Stroke survivors frequently experienced erectile dysfunction in 16 cases, an-ejaculation in 18 cases and premature ejaculation in 9 cases. Similar results have been reported by Jae-Hun Jung [12], in comparison of 109 stroke patients (64.93 ± 8.81 years) and 109 age-matched controls (64.69 ± 8.85 years). He found that erectile function was significantly decreased in the stroke patient group (IIEF-5, 5.89 ± 7.08) compared with the control group (IIEF-5, 10.67 ± 7.10). Julia Koehn [13], who studied sexual functions in 56 men, aged 64.39±10.64 years, within 24 months of ischemic stroke, found that post-stroke VAS-values decreased significantly from pre-stroke VAS-values for arousal ability, desire, ejaculatory function, and sexual satisfaction, post-stroke VAS-values increased significantly for erectile dysfunction, but remained almost unchanged for orgasmic function.

In our study, moderate to severe erectile dysfunction was common in patients with post stroke depression and taking anti-depressants in 16(48.5%), who had 6.2 times a higher risk (OR=12.94); hypertensives taking anti-hypertensives in 31(62%), who had 1.9 times a higher risk (OR=3.8) and history of smoking 19(57.6%), who had 1.7 times higher risk (OR=3.4). Other commonly used medications were antiplatelet in 15(45%), lipid lowering drugs in 14(42.4%) patients. Similar risk factors studied by Bener A[14] in 605 Qatari and non-Qatari patients 35-75 years of age (the mean age of subjects was 56.1+/-9.8 years) reported the co-morbidities and risk factors were significantly more prominent in ED patients than in those without ED for hypercholesterolemia (P<0.001), diabetes (P=0.002), and hypertension (P=0.031). Medication taken for these diseases also had a significant association with ED.

Erectile dysfunction in itself is a risk factor for recurrence of stroke in adult men as studied by Francois Bénard [15] in the stroke risk population (n = 644; 61.3 ± 5.1 years), men with moderate to severe ED were at a 43% relative risk increase for a stroke within 10 years (absolute risk: 9.3% for no ED to 13.3% for moderate to severe ED; p = 0.041) but the risk decreases with age.

Sexual concerns regarding dissatisfaction about their sexual life was considered by majority 25(75.4%). Poor functional recovery and future risk of stroke appeared to be important concern of the male

patients rather than impotence. Beliefs such as stroke affects sexual functions and a lack of discussion with one's partner about sexuality contributed to the worries of our male stroke patients. Similar reports by the Finnish study [4] showed that 109 of 192 patients with a mean age of 59 years reported sexuality being regarded as unimportant is the explanatory factor for lack of sexual activity. The most important explanatory factors for the decline in libido and coital frequency and sexual satisfaction were the general attitude toward sexuality, fear of impotence, inability to discuss sexuality, unwillingness to participate in sexual activity, and the degree of functional disability.

Study Limitations: Being a small sample size of male stroke survivors the study cannot be generalised.

9. Conclusions:

Sexual dysfunctions are common in Indian stroke patients with disability. Both psychosocial and clinical comorbid factors may affect sexual functioning after stroke. A thorough medical surveillance, including cardiologic evaluation when indicated, treatment of risk factors and lifestyle modifications, seems advisable for men with erectile dysfunction. Exploration of sexual dysfunctions and sexual counselling by clinicians should be part of the comprehensive stroke rehabilitation program in sub-acute care.

10. **Ethical approval** was taken from IEC NIMHANS prior to the study. No potential harm to the patient. No invasive procedure or alteration of management plan is involved. Confidentiality of all the information obtained was maintained and data is used only for present research study.

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