

REVIEW

Sexual rehabilitation in women with spinal cord injury: a critical review of the literature

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Study design: Review article.

Objectives: Critical review of literature on the multiple aspects of sexual rehabilitation in women with spinal cord injury (SCI) from initial recovery to long-term follow-up.

Setting: Neuro-urology Department.

Methods: Studies on sexuality selected from PubMed from 1993 to 2009.

Results: Literature supported by significant statistical analyses reports that females with complete tetraplegia deserved special attention immediately at initial recovery; sexual intercourse is much more difficult for them (as compared with other women with SCI) mainly because of autonomic dysreflexia and urinary incontinence. There are sparse data on predictable factors favoring sexual rehabilitation such as the age SCI was incurred, the importance of one's sexual orientation, and the SCI etiology. Information after initial discharge is based chiefly on questionnaires, which report that as more time passes since the injury, patients attain more sexual satisfaction compared with recently injured women. Studies on neurological changes after SCI, and their effect on sexual response, are supported by a significant statistical analysis, but with few SCI patients. One topic reported the effect of sildenafil on sexuality, without benefit. No paper offers any detailed analysis on the sexual impact of medical and psychological treatments related to SCI. Literature reports that some co-morbidities are more prevalent in women with SCI compared with able-bodied women but data on sexual functioning are missing.

Conclusion: To improve sexual rehabilitation services, sexual issues and response require evaluation during periodical check-ups using validated questionnaires administered by a physician 'guide' who coordinates professional operators thus providing personalized programmable interventions.

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Introduction

Spinal cord injury (SCI) significantly changes motor, sensory, and autonomic function affecting many areas of a person's life, including sexual functioning. Sexuality in women with SCI has largely been neglected.¹ One reason may be the male dominance among traumatically injured individuals. Female sexual dysfunction is less problematic than for males with SCI; the majority of para- or tetraplegic women will continue to menstruate, ovulate, and may reproduce.^{2,3} The belief that women have a supposedly passive role during intercourse downplays the importance of their sexual dysfunction as well.⁴

The neurological lesion may determine a varying degree of sexual dysfunction in women with SCI (primary effect). This negative effect on sexual function is often amplified by practical problems caused by a neurological disorder, bladder

and bowel management, spasticity, pain, as well as psychological motivations such as low self-esteem and self-image, or lesion-related relationship problems can all influence sexual activity, satisfaction, and sexual response (secondary effect).^{3,4}

Finally, one's neurologic condition may negatively impact sexual life due to the lack of, or difficulties involved in, interpersonal–social relationships (third effect).¹

The rehabilitation of sexual function in females with SCI is aimed at facilitating a form of sexual expression that is both acceptable and satisfying to the women. Sexual satisfaction is not static, though, and holds great subjectivity, and may continue to evolve over time for all individuals. Given this evolution, continued opportunity for sexual counseling is needed even when the women have left the rehabilitation center and returned to their homes and partners. These considerations support the need for services that provide life-long interventions and assessment of these patients through a holistic approach, including a variety of specializations that are relevant to sexual rehabilitation.⁴

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Sexual functioning and the perception of 'good health' are strictly correlated. Throughout the last decade, a variety of studies have clarified the association of sexual functioning after SCI with quality of life (QoL).^{5,6}

Female sexual rehabilitation is recognized as a fundamental component of the overall rehabilitation program; however, retrospective studies identify a gap between services desired by patients and the services actually rendered.^{7,8} This study presents a critical review of literature on the multiple aspects of sexual rehabilitation in women with SCI from initial recovery to long-term follow-up.

Materials and methods

Review of sexual rehabilitation commenced at the patients' initial recovery and extended to the short, medium, and long-term follow-ups. According to this criteria of methodology, the results were divided into two parts: initial recovery and follow-ups, identifying subcategories for each. Internationally published studies from the PubMed database with the following key words were used: female SCI sexual function, SCI sexual adjustment, female SCI sexual response, therapies for female SCI sexual dysfunction. Searches were also done using one co-morbidity such as diabetes or cardiovascular, as well as one behavior risk factor (drug/alcohol abuse) together with SCI female or female sexual dysfunction. In the end, key words also comprised the main secondary effects (medical and psychological) related to the SCI condition that may interfere with sexuality such as: urinary incontinence/psychological issues and SCI female sexuality.

Topics of principle significant statistical analysis with at least $P < 0.05$ were selected and reported in this study. The inclusion criteria covered topics dating from 1993 to 2009. Papers concerning experimental models of SCI sexuality and fertility issues were excluded.

Results

Initial recovery

Of the four sections identified, the first and second are based on data gathered, whereas the last two concern possible interventions for facilitating the recovery of sexual activity and an assessment of sexual response post-SCI.

Demographics, detailed medical and sexual histories pre-SCI. Data on female sexuality before SCI are sparse and gathered only through surveys and questionnaires administered many years post-SCI.⁹ Retrospective reports could exaggerate the effects of injury on sexual functioning. Kreuter *et al.*¹⁰ states, for example, that the high level of sexual desire reported by women pre-SCI compared with able-bodied women may actually be a memory bias or a glorification of life before injury.

Marriage or enduring relationships, and a higher level of instruction, are favorable parameters for better sexual adjustment.^{11,12} Conflicting data exist on whether the age SCI was incurred, as well as the importance of one's sexual

orientation, is relevant to sexual rehabilitation.^{2,13} Ferreiro-Velasco *et al.*¹ found in their study that women under 18 years who suffered an SCI run a higher risk of not having intercourse than those who were over that age when they incurred the SCI ($P = 0.04$).

Topics where statistical analysis reached at least $P < 0.05$ are reported in Table 1.^{1,5,10,14-18} The large and diverse outcome measures of these studies did not consent a meta-analysis of the data presented.

Etiology of SCI. Literature reports that patients with traumatic SCI achieved greater overall functional improvement compared with non-traumatic SCI.^{19,20} In the etiology of non-traumatic SCI, McKinley reported a higher incidence of autonomic dysreflexia (0% versus 24.1%), spasticity (21.1% versus 44.3%), depression (23.7% versus 26.6%), urinary tract infections (52.6% versus 67.1%) and pain (55.3% versus 62.0%) all conditions that interfere with sexual activity and functioning.²⁰

SCI caused by attempted suicide and epileptic episodes present a higher rate of sexual dysfunctions before injury compared with other SCI origins.²¹⁻²³ Table 2 shows factors influencing the success of sexual satisfaction and/or sexual adjustment.^{1,2,19-23}

Treatment for the secondary effects of SCI interfering with sexual activity and/or response

Medical factors. Pharmacological treatments are mainly used for urge urinary incontinence, musculoskeletal, and vaginal pain.^{1,3,5} Women with complete tetraplegia are less likely to have sexual intercourse than other women with SCI because they may suffer more frequently from medical factors associated with SCI, such as autonomic dysreflexia, and urinary incontinence (see Table 1).^{4,9,10} Table 3 reports medical problems correlated to SCI.^{1,4,5,9,24-26}

Psychological issues. The process of mourning the losses brought on by injury requires psychological support because most women feel their bodies are less attractive after the spinal cord lesion.² Literature reports that psychological factors may limit sexual activity and/or sexual adjustment more than physical impairments. To optimize their sexual adjustment, it is preferable to involve the patients' partners, thereby fostering trust and a willingness to share personal thoughts and feelings.^{1,4} Studies report that peer support for psychological issues affecting women with SCI is extremely positive.^{10,27}

Monitoring neurological recovery. SCI in women has been shown to affect all aspects of genital neurology, including genital sensation, vaginal lubrication, and orgasm.^{18,28} During initial recovery, it is advisable to assess neurological recovery through any change in the ASIA/IMSOP scales of international standards; in fact, the majority of neurological improvement occurs within the first 3 months, but slight improvement can continue up to 18 months or longer.²⁹

Table 1 Topics where statistical analysis reached $P < 0.05$

Authors	Methods	Results
<i>Predictive parameters for sexual adjustment after spinal cord injury (SCI)</i>		
Kreuter <i>et al.</i> ¹⁰	Study design: controlled cross-sectional questionnaire 545 women with SCI versus age-matched control group. Mean age 45 years, average time since injury was 13 years Measures: 104-item questionnaire	Significantly ($P < 0.01$) more of the women with complete tetraplegia (37%) had not engaged in sex after injury compared with other women with SCI Women with preserved genital sensation rated sex more important than women without ($P < 0.01$) Sexual desire decreased significantly ($P < 0.01$) after injury The greater the number of years after injury, the greater the likelihood of having a sexual relationship ($P < 0.01$) Patients with tetraplegia reported experiencing autonomic dysreflexia during sexual activity ($P < 0.01$) AD interferes with sexual activity ($P < 0.01$)
Anderson <i>et al.</i> ⁵	Secure, web-based survey 87 women with SCI, mean age 42.2 years and average time since injury 14.5 years Measures: Two questionnaires (the first composed of 35 questions gathered general information, the second composed of 39 questions concerned with sexual issues)	Women after SCI had a reduction in intercourse frequency and in the ability to reach orgasm ($P = 0.003$ and $P = 0.008$, respectively)
Ferreiro-Velasco <i>et al.</i> ¹	Semi-structured interview 37 women with SCI Mean age 40 years Time since injury average 10 years Secure, web-based survey	Tetraplegic patients experienced difficulties in having sexual intercourse related to AD ($P < 0.01$)
<i>Risk conditions for sexual dysfunction</i>		
Tate <i>et al.</i> ¹⁴	Retrospective cross-sectional 654 pre-menopausal SCI patients Median time after injury was 9.7 years Main outcome measures: alcohol and substance users	Younger people abused alcohol and drugs (mean age 35 years) more than older ones ($P < 0.01$) Substance users showed lower life satisfaction compared with non-users ($P < 0.01$)
Krause <i>et al.</i> ¹⁵	Method: survey. $N = 417$. Mean age not reported. Injured for at least 1 year Measures: questionnaires for older adults on health and mood to detect depressive symptoms	Individuals aged 30–39 and 50–59 years at injury incurred major depression compared with those of 19 years or younger ($P < 0.05$) Females with < 12 years of education incurred major depression compared with those with higher levels of study ($P < 0.05$)
<i>Effect of SCI lesion on sexual response</i>		
Sipski <i>et al.</i> ¹⁷	46 women with SCI versus 11 control women. Mean age 35.1 Mean time since injury 10 years, Treatment: vibratory stimulation versus manual stimulation	Increased arousal from both manual and vibratory stimulation in both groups ($P < 0.01$)
Sipski <i>et al.</i> ⁴²	Measures: vaginal pulse amplitude (VPA), levels of arousal 17 women with partial lesion T6 or below. Age = pre-menopausal women Treatments: Manual sexual stimulation and genital stimulation associated with distracting task	The perception of light touch and pinprick in the T11–L2 dermatomes was associated with the ability to achieve psychogenic lubrication ($P = 0.04$)
Sipski <i>et al.</i> ¹⁸	Measure: vaginal pulse amplitude 68 pre-menopausal women with SCI versus 21 matched able-bodied women Treatments: audiovisual erotic and audiovisual erotic combined with manual genital stimulation Measure: subjective ability to achieve orgasm	Women with SCI were less able to achieve orgasm than able-bodied women ($P = 0.001$) Women with complete lower motor neuron dysfunction affecting the S2–S5 segments were less likely to achieve orgasm, compared with other levels and degrees of SCI ($P = 0.048$) Time to orgasm was significantly increased in women with SCI compared with able-bodied controls ($P = 0.049$)

Follow-ups after initial discharge

General information. Literature has reported little information on the sexual activity, satisfaction, and response of women with SCI after initial discharge, and has mainly cited a variety of self-reporting surveys done over the internet, telephone, or in person; most of these were women who had spinal cord injuries for > 10 years.^{1,9,10} These studies highlighted that most of women did not receive any information on sexuality issues at any time after their injury. Kreuter *et al.*¹⁰ reported that 61% of patients with SCI received no information during their initial recovery, and at the time the

survey was administered 40% would have appreciated input on sexuality issues.

Forty to 80% of women continued to be sexually active after injury, but much less so than before injury.^{1,9,10} Ferreiro-Velasco *et al.* discovered a significant drop in the frequency of intercourse after SCI (with an average of 9.9 times per month before injury compared with 4.2 times after injury). Studies reported that the ability to reach orgasm decreased significantly after injury (see Table 1).^{1,18} Literature reports that as more time passes since the injury, patients attain more sexual satisfaction compared with

Table 2 Factors related to the success of sexual adjustment post-SCI

Parameters	Brief comments	Supporting studies
<i>Parameters influencing sexual rehabilitation</i>		
Traumatic versus non-traumatic	Non-traumatic cases present more medical complications that interfere with a sexual rehabilitation program	McKinley <i>et al.</i> ¹⁹ ; Yokoyama <i>et al.</i> ²⁰
Suicide attempts versus non-suicide attempts	Attempted suicides showed more sexual dysfunction (SD) compared with SCI control. Further research is needed	Lombardi <i>et al.</i> ²¹
SCI caused by an epileptic episode	Higher risks of having SD pre-SCI	Gutierrez <i>et al.</i> ²² ; Stimmel <i>et al.</i> ²³
Age <18 or >18 years	Contradicting data related to age, possibly due to cultural components	Ferreiro-Velasco <i>et al.</i> ¹ ; Westgren <i>et al.</i> ²
Married/stable relationship	Greater understanding of his partner's sexual needs brings about a more successful sexual adjustment	Reitz <i>et al.</i> ⁶ ; Kreuter <i>et al.</i> ¹¹ ; Kreuter ¹²
Occasional/never had a partner	Further research is needed	Lombardi <i>et al.</i> ²¹ ; Burch ¹³
Sexual orientation	Sexual adjustment is better in patients with higher education	Kreuter <i>et al.</i> ¹⁰
Occupational status/degree of instruction		

Abbreviation: SCI, spinal cord injury.

Table 3 Medical conditions correlated to SCI interfering with sexual activity and response

Medical issues	Brief comments	Supporting studies
<i>SCI medical conditions affecting sexuality</i>		
Urge incontinence	Represents the main physical problems	Ferreiro-Velasco <i>et al.</i> ¹
Fecal incontinence	Bowel incontinence causes great anxiety for women who resume sexual activity secondary to urinary accidents	Forsythe and Horsewell ⁴
Spasticity during intercourse	Affects more women with incomplete lesions	Ferreiro-Velasco <i>et al.</i> ¹
Pain: musculoskeletal and vaginal pain	Reported by many authors as interfering with sexual activity	Forsythe and Horsewell ⁴
	Chronic pharmacological therapies for pain are frequent for spinal cord injured women	Anderson <i>et al.</i> ⁵
Fatigue	Complex phenomenon interlinked with pain, spasticity, depression, and diminishes quality of life	Jackson and Wadley ⁹
Autonomic dysreflexia	Only in women with complete lesions above thoracic level T6	Ferreiro-Velasco <i>et al.</i> ¹
		Ullrich <i>et al.</i> ²⁴
		Baastrup and Finnerup ²⁵
		Hammell <i>et al.</i> ²⁶
		Forsythe and Horsewell ⁴
		Jackson and Wadley ⁹

Abbreviation: SCI, spinal cord injury.

women who have been recently injured.^{9,10} They acquire more liberal attitudes toward sex ($P < 0.02$) and engage in more sexual fantasies ($P < 0.01$).³⁰ What is more, the older the injury, the greater the likelihood of a woman with SCI taking part in a sexual relationship ($P = 0.024$).⁵

Diagnosis and treatments of co-morbidities correlated to sexual function. Literature reports that many co-morbidities are more prevalent in women with SCI compared with able-bodied women; diabetes in these women varies from 15 to 20%, which is three times higher than in the general population.³¹ Females with SCI present higher risks of cardiovascular disease compared with able-bodied women due to a greater prevalence of lipid disorders, metabolic syndrome, diabetes, and obesity.^{32,33} Nearly two thirds of individuals with SCI are either overweight or obese^{34,35} Literature reports symptoms of major depressive disorders in 7.9–11.4% just 1 year after injury, and women with SCI suffer depression more than their male counterparts^{15,36} Thus, over time one or more co-morbidities may be discovered. In truth, studies report that the onset age of SCI represents a

significant statistical parameter for alcohol and substance abuse and major depressive symptoms^{14,15} (see Table 1). None of these studies on co-morbidities investigated their impact on sexuality issues.^{14,15,31–37} Table 4 presents co-morbidities and harmful lifestyles for female spinal cord injured patients.

Diagnosis and treatments of the primary and secondary effects of SCI on sexual activity and/or response. At present, only one paper reports the effect sildenafil citrate has on sexual response in women with SCI. Results did not indicate significant improvement in vaginal pulse amplitude ($P > 0.07$).³⁸ Studies report SCI-related medical problems that interfere with sexuality including even invasive procedures such as augmentation enterocystoplasty for intractable detrusor overactivity or intrathecal baclofen through an implantable pump for treatment of severe spasticity. However, no paper offered any detailed analysis on their sexual impact.^{5,39,40} Many psychological problems are described: females lacking a partner, having a new partner or first-time sexual experience after SCI, or partner burn-out; again, there

Table 4 Co-morbidities and harmful lifestyles for female spinal cord injured patients

Co-morbidities	Brief comments	Supporting studies
<i>Co-morbidities and harmful lifestyles related to sexual function</i>		
Diabetes mellitus	Efforts are needed to prevent diabetes and provide early intervention in spinal cord injured women	Lavela <i>et al.</i> ³¹ ; Banerjea <i>et al.</i> ³²
Risk of stroke and heart attack	These risks are mainly related to an enforced sedentary lifestyle and increase with time since injury	Banerjea <i>et al.</i> ³² ; Baumann and Spungen ³³
Obesity	A carefully planned program for losing weight without compromising total lean mass and overall health is mandatory	Chen <i>et al.</i> ³⁴ ; Rajan <i>et al.</i> ³⁵
Depression	Depression may negatively influence sexual health, and this pathology increases with time since injury	Harrison <i>et al.</i> ³ ; Krause <i>et al.</i> ¹⁵
Epilepsy	Epilepsy may be the cause of spinal cord injury, and the chronic use of anticonvulsants can increase the risks of sexual dysfunctions	Bombardier <i>et al.</i> ³⁶ Gutierrez <i>et al.</i> ²² ; Stimmel and Gutierrez ²³
Hypothyroidism	Reported in topics before 1993 as well, even if no correlation was ever described with sexual dysfunctions	Cheville and Kirshblum ³⁷
Drinkers and substance users	They are younger	Tate <i>et al.</i> ¹⁴

Table 5 Psychological issues correlated to SCI interfering with sexual health

Psychological factors	Brief comments	Supporting studies
<i>Psychological issues related to SCI conditions</i>		
Most common: altered body image Being ashamed of the body Feelings of inadequacy	These factors can be multiple, and peer support is beneficial	Ferriero-Velasco <i>et al.</i> ¹
Low self-esteem Feelings of being unattractive Doubt about sexual abilities Fewer opportunities to make new contacts Fear of not satisfying or receiving pleasure from partner Difficulties in having sex Feelings of anger toward sex	For best results, it is important to involve the partner if possible Kreuter reports that only 7% of the women with a partner at the time of injury had received any information about sexuality after SCI	Forsythe and Horsewell ⁴ Anderson <i>et al.</i> ⁵ Kreuter <i>et al.</i> ¹⁰ Craig <i>et al.</i> ⁴¹ Post <i>et al.</i> ¹⁶
Peer support	Studies report that talking to others who have experienced a similar situation was of great help	Kreuter <i>et al.</i> ¹⁰ ; Eklund and Lawrie ²⁷

Abbreviation: SCI, spinal cord injury.

is no mention of sexual repercussions.^{10,16,24,41} Table 5 shows the most common psychological factors interfering with sexual health.^{1,4,5,10,16,27,41}

Neurological monitoring. A modification of neurological status that may influence sexual response can be noted primarily up to 18 months after SCI.²⁸ Studies on sexual arousal, such as Sipski's *et al.*,¹⁷ showed that in 46 SCI patients, arousal significantly increased with both manual and vibratory stimulation. Neurophysiological studies showed that women with the ability to perceive T11–L2 pinprick sensations may have psychogenic genital vasocongestion.⁴² Sipski *et al.*¹⁸ reported that reflex lubrication and orgasm are more prevalent in women who preserved the sacral reflex arc (S2–S5). Actually, when sensation in the sacral segments is absent, arousal and orgasm may be evoked through⁴³ stimulation of other erogenous zones, suprasedgmental to the lesion, such as the breasts, lips, and ears. Komisaruk *et al.* reported that women with complete SCI at dorsal T10 or above achieved orgasm with vaginal-cervical

self-stimulation through the vagus nerves afferent project in the nucleus tractus solitarius region of the medulla oblongata, bypassing the spinal cord. The function magnetic resonance imaging showed activation of the nucleus tractus solitarius and other central nervous systems involved in the orgasm.⁴⁴

However, sexual satisfaction may occur with or without orgasm. In fact, according to Basson's female sexual response model, if the female sexual experience has been emotionally and physically rewarding, it will enhance the couple's emotional intimacy, thereby increasing the motivation for subsequent sexual psychological satisfaction.⁴⁵

Discussion

Review of sexual rehabilitation, commencing at the patients' initial recovery and extending to short, medium, and long-term follow-ups, has allowed us to offer some recommendations and identify possibilities in future research (summarized in Figure 1). Studies supported by a significant

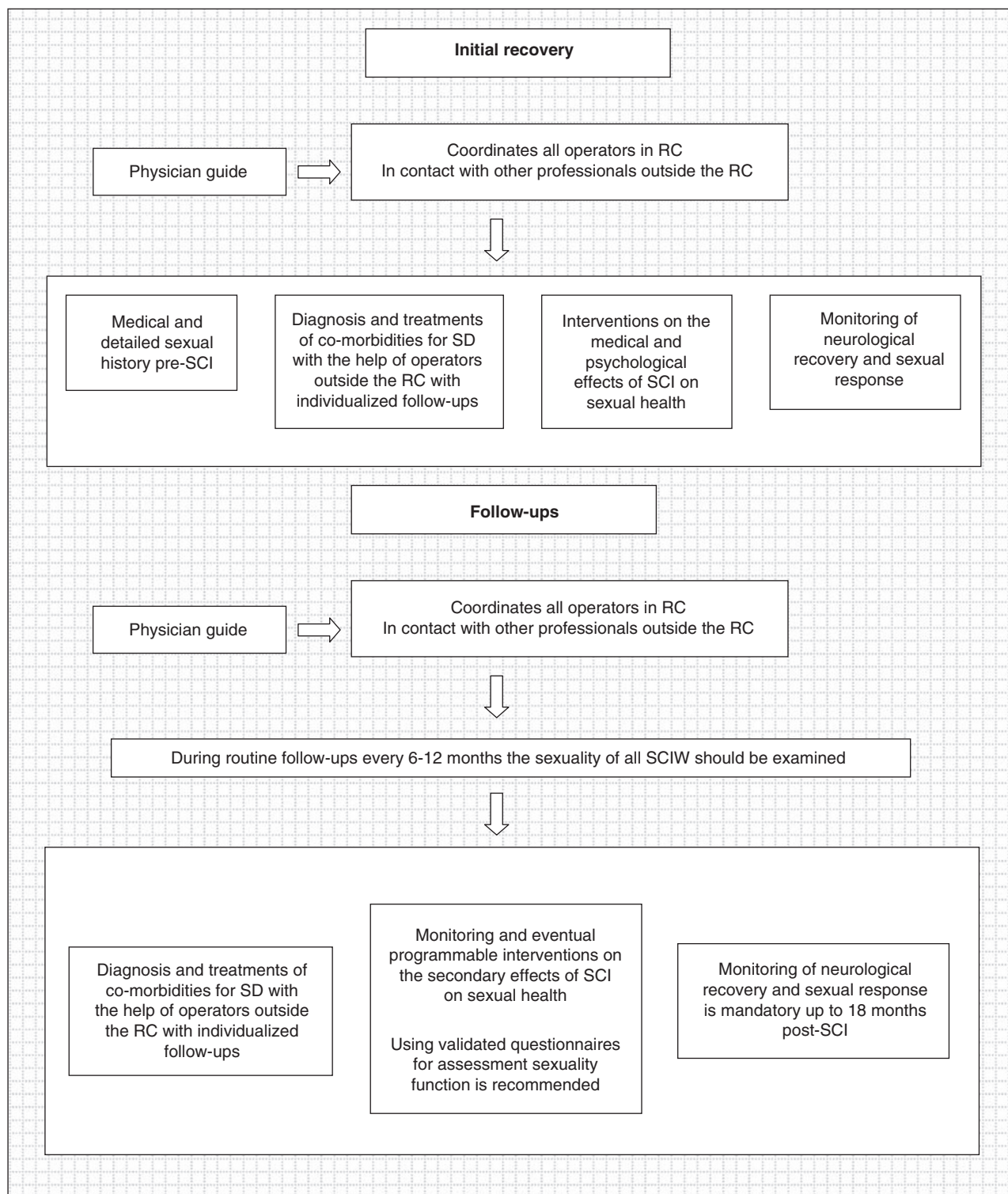


Figure 1 The interventions needed at first recovery and during subsequent follow-ups. RC, rehabilitation center; SCI, spinal cord injury; SCIW, spinal cord injured women; SD, sexual dysfunctions.

statistical analysis showed that on average sexual life was impaired by the SCI condition, and only after many years do SCI women attain satisfaction sexually.^{1,9,10} Females with complete tetraplegia deserve special attention immediately

during initial recovery because sexual intercourse will be much more problematic due mostly to the possible presence of autonomic dysreflexia and urinary incontinence.^{4,9,10} Moreover, it is important to take into account that some

co-morbidities possibly affecting sexual function are related to the onset age of injury such as major depression. At this time, it is not known how much SCI-related depression or alcohol and drug abuse influence sexual activity, response, and satisfaction (compared with a matched control group of SCI women). Therefore, a clinician may need supplementary evaluations and interventions for females with SCI who have these co-morbidities, and may have to rely on professionals working outside of the rehabilitation center or spinal unit. Although studies on neurological changes after SCI, and their effect on sexual response, are supported by a significant statistical analysis, further investigations are needed, with a large number of SCI patients, and a common international standardized study protocol.

Intervening on medical and/or psychological issues associated with lesion-related problems often concomitant in the same female is a well-known part of sexual rehabilitation. Lesion-related problems may influence sexual activity, satisfaction, and response.^{1,3,39,40} However, beyond diagnosis and treatments of these multiple conditions, the sexual field lacks information in all areas, such as a clear means of evaluating the impact of therapies on sexual response.

This is due, in part, to the dearth of health professionals who have the appropriate sexual health competence and knowledge to support women in SCI-related sexual issues. Although demand is growing for education and training for health care professionals in the area of sexual rehabilitation, unfortunately it is a discipline that is currently non-existent in many rehabilitation centers and countries.⁴⁶ The complex and multiple aspects of sexual rehabilitation, including its continuing evolution for all individuals, should lead physicians to offer their patients alternative evaluations and treatments. With this in mind, it may be constructive to establish a physician 'guide' who can coordinate and activate other operators in the rehabilitation center, or external professional figures to provide personalized programmable interventions for the patients or the couple, including peer support.

Although it is extremely difficult to determine the appropriate timing for follow-ups after initial discharge, a strategy that would make life easier for these women would be to schedule follow-ups that monitor sexual issues to coincide with the women's periodic check-ups (6–12 months) for any SCI-related problems, thus eliminating an extra trip that is arduous for such patients. Moreover, during each follow-up, to assess type and degree of sexual function it would make sense to administer internationally acknowledged questionnaires. The most frequently used questionnaire for female sexual assessment after SCI is the Female Sexual Function Index.⁴⁷ Objective continuative monitoring is needed in order for any intervention to have an impact on lesion-related problems as well as sexual function. In the meantime, creating a unified scoring system specific to women with SCI is recommended, one that would also address QoL.⁴⁸ In addition, the effects of aging in females with SCI are only beginning to be studied even though aging has negatively influenced sexual health both physically (genital atrophy, pain, fatigue, symptoms of menopause), and socioeconomically (day-to-day life with disability, financial problems, and separation).⁴⁹

All countries should invest funds in research directed toward improving QoL, specifically sexual intimacy and pleasure. A comparative investigation of countries showed that generally women with SCI living in Western European countries, Canada, and the United States reported more interest in SCI-related sexual issues, which might be explained by a long tradition of sexual education, an open attitude toward sexual issues, and/or more money invested in SCI research.^{1,2} Social factors certainly have an important role and are not contemplated in this study due to their variability. They may contribute to a worsening of self-esteem and a limiting of inter-personal relationships, sexual health, and QoL, considering that many individuals with SCI discontinue working at a younger age.⁵⁰ Unfortunately, a meta-analysis of the results data was not possible based on the literature available due to the multiple and incomparable variables presented in the studies reviewed.

Finally, notwithstanding all these limitations, we feel this topic is important as a starting point and hope it provides physicians and all operators working in spinal units and rehabilitation centers with tools to better understand the sexual health complexities of women with SCI and to contribute to the improvement of their sexual life.

Conflict of interest

The authors declare no conflict of interest.

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