

Table 28b. Sexual Satisfaction

Author Year; Country Score Research Design Total Sample Size	Methods	Results
<p><a href="#">Baguley et al. 2020</a> Australia Case-control Level 3 N=76</p>	<p><b>Objective:</b> To compare and contrast the contributory effects of traumatic brain injury (TBI) and spinal cord injury (SCI) on sexual function and social relationship opportunities, hypothesizing that patterns of change in sexual function would follow etiology.</p> <p><b>Population:</b> N=24 SCI, N=25 TBI, N=28 Dual diagnosis SCI Group: N=25, Males, Mean age at injury=39 years, 13 Married, 9 Never married, 7 Cervical, 13 Thoracic, 4 Lumbar, ASIA: 10A/6B/3C/5D,</p> <p><b>Methodology:</b> Semi-structured interviews were conducted in the participant's home, in an outpatient hospital setting or via telephone consistent</p> <p><b>Outcome Measures:</b> Sexual health after Spinal Injury Questionnaire</p>	<ol style="list-style-type: none"> <li>1. Almost all respondents (97%) perceived adverse post-injury change in their experience of neurosexual function and/or social relationships.</li> <li>2. Physiological aspects of sexual function (e.g., erection, orgasm) were most affected by SCI.</li> <li>3. Increased physical difficulty in attaining and maintaining an erection in SCI group (all p&lt;0.01).</li> <li>4. There is significantly lower sexual activity frequency, social frequency, social enjoyment, sexual activity satisfaction, partner satisfaction, and sexual activity frequency satisfaction in the SCI group (all p&lt;0.01).</li> </ol>
<p><a href="#">Cobo Cuenca et al. 2014</a> Spain Case Control Level 3 N=165 (85 SCI)</p>	<p><b>Objective:</b> To assess the different types of sexual dysfunction, the quality of life (QOL), depression, anxiety, and levels of self-esteem observed in 165 men with sexual dysfunction, both with and without spinal cord injury (SCI).</p> <p><b>Population:</b> 165 men with sexual dysfunction SD: Group A 85 with SCI (mean age= 35.61±8.13 years) and Group B 80 without SCI (mean age=46.31±10.69 years); duration of lesion 26.45±8.72 years; neurological level of injury 16 cervical, 46 thoracic, and 23 lumbar; 59 AIS A and 26 AIS B/C/D.</p> <p><b>Treatment:</b> None</p> <p><b>Methodology:</b> Individual interviews with patients, lasting between 30 and 45 minutes, were conducted at the Urology unit. The participants were asked to respond to various self-administered questionnaires.</p>	<ol style="list-style-type: none"> <li>1. In the SCI group, 89.4% (76) showed erectile dysfunction and 75.2% (64) reported anejaculation.</li> <li>2. In the non-SCI group, 96.8% (75) showed erectile dysfunction and 58.7% (47) had disorders of sexual desire.</li> <li>3. All of the participants reported a high general QOL and a high satisfaction with their QOL but their satisfaction with their sexual lives was only at the acceptable level.</li> <li>4. Social QOL was significantly higher in the SCI group than the non-SCI group.</li> <li>5. The QOL, self-esteem, and anxiety and depression levels are significantly correlated.</li> <li>6. Sexual health and employment status are the areas where men with spinal cord injuries report less satisfaction.</li> </ol>

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	<p><b>Outcome Measures:</b> The Sexual Health Evaluation Scale, the Fugl-Meyer Life Satisfaction Questionnaire scale (LISAT-8), the Hospital Anxiety and Depression Scale, the Evaluation of the Sexual Health Scale, and the Rosenberg's Self-esteem Scale.</p>	
<p><a href="#">Scholten et al. 2018</a> Dutch Case-control Level 3 N=146</p>	<p><b>Objective:</b> To describe and compare mental health and life satisfaction between individuals with spinal cord injury (SCI) and their partners 5 years after discharge from first inpatient rehabilitation; and to examine if injury severity moderates the association between individuals' with SCI and their partners' mental health and life satisfaction.</p> <p><b>Population:</b> N=146 (65F), Mean age: 65 years, 65 Paraplegia, 65 Complete</p> <p><b>Methodology:</b> Individuals with SCI and their partners completed a self-report questionnaire</p> <p><b>Outcome Measures:</b> Mental Health Subscale of Short-Form Health Survey and the Life Satisfaction Questionnaire</p>	<ol style="list-style-type: none"> <li>1. Sexual life domain was significantly lower than other life satisfaction domains for both the patient and their partners (<math>p &lt; 0.001</math>).</li> <li>2. In 81.7% of all couples, at least one partner felt dissatisfied in the sexual life domain.</li> </ol>
<p><a href="#">Federici et al. 2019</a> Italy Pre-post Level 4 N=14</p>	<p><b>Objective:</b> To evaluate the impacts of a psychoeducational intervention in a personal growth group on the sexual life of people with SCI and their partners particularly their sexual interest and satisfaction, depression, and anxiety</p> <p><b>Population:</b> N=14 (6F; 5M), Mean age at injury 38.1, 6 Paraplegia, 1 Tetraplegia</p> <p><b>Treatment:</b> Psychoeducational Intervention</p> <p><b>Methodology:</b> A socio-demographic questionnaire and three outcome measures were self-administered (see below) by participants and their partners who had provided voluntary written informed consent during the recruitment process. The outcome measures were administered again at the end of the last group meeting.</p>	<ol style="list-style-type: none"> <li>1. There was an increase in SIS-item 5 (enjoy sexual health) that increased from 1.36 to 2.18 after intervention (<math>p = 0.003</math>).</li> <li>2. SIS total score significantly increased from 10.55 to 12.82 (<math>p = 0.011</math>).</li> </ol>

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	<b>Outcome Measures:</b> Sexual Interest and Satisfaction Scale (SIS), Beck Depression Inventory-II (BDI-II), Beck Anxiety Inventory (BAI)	
<a href="#">Longoni Di Giusto et al. 2023</a> Argentina Cross-sectional Level 5 N=248	<b>Objective:</b> This study examined how individuals with SCI in Latin America experience their sexual health and what issues they and their partners face in this area. <b>Population:</b> N=248 (171F, 70M), Mean age: 38.6, 91 Dorsal, 68 Cervical, 54 Lumbar, 11 Sacral, 16 Unknown <b>Methodology:</b> Completed an online 60-item survey regarding sexual well-being. <b>Outcome Measures:</b> Online survey containing 60 questions that were categorized into six areas: (1) demographic information, (2) information received about sexuality, (3) sexual problems before and after SCI, (4) counseling and sex education, (5) couples' sexuality, and (6) sexual rehabilitation.	<ol style="list-style-type: none"> <li>1. 70% of the sample had sex after SCI.</li> <li>2. 26.5% of participants rated their satisfaction with their sexual health as satisfied and 20.5% were neutral.</li> <li>3. The majority of participants (87.7%) found that physical (50.7%) and emotional (38.7%) changes affected participant's sexual health most.</li> <li>4. Most participants (47.2%) found that their sex desire remained the same, 33.7% had decreased, and 19% increased.</li> <li>5. 77.6% participants discovered new erogenous zones following their SCI.</li> <li>6. Individuals (72.8%) who did not have a partner sought out romantic and sexual relationships after SCI.</li> </ol>
<a href="#">Lopes et al. 2022</a> Portugal Cross-sectional Level 5 N=112	<b>Objective:</b> To identify and characterize sexual activity among these patients, assess their sexual satisfaction and elucidate the factors that influence it. <b>Population:</b> N=112 (28F;84M), Mean age: 54.4, Time after injury 9.4 years, 30 Complete, 81 Incomplete, 29 Tetraplegia, 76 Paraplegia <b>Methodology:</b> A telephone questionnaire, addressing some topics about sexual health and sexual satisfaction, applied to spinal cord injured individuals previously admitted to a Rehabilitation Hospital <b>Outcome Measures:</b> Factors that affect sexual activity and satisfaction	<ol style="list-style-type: none"> <li>1. Older age, older age at injury, female, and no vocational status were significantly associated with decreased sexual activity (<math>p&lt;0.001</math>).</li> <li>2. Older age, older at injury, and not having sexual counselling were significantly associated with decreased sexual satisfaction (<math>p&lt;0.05</math>).</li> </ol>
<a href="#">Ates et al. 2022</a> Turkey	<b>Objective:</b> To determine the sexual problems of the patients with SCI	<ol style="list-style-type: none"> <li>1. Females (ASEX Score 21.46) had more sexual problems than</li> </ol>

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Cross-sectional (Mixed Method) Level 5 N=53	and analyze the relationship between these problems and the hopelessness levels of the patients <b>Population:</b> N=53 (13F;40M), Mean age: 36.96 (SD) 10.35, 16 T11-L2, 37 above T10 <b>Methodology:</b> employed a mixed method (qualitative and quantitative). A socio-demographic questionnaire and three outcome measures were self-administered by participants and their partners. The outcome measures were administered again at the end of the last group meeting. <b>Outcome Measures:</b> Questionnaire on Sociodemographic and Clinical Characteristics, Arizona Sexual Experiences Scale (ASEX) and Beck Hopelessness Scale (BHS)	males (ASEX Score 15.62) (p=0.026). 2. There are non-significant findings that females were more hopeless than males. 3. Statistically significant negative correlation between sexual drive and expectations from the future for men (p=0.007). 4. Hopelessness increased as sexual drive and arousal increased in men (p<0.05). 5. There were no statistically different findings between the BHS total scores of the participants and their level of education, duration after injury and the level of injury.
<a href="#">Zanin et al. 2022</a> Italy Cross-sectional Level 5 N=38, SCI=22	<b>Objective:</b> To investigate the determinants of sexual satisfaction among individuals with spinal cord injury and relative partners by assuming a biopsychosocial perspective <b>Population:</b> N=22 (9F;13M), Mean age: 43.64, Mean time since injury: 8.64, 9 Paraplegia, 13 Tetraplegia, AIS: 9A/5B/2C/6D <b>Methodology:</b> Anonymous self-report questionnaire <b>Outcome Measures:</b> Barthel Modified Index (MBI), Beck Depression Inventory-II (BDI), Short Form Health Survey (SF-36), and Multidimensional Sexual Self-Concept Questionnaire	1. No differences were observed between individuals with SCI and their partners. 2. Women with SCI were overall more satisfied about their sexual life when compared to men with SCI. 3. Coping strategies promoting self-efficacy and an active role in the sexual issues were predictive of Sexual Satisfaction for individuals with SCI and their partners. 4. No significant contribution was played by physical variables.
<a href="#">D'Andrea et al. 2020b</a> Italy Cross-sectional Level 5 N=100	<b>Objectives:</b> To explore the relationship of erectile function and androgenic status with life satisfaction, independently from confounders recognizable in spinal cord-injured men <b>Population:</b> N=100, Mean age 49 (SD) 17.1, 44 Cervical, 56 Thoracic-Lumbar, 58 Complete, 42 Incomplete	1. Men dissatisfied with their life had lower total testosterone (266ng/dL vs 408ng/dL) and calculated free testosterone levels (73.5pg/mL vs 118pg/mL) (all p<0.05).

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	<p><b>Methodology:</b> Underwent clinical/biochemical evaluations, including the assessment of life and sexual satisfaction using the Life Satisfaction Questionnaire-9, erectile function, global and bowel-bladder functional independence, and measurement of total testosterone levels.</p> <p><b>Outcome Measures:</b> Erectile Function (IIEF-5), Life Satisfaction (LiSat-9), Bowel and Bladder (SCIM), Total Testosterone Levels (TT)</p>	<ol style="list-style-type: none"> <li>2. Life dissatisfaction was significantly associated with erectile dysfunction (<math>p=0.0003</math>).</li> <li>3. Low Sex Lisat-9 score, and Sexual life satisfied score were significantly associated with lower life satisfaction (<math>p&lt;0.0001</math>).</li> </ol>
<p><a href="#">Ferro et al. 2019</a> Brazil Observational Study Level 5 N=45</p>	<p><b>Objective:</b> Evaluating the social and clinical factors associated with sexual dysfunction in men with traumatic spinal cord injury, as well as predictive factors for sexual dysfunction.</p> <p><b>Population:</b> N=45, Mean age: 34, Mean time since injury: 7.5, 15 Complete, 30 Incomplete, 17 fixed partners</p> <p><b>Methodology:</b> Sexual function was assessed by the International Index of Erectile Function and the level and degree of injury were determined following guidelines of International Standards for Neurological and Functional Examination Classification of Spinal Cord Injury.</p> <p><b>Outcome Measures:</b> International Index of Erectile Function and the level</p>	<ol style="list-style-type: none"> <li>1. Protective factors of sexual dysfunction are fixed partners (OR = 0.12), masturbation (OR = 0.13), and sexual intercourse decreased (OR = 0.13) sexual desire dysfunction by 88%, 87%, and 87% respectively (All <math>p&lt;0.05</math>).</li> <li>2. Sexual satisfaction dysfunction is significantly associated with psychogenic erection, 5-phosphodiesterase inhibitor drug, and frequency of sexual intercourse (All <math>p&lt;0.05</math>).</li> <li>3. Erectile dysfunction (OR: 15.7) is associated with orgasm difficulties.</li> <li>4. Monthly frequency of sexual intercourse (OR: 11.3), and orgasmic function (OR: 7.1) are positively associated with satisfaction.</li> <li>5. Having a fixed partner is a protective factor (OR: 0.25; 95% CI: 0.07-0.92) of erectile dysfunction.</li> </ol>
<p><a href="#">Miranda et al. 2016</a> Brazil Cross-sectional</p>	<p><b>Objective:</b> To assess different aspects of sexual function in men with spinal cord injury (SCI) using the Male Sexual Quotient (MSQ), a newly developed tool to assess sexual function and satisfaction.</p> <p><b>Population:</b> 295 men (mean age <math>40.7\pm 14.5</math> years) with SCI for more</p>	<ol style="list-style-type: none"> <li>1. The prevalence of sexual dysfunction was as follows: decreased sexual desire (28.8%), lack of confidence for partner seduction (38.3%), dissatisfaction with sexual foreplay (48.8%), frustration with partner's sexual satisfaction (54.6%), inability to obtain an erection (71.0%),</li> </ol>

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Level 5 N=295	<p>than 1 year (median time since SCI= 3.6 years; range= 1.6-7.0 years).</p> <p><b>Treatment:</b> None</p> <p>Methodology: Participants were instructed to complete the MSQ based on their previous 6 months of sexual activity (E.g., physical and emotional aspects, sexual desire, confidence for seduction, satisfaction with foreplay quality, sexual satisfaction, and quality of erection). The answers for such questions used a Likert scale from 0 to 5, with 0 indicating "never" and 5 indicating "always."</p> <p><b>Outcome Measures:</b> Performance in various domains of sexual function was evaluated using the Male Sexual Quotient (MSQ) questionnaire and Sexual Health Inventory for Men (SHIM) questionnaires.</p>	<p>difficulty maintaining erection (67.8%), lack of full erections (64.4%), problems with ejaculatory control (89.4%), inability to achieve orgasm (74.5%), and overall sexual intercourse dissatisfaction (51.1%).</p> <ol style="list-style-type: none"> <li>2. Only 70 men (23.7%) had an MSQ score &gt;60, which represents highly or partially satisfied individuals; only 71 individuals (24.1%) had good erectile function or mild dysfunction based on the SHIM questionnaire (SHIM &gt;17).</li> <li>3. There is a strong Pearson correlation coefficient between MSQ and SHIM (<math>r=.826</math>; 95% CI, .779 -.864).</li> </ol>
<p><a href="#">Pakpour et al. 2016</a></p> <p>Iran Cross-sectional Level 5 N=93</p>	<p><b>Objective:</b> To assess the role of anxiety, depressive mood and religious coping in erectile function among Iranian patients with spinal cord injury (SCI).</p> <p><b>Population:</b> 93 men with SCI (mean age=37.8 years, age range=19-63 years, mean post-injury time=4.6 years).</p> <p><b>Methodology:</b> Questionnaires were presented and provided to all participants</p> <p><b>Treatment:</b> None</p> <p><b>Outcome Measures:</b> Levels of anxiety and depressive mood were assessed using the Hospital Anxiety and Depression Scale. Religious coping strategies were measured using the 14-Items Brief Coping Questionnaire. Erectile function was measured using the International Index of Erectile Function (IIEF).</p>	<ol style="list-style-type: none"> <li>1. SCI patients reported more positive religious coping than negative religious coping and higher levels of anxiety than depressive mood.</li> <li>2. Multivariate regression analyses indicated that age, education, the American Spinal Injury Association impairment scale, anxiety, positive religious coping, negative religious coping and the duration of injury were all independent factors influencing erectile function in SCI patients.</li> </ol>
	<p><b>Objective:</b> To provide a comprehensive evaluation of sexual function and dysfunction in spinal</p>	<ol style="list-style-type: none"> <li>1. Mean IIEF-5 score of the group was <math>5.3 \pm 4.1</math>, indicating severe erectile dysfunction.</li> </ol>

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<p><a href="#">Akman et al. 2015</a> Turkey Cross-sectional Level 5 N=47</p>	<p>cord-injured men based on self-reports of patients.</p> <p><b>Population:</b> 47 men with spinal cord injuries (age range = 20-62 years, mean age = 35.2 years, mean time since injury=6.3±4.0 years) who were out of the spinal shock period and had their injury for more than 6 months.</p> <p><b>Methodology:</b> Patients were asked to complete a questionnaire developed to assess social status, sexual activities, abilities, and sexuality education after injury. Neurologic levels of patients were classified according to American Spinal Cord Injury Association protocol.</p> <p><b>Treatment:</b> None</p> <p><b>Outcome Measures:</b> Social status, sexual activities, abilities, sexual education after injury, and erectile function evaluated by the International Index of Erectile Function-5 (IIEF-5) questionnaire.</p>	<ol style="list-style-type: none"> <li>2. 61.7% of patients reported sexual activity and 93.6% reported some degree of erection.</li> <li>3. 87.3% of men in this study had moderate to severe erectile dysfunction.</li> </ol>
<p><a href="#">Smith et al. 2015</a> USA Cross-sectional Level 5 N=218</p>	<p><b>Objective:</b> To (a) examine the prevalence of reported sexual dysfunction and rates of sexual aid use among individuals with LTPD; (b) examine the associations between sexual satisfaction, dysfunction, and the use of aids; and (c) evaluate physical and psychological predictors of sexual satisfaction separately for men and women living with LTPD.</p> <p><b>Population:</b> 218 individuals consisting of 120 males and 98 females (mean age=58, 7years); 38% had SCI.</p> <p><b>Treatment:</b> None</p> <p><b>Methodology:</b> All participants were provided questionnaires on the following outcome measures.</p> <p><b>Outcome Measures:</b> Patient Reported Outcomes Measurement</p>	<ol style="list-style-type: none"> <li>1. Consistent with studies of adults in the general population, sexual function was the strongest predictor of satisfaction.</li> <li>2. Depression also predicted sexual satisfaction for women.</li> <li>3. Use of aids for sexual activity varied by disability type and was generally associated with better function.</li> <li>4. Lowest levels of sexual satisfaction were reported by men with SCI.</li> <li>5. Depression may negatively impact sexual satisfaction in women, beyond contributions of sexual dysfunction, and effective use of sexual aids may improve function in this population.</li> </ol>

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	Information System's (PROMIS) sexual function item bank measuring sexual function, sexual satisfaction, and use of aids for sexual activity; PROMIS Pain Interference - Short Form; Patient Health Questionnaire-9 (PHQ-9); Mobility was measured with the 6-point Gross Motor Function Classification System	
<a href="#">Barrett et al. 2024</a> Qualitative Interviews N=12	<p><b>Objective:</b> This study explored how partners/spouses of people with Spinal Cord Injury (SCI) experienced intimacy, sexual function, and sexual satisfaction post-SCI.</p> <p><b>Population:</b> N=12; 7 females, 5 males</p> <p><b>Methodology:</b> nine-item semi-structured interview design was used. Interviews were transcribed verbatim and analysed via Interpretative Phenomenological Analysis (IPA)</p> <p><b>Outcome Measures:</b> Partner Satisfaction</p>	<ol style="list-style-type: none"> <li>1. Three superordinate themes were demonstrated: (1) Stolen sex through unpreparedness; (2) Redefining sex; and (3) Compromised commitment.</li> </ol>
<a href="#">Sunilkumar et al. 2015</a> India Qualitative Study Level 5 N=7	<p><b>Population:</b> 7 men living with SCI/paraplegia</p> <p><b>Treatment:</b> None</p> <p><b>Methodology:</b> Semi-structured and open-ended interviews were conducted with seven participants according to IE Seidman's phenomenological approach. Thematic analysis followed the analytic process outlined by Moustakas</p> <p><b>Outcome Measures:</b> Semi-structured and open-ended interviews regarding participant perspective of living with SCI in India.</p>	<ol style="list-style-type: none"> <li>1. 7 themes emerged through qualitative methods: 1) recalling an active sexual life, 2) disconnection with sexual identity, 3) incongruence between a sense of physical and emotional capability, 4) isolation of spouse or sexual partner, 5) social readjustment of spouse, 6) perceived physical barriers to improved sexual functioning, and 7) coping and attempting ways of sexual integration.</li> <li>2. All patients were sexually active prior to injury, and all desired a healthy and active sexual life. A huge gap existed between sexual desire and physical capability, and quality of life (physiological, social, existential, emotional) has been compromised for both patient and family, causing anxiety, distress, and sadness.</li> </ol>

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		3. There is a significant burden of added responsibility placed on the participants' spouses in that she must find a way of coping and attempting ways of sexual re-integration.
<a href="#">McIntyre et al. 2022</a> Canada Meta-Synthesis of Qualitative Research N=22	<b>Objective:</b> The current study aimed to meta-synthesize all qualitative evidence on individuals' subjective experiences of sexual health following a SCI <b>Database:</b> CINAHL, Cochrane, Medline/PubMed, ProQuest Artis and Humanities, PsycINFO, and Web of Science (from inception to December 31, 2021).	1. Themes identified in each study were positioned within the Sexual Rehabilitation Framework (Elliott 2017) composed of eight domains: sexual drive/interests, partnerships, self-image, bowel/bladder, sexual function, motor/sensory, fertility/contraception, and secondary complications.