

Table 23. Mental Health and Motherhood After SCI

Author Year; Country Score Research Design Total Sample Size	Methods	Results
<p>Crane et al. 2019 USA Case control Level 3 N=529 N=161 with SCI</p>	<p>Objective: To assess pregnancy outcomes among women with spinal cord injury, paralysis, or spina bifida using population-based data. Population: N=529 SCI: N=161 Methodology: Diagnosis codes were screened to identify cases and a 10:1 random sample of comparison women. Relative risks (RR) and 95% confidence intervals (CI) were calculated overall and separately for each condition using multivariable regression. 5,282 comparison women. Outcome Measures: Pregnancy Outcomes (Weight gain, gestational diabetes, preeclampsia, etc.), Delivery/labour characteristics, and Longer-term Outcomes</p>	<ol style="list-style-type: none"> 1. Pregnant women with SCI had a RR of 14.90 for UTI. 2. Caesarean delivery (RR 1.98) and obstructed labor (RR 2.73) were higher in SCI population. 3. Women with SCI were hospitalized for more than 4 days after vaginal birth (RR 8.25). 4. Hospitalization related to postpartum depression was RR 7.36 higher than the general population. 5. In the SCI group, gestational age <37 weeks had a RR 1.27. 6. Infants had a RR 1.52 hospitalization days more than 4. 7. Women with SCI/Paralysis/SB had longer hospitalizations and increased rehospitalizations (RR 1.54, 95% CI 1.28-1.87), including for postpartum depression (RR 8.15, 95% CI 4.29-15.48) or injury (RR 13.05, 95% CI 6.60-25.81). 8. The greatest increased risks of rehospitalization occurred in the first year after delivery for all groups, although the increased risks for women with SCI were not statistically significant. 9. Very low birthweight <1500 g was uncommon but infants of women with SCI, SB or paralysis had an increased risk (overall RR 3.21, 95% CI 1.46-7.05) (NS). 10. Low Apgar scores were approximately 2-3 times more common in infants of women with these conditions, but not among infants of women with SCI (RR 1.11, 95% CI 0.34-3.59) (NS).
<p>Mazzia & Berndt 2023 Case series</p>	<p>Objective: The objectives of this study were to determine the obstetric and neonatal outcomes of people who acquired spinal</p>	<ol style="list-style-type: none"> 1. Most women with SCI had vaginal births (54.5%).

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Level 4 N=780; N=14 SCI	cord injuries (SCI) during pregnancy. Population: N=780 SCI Group: N=14, Mean age: 38.9, 3 Cervical, 8 Thoracic, 3 Lumbar Methodology: Observational questionnaire examining pregnancy outcomes of people with SCI Outcome Measures: Prenatal and Postnatal Complications and Neonatal Outcomes	<ol style="list-style-type: none"> 2. Unaware contractions (20%) and bladder infections (30%) were the most common pregnancy complications. 3. 54.5% were preterm births and 36.4% were admitted into the NICU. 4. Most common postpartum outcomes were depression (30%).
Lee et al. 2021 Multi-National Cross-sectional Study Level 5 N=102	Objective: To examine the prevalence of postpartum depression (PPD) and postpartum anxiety (PPA) in mothers with spinal cord injury (SCI) Population: N=102, Mean age: 41, Time since SCI: 22, 31 Tetraplegia, 71 Paraplegia, 30, Cervical, 12 Upper Thoracic, 60 Lower Thoracic/Lumbar, AIS: 35A/23B/24C/12D/8D Methodology: A series of web-based questionnaires on motherhood after SCI (including pregnancy, breastfeeding and other postpartum experiences) was hosted on Fluid Surveys from February through November 2017. Questionnaire domains pertaining to this study included demographics, injury characteristics and postpartum emotional wellbeing. Outcome Measures: Subscales of Pregnancy Risk assessment Monitoring System (PRAMS)	<ol style="list-style-type: none"> 1. Lower-level injuries are significantly associated with higher prevalence of PPD (p=0.012) and MDD (p<0.005). 2. There are no differences between SCI level and self-reported PPA. 3. Women with SCI experience more PPD (25-37%) and PPA (18-33%) than the general population (13%) and (18%) respectively.
Lee et al. 2021 Sweden and Canada Cross-sectional Level 5 N=102	Population: 102 Women with SCI (C1-L4) who had given birth. Mean age: 41.31±9.77 years. Cervical SCI (C1-C8, n = 30), upper thoracic SCI (T1-T6, n = 12) or	<ol style="list-style-type: none"> 1. Self-reported PPD was more prevalent than clinically diagnosed PPD in women with cervical SCI (p=0.03) and upper thoracic SCI (p=0.03).

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	<p>lower-level SCI (T7 & below, n = 60).</p> <p>Treatment: None</p> <p>Outcome Measures: Participants self-reported postpartum depression (PPD) and postpartum anxiety (PPA) using subscales from the Pregnancy Risk Assessment Monitoring System (PRAMS).</p>	<ol style="list-style-type: none"> 2. With cervical SCI, 75% of women diagnosed with major depressive disorder (MDD) before pregnancy scored >9 on the PRAMS PPD subscale, indicating clinically relevant PPD. However, only 10% were diagnosed with PPD. 3. Of women with lower SCI diagnosed with MDD before pregnancy, 25% had a clinically relevant score for self-reported PPD: 7% were diagnosed.
<p>Mitra et al. 2015 USA Cross-sectional Level 5 N=3,727 N=287 women with disabilities</p>	<p>Population: Women with disability (n=287) and women without disability (n=3,440). Age: Categorized as <20, 20-29, 30-39 and 40.</p> <p>Treatment: None</p> <p>Outcome measures: Rhode Island Pregnancy Risk Assessment Monitoring System (PRAMS) survey.</p>	<ol style="list-style-type: none"> 1. Almost 30% (28.9%; 95% CI 22.8-35.8) of mothers with disabilities reported often or always feeling down, depressed or sad after childbirth compared to 10% of those without disabilities (95% CI 8.9-11.3; P < 0.001). 2. Compared to other women in the study, women with disabilities had a greater likelihood for PPD symptoms (RR 1.6, 95% CI 1.1-2.2; P < 0.05) after accounting for sociodemographic, maternal characteristics related to PPD, and depression before and during pregnancy. 3. Adjusting for other covariates, self-reported prenatal diagnosis of depression was not associated with symptoms of PPD and depression during pregnancy and was marginally associated with PPD symptomatology for women with disabilities.
<p>Albright et al. 2009 USA Cross-sectional survey Level 5 N=19</p>	<p>Population: 14/19 women had children before SCI. Mean age: 41.6±9.4 years. Mean years post-injury: 8.9±6.9. %Cervical: 50. 5/19 women had children after SCI. Mean age: 48.8±7.4 years. Mean years post-injury: 28.4±11.0. %Cervical: 100.</p> <p>Treatment: None</p> <p>Outcome Measures:</p>	<ol style="list-style-type: none"> 1. The seven mothers in the two low satisfaction groups described themselves as having lost much in terms of their ability to provide “hands on” care for young children (e.g., combing hair, fixing meals, doing laundry, disciplining children, and giving physical comfort). They also reported that they experienced an erosion of social and material support from family and friends over time.

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	<p>The Satisfaction with Life Scale (SWLS) and the Perceived Stress Scale (PSS).</p> <p>Participants were grouped into one of 4 quadrants by median scores on inventories (High/Low Stress and High/Low Satisfaction).</p>	<ol style="list-style-type: none"> 2. Some reported having trouble finding their “place in the world” but most said that they are “doing better” and/or were “in control” of some aspects of their lives. 3. Mothers in the low stress condition were older than their counterparts. 4. Many in the high stress groups also noted negative behavioral changes in their children: anger, fear, and crying jags in small children and anger, bitterness, and resentment in older children. 5. Most of the 12 women in the two high satisfaction groups figured out a way of mothering despite physical limitations. These participants described lives in which children figured prominently in a positive way, irrespective of perceived level of stress, and they were also able to establish meaningful connections with the larger world. 6. Role configuration with respect to motherhood is a powerful dimension in the social adjustment and psychological adjustment process for women following SCI.
<p>Ghidini et al. 2008 USA Cross-sectional Level 5 N=114</p>	<p>Population: 114 women with spinal cord injuries aged 18-40 years. 59 were paraplegic, 41 were tetraplegic, and in 14 the level of spinal cord injury was unknown.</p> <p>Treatment: None</p> <p>Outcome Measures: Knowledge about pregnancy after spinal cord injury and complications of pregnancy.</p>	<ol style="list-style-type: none"> 1. Twenty-three women (20%) received information about pregnancy during rehabilitation, but only 12 (10%) found it adequate. Rates of response of 'adequate information' were similar between women who became pregnant after injury and those who did not (9.0% vs. 8.6%, p=1.0). 2. Postpartum depression (35%) was the most common complication in the puerperium. Among the 37 pregnancies resulting in deliveries, 16 (43%) were scared about being pregnant, 17 (46%) were worried about child care, 7 (19%) did not have adequate support at home, 13 (35%) had postpartum depression, 2 of

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		whom (5%) required therapy, and 2 (5%) regretted being pregnant.