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Research paper

Vitality and mental health in disability: Associations with social relationships in persons with spinal cord injury and their partners

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ABSTRACT

Background: Various social relationship constructs have been proposed to affect mental health. However, these constructs have rarely been studied in a comprehensive way in persons with chronic disabilities and their partners, inhibiting researchers from evaluating their relative importance.
Objective: To investigate 1) the variation in the quantity and quality of social relationships in persons with spinal cord injury (SCI) and their partners; 2) dyadic coherence within social relationship constructs; 3) the interrelationships between social relationship constructs; and 4) the associations of social relationship constructs with vitality and mental health.
Methods: Cross-sectional survey data from 133 couples of persons with SCI and their partners was used. Quantitative (social networks) and qualitative aspects (social support, relationship quality, loneliness, and reciprocity in partnerships) of social relationships were assessed. Correlations were performed to analyse dyadic coherence and interrelationships of social relationship constructs and multivariable regressions were applied to examine associations with vitality and mental health.
Results: Loneliness, larger social networks and higher relationship quality were more prevalent in SCI. All social relationship constructs, apart from loneliness, were more similar within couples than between couples and the interrelationships between different constructs were small. Qualitative aspects of relationships were more important than the quantitative aspects in their associations to vitality and mental health. These associations were most consistent for loneliness, reciprocity and relationship quality in both groups.
Conclusions: In the long-term management of community functioning in persons with SCI and their partners, the fostering of high quality intimate relationships should take priority.

Health-related sociological research has consistently shown that social relationships can have a substantial impact on health.[1] Social integration, strong social networks and the associated functional resources have been shown to predict morbidity and mortality.[2] Similarly, social isolation and conflicting social relationships exert significant adverse effects on health and survival.[3] The association to mental health has been the most prominently reported in the literature. To investigate the associations between social relationships and mental functioning, vitality and mental health have been selected as indicators.[4] Vitality assesses an important motivational aspect of self-reported health, namely the level of energy available to engage in agency and in striving for goals.[5] Good mental health is imperative for satisfactory engagement in social roles, and thereby closely related to social relationships.[6]

A seminal review of the different sociological constructs of social relationships provided by Berkman et al. (2000) discriminated between upstream and downstream factors.[1] Upstream factors include the broader social structure and quality of opportunities for social integration (e.g., culture, labor market, neighborhood) and its quality (e.g., social capital).[1,6] Upstream factors shape the nature and characteristics of social networks that facilitate opportunities for downstream resources such as social support and quality of close social contacts. These latter two dimensions, social networks

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and social support or quality of relationships define the core content of empirical research at the individual level. Thus far, few studies have addressed different social relationship constructs in a comprehensive approach towards studying associations with vitality and mental health.[7] The inclusion of a wide range of social relationship constructs may demonstrate their potentially differential associations with health. Definitions of the social relationship constructs included in this study can be found in Table 1.

In this contribution, we aim to address the issue of vitality and mental health in relation to social relationships with a particular focus on persons with a physical disability. The exploration of social relationships and their associations to vitality and mental health in persons with disabilities is particularly important, given that people with functional limitations are generally disadvantaged in their opportunities to fully participate in social life.[8] Due to environmental barriers and the attitudes of significant others, persons with disabilities may experience limitations in their engagement in and maintenance of social relationships and may also experience a changing role within their social networks.[9,10] The partners of persons with disabilities are oftentimes involved in costly, long term social engagement as confidants and caregivers.[11] Even when the provision of caregiving is not necessary, the partners may adapt their social environment in accordance with the perceived limitations of the person with disabilities. Studying social relationships in this context therefore provides the opportunity to understand social relationships and their association with vitality and mental health in a potentially asymmetrical dyad, whereby involvement in social networks and the provision and receipt of social resources may be unequal.

In this study, we use spinal cord injury (SCI) as an informative case in point as this condition has a far-reaching impact on an individual's functioning and often leads to major disability. Affected persons sustain a complete or partial loss of sensory and motor function below the lesion level, which potentially impacts on their interaction with the social environment.[12,13] The goal of this study is therefore to explore social relationships and their associations to vitality and mental health in persons with SCI and their partners. More specifically, the aims are to investigate 1) the variation in the quantity and quality of social relationships in persons with SCI and their partners; 2) dyadic coherence in social relationship constructs; 3) the interrelationships of the social relationship constructs in order to demonstrate that they are distinct constructs; and 4) the associations between the diverse social relationship constructs with vitality and mental health.

Methods

Study design

Pro-WELL is a longitudinal community-based survey with three measurement waves spaced over a 12 month period (t0 baseline; t1: month 6; t2: month 12). Data were collected using standardized telephone interviews and questionnaires (paper-pencil or online). This paper uses cross-sectional data from the baseline assessment that was carried out between May 2015 and January 2016. In total, 676 persons with SCI were eligible and 133 couples of persons with SCI and their partners were recruited at baseline (total n = 266). Although the response rate was restrained (19.7%), a comprehensive non-response analysis demonstrated good representation of the source population with insignificant selection bias regarding sociodemographic and lesion characteristics.[25] The study protocol and all measures were approved by the Ethical Committee of Northwest and Central Switzerland (document EKNZ 2014-285). We strictly observed all regulations concerning informed consent and data protection. A more detailed description of the study design is provided in the cohort profile of the pro-WELL study.[25]

Sampling frame and participants

Participants for the pro-WELL study were recruited from a larger study, namely the community survey of the Swiss Spinal Cord Injury Cohort Study (SwiSCI). The SwiSCI survey included persons with traumatic or non-traumatic SCI aged over 16 years living in Switzerland and excluded persons with congenital conditions leading to SCI, new SCI in the context of palliative care, neurodegenerative disorders, and Guillain-Barré syndrome.[26] Details of the study design, recruitment outcomes and participation rates of the SwiSCI survey are reported elsewhere.[27,28] The first wave of the SwiSCI community survey (September 2011–March 2013; n = 1922) served as the sampling frame for the pro-WELL recruitment. All persons aged 30–65 at the time of the pro-WELL recruitment who spoke German or French were contacted for eligibility screening (n = 1108). Eligibility screening assessed if the person was in a stable relationships and if their partners also agreed to participate, as only couples were included in the pro-WELL study. Persons with severe cognitive impairment, as assessed by their understanding during telephone eligibility screening of what their involvement in the study would entail were excluded and partners needed sufficient language skills in German or French for study participation.[25]

Measures

Social relationship constructs

Social networks. The availability of social relationships was measured using five items from the Social Network Index (SNI).[29] The SNI is a composite measure of four types of social connection: marital status (married = 1; not married = 0); church group membership (yes = 1; no = 0); membership in other community organisations (yes = 1; no = 0), and sociability (high = 1;

Table 1
Definitions of relevant social relationship constructs.

The following definitions illustrate the distinctness of each individual social relationship construct. *Social networks* describe the size, density, frequency and duration of social contacts,[14] whereas *social support* emphasizes the functional significance in terms of providing and receiving instrumental, emotional or informational resources.[15] The distinction between perceived (subjective) and received (objective) social support is also important as in some cases, acts of social support may lead to distress in recipients rather than reassurance (e.g., the case of overprotection).[16,17] Further aspects of the *quality of relationships*, in particular its depth (e.g., meaningfulness, positive role of the partner) or its negative characteristics (conflicts and hostility) need to also be considered in this comprehensive approach. Tense or overly demanding relationships may be a source of stress which cancel out the beneficial effect of other forms of social resources or social contact.[18] In addition to these more conventional measures, the spectrum of social relationships has been enriched by including measures of loneliness and reciprocity, both of which are subjective evaluations of relationship quality. *Loneliness* is experienced as a reaction to an individual's ideal of a relationship, assessing the discrepancy between the relationships they have, and the relationships they would like to have. Feelings of loneliness can occur independently of the availability of social contacts, and it is this appraisal which matters for health.[19] *Reciprocity* is a social norm of equivalence between give and take embedded within social exchange, and when this norm is violated by an unequal provision or receipt of social resources, a feeling of unfair or unjust treatment is experienced.[20] Failed reciprocity in terms of high efforts spent and low reward received, in turn elicits strong negative emotions and associated stress reactions with adverse long term effects on health.[21] Several studies have shown a detrimental effect of failed reciprocity on health, independent of social support, supporting the notion of reciprocity as a distinct concept.[22–24]