Paraplegia

Social Role Functioning Following Spinal Cord Injury

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Summary

The Katz Adjustment Scale—Relatives Form was completed by the wives of 27 hospital-discharged spinal cord injured (SCI) patients. Their ratings of the spouses' social adjustment and behaviour were compared to available community and psychiatric norms. Overall, spouses rated their SCI husbands as performing significantly more socially inappropriate behaviours compared to ratings of 'normals' but as engaging in significantly less socially inappropriate behaviours compared to the ratings of psychiatric patients. SCI patients were perceived as performing the same levels of social activities as 'normals', but engaging in less free-time activities compared to both 'normals' and psychiatric patients. These results mirror similar analyses comparing moderate and severe head injury victims with normal and psychiatric norms. The implications for rehabilitation and counselling of families of traumatically disabled patients are discussed.

Key words: Social adjustment; Social behaviour; Spinal cord injury.

Individuals with a spinal cord injury (SCI) must face considerable adjustment in their lives as they cope with the long term consequences of their disability (Cook, 1979; Woodbury, 1978). Research here has focused on the patients' adjustment following SCI, including issues such as income level and employment, independence in activities of daily living, psychological adjustment, and the quality of social relationships. However, these studies, for the most part, have relied on patient self-report measures and have not attempted to incorporate the spouse's perspective on patient adjustment.

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Several researchers have, however, recently suggested that social support from significant others may be an important factor in determining adjustment to SCI (Barnes *et al.* 1987; Bracken and Shepard, 1980). More specifically, it has been found that a strong social network, as defined by the presence of one or more confidants, was one of the most significant correlates of post-SCI employment status (MacKenzie *et al.*, 1987). The degree of social interaction was a critical variable in the emotional and social adjustment of both paraplegic and quadriplegic individuals (MacKelprang and Hepworth, 1987). Furthermore, marital status (DeJong, *et al.*, 1984) and a positive family environment (McGowan and Roth, 1987) have been powerful predictors of independent functional living outcome variables, such as in home activities and social interaction.

More specifically, McGowan and Roth (1987) found the SCI subjects who perceived their family environment as affectionately responsive, open in communication, and clear in delineation of responsibility, had greater self-initiation in activities, increased social involvement, and a higher overall level of independence. Pachalski and Pachalska (1984) also demonstrated the importance of the role of the family in their research. They compared a control group of paraplegics who were treated in a rehabilitation centre to a similar group of patients whose family members played an active role in the SCI patients' rehabilitation. Results indicated that patients whose families have been involved in the rehabilitation programme, unlike the control patients, felt that their adaptation to society was either 'good' or 'very good', had increased positive self-worth, had decreased feelings of guilt and fear, were more likely to be employed, and participated in more recreational and free-time activities. These findings suggest that family members can indeed have a positive effect on the SCI patients' adjustment.

In view of the evidence indicating the positive role that the family, and the spouse in particular, can have on SCI rehabilitation, it is surprising how little research has examined the spouses' perception of their marriage relationship or their perception of the social behaviour of their SCI partner. These issues are important because the SCI patients' adjustment and social behaviour may adversely effect the quality of the marital relationship, and hence the support that the patient needs for reaching successful adjustment to the injury may be jeopardised. Although several researchers have stressed the importance of assessing the perceptions of the 'significant other' (Ernst, 1987; Malec and Nermeyer, 1982; Richards, 1986), only one study has focused on the significant other's view of their post-SCI family (McGowan and Roth, 1987). McGowan and Roth (1987) found that the duration of the disability was a good predictor of the significant others' concern of the SCI family's ability to delineate roles and maintain standards of behaviour control. The relative paucity of research in this area highlights the importance of further examining the spouses' perceptions and expectations of the SCI patients' social role functioning and behaviour.

The present paper examined wives' ratings of their SCI husbands' adjustment and social functioning, using the Katz Adjustment Scale—Relatives Form (KAS-R) (Hogarty and Katz, 1971). These scores were compared with KAS-R psychiatric and general norms provided by Hogarty and Katz (1971). Thus, patient social and behavioural characteristics that would most likely adversely effect positive social relationships were rated by the spouse in an attempt to determine the nature and severity of these potential problem areas.

Method

Potential couples were identified through the records of the Spinal Cord Injury Unit at the Health Sciences Centre in Winnipeg. Twenty seven married male survivors and their spouses participated in this study. All of the participating couples met the following inclusion criteria: (1) the injured spouse was admitted to the Spinal Cord Injury Unit within the past 10 years, and (2) the couple were living together prior to the SCI and following hospital discharge. All couples completed a series of paper and pencil questionnaires, and were interviewed in a semi-structured format. This paper focused on spousal responses to the KAS-R (Hogarty and Katz, 1971). Table I presents demographic and medical characteristics of the sample.

Results

A series of one-tailed t-tests were used to determine differences between KAS-R subscale scores for the current sample in comparison to the 'normal' and psychiatric samples. As the use of multiple t-tests can result in an unacceptably high rate of Type 1 error, an acceptable family-wise error rate ($p < .05$) was preserved using the Bonferroni method. This resulted in the significant level for each of the t-tests being set at $p < .0005$.

Comparison of the SCI group with the 'normal' community sample (see Table II) demonstrated significant differences on most subscales with scores indicating that the SCI group performed more socially inappropriate behaviours than this 'normal' sample. The SCI group was rated to be significantly more belligerent, verbally expansive, negative, helpless, suspicious, anxious, withdrawn, bizarre, hyperactive, and displaying higher levels of general psychopathology compared to ratings of the 'normal' samples. There were no significant differences between ratings of the SCI group and 'normals' in the performance of social role activities and spouses' expectations of these activities. However, the SCI group engaged in significantly less recreation and free-time activities compared to the 'normals' although the SCI spouses expected significantly more free-time activities from them than did spouses from the community sample.

In contrast, SCI subjects were rated as demonstrating significantly better adjustment than were psychiatric patients (see Table III) on the negativism,

Table I Demographic and medical characteristics

Variables	Mean	SD
Continuous Variables		
Age (years)	44.30	15.54
Length of initial hospital stay (days)	125.41	51.44
Categorical Variable		
Level of Injury	Frequency	
Cervical	12	
Thoracic	9	
Lumbar	3	
Sacral	1	
Cauda Equina	2	

helplessness, suspiciousness, anxiety, withdrawal and retardation, nervousness, bizarreness, hyperactivity, and general psychopathology subscales. Although there were no differences between these groups in the spouses' expectation of social role activities, the spouse of SCI subjects expected their husbands to participate in less free-time and recreational activities and rated them as performing less of these activities than did the spouses of psychiatric patients.

Table II KAS-R SCI compared to normal population

KAS-R Subscale	SCI		Normal		<i>t</i> (246)
	Mean	SD	Mean	SD	
Belligerence	5.33	1.75	4.62	0.90	3.50*
Verbal expansiveness	7.89	3.27	5.88	1.34	7.93*
Negativism	13.30	4.69	11.53	2.53	5.23*
Helplessness	5.78	2.08	4.50	0.82	6.43*
Suspiciousness	5.22	1.78	4.34	0.87	4.39*
Anxiety	7.41	1.97	6.24	0.62	6.57*
Withdrawal and retardation	10.52	2.75	8.92	2.48	4.96*
Psychopathology	39.37	11.43	30.72	4.53	18.50*
Nervousness	7.00	3.09	6.12	1.83	3.08
Confusion	3.11	0.42	3.13	0.43	-0.15
Bizarreness	6.07	1.41	5.22	0.60	5.04*
Hyperactivity	4.96	1.74	4.16	1.22	3.48*
Social Activity					
Performed	38.63	4.61	38.77	4.34	-0.33
Expected	39.19	4.31	38.82	5.00	0.82
Free-Time Activities					
Performed	44.89	6.79	46.53	5.08	-3.51*
Expected	29.89	4.11	27.03	5.08	6.29*

Note *denotes significant difference using Bonferoni method ($p < .0005$). All *t*-tests are one-tailed.

Table III KAS-R SCI compared to psychiatric population

KAS-R Subscale	SCI		Psychiatric		<i>t</i> (389)
	Mean	SD	Mean	SD	
Belligerence	5.33	1.75	5.43	1.88	-0.37
Verbal expansiveness	7.89	3.27	6.98	2.47	-2.87
Negativism	13.30	4.69	15.30	4.47	-4.73*
Helplessness	5.78	2.08	8.44	2.91	-7.89*
Suspiciousness	5.22	1.78	7.11	3.06	-5.49*
Anxiety	7.41	1.97	11.05	4.11	-9.16*
Withdrawal and retardation	10.52	2.75	12.29	4.10	-4.43*
Psychopathology	39.37	11.43	46.24	10.97	-10.38*
Nervousness	7.00	3.09	11.29	3.10	-12.21*
Confusion	3.11	0.42	3.68	1.36	-2.51
Bizarreness	6.07	1.41	7.25	2.51	-3.79*
Hyperactivity	4.96	1.74	6.82	2.33	-6.16*
Social Activity					
Performed	38.63	4.61	30.64	5.49	-17.19*
Expected	39.19	4.31	38.91	5.77	-0.59
Free-Time Activities					
Performed	44.89	6.79	51.70	6.11	-13.76*
Expected	29.89	4.11	35.18	7.23	-10.01*

Note *denotes significant difference using Bonferoni method ($p < .0005$). All *t*-tests are one-tailed.

Discussion

The current results suggest that SCI is associated with spousal ratings of decreased recreation and free-time activities and increased ratings of socially inappropriate behaviour compared to 'normals.' Although they were rated as having better overall adjustment, SCI subjects were rated as participating in fewer social activities than psychiatric patients. The results of this study mirror analyses with closed head injury (CHI) patients (Klonoff *et al.*, 1986; Stambrook *et al.*, 1989). SCI subjects appear similar to moderately injured CHI patients in their participation in social role activities and engaging in socially inappropriate behaviours, but resemble severe CHI patients in their participation in free-time and recreational activities.

While these comparisons were somewhat crude, as simplistic statistical techniques and available normative and psychiatric samples were used, they are generally consistent with other SCI research. Urey and Henggler (1987) noted that spouses in dissatisfied SCI marriages performed fewer activities with their SCI partner and desired the greatest degree of change in their partner's behaviour. Similarly, McGowan and Roth's (1987) research indicated the behaviour control was seen as a problem by the significant other, however, they did find that role delineation was also a concern. Clearly, although several recent studies have shown that many SCI individuals enjoy a positive marital relationship (Crewe *et al.*, 1979; Crewe and Krause, 1988; Deye, 1979; Jenik *et al.*, 1982; Pinkerton and Griffin, 1983; Urey and Henggler, 1987; Webb *et al.*, 1982), SCI spouses may experience considerable stress in terms of dealing with their unmet expectations and a partner who acts inappropriately in social situations.

This study has clear implications for counselling families of SCI patients. SCI patients may require specific intervention to modify what their spouses consider to be socially inappropriate behaviours, although it is important to note that these problems are not as severe as those seen in psychiatric patients. Spouses should be included in this process as they may have to deal with these behaviours on a daily basis and, as well, their perceptions may need to be challenged and possibly recalibrated. Also important is the disparity between the spouses' expectations and the actual performance of free-time activities. This problem has been mentioned before in the context of SCI marriages (Crewe and Krause, 1988; Urey and Henggler, 1987). The frustration of these unmet expectations may be decreased by more realistic expectations, as well as practical suggestions about participation in recreational activities, including the problem of overcoming practical and physical barriers.

During the rehabilitation programme, these issues may have to be specifically addressed to assist in ensuring that families cope maximally with the behavioural and social consequences of SCI. In most hospital rehabilitation programmes, patients participate in recreational activities with other patients rather than with family members. If rehabilitation programmes encouraged spouses to take part in these programmes, the SCI patient would more likely continue activities after discharge. Indeed, research has indicated that including families in the programme may have many other positive effects (Pachalski and Pachalksa, 1984). By addressing the spouse's concerns, it may be possible to modify the SCI patient's adjustment, and hence, the effectiveness of the rehabilitation programme and quality of marital adjustment following hospital discharge.

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