

Social Support and Coping Strategies in Patients with Adult Traumatic Brachial Plexus Injury

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WASHINGTON UNIVERSITY ORTHOPEDICS
NATIONAL LEADERSHIP/PERSONALIZED CARE

INTRODUCTION

- Traumatic brachial plexus injuries (BPI) result in sudden loss of upper extremity function.
- Emotional and social characteristics may influence rehabilitation and recovery after traumatic brachial plexus injury.
- Social support and coping strategies are two key emotional components identified in recovery from trauma.
- We sought to gain a better understanding of these entities within the traumatic BPI patient population in order to help maximize patient engagement in the recovery process.
- We hypothesized that brachial plexus injury patients have different levels of social support and coping compared to controls.

METHODS

- Over a six month period, we recruited all traumatic BPI patients over age 18 years presenting to our peripheral nerve clinic.
- Patients awaiting surgical reconstruction (preoperative) and those already treated surgically (postoperative) were included.
- All patterns and severities of BPI were included, but isolated peripheral nerve injuries (to the median, radial, ulnar, musculocutaneous, and axillary nerve) were excluded.
- A total of 36 subjects agreed to participate in the study along with a control cohort of 43 volunteers without BPI.

RESULTS

- No differences exist in interpersonal support (ISEL-12), number of persons available for emotional support, and satisfaction with support (SSQ-6) between BPI patients (n=36) and controls (n=43). (table 1)
- Coping strategies more commonly utilized by BPI patients (Brief COPE) include: active coping, self-distraction, denial, behavioral disengagement, venting, planning, self-blame, and acceptance. (figure 1)

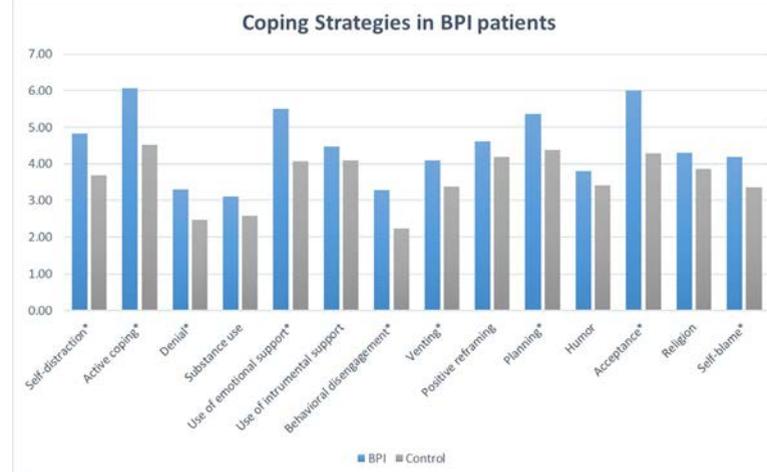
OBJECTIVES

- Examine levels of social support in traumatic BPI patients.
- Identify the coping strategies more frequently used by this population.
- Gain a greater understanding of the social support and coping strategies for BPI patients in order to optimize care during the recovery process.

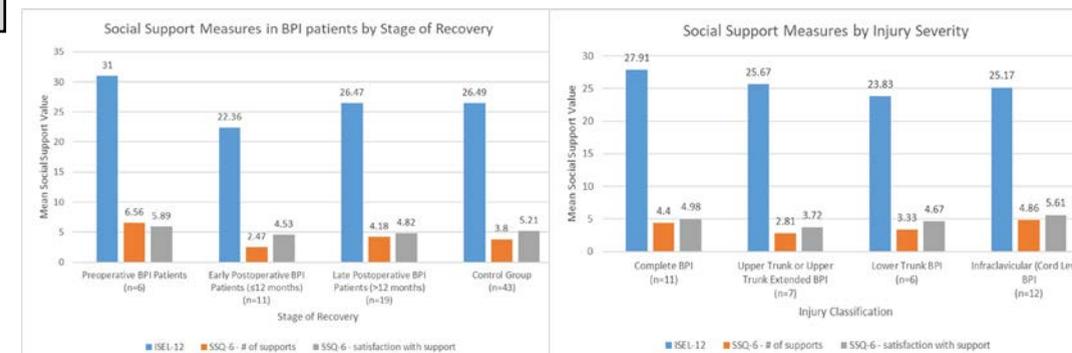
METHODS

- Cross-sectional study in which questionnaires for social support (Interpersonal Support Evaluation List [ISEL-12] and Social Support Questionnaire [SSQ-6]) and coping strategies (Brief-Coping Orientation to Problems Experienced [COPE]) were administered to brachial plexus injury patients and an age- and sex-matched volunteer control cohort (without BPI).

Figure 1



Figures 2 & 3



Figures 2 and 3 (above) show comparisons of BPI social support scores at different phases of recovery and amongst different injury types, respectively.

CONCLUSION

- Patients with brachial plexus injury have similar levels of social support compared to healthy volunteers, but are more likely to utilize a distinct array of coping strategies.
- Surgeons and other health care professionals should be aware of coping strategies favored by patients, particularly the potential for behaviors detrimental to recovery such as behavioral disengagement, self-blame, and denial.
- This work will inform future investigations into the influence of social support and coping strategies on clinical outcomes after brachial plexus injury.

REFERENCES

1. Franzblau L, Chung KC. Psychosocial outcomes and coping after complete avulsion traumatic brachial plexus injury. *Disabil Rehabil.* 2015;37(2):135-143.
2. Cooper DC, Ziegler MG, Nelesen RA, Dimsdale JE. Racial differences in the impact of social support on nocturnal blood pressure. *Psychosom Med.* 2009;71(5):524-531.
3. Sarason IG, Sarason BR, Shearin EN, Pierce GR. A Brief Measure of Social Support - Practical and Theoretical Implications. *Journal of Social and Personal Relationships.* 1987;4(4):497-510.
4. Carver CS. You want to measure coping but your protocol's too long: consider the brief COPE. *Int J Behav Med.* 1997;4(1):92-100.

Social Support and Coping Surveys

- **ISEL-12:** 12 question survey that measures perceived social support (figure 1-left)
- **SSQ-6:** survey measuring number of supporters and satisfaction with support for 6 areas of interest
- **Brief COPE:** 28-item questionnaire that assesses frequency with which respondents utilize 14 different coping strategies

Interpersonal Support Evaluation List-12 (ISEL-12)

Example Questions (full questionnaire in the Appendix)

Response choices:

"definitely true" "probably false"
"probably true" "definitely false"

Tangible support

- If I were sick, I could easily find someone to help me with my daily chores.
- If I needed some help in moving to a new home, I would have a hard time finding someone to help me

Belonging support

- If I decided one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.
- I don't often get vented to do thing with others.

Appraisal support

- I feel that there is no one I can share my post private worries and fears with.
- When I need suggestions on how to deal with a personal problems, I know someone I can turn to.

ACKNOWLEDGEMENTS AND FUNDING

Author CJD was supported by Washington University Institute of Clinical and Translational Sciences grant UL1 TR000448, Sub award KL2 TR000450 from the NIH- National Center for Advancing Translational Sciences (NCATS), components of the National Institutes of Health (NIH), and NIH Roadmap for Medical Research