

ORIGINAL ARTICLE

Use of complementary and alternative medicine in persons with spinal cord injury in Switzerland: a survey study

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Study design: Questionnaire-based survey study.

Objectives: To evaluate the use of and the satisfaction with complementary and alternative medicine (CAM) techniques in patients with spinal cord injury (SCI).

Setting: Rehabilitation Center, Switzerland.

Methods: Between May and September 2014, all patients with chronic (>1 year) SCI attending the urologic outpatient clinic were asked to fill in a questionnaire regarding the use of CAM.

Results: Of the 103 participants (66 men and 37 women), 73.8% stated that they have used some form of CAM since SCI, with acupuncture and homeopathy being the two techniques that were used most frequently (31% each). The most common indications for CAM use were pain and urinary tract infections (UTIs). CAM was used supplementarily rather than exclusively. Overall satisfaction (85.1%) as well as satisfaction rates for the different indications (pain: 85%; UTI: 90.5%) and for the most frequently used forms of CAM (homeopathy: 90.6%; acupuncture: 78.1%) were high.

Conclusion: According to our data, there is a demand for adjunctive CAM procedures for the treatment of medical complications by persons with SCI. CAM led to high satisfaction levels. On the basis of these results, future research should systematically evaluate the therapeutic potential of the most popular CAM techniques, for example, acupuncture and homeopathy, for the treatment of secondary medical complications of SCI.

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INTRODUCTION

Although the life expectancy of patients with spinal cord lesions has significantly improved during the past decade,¹ a wide range of secondary complications in chronic spinal cord injury (SCI) patients has been reported, especially pain, urinary tract infections, bowel problems and spasticity being the most bothersome.² As currently there is no cure for SCI, treatment focuses on the prevention and treatment of these secondary complications. However, the standard treatment of these complications is not entirely successful.^{3,4} Therefore, a subset of patients uses complementary and alternative medicine (CAM) to alleviate their health problems.⁵ Although the use of CAM has been analyzed in other chronic neurologic diseases, especially in multiple sclerosis (MS),⁶ demonstrating a widespread use of and a high level of satisfaction with these techniques,⁷ to our knowledge, no systematic survey exists for persons with chronic SCI.

MATERIALS AND METHODS

Since May 2014, the medical history taken from all the SCI patients reporting to our unit included a questionnaire assessing the utilization of CAM. The questionnaire consisted of five questions, evaluating the overall and the current use of CAM, the indications for CAM treatment, treatment satisfaction on a 4-grade scale (very satisfied, somehow satisfied, no success and aggravation of the symptoms) and recommendation of the treatment to friends/relatives. As examples for CAM procedures, acupuncture, homeopathy and Schuessler salts were listed. All German-speaking patients with either acquired or congenital (meningomyelocele) chronic (that is, lasting at least 1 year) SCI were asked to

fill in the questionnaire. We analyzed the results of the questionnaires received between May and September 2014.

Statistical analyses

Statistical analyses were performed with SPSS statistical software (SPSS; Irvine, CA, USA). All values are given as means and s.d. A *P*-value of <0.05 was considered significant.

RESULTS

No patient refused to fill in the questionnaire. In all, 103 consecutive SCI patients were included, 66 men and 37 women, mean age 49.5 years. Seven of these patients suffered from a meningomyelocele, the others from traumatic SCI. Thirty-three individuals were tetraplegic and 70 were paraplegic. SCI was complete in 54 patients and incomplete in 49 patients. Mean time since SCI was 20.9 years (Table 1).

Twenty-seven patients (26.2%) did not use any form of CAM, 76 patients (73.8%) have been using at least one CAM technique during the course of the SCI. Forty-five of 66 men (68.1%) and 31 of 37 women (83.7%) used CAM (Table 2).

Use of different forms of CAM

A wide variety of CAM treatments are mentioned (Table 3). Fifty-one patients (67.1%) used one form of CAM, 17 persons (22.4%) used two CAM treatments during the course of SCI and 8 persons (9.7%) used

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Table 1 Demographic data

	<i>Mean</i>	<i>Range</i>	<i>Median</i>
Age (years)	49.5 ± 13.7	18–77	51.0
Time since injury (years)	20.9 ± 14.0	1–60	20.0
Gender	<i>Male</i>	<i>Female</i>	<i>Total</i>
	66	37	103
<i>Level of lesion</i>	<i>Complete</i>	<i>Incomplete</i>	<i>Total</i>
Tetraplegia (#)	9	24	33
Paraplegia (#)	45	25	70

Table 2 Use of CAM

<i>Group</i>	<i># Male patients (%)</i>	<i># Female patients (%)</i>	<i># Total patients (%)</i>
CAM user	45 (68.2)	31 (83.8)	76 (73.8)
CAM nonuser	21 (31.8)	6 (16.2)	27 (26.2)
Acupuncture	17	15	32
Homeopathy	29	13	32

Abbreviation: CAM, complementary and alternative medicine.

Table 3 CAM techniques used by participants

<i>Technique</i>	<i>Frequency of use (n)</i>
Phytotherapy	10
Spagric medicine	1
Osteopathy	4
Neural therapy	1
Anthroposophic medicine	1
Chiropractor	2
D-Mannose	3
Lymph drainage	1
Kinesiology	1
Ghost healer	1
Ozone treatment	1
Honey	1
Shiatzu massage	1

more than two different forms (maximum four treatments). Acupuncture and homeopathy (32 persons, 31.1% each), Schuessler salts ($n=19$, 18.4%) and phytotherapy ($n=10$, 9.7%) were the most frequently used treatments (Table 2). As some participants used more than one form of CAM, the numbers of treatments exceed the number of participants.

All patients used CAM as an adjunctive treatment, not as an alternative to the conventional treatment.

At the time of the survey, 10 patients (32.3%) still were using acupuncture, whereas homeopathy was still used by 16 persons (50%), Schuessler salts by 12 patients (63.2%) and phytotherapy by 9 of 10 persons (90%).

Indications for CAM treatment

The most frequent medical problems treated by CAM were urinary tract infections (UTI; $n=21$), generalized pain ($n=20$) and spasticity ($n=13$). Acupuncture was most frequently ($n=15$) used

Table 4 Satisfaction with CAM for different medical problems

<i>Indication</i>	<i>Very satisfied (%)</i>	<i>Somehow satisfied (%)</i>	<i>General satisfaction (%)</i>
Pain ($n=20$)	10 (50.0)	7 (35.0)	17 (85.0)
UTI ($n=21$)	13 (61.9)	6 (28.6)	19 (90.5)
Spasticity ($n=13$)	8 (61.5)	2 (15.4)	10 (76.9)

Abbreviation: UTI, urinary tract infection.

Table 5 Satisfaction with the different CAM techniques

<i>CAM technique</i>	<i>Very satisfied (%)</i>	<i>Somehow satisfied (%)</i>	<i>General satisfaction (%)</i>
Acupuncture ($n=32$)	13 (40.6)	12 (37.5)	25 (78.1)
Homeopathy ($n=32$)	20 (62.5)	9 (28.1)	29 (90.6)
Schuessler salts ($n=19$)	11 (57.8)	5 (26.4)	16 (84.2)
Others ($n=27$)	15 (57.7)	7 (27)	22 (84.7)

for pain treatment, whereas homeopathy and Schuessler salts were mainly used for UTI prophylaxis and treatment ($n=13$ and $n=5$, respectively).

Satisfaction with CAM

None of the procedures used led to a worsening of symptoms in any patient. Overall, 63 patients (85.1%) were satisfied with the CAM treatment and 40 of those very satisfied. Sixty-five of the 76 patients (85.5%) using CAM would recommend it to friends or relatives. There was not a gender-related statistically significant difference regarding satisfaction (satisfaction in men: 37/43; women: 26/31).

Summarizing the different techniques, CAM was regarded effective against pain in 17/20 patients (85%), against UTI in 19/21 (90.5%) and in 10/13 against spasticity (76.9%) (see Table 4 for details).

Regarding the most frequently used CAM methods, 29 of the 32 patients (90.6%) using homeopathy were content with this treatment, 25 of the 32 patients (78.1%) rated acupuncture as effective. Concerning Schuessler salts, 16 of the 19 (84.2%) patients were content with the treatment. For the remaining CAM procedures, the number of the different single procedures was too small to be analyzed separately. Satisfaction was reported by 22 of 26 patients (84.7%) (see Table 5 for details).

Satisfaction with CAM in relation to indication

The most frequently used treatment for UTI was homeopathy; it was regarded as effective by 12 of the 13 patients (92.3%). Acupuncture, which was the most often used treatment for generalized pain, was rated effective in 12 of 15 patients (80%).

DISCUSSION

To our knowledge, we present the first systematic assessment of the use of CAM and the satisfaction with the CAM techniques in patients with SCI. Nearly three quarters of the participants used CAM within the course of SCI, homeopathy and acupuncture being the most frequent ones. In a previous survey from the USA, that included, among others, a subgroup of 161 SCI patients, the frequency of CAM use in persons with SCI was the lowest in all the groups with chronic

diseases (19.1%), with pain being the most frequent reason for CAM use (86.4%).⁸ The striking difference between the results of the mentioned study and our results may at least partly be due to the mode of recruitment of participants. Whereas in our study, each consecutive patient entering our institution filled in a questionnaire, Carlson *et al.*⁸ mailed a questionnaire to individuals who either were on mailing lists of national SCI organizations or were recruited by notices in publications or websites, fliers, word of mouth and by referral from specialized physicians who knew about the survey. In our eyes, the bias deriving from this form of recruitment may be high, and thus it is difficult to generalize these results. Furthermore, CAM utilization can vary between different countries/cultures.⁹ Third, the term CAM is not well defined and may include a plethora of different techniques with documented use in SCI patients.¹⁰ The frequency of CAM use found in our study is within the range of CAM use in other neurologic diseases. In multiple sclerosis (MS), the frequency of CAM use ranged between 27 and 100%, with the majority of studies reporting a frequency of 60% and more.⁶ The frequency of CAM use in general tends to be higher in individuals with disabilities than in able-bodied individuals,¹¹ the latter is about 40–50%,¹² with acupuncture and homeopathy being the most frequently used techniques.⁹

In our study, CAM was most frequently used for pain and UTI. The use of CAM to relieve pain for the patients with SCI has been assessed in several studies. As in our survey, CAM was used as a supplementary rather than an exclusive treatment. 73% of the SCI patients reported the use of CAM for chronic pain. Acupuncture was the most frequent technique (28% of the participants), with a pain relief that lasted for weeks in 19% of the users.¹³ A meta-analysis showed positive results for the use of acupuncture for pain in SCI.¹⁴

Besides acupuncture, several other CAM methods demonstrated positive effects on pain treatment in SCI patients. Prospective studies demonstrated a beneficial effect of osteopathy on chronic pain,¹⁵ and self-hypnosis produced significant and long-lasting pain relief.¹⁶

In contrast to the pain treatment, the usefulness of CAM for UTI prophylaxis is less well elucidated. Clinical studies evaluating phytotherapy focused mainly on the use of cranberry extracts and provided conflicting results.^{17,18} Merely one case series about homeopathic treatment of UTI exists, demonstrating favorable results.⁵

Comparing the two CAM techniques most frequently used by the participants of our survey, far more data are available for acupuncture than for homeopathy. For acupuncture, meta-analyses exist, showing positive results not only for pain, but for bladder dysfunction and functional recovery (American Spinal Injury Association motor scores and total functional independence measure scores).¹⁴

For homeopathy in SCI patients, besides the mentioned case study for UTI prophylaxis,⁵ only some case reports about homeopathic treatment of pain and spasticity¹⁹ and epididymitis²⁰ exist. No data were available for Schuessler salts, which seems to be a CAM technique limited to German-speaking countries.

Despite the rather limited evidence for acupuncture and the virtually nonexistent evidence for homeopathy in SCI patients, both the treatments are very popular among Swiss SCI patients and provide a very high rate of patient satisfaction. Several aspects are important: none of the patients replaced conventional treatment by CAM, so the risk that CAM users may miss standard therapeutic options seems to be negligible. None of the medical problems could be sufficiently treated by the conventional medicine, as only the combination of CAM with the standard procedures led to the mentioned high satisfaction rates. The percentage of SCI patients seeking help for their chronic medical conditions by CAM is high. Therefore, a

comprehensive care of SCI patients should not be limited to the various forms of conventional treatments, but should include CAM procedures as well. However, there are no sufficient data concerning the usefulness of the innumerable CAM procedures available, and it is of utmost importance to ‘separate the wheat from the chaff’ to prevent medical complications as well as the waste of financial resources.

Drawbacks of our study are that the duration of the CAM treatments has not been assessed, and the lack of a standardized quality of life questionnaire.

According to our survey, there is a demand for adjunctive CAM procedures for the treatment of medical complications by the persons with SCI. The procedures most frequently used, namely, acupuncture and homeopathy, lead to high satisfaction levels. However, currently scientific evidence for any CAM technique is scarce. Therefore, a close collaboration between the SCI experts and CAM practitioners is mandatory. Future research should systematically evaluate the efficacy and the risks of at least the most popular CAM treatments, for example, acupuncture and homeopathy, for the treatment of secondary medical complications of SCI.

DATA ARCHIVING

There were no data to deposit.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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