

Interactions of a history of migration with the course of pain disorder[☆]

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Abstract

Objective: Previous studies indicate that sociocultural factors affect the course of pain disorder. We investigated the role of nationality as an indicator of cultural factors, and of the degree of inclusion (DI) in Swiss society as an indicator of the migration process on the course of pain disorder. **Method:** In a semi-prospective case-control study, outcome was assessed after a 2-year follow-up in 57 patients treated for pain disorder by phone interview with the patients. One Swiss patient was matched with two Spanish or Italian patients living in Switzerland. Patients' appraisal of course of illness (PACI) and of current general health (PACGH) were assessed as the sum score of their ratings of general well-being, handicap in everyday life, work ability, mood and pain.

Family physicians were also asked to rate patient's course of illness. DI in Swiss society was assessed according to type of work permit, age at immigration and fluency in the language of the receiving country. **Results:** Swiss patients evaluated their PACI [$H(1,56)=4.30$; $P=.0038$] and PACGH [$H(1,56)=9.04$; $P=.003$] more favourably than patients from Italy and Spain. This difference was confirmed by the family physician's evaluation of the course of illness. A similar difference in outcome was found in favour of foreign patients with a higher DI. **Conclusion:** These results indicate that, in addition to sociocultural factors, the DI affects the outcome of pain disorder in patients with a history of migration. © 2001 Elsevier Science Inc. All rights reserved.

Keywords: Pain disorder; Migration; Culture; Outcome

Introduction

Outcome in foreign patients with chronic pain has been found to be worse than in Swiss patients [1,2]. Migrants have a marginalised status in Switzerland and are mostly employed in unqualified jobs with increased health hazards [2–5]. These job-related factors, together with low social status, and lack of social support are considered to affect the outcome in patients with chronic low back pain [1,5,6]. However, acute and chronic pain perception and response appear to be affected also by cultural differences in how people perceive health, the body and the causality of disease [7–15].

The goal of the present study was to assess possible cultural- and migration-related effects on outcome in patients with pain disorder. Outcome was compared between Swiss and non-Swiss patients considering nationality as an

indicator for the possible effect of cultural factors. In foreign patients the degree of inclusion (DI) in Swiss society is an expression of the possibilities of participation in relevant social activities, seeking help and participating actively in the treatment. Outcome was compared in foreign patients with different DI in order to assess the effect of factors related to the process of migration. Socioeconomic factors, age and gender were controlled for by matching cases.

Outcome was hypothesized to be worse in foreign patients and specifically in those with a poorer DI.

Patients and methods

All the case records were collected of Spanish, Italian and Swiss patients diagnosed as having “pain disorder associated with psychological factors” (DSM IV: 307.80) treated between 1/1992 and 12/1993 in the Medical Division Lory-Haus (MELO), a university hospital division of internal medicine specialising in psychosomatic medicine. The study was approved by the Ethical Committee of the Medical School of the University of Bern. Diagnostic work-up and interdisciplinary treatment programs were the same

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for Swiss and non-Swiss patients. It was possible to form 19 triplets with complete follow-up information, one Swiss patient matching two non-Swiss patients in order to have three comparison groups of similar size (Swiss, non-Swiss with high DI and non-Swiss patients with low DI). The matching procedure was successful for age (Swiss: 49 ± 9.9 years, non-Swiss 48 ± 9.4) and gender (52.6% female and 47.4% male in both groups). Length of follow-up was similar in both groups (23.2 ± 6.3 months in the Swiss group and 24.5 ± 5.8 in the non-Swiss group). Proportionally equal numbers of foreign and Swiss patients were treated as out-patients (3 Swiss and 7 foreign patients) and in-patients (16 Swiss and 31 foreign patients, respectively). However, non-Swiss patients had received less professional training than Swiss patients [Kruskal–Wallis $H(1,56) = 14.7$; $P < .001$].

Informed consent and information on follow-up were gathered in a semistructured phone interview conducted in the patient's mother tongue by S.E., who had not been involved in the treatment of the patients.

The phone interview assessed sociodemographic data, DI and outcome as patient's appraisal of the course of illness (PACI) and of current general health (PACGH).

DI was assessed in non-Swiss patients as a sum score based on type of work permit, age at immigration and fluency in the language of the country of residence.

PACI is a sum score of patients' rating of the course of their general well-being, handicap in everyday life, work ability, mood and pain, comparing their present state with the state before treatment in MELO as better, same or worse.

PACGH is a sum score of patients' rating of their actual general well-being, handicap in everyday life, work ability and mood over the last 4 weeks on a five-point scale from very good to very bad, and pain the intensity of which was rated on a 10-point scale from no pain to maximum pain.

As an independent second source of information on outcome, family physicians were also asked to evaluate the course of illness by phone.

Data was entered on Epi-Info 5.0 and analysed using the same software program and Systat 5.0 for Windows.

Results

Swiss and foreign patients' PACI and PACGH were compared (see Table 1). Foreign patients' PACI was worse than that of Swiss patients [Mann–Whitney U test $H(1,56) = 4.30$; $P = .0038$]. Foreign patients described their PACGH less favourably than Swiss patients [Mann–Whitney U test: $H(1,56) = 9.04$; $P = .003$]. There was no difference between Swiss and foreign patients in the appraisal of the course of pain or actual pain intensity (data not shown). There was no difference in PACI or PACGH in patients with high or low professional training (data not shown). Family physician's appraisal of the course of illness confirmed patients' self-appraisal (data not shown).

The analysis was then restricted to foreign patients, who were divided in two groups according to their DI in Swiss society (see Table 1). A marginally significant worse outcome of PACI in foreign patients with a lower DI was found [Mann–Whitney U test $H = 3.33$ (1.28); $P = .068$]. However, a significant difference was found in PACGH favouring foreign patients with a higher DI [Mann–Whitney U test $H(1.28) = 5.05$; $P = .025$].

Stepwise backward regression analyses with PACI and PACGH as dependent variables were performed. Nationality (Swiss, foreign) or DI (for the regressions including foreign patients only), age, gender, professional training and language of treatment (mother tongue of the patient or other) were entered as independent variables. The alpha-to-enter and alpha-to-remove level was set to .150.

A total of 9.1% of the variance in PACI was explained by a regression model retaining only nationality as independent variable [$F(1,55) = 5.535$; $P = .022$], and 19.9% of the variance in PACGH was explained by nationality [$F(2,54) = 6.709$; $P = .002$].

The same two regressions were performed for the foreign patients only, using DI instead of nationality. PACI was only marginally explained by DI [$F(1,36) = 3.092$; $P = .087$]. However, 20.7% of the variance in PACGH was explained by language of treatment and DI [$F(2,35) = 4.563$; $P = .017$].

Table 1
Comparison of PACI and PACGH

	Swiss patients	All foreign patients	Foreign patients with high DIs	Foreign patients with low DIs
<i>n</i>	19	38	16	13
PACI (mean \pm S.D.)	9.4 (± 3.1)	11.2 (± 2.4)	10.9 (± 2.4)	12.5 (± 1.1)
PACGH (mean \pm S.D.)	17.1 (± 5.5)	21.5 (± 4.5)	20.1 (± 4.1)	23.8 (± 3.8)

Means with standard deviations (\pm S.D.) of PACI and PACGH are given. Higher values indicate a worse outcome. Swiss patients have a better PACI than foreign patients (Mann–Whitney U test $H(1,56) = 4.30$; $P = .0038$.) Foreign patients with a higher DI in Swiss society have only a marginally significantly better PACI than foreign patients with a lower DI (Mann–Whitney U test $H(1,28) = 3.33$; $P = .068$). Swiss patients have better PACGH than foreign patients (Mann–Whitney U test $H(1,56) = 9.04$; $P = .003$). Foreign patients with a higher DI have a better PACGH than foreign patients with a lower DI (Mann–Whitney U test $H(1,28) = 5.05$; $P = .025$).

Discussion

The outcome of pain disorder evaluated as PACI and PACGH was more favourable in Swiss patients compared to patients from Italy and Spain matched for age and gender diagnosed and treated with the same intensity and modalities in the same institution. This difference was confirmed by the family physician's evaluation of the course of illness. A similar difference in outcome was found in favour of foreign patients with a higher DI in Swiss society compared to patients with a lower DI, indicating that not nationality per se, but factors related to the DI such as type of work permit, age at immigration to Switzerland and fluency in the language of the country of residence are important for the refractoriness to treatment.

All the patients had to meet the DSM IV criteria for pain disorder in order to be included in the study. Due to the retrospective nature of the study, no standardised information on the severity and duration of the pain disorder before treatment at MELO is available. It is therefore possible that part of the worse outcome in foreign patients with a low DI could be explained by differences already present at the time of treatment at MELO.

In spite of the attempt to match patients for profession Swiss patients included in the study had a higher level of professional training compared to foreign patients, in otherwise balanced comparison groups. However, PACI and PACGH did not differ according to professional training. In the regression model, professional training was eliminated in the comparison between Swiss and foreign patients, as well as in the comparison within foreign patients. These results indicate that differences in professional training may not be an explanation for the outcome difference in the present study.

Interviewer bias cannot be excluded since all the interviews were performed by one of the main investigators who was aware of the hypothesis of the study. However, the interviewer had not been involved in the treatment of the patients. The psychometric properties of the scoring applied to the semistructured phone interview had not been assessed previously. However, assessment scales fulfilling all psychometric conditions were not available at the time of the study. For these reasons, the data was gathered by interviewing patients and physicians in their mother tongue using a semistructured interview.

The most interesting finding of the study is that there is a similar difference in outcome between Swiss and foreign patients living in Switzerland as between foreign patients with a different DI in Swiss society. Therefore, differences in outcome cannot be attributed only to cultural factors related to nationality, but also to factors related to DI in the receiving country related to the process of migration such as type of work permit, age at immigration and fluency in the language of the country of residence. Interventions targeted at improving the sociocultural skills of the physicians 16 17 18 and at

improving inclusion in Swiss society may be helpful as additional treatment strategies for patients with pain disorder and a history of migration.

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