



Determinants of limitations in unpaid work after major trauma: A prospective cohort study with 15 months follow-up



Susan van Erp^a, Herman R. Holtslag^{a,b,*}, Ed F. van Beeck^c

^a Department of Rehabilitation, Nursing Science and Sport, University Medical Centre Utrecht, Utrecht, The Netherlands

^b Brain Center Rudolf Magnus, University Medical Centre Utrecht, The Netherlands

^c Department of Public Health, Erasmus MC, University Medical Centre Rotterdam, Rotterdam, The Netherlands

ARTICLE INFO

Article history:

Accepted 11 October 2013

Keywords:

Limitations
Return to work
Unpaid work
Household
Major trauma
Injury severity score
Permanent impairment

ABSTRACT

Objective: To identify determinants of limitations in unpaid work (household work, shopping, caring for children and odd jobs around the house) in patients who had suffered major trauma (ISS ≥ 16) and who were in full-time employment ($\geq 80\%$) at the time of injury.

Design: Prospective cohort study.

Setting: University Medical Centre Utrecht, a level 1 trauma centre in the Netherlands.

Method: All severely injured (ISS ≥ 16) adult (age ≥ 16) trauma survivors admitted from January 1999 to December 2000 who were full-time employed at time of the injury were invited for follow-up ($n = 214$). Outcome was assessed with the 'Health and Labour Questionnaire' (HLQ) at a mean of 15 months (SD = 1.5) after injury. The HLQ was completed by 211 patients.

Results: Response rate was 93%. Logistic regression analyses identified the percentage of permanent impairment (% PI), level of participation (RtW), co-morbidity, lower extremity injury (LEI) and female gender as determinants of limitations in unpaid work. Patients with a post-injury status of part-time or no return to work experienced more limitations in unpaid work than those who returned to full-time employment.

Conclusions: Resuming paid work after major trauma is not associated with reductions in unpaid activities. To assess the long-term outcome of rehabilitation programmes, we recommend a measure that combines patient's satisfaction in their post-injury jobs with a satisfactory level of activities in their private lives.

© 2013 Elsevier Ltd. All rights reserved.

Introduction

Injury is a major source of disease burden and work absenteeism [1]. Victims of major trauma, defined as those with an injury severity score (ISS) ≥ 16 , are often males, with a mean age ranging from 30 to 43 years [2–6]. These relatively young patients have the majority of their working lives ahead of them [7]. From the point of view of society and rehabilitation medicine, successful reintegration after major trauma is currently expressed as return to pre-injury work status [8]. Return to work (RtW) is an outcome of particular concern to both the individual patients and, in social and economic terms, to society as a whole [7]. RtW rates after major trauma vary from 50–60% after 1–2 years [3,8–10] to 60–75% after 5 years or more [11–15]. The ability to return to work is not only influenced by the patient's physical and emotional well-

being, but also by several non-health related factors, such as age, educational level, pre-injury income, social support, and the type of job held before the injury [1,7,9,11,16].

So far, the interpretation of RtW has focused on returning to paid work, but little is known about retaining a satisfactory level of unpaid activities while returning to full-time employment. We therefore analysed limitations experienced in unpaid work by patients after major trauma. The aim of this study was twofold. First, we studied whether post-injury RtW status in patients who were in full-time employment before the injury was related to limitations they experienced in unpaid work. The second aim was to explore the influences of medical and social factors as determinants of post-injury unpaid work activities.

Patients and methods

This prospective cohort study used the same design and database as a previously reported study on RtW after major trauma [3]. The study was conducted at the University Medical Centre Utrecht, one of the 11 level-1 trauma centres in the Netherlands,

* Corresponding author at: Department of Rehabilitation, Nursing Science and Sport, University Medical Centre Utrecht, PO Box 85500, W01.121, 3508 GA Utrecht, The Netherlands. Tel.: +31 088 7558831; fax: +31 088 7555450.

E-mail address: h.r.holtslag@umcutrecht.nl (H.R. Holtslag).

serving a catchment area with a population of 1.1 million. The Utrecht trauma care region is an urbanised area in the centre of the Netherlands with a population density of 813 inhabitants per square kilometre.

The study included severely injured patients treated by emergency care from January 1999 to December 2000, with an ISS [17] of at least 16. One investigator (HH) performed all follow-up evaluations. Patients were asked to participate by written invitation from one year after the trauma. The reason to invite patients for follow-up beyond 1 year (mean 15 months, SD = 1.5) after trauma was that at the time when we conducted the study, disabled employees in the Netherlands could become eligible for a permanent disability pension after 1 year of absence through illness. If those invited to participate did not respond, the researcher contacted them, their relatives or their family doctor by telephone. After giving written informed consent, patients were sent several self-administered questionnaires. The original study included the following validated questionnaires to collect data: Short Form-36, Sickness Impact Profile-136, Glasgow Outcome Scale, Utrecht Activity List, Health and Labour Questionnaire (HLQ) and EuroQol 5D [18,19]. In this study we only used the answers of the Glasgow Outcome Scale and the Health and Labour Questionnaire. The time it took respondents to complete all of the questionnaires was 30–60 min. If patients were unable to fill in the questionnaires, the same researcher visited them at their homes. Patients were encouraged, if applicable, to ask their spouses to assist them in completing the questionnaires. There was a response rate of 93%. The medical ethics review committee of the University Medical Centre Utrecht approved the study protocol, and informed consent was obtained from all patients.

Outcome assessment and determinants of limitations in unpaid work

Potential determinants of limitations in unpaid work were identified from the literature. In view of the scarcity of literature on this specific issue, however, we derived the determinants from studies which focused on RtW as their major outcome [1,3,9,11,20–23]. These can be categorised into socio-demographic factors (age, gender and educational level), physical factors (physically demanding or non-demanding job and co-morbidity), injury-related factors (injury severity score, injury localisation), hospital factors (stay at intensive care unit [ICU stay], duration of hospital stay) and permanent impairment at follow-up (Table 1). Permanent impairment was assessed using the Guide to Evaluation of Permanent Impairment, fourth edition, of the American Medical Association (AMA) [24]. This is a method to evaluate an injured patient's medical impairment based on objective factors of disability, as opposed to subjective complaints. The primary outcome measure was limitations in unpaid work, defined as limitations experienced with four specific items: household work (e.g. preparing meals, cleaning the house, doing the laundry), shopping (e.g. shopping for daily groceries, other types of shopping, going to the bank or post office), caring for children (e.g. caring for them at home, taking them to school, helping with homework), and odd jobs around the house (e.g. house repairs, gardening, repairing the car). We added participation, expressed as the level of RtW, as our expectation was that the level of RtW might influence limitations in unpaid work.

The classification of limitations experienced in unpaid work was derived from the HLQ, a validated instrument to collect data on absence from work, reduced productivity, unpaid labour production, and labour-related problems. Unpaid labour production included the four items of household work, shopping, caring for children and odd jobs. The limitations for each item were expressed by a limitation score. The respondents were asked whether they had performed each of the four unpaid activities in

Table 1

Patient and injury characteristics of 211 major trauma patients who were employed full-time (>80%) before their injury.

Gender	
Male	181 (86%)
Female	30 (14%)
Age, mean in years (SD)	34.7 (11.6)
16–25 years	49 (23%)
26–35 years	77 (37%)
36–45 years	41 (19%)
46–55 years	32 (15%)
56–65 years	12 (6%)
Educational level (highest completed)	
Primary school	29 (14%)
LBO ^a	92 (43%)
MBO ^b	48 (23%)
HBO/University ^c	42 (20%)
Injury severity score, mean (SD)	25.0 (10.7)
Cause of injury	
Traffic	149 (71%)
Work	29 (14%)
Sports	18 (8%)
Private/Home	9 (4%)
Others	6 (3%)
Stay at intensive care unit	
No	97 (46%)
Yes	114 (54%)
Duration of hospital stay, mean (SD)	23 days (21.67)
Job at time of injury	
Physically demanding ('blue collar')	135 (64%)
Physically non-demanding ('white collar')	76 (36%)

^a LBO = lower secondary vocational education and training.

^b MBO = secondary vocational education and training.

^c HBO/University = tertiary education.

the past two weeks. If they answered that they had, this was followed by questions about the level of difficulty they had experienced as a result of health problems. If they answered that they had not performed the activity, this was followed by a question about the extent to which this had been caused by health problems. The scores for limitations in unpaid work were as follows: did do, hindered = 1; did do, not hindered = 0; did not do, due to health problems = 2; did not do, due to other reasons = 0 (Table 2). The limitation score was thus a measure of difficulties experienced in unpaid work due to health problems. The minimum score per item was 0 and the maximum score per item was 2. The total limitation score was the sum of the four items, and ranged from 0 to 8. We then dichotomised the limitation scores for the four individual items and the total limitation score into no limitations and limitations (i.e. 1 or 2 for the four items and >1, with a maximum of 8, for the total limitation score) [20].

The socio-demographic factors we recorded included gender, age and educational level. Age was dichotomised into below 35 years and 35 years or over, based on the median age of our sample. The educational level was divided into primary school and lower secondary vocational education; senior secondary vocational education; and higher education at research universities or universities of professional education. It was finally dichotomised into lower and higher education.

The physical factors were whether the respondent's job had been physically demanding and whether they had any physical co-morbidity. We dichotomised the type of work into physically demanding jobs, that is, production work ('blue collar'), and

Table 2

Scoring of limitations in unpaid work.

	Hindered (due to health issues)	Not hindered/other reasons
Did do	1	0
Did not do	2	0

Download English Version:

<https://daneshyari.com/en/article/6083543>

Download Persian Version:

<https://daneshyari.com/article/6083543>

[Daneshyari.com](https://daneshyari.com)