DIFFERENCES IN PERIOD PREVALENCE OF THE USE OF PHYSICAL RESTRAINTS IN ELDERLY INPATIENTS OF EUROPEAN HOSPITALS AND NURSING HOMES

To the Editor:

The appropriateness and necessity of the use of physical restraints (PR) is highly controversial (1,2). Many adverse effects of PR use have been reported (3–6). Proposed but debatable reasons for the use of physical restraints include protection of confused elderly in the case of severe psychomotor agitation, delirium, increased risk of falling, or to enable treatment (7–10). Wrist, waist, and chair-fixation methods are used. Alternatives for PR use are pharmacological restraints and intensified nursing supervision (11).

Differences in training, legislation, and common practice in several European countries will probably lead to differences in the prevalence and indications of the use of PR. This cross-sectional descriptive study has been set up to describe the differences in period prevalence, the indications, effectiveness, and complications of the use of PR in elderly inpatients in several European hospitals and nursing homes. The study was initiated and executed by geriatricians who were participants of the European Academy of Medicine of Ageing (EAMA) course III (http://www.healthandage.com/html/min/eama/).

This prospective cross-sectional descriptive study was performed in 17 geriatric hospital wards and 6 nursing homes in 9 European countries. All patients aged 70 years or older were included. A questionnaire was filled out on every patient who was restrained on any of two weekdays or one Sunday in the fixed 2-week study period (May 1–May 14, 1999).

In some European countries, bed rails are not considered to be PR. In these countries, the reliable registration of the use of bed rails was not considered possible. Hence the use of bed rails was not included in this study.

A total of 5894 patient days on the 3 registration days was reported in 23 institutions. The percentage of restrained patients ranged from 0% to 22%.

The mean percentage of restrained patients in geriatric hospital departments compared to nursing homes was 4% versus 7%. The average percentage of restrained patients in geriatric hospital departments ranged from 0% in Austria and Denmark to 13% in Belgium. In nursing homes, the average percentage ranged from 2% in Finland to 16% in France (Table 1).

Participants from Germany, Austria, The Netherlands, and two of the four Swiss institutions (one nursing home and one geriatric hospital department) reported to be inhibited in their use of PR by restrictive legislation. The other participants reported no restrictive legislation.

The most frequently used method of PR was chair fixation (60%). Second was waist fixation in bed (27%). Wrist, ankle, and bed sheet fixation and room isolation were all infrequently used (<5%).

In 67% of the patients, the indication for the use of PR was a high risk of falls, in 12% the indication was psychomotor agitation. In 69% of the patients, PRs were used for 10 hours or less in 1 day. In geriatric hospital wards, a much higher percentage of the restrained patients was restrained for 24 hours or more than in nursing homes (33% vs 4%, respectively). Most patients who were treated with PR also received psychoactive medication (75%).

Complications from the use of PR occurred in 4% of the restrained patients. Reported complications were (increased) agitation, anxiety, and prolonged immobility. The use of PR was judged ineffective by the researcher in 3% of the restrained patients.

The large majority (87%) of the restrained patients had a diagnosis of dementia. Fourteen percent of the restrained patients in the hospital and 1% of the restrained patients in nursing homes had a recorded diagnosis of delirium. In 4%, no cognitive deficit was reported.

Remarkable differences exist in the period prevalence of the use of PR among European geriatric hospital wards and among European nursing homes. Although the participating institutions are not entirely representative of institutions in their country, the findings of this study warrant further research into the magnitude of the differences and the reasons for it.

One potential reason, the presence or absence of limiting legislation, does not seem to explain the differences in the period prevalence of the use of PR. The most common indication for use of PR was high risk of falls. The validity of this indication is questioned by studies showing a lower fall or injury incidence during restraint reduction in nursing homes (12,13). The difference in the use of PR for more than 24 hours between hospitals and nursing homes, although not justified by it, can probably be explained by the higher number of acutely ill cognitively impaired patients in geriatric hospital wards.

The reported number of adverse events due to the use of PR was limited. This may be due to underreporting or it may

Table 1. Number of Participating Institutions, Patient days, and Percentage of Restrained Patients

	NPD	GH	Restrained in GH (%)	NH	Restrained in NH (%)	Restrictive Legislation
Austria	740	2	0	1	6	Yes
Belgium	652	3	7–22	0		No
Czech Republic	99	1	3	0		No
Denmark	183	1	0	0		Yes
Finland	162	0		1	2	No
France	778	1	7	2	11–19	No
Germany	1147	5	0–2	0		Yes
Switzerland	2008	2	0–3	2	4	Yes/no*
The Netherlands	125	2	2–12	0		Yes

Notes: NPD = total number of observed patient days; GH = geriatric department in hospital; NH = nursing home; Restrained = restrained patients.

* Depending on regional legislation of the canton.

be that increased anxiety, immobility, and agitation were not common. Further studies are needed to answer this question.

The criticism that the use of PR is dangerous and considered a lack of respect for the dignity of the patient is frequently heard. This study shows that PR is still widely used. Local successes in diminishing or even completely banning PR use should encourage physicians to continuously consider alternatives to ensure the safety of their agitated patients (14,15).

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Received September 2, 2003
Accepted January 22, 2004