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Attitudes of Relatives of Nursing Home Residents Toward Physical Restraints

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Abstract

Purpose: Attitudes of nursing home staff, residents, and their relatives determine the decision-making process about the use of physical restraints. Knowledge of staffs' attitudes toward physical restraints is sparse; even less is known about relatives' attitudes. Therefore, we surveyed relatives' attitudes and opinions toward physical restraints and compared the results to a survey of nursing home staff.

Design: Cross-sectional survey comparing 177 nursing home residents' relatives from 13 German facilities in 2008 to 258 nursing home nurses from 25 German facilities in 2007.

Methods: The German version of the Maastricht Attitude Questionnaire was administered. Part I contains 22 items with three subscales (reasons, consequences, and appropriateness of restraints); Part II contains 16 items evaluating restrictiveness and discomfort of restraint measures, respectively. Descriptive and explorative inferential statistics were used for data analyses.

Findings: Response rate in both samples was above 90%. Mean age was 62 years (*SD* 12.60; range 24–93) in relatives and 44 years (*SD* 11.40; range 19–65) in nurses; 72% and 82% were female, respectively. Relatives assess physical restraints a little more positively compared to nurses, with an average of 3.40 (*SD* 0.60) versus 3.07 (*SD* 0.48) on a 5-point scale (5=*strongly positive attitude*). Relatives assess physical restraints as slightly less restrictive, with 2.11 (*SD* 0.33), and as less discomforting, with 2.10 (*SD* 0.38) points, compared to nursing staff, who assess the restraints' restrictiveness with 2.19 (*SD* 0.29) points and its discomfort with 2.17 (*SD* 0.32) on a 3-point scale (3=*very restrictive/discomforting*). Both groups consider wrist and ankle belts as most restrictive and uncomfortable, while sensor mats, infrared systems, and unilateral bedrails were rated as the lowest for restrictiveness and discomfort.

Conclusions: Attitudes of nursing home residents' relatives toward physical restraints are rather positive and generally comparable with nursing home staffs' attitudes.

Clinical Relevance: Interventions aimed to reduce physical restraints need to include education of both staff and relatives of nursing home residents.

International studies suggest prevalence rates of physical restraint use in nursing homes between 2% and 70% (Feng et al., 2009). Differences may be due to varying definitions of physical restraints, data collection meth-

ods, sample sizes, care settings, legislation, and nursing traditions (Hamers & Huizing, 2005). Many healthcare providers continue to consider physical restraints as a safety measure, primarily for the prevention of falls, but

also for controlling disruptive behavior and preventing interference with medical devices (Hamers, Gulpers, & Strik, 2004; Hamers & Huizing). It remains highly questionable whether this practice can be justified for controlling psychomotor agitation and reducing the risk for falling and fall-related injury (Evans, Wood, Lambert, & Fitzgerald, 2002; Healey, Oliver, Milne, & Connelly, 2008). In fact, physical restraint use has been shown to be associated with adverse outcomes, such as serious injuries, increased mortality, and other adverse events like reduced psychological well-being, lower cognitive performance, and decreased mobility (Engberg, Castel, & McCaffrey, 2008; Evans et al.).

Since a restraint-free nursing home environment is promoted as the preferred standard of care, efforts have been undertaken worldwide to reduce the use of physical restraints (Flaherty, 2004). The first programs for the reduction of physical restraints were introduced in the United States in the 1980s (Castle & Mor, 1998). These American studies, as well as a number of studies conducted later in Europe and Asia in both hospitals and nursing homes, however, have not consistently resulted in clinically meaningful reductions of physical restraints (Capezuti et al., 2007; Huizing, Hamers, Gulpers, & Berger, 2006, 2009; Lai et al., 2007; Testad, Aasland, & Aarsland, 2005). Recent intervention studies in nursing homes in the Netherlands providing an education approach with nurse specialist consultation (Huizing et al., 2009) and in Norway providing an education approach with guidance (Testad et al.) also demonstrated inconsistent results. Thus, it might not be sufficient to focus on nurses' education alone to change practice conditions. Rather, a combination of approaches might be indicated that includes education, role modeling by consultation, institutional commitment to restraint reduction, policy changes, as well as availability of alternative interventions (Hamers & Gulpers, 2009). All these approaches imply nurses' and families' attitudes toward physical restraints as powerful determinants, which need to be addressed. Hamers et al. (2009), concluding from a survey with nurses of three European countries, emphasized the importance of more tailored and culturally sensitive interventions, since the effectiveness of interventions depends on cultural mores and country-specific laws and regulations.

In Germany the use of physical restraints is common practice in nursing homes, as indicated by questionnaire surveys with nursing staff (Hoffman & Klie, 2004), and a recent epidemiological study including 30 nursing homes with 2,367 residents (Meyer, Köpke, Haastert, & Mühlhauser, 2009). The latter shows a prevalence of 26% (95% confidence interval 21–31). Despite the availability of alternative interventions such as half bedrails,

bedrails used as restraints (two full-length or one full-length with the other side of the bed positioned against the wall) were the type of restraint most often used (25% of the residents). Other types were comparably rarely used and included waist belts in chair or bed (3%), chairs with a table (2%), and other devices (2%). Center prevalence ranged from 4% to 59%. Consistent with prior studies conducted in other countries, restraint use was associated with residents' characteristics, such as degree of care dependency, cognitive impairment, and history of fall-related fractures. The resident case mix of the participating nursing homes was comparable and could therefore not explain the wide variation of restraint prevalence among the homes. Remarkably, the majority of nursing homes employed policies or protocols meant to minimize physical restraint use. Sixty percent indicated having an in-house standard of care and 80% used a special nursing documentation sheet specific to physical restraints. Institutional characteristics, such as staff-to-resident ratio or ownership of the home, also did not reveal any significant results. Since easily measurable resident and institutional characteristics could not explain center differences, it seems that other factors, such as the philosophy of care determining attitudes and beliefs within the nursing home setting, are most likely to be a powerful determinant of physical restraint use.

Attitudes of nursing staff and nursing home residents' relatives, which are known to influence the decision to use restraints, have been described as an important barrier for restraint reduction (Hamers & Huizing, 2005; Moore & Haralambous, 2007). International studies on nurses' and relatives' attitudes are mainly based on questionnaire surveys and qualitative studies. Several European studies have shown that nurses' attitudes significantly influence the use and frequency of physical restraints (Karlsson, Bucht, Eriksson, & Sandman, 2001; Werner & Mendelsson, 2001). Thus, interventions for the reduction of physical restraints need to address nurses' attitudes (Meyer, Möhler, & Köpke, 2009), and thus require a thorough knowledge of the respective attitudes (Hamers & Huizing; Hantikainen & Käppeli, 2000).

Several studies suggest that nurses' attitudes toward physical restraints in nursing homes are ambivalent. Their attitudes are characterized by respect toward the residents' dignity and self-determination, but even more are marked by anxiety and a responsibility for the residents' safety and security. According to studies from Switzerland (Hantikainen, 1998), Sweden (Karlsson, Bucht, Rasmussen, & Sandman, 2000), and the United States (Hennessy, McNeely, Whittington, Strasser, & Archea, 1997; Michello, Neufeld, Mulvihill, & Libow, 1993), when restraints are used against the residents' will, nurses are faced with a moral dilemma that results

in feeling frustrated, uncomfortable, and concerned. On the other hand, American (Hennessy et al.; Hill & Schirm, 1996; Michello et al.; Scherer, Janelli, Kanski, Neary, & Morth, 1991) and Swiss nurses (Hantikainen, 2001) regard physical restraints as appropriate measures to prevent falls and injuries and guarantee safety. According to Swiss and Swedish studies (Hantikainen, 2001; Karlsson et al., 2000), nurses regard physical restraints as a necessary measure and as an appropriate reaction toward residents' challenging behavior. They also report finding it necessary to strictly follow physicians' orders to restrain patients. In summary, nurses' attitudes differ depending on their definition and understanding of physical restraints as well as on their national and cultural affiliation. These findings confirm those of a recent study with nurses from three European countries including Germany that demonstrated that nurses generally approve of physical restraints, especially bedrails used as restraints (Hamers et al., 2009).

Nurses often justify restraint use in nursing homes based on their perceived pressure from relatives to use these devices. Nurses' decisions regarding restraints depend decisively on the cooperation with the resident's relative, and thus relatives' attitudes are important to understand. Few international studies, however, have investigated relatives' attitudes toward physical restraints in nursing homes (Evans & Fitzgerald, 2002; Hardin et al., 1993; Moore & Haralambous, 2007; Newbern & Lindsey, 1994), and none have been conducted in Germany so far. International literature discloses ambivalent, but rather negative, attitudes from relatives toward physical restraint use in nursing homes insofar as they regard it as degrading and humiliating (Evans & Fitzgerald). According to studies from the United States (Hardin et al.; Newbern & Lindsey) and Australia (Moore & Haralambous), relatives feel uncomfortable, guilty, and helpless, being burdened by emotional stress. They show no understanding for physical restraint use, especially when nurses consider restraints to reduce their workload, and do not involve relatives in the decision-making process. On the other hand, the same studies revealed that relatives regard restraints as appropriate and positive, approving it as a safety measure for fall prevention based on their trust in the clinical expertise of nurses. A recent Spanish study in the community care setting confirmed these findings (Fariña-López, Estévez-Guerra, Núñez González, Montilla Fernández, & Santana Santana, 2008).

The aim of the current study was to explore the attitudes of residents' relatives regarding physical restraint use in German nursing homes in order to understand possible barriers or facilitators nurses are confronted with during the decision-making process for physical restraint

use. Relatives' attitudes regarding reasons, consequences, and appropriateness as well as their opinions on restrictiveness and discomfort of different physical restraints measures are surveyed. Results are compared with the German subsample of a large three-country survey of nurses' attitudes toward restraints during a similar time period (Hamers et al., 2009) to explore differences in attitudes between the two groups.

Methods

Design and Participants

Two cross-sectional studies were conducted, each using convenience samples of (a) relatives of nursing home residents from 13 nursing homes from the northern (Lower Saxony) and western (North Rhine-Westphalia) sections of Germany and (b) nursing staff from 25 nursing homes in northern Germany (Hamburg and Bremen). The latter study is part of a survey of 608 nurses conducted during 2007 in the Netherlands, Switzerland, and Germany (Hamers et al., 2009). As comparison for the relatives' sample the German nurses' subsample was used, and data were reanalyzed using the same methods as for the relatives' survey that was conducted in 2008.

Relatives included spouses, children, grandchildren, great-grandchildren, partners, and any other persons like cousins, nieces, or friends having a personal or familial relationship with a nursing home resident. Nursing staff was defined as charge nurses, registered nurses, practical nurses, and nurse aides (Hamers et al., 2009).

For the relatives' survey, initial contact was established with the nursing homes' directors of nursing by either telephone or letter, followed by an on-site meeting in which investigators Kolbe and Strupeit described the study to the nursing director. After agreement to participate, each nursing director appointed staff members as data collectors for the study. An in-house training was provided in each nursing home informing nurses about the aim and context of the study as well as the information, handling, delivery and return of the questionnaires to the relatives. Information letters, questionnaires, and self-addressed envelopes were distributed to the relatives during 6 weeks between May and July 2008. After 2 and 4 weeks, the investigators contacted the nurses to check for potential problems in data collection.

For the nurses' survey, consent of the nursing home director was obtained via telephone. The questionnaires were completed by nurses on a voluntary basis during an on-site staff meeting and in the presence of a researcher. The data collection took place in 2007 and is described elsewhere (Hamers et al., 2009).

Table 1. Attitudes of Relatives and Nursing Staff Regarding Restraint Use

Subscale	Relatives (n=168)	Nursing staff (n=256)
Reasons for restraint use ^a	3.38±0.80	2.65±0.72
Consequences of restraint use for the resident ^a	3.16±0.67	2.95±0.60
Appropriateness of restraint use ^a	4.04±0.69 ^b	4.24±0.63
Total score ^a	3.40±0.60	3.07±0.48

Note. Values are means±standard deviation. Items were rated on a 5-point Likert scale, with 1 indicating strong disagreement and 5 strong agreement. ^a $p < .001$ (t test), comparison of relatives and nurses. ^bRatings of two items missing.

Questionnaire

In this study, physical restraints imply all measures adjacent to the body, like any kind of belt, sheet, side rail, or table, as well as locked doors and technical devices such as an infrared system or sensor mat, which all impede the residents' free body movement.

Attitudes and opinions of residents' relatives and nurses toward physical restraints were surveyed using the German version of the Maastricht Attitude Questionnaire (MAQ). The MAQ was developed to survey

nurses' attitudes toward physical restraint use in nursing homes (Hamers et al., 2009; Lindenmann, 2006). The first part of the MAQ contains 22 items within three subscales (**Table 1**): reasons for (8 items), consequences of (10 items), and appropriateness of restraint use (4 items). Examples of statements are: "The use of physical restraints prevents serious injuries in residents" or "Residents will fall if no physical restraints are in place" (reason subscale); "Physical restraint use has a negative influence on the resident's quality of life" or "Residents experience the application of physical restraints as punishment" (consequences subscale); or "At my ward, physical restraints are applied too often" or "Physical restraints are used too quickly" (appropriateness subscale). The answers are rated on a 5-point Likert scale (1=strongly disagree; 5=strongly agree).

The total score is calculated by adding up the scores of the 22 items and dividing the sum by the total number of items. The internal consistency of the 22 items has been shown to be high (Hamers et al., 2009; Lindenmann, 2006). Cronbach's alpha for the nurses' survey in Germany ranged from 0.57 to 0.79.

The second part of the MAQ comprises 16 items targeting participants' perceptions regarding the effect of restraint measures (**Table 2**: 16 items for degree of restrictiveness and discomfort, respectively). Participants are

Table 2. Opinions of Relatives and Nursing Staff Regarding Degree of Restrictiveness and Discomfort of Physical Restraints

Measure	Restrictiveness		Discomfort	
	Relatives ^a (n=169)	Nursing staff ^b (n=256)	Relatives ^c (n=154)	Nursing staff ^d (n=250)
Ward door locked ^e	1.99±0.79	2.39±0.71	1.88±0.81	2.38±0.72
Bedroom door locked ^e	2.37±0.74	2.64±0.63	2.35±0.79	2.54±0.71
Infrared system ^e	1.32±0.62	1.58±0.72	1.31±0.60	1.62±0.73
Sensor mat ^e	1.36±0.62	1.55±0.67	1.36±0.60	1.55±0.67
Sleep suit ^{e,f}	2.40±0.64	1.67±0.68	2.43±0.63	1.75±0.69
Sleeping bag	2.50±0.63	2.39±0.63	2.48±0.64	2.36±0.65
Ankle belt	2.79±0.53	2.81±0.49	2.85±0.39	2.82±0.47
Deep chair	2.18±0.70	2.15±0.67	2.19±0.72	2.06±0.75
Chair with table	2.08±0.62	2.00±0.62	1.91±0.69	1.87±0.63
Tightly tucked sheet ^e	2.33±0.71	2.62±0.60	2.41±0.69	2.66±0.56
Unilateral bedrail ^e	1.53±0.63	1.38±0.52	1.54±0.61	1.32±0.49
Bilateral bedrails ^e	1.81±0.72	2.00±0.61	1.80±0.75	1.93±0.66
Wrist belt	2.88±0.41	2.90±0.36	2.90±0.36	2.91±0.34
Safety belt in (wheel-) chair ^e	1.75±0.59	2.11±0.61	1.71±0.63	2.06±0.67
Belt in bed ^e	2.47±0.60	2.69±0.53	2.47±0.67	2.70±0.55
Belt in (wheel-)chair ^g	2.05±0.59	2.17±0.56	2.01±0.65	2.10±0.66
All measures ^e	2.11±0.33	2.19±0.29	2.10±0.38	2.17±0.32

Note. Values are means±standard deviation. Items were rated on a 3-point Likert scale, with 1 indicating not restrictive/discomforting and 3 very restrictive/discomforting. ^aRating of 0 to 7 items missing. ^bRating of 1 to 9 items missing. ^cRating of 0 to 5 items missing. ^dRating of 1 to 11 items missing. ^e $p < .05$ (Mann-Whitney U test), comparison of relatives and nurses. ^fA sleep suit is a clothing measure to prevent that persons undress themselves unnecessarily. ^g $p < .05$ (Mann-Whitney U test), only for comparison of ratings on restrictiveness of measure, nonsignificant for ratings on discomfort of measure.

asked to rate on a 3-point scale the restrictiveness for residents (not restrictive, moderately restrictive, very restrictive) and the extent of discomfort (not discomforting, moderately discomforting, very discomforting) they perceive concerning these measures.

The MAQ was slightly modified for relative participants, mainly implying minor changes of the items' description in favor of ensuring a better understanding of the relatives. Neither substantial changes were made of the questionnaire's content nor items added or deleted. The instrument was piloted with seven relatives in a nursing home in Saxony Anhalt (eastern section of Germany), not participating in the main study. Their responses led to revisions that essentially removed professional jargon and were colloquially adjusted to relatives' everyday speech. The Cronbach's alpha of this revised MAQ for the relatives version ranged from 0.82 to 0.88.

Additionally, participants' characteristics, including relatives' age, gender, relationship to resident, and frequency of visits, were collected. These sociodemographic characteristics were collected alongside the MAQ to provide sample descriptive information.

Ethical Considerations

Participation in both studies was voluntarily. Data collection and analysis were carried out anonymously. Each nurse and relative participant received a code number. For the relatives' study, approval was obtained to administer the questionnaires without written consent by the ethics committees of the University of Bremen and the University of Witten/Herdecke. Each relative was provided with an information sheet about the study, a questionnaire, and an envelope. After completing the questionnaire, the relative returned it to the nurse data collectors in a sealed envelope. Data for the nurses' survey were exempt from requiring approval from an ethics committee. Participating nurses were verbally informed about the survey, including that their participation was voluntary, and assured that results would be kept confidential.

Statistical Analysis

For each subscale (Part I: 22 items; Part II: 16 items on restrictiveness and 16 items on discomfort, respectively), only subscales with at least 50% of items answered were included in the analysis. All inference statistics were used only for exploratory purposes. No alpha error adjustment was performed. Depending on scale level and data distribution, the chi-square test, Mann-Whitney *U* test, or the *t* test were used to investigate differences between

the nurses' and relatives' sample as well as for subgroup analysis of the relatives' sample. Data were analyzed with SPSS 17.0 (SPSS Inc., Chicago, IL). Mean values and standard deviations (*SD*) were calculated. Statistical significance was set at $p < .05$ (two-sided).

Results

Participants' Descriptive Characteristics

Most ($n=177$, 91%) of the 195 questionnaires distributed to relatives were returned. The mean age of the relatives was 62 years (*SD* 12.60; range 24–93), and 72% were female. Relatives' relationship to the resident was characterized as follows: 71% sons or daughters, 13% partners, 12% others, and 5% grandchildren or great-grandchildren. The majority (59%) reported visiting their relatives two to three times a week in the nursing home, while only 23% reported visiting less than once a week, and 19% made daily visits.

Ninety-four percent ($n=258$) of 274 questionnaires distributed to nurses were returned. The mean age of the nurses was 44 years (*SD* 11.40; range 19–65), and 82% were female. The majority (40%) were practical nurses, 29% were nurse aides, 14% were registered nurses, 8% were charge nurses, and 9% were others, such as untrained nurses or nursing students. Most of the participants had more than 10 years of working experience: 44% had 11 to 20 years of clinical experience, 31% had 4 to 10 years, 14% had more than 20 years, and only 11% had between 0 and 3 years of clinical experience.

Attitudes Toward Restraints

Table 1 summarizes relatives' and staffs' attitudes toward, including reasons for as well as consequences and appropriateness of, restraint use. Both groups indicate that they consider physical restraints as an appropriate intervention, staff even more than relatives. Concerning the consequences of physical restraints, both relatives and nurses show a rather neutral agreement. Relatives demonstrate all in all significantly more positive attitudes toward physical restraint use than nurses (3.40 ± 0.60 vs. 3.07 ± 0.48 on a 5-point Likert scale, with 5 points indicating strong agreement).

Opinions Regarding Restrictiveness and Discomfort

Table 2 displays the results of the comparison of relatives' and nursing staffs' opinions regarding the degree of restrictiveness and discomfort of physical restraints. The mean values of relatives' and nursing staffs'

opinions toward the restrictiveness and discomfort of physical restraints are almost alike (restrictiveness: 2.11 ± 0.33 vs. 2.19 ± 0.29 ; discomfort: 2.10 ± 0.38 vs. 2.17 ± 0.32 ; on a 3-point Likert scale, with 3 points indicating very restrictive/discomforting), while nurses' opinions are significantly slightly more negative than relatives' opinions. Both groups consider wrist and ankle belts as measures with the highest restrictiveness and discomfort. Sensor mats, infrared systems, and unilateral bedrails are assessed by relatives and nurses as the least restrictive and discomforting measures. While nurses rate technical devices (e.g., sensor mats) as less restricting and discomforting than relatives, the latter show a more negative opinion toward unilateral bedrails compared to nurses. Both groups differ in their opinions toward locked ward doors and sleep suits. Relatives are more likely to consider sleep suits as highly restrictive and discomforting compared to nursing staff, while nursing staff were more likely to rate locked ward doors as highly restrictive and discomforting compared to relatives.

The **Figure** displays the proportion of relatives and nurses who rated the measures as very restrictive and very discomforting, respectively. **Table 2** (presenting mean values) and the **Figure** (presenting the proportion of extreme ratings) show that for both study groups, wrist and ankle belts are rated as the most restrictive and discomforting measures, whereas sensor mats, infrared systems, and unilateral bedrails are rated as the least restrictive and discomforting.

Subgroup Analyses

Table 3 displays the exploratory subgroup analysis of the relatives' survey. The results, including the *p* values generated, should be interpreted with caution due to the small sample size and risk of multiple testing with potential alpha error inflation. Relatives' attitudes are related to neither age nor gender. Relatives who visit their family members in nursing homes less frequently (at most once a week) assess physical restraints slightly more positively than those who visit their family members daily or two to three times a week.

Also, relatives' opinions toward restrictiveness and discomfort are not related to age and gender. Relatives who visit their family members in the nursing home once a week or less assess physical restraints as significantly less discomforting compared to those who make daily visits or who make visits two to three times a week. Concerning relatives' opinions toward restrictiveness of physical restraints, there were no significant differences between relatives' frequency of visits.

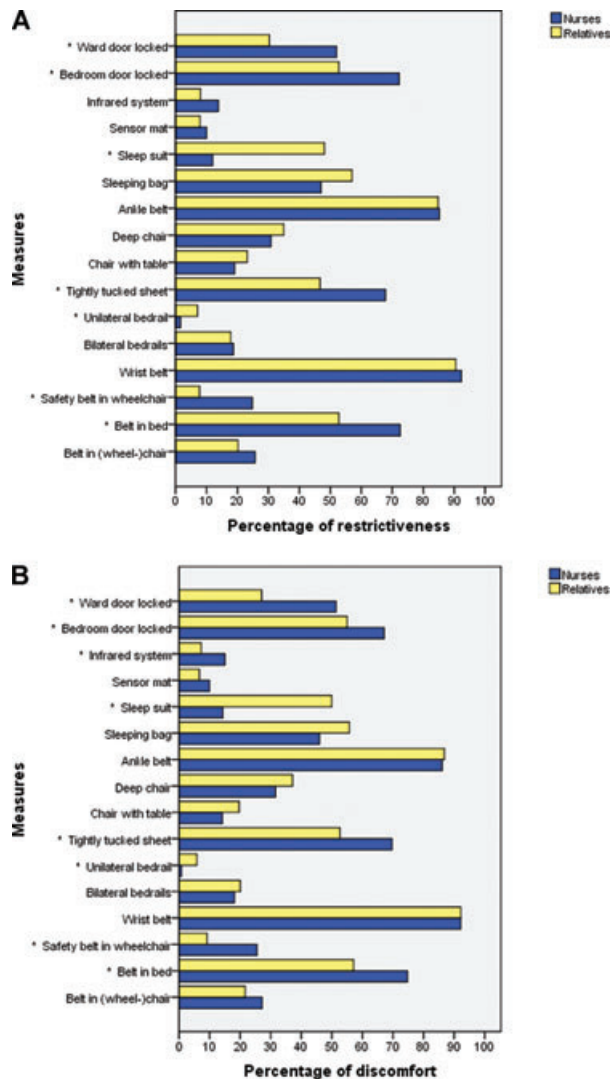


Figure. Proportion of relatives and nurses rating the measures as very restrictive (A) and very discomforting (B), respectively. **p* < .05 (chi-square test), comparison of relatives and nurses.

Discussion

Study findings suggest that nurses and relatives have rather positive attitudes and opinions toward physical restraint use in German nursing homes. Similar to a study in the acute care setting, relatives' attitudes are a little more positive and they assess restraints as slightly less restricting and discomforting than do nurses (Vassallo et al., 2005). Relatives who visit their family members less often seem to be more positive toward restraints and assess them as less discomforting. This may reflect their lack of knowledge about physical restraints and restraint alternatives, as well as their inability to imagine how it feels to be restrained (Fariña-López et al., 2008). Relatives'

Table 3. Subgroup Analyses of Relatives' Survey

	Attitudes ^a	Restrictiveness ^b	Discomfort ^b
Gender			
Women	3.39±0.62	2.21±0.32	2.09±0.38
Men	3.46±0.53	2.08±0.36	2.12±0.39
Age			
First quartile (<53 years)	3.47±0.57	2.13±0.23	2.10±0.32
Last quartile (>68 years)	3.43±0.55	2.06±0.38	2.07±0.40
Visits			
Daily	3.37±0.57	2.16±0.36	2.17±0.38
Two to three times	3.33±0.62	2.12±0.32	2.12±0.37
At most once a week	3.65±0.53 ^c	2.02±0.34	1.93±0.39 ^c

Note. Values are means±standard deviation. ^aItems were rated on a 5-point Likert scale, with 1 indicating strong disagreement and 5 strong agreement. ^bItems were rated on a 3-point Likert scale, with 1 indicating not restrictive/discomforting and 3 very restrictive/discomforting. ^cSignificant differences ($p < .05$, Mann-Whitney U test) between at most once a week and daily as well as two to three times a week, respectively.

rather positive attitudes reflect their belief that restraints can guarantee security and safety for the resident, since high restraint use in some nursing homes may indicate an institutional culture marked by fear of the legal ramifications of fall-related injuries (Moore & Haralambous, 2007). These findings suggest that education interventions aimed to reduce restraints need to target nursing home residents' relatives.

Relatives and nurses assess restrictiveness and discomfort of physical restraints similarly and rather highly, with only a few differences in terms of restraint types. Thus, physical restraints are predominantly judged negatively, an issue also well described in qualitative studies (Evans & Fitzgerald, 2002; Moore & Haralambous, 2007). Both groups consider restraints placed next to the body, such as wrist and ankle belts, as the most restrictive and discomforting measures. Close placement to the body provides a strong visual reminder of how these devices immobilize the resident. In contrast, technical devices that can be used as restraints, such as sensor mats, infrared systems, and unilateral bedrails, that are not adjacent to the body, are rated by both groups as least restricting and discomforting. These results, similar to those of Vassallo and colleagues (2005), indicate that relatives accept restraints close to the body less readily than technical devices. Relatives might have a limited understanding of the potential immobilizing effect of these devices. However, there is also an ongoing professional debate whether technical measures should be regarded as restraints or alternative interventions (Gerlach, Seidenstücker, & Köpke, 2009). As already shown in earlier studies, both nurses and relatives judge bedrails used as restraints as an appropriate measure (Hamers et al., 2004; O'Keeffe, 2004).

The results of this study are based on small numbers and should therefore be interpreted with caution. We

cannot exclude that relatives viewing physical restraints more critically were not captured by this survey. Since attitudes and opinions are a culturally sensitive matter, which reflects both national and institutional contextual factors, the results are not necessarily applicable to other cultural contexts.

Given the high prevalence of physical restraint use in German nursing homes, knowledge about relatives' attitudes and its further investigation are a decisive key to approach restraint reduction adequately. A systematic review of both relatives' and nurses' attitudes toward physical restraints in nursing homes is needed to evaluate the methodological and cultural aspects of existing studies. Both nurses' and relatives' attitudes play an equally important role in the decision-making process on physical restraint use, depending on the respective contextual situation. Further, there is a need for research to investigate relatives' attitudes in-depth in order to ascertain the underlying motives and reasons for their perceptions of restraints. Qualitative interviews of German relatives are needed to describe in detail the cultural and other underlying determinants of their perceptions. These data are needed to develop interventions that represent the unique cultural aspects of this population.

In conclusion, this study provides some explanations for relatives' and nurses' resistance and scepticism toward physical restraint reduction efforts (Moore & Haralambous, 2007) and the high restraint prevalence in German nursing homes (Meyer et al., 2009). The results call for a more thorough and culturally sensitive investigation of relatives' as well as nurses' attitudes toward physical restraints in the elderly in order to contribute effectively to restraint reduction programs.

Limitations

We investigated a convenience sample size and refrained from sample size calculation since we had no prior evidence about data distribution and potential group difference. Within the relatives' sample, a self-selection bias could not be excluded. Finally, we did not investigate residents' perspectives, although valid data of the attitudes and opinions of elderly people being themselves or seeing other residents restrained are warranted.

Conclusions

Attitudes of nursing home residents' relatives toward physical restraints are rather positive and comparable with nursing home staffs' attitudes. Relatives should explicitly be targeted within intervention programs aimed to enhance a restraint minimization policy in nursing homes. There is a need for further systematic research on relatives' and nurses' attitudes, considering cultural and methodological aspects.

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Clinical Resources

- Nursing Research Network Northern Germany. <http://www.pfv-nord.de>
- Hartford Institute for Geriatric Nursing, New York University College of Nursing. <http://hartfordign.org>

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