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RESEARCH PAPER

Physically restraining elder residents of long-term care facilities from a nurses' perspective

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Physically restraining elder residents of long-term care facilities from a nurses' perspective

The purpose of the current study was to identify and analyse major variables affecting intended decisions of nursing staff to physically restrain elder residents of long-term care facilities. The study explored whether a research model constructed of staff characteristics and resident characteristics would prove useful for predicting behavioural intentions. A total of 120 reliable and validated questionnaires, based on the research model, were administered to nurses working in a large long-term care facility for older adults in central Israel; 104 questionnaires were returned for a response rate of 86%. The research findings indicate that most of the nurses who responded (67.2%) reported that they had physically restrained elder residents more than 10 times over the past year; however, the nurses had a low intention of restraining residents during the coming year. The research results indicate that the intended decision of nursing staff to restrain elderly residents is a derivative of their behavioural beliefs and attitudes, normative beliefs and subjective norms, as well as of residents' dementia, physical state and stress.

Key words: long-term care facility, residents' characteristics, restraint use.

INTRODUCTION

Physical restraint is used as a means of protecting residents from inflicting injury on themselves or others. The Israeli Ministry of Health defines physical restraint as tying the limb(s) and/or body of a resident to the bed frame, with the purpose of limiting movement, in order to

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prevent potential damage to self or others. In addition, this includes tying the resident's body to an armchair in order to provide support when sitting and prevent potential slips and falls.[1] Attempts have been made to modify use of resident restraint in Israel, but it remains prevalent. A study conducted in Israeli geriatric units found that 16% of residents had been restrained over the past 8 months.[2] Restraint is used to maintain the safety of elder residents of long-term care facilities and controlling their behaviour. Although the initial aim of this practice is to help residents, physical restraining has negative implications as well. The implications include: injuries, ulcers, respiratory complications, reduced activities of daily living (ADL), muscle atrophy, increased anxiety and increased risk of mortality.[3]

The nursing staff has a central role in decisions regarding use of physical restraint for elder residents. In the past, until 2009, it was usually the nursing staff who drew doctors' attention to the need to restrain residents and to give the order to do so.[4] However, at present nurses can reach this decision independently, as determined by the new regulations of the Israeli Ministry of Health.[1] Although nurses' attitude is often mentioned as a major factor affecting the decision whether to restrain residents, few studies in Israel or elsewhere have empirically examined the decision-making system affecting nurses' intention to restrain residents based on a wide theoretical framework.[2,5] The purpose of the current study was to identify and analyse major variables affecting past and future decisions of nursing staff to physically restrain elder residents of long-term care facilities. This was implemented by exploring whether the research model, derived from the Theory of Reasoned Action (TRA),[6] and the literature review succeed in predicting the intended decision of nursing staff to restrain elder residents of long-term care facilities.

Research model

The research model is based on two major elements—resident characteristics and staff characteristics. Staff characteristics are based on the TRA designed by Ajzen and Fishbein,[6] a psychological theory discussing the effect of people's decisions on their performance of certain behaviours. The theory stems from the premise that humans behave logically and use accessible information systematically. The claim is that people calculate the implications of their behaviour before acting. The target behaviour of the current study is use of restraints in long-term care facilities for older adults, and behavioural intention relates to nurses' intention to restrain residents over the coming year.

The theory relates to two factors affecting human behaviour—the first is human nature and the second is the effect of the environment. The theory's personal components consist of a person's attitudes towards a behaviour, and environmental components are the person's perception of pressure exerted by society to perform or refrain from performing the relevant behaviour. Another important factor that must be taken into account at this stage is the significance attached to opinions of others regarding the behaviour examined. According to the theory, attitudes are formed as a result of beliefs—if a person's beliefs concerning the behaviour examined are perceived as positive he/she will have positive attitudes towards the behaviour, and vice versa.

The theory constructs, which are interrelated, include behavioural beliefs, normative beliefs, attitude towards the behaviour, subjective norms and behavioural intentions. In addition to the theory variables, the model examines sociodemographic variables as displayed in Figure 1. Resident characteristics consist of dementia, physical state and stress. The assumption is that resident characteristics are a significant element affecting nurses' behavioural beliefs and attitudes regarding the potential decision whether to restrain these residents.

Literature review

Nurses' behavioural beliefs and attitudes in regard to physically restraining residents

Nurses' attitudes were examined as pertaining to their intended and actual restraining of residents. The act of restraining elder residents is a controversial issue presenting nurses with legal, ethical and practical dilemmas. Nurses often find themselves conflicted between the commitment to maintain residents' self-respect and the commitment to protect the other residents in their care.[7] Nurses report mixed attitudes regarding resident restraint, on the one hand feelings of sadness, guilt and pity towards elder residents, and on the other no feelings at all or feelings of confidence.[8] Although nurses are often not in favour of restraining residents, many report that the work place does not offer viable alternatives to the use of physical restraint.[4]

Resident characteristics

One of the essential factors affecting nurse beliefs regarding resident restraint is resident characteristics. The

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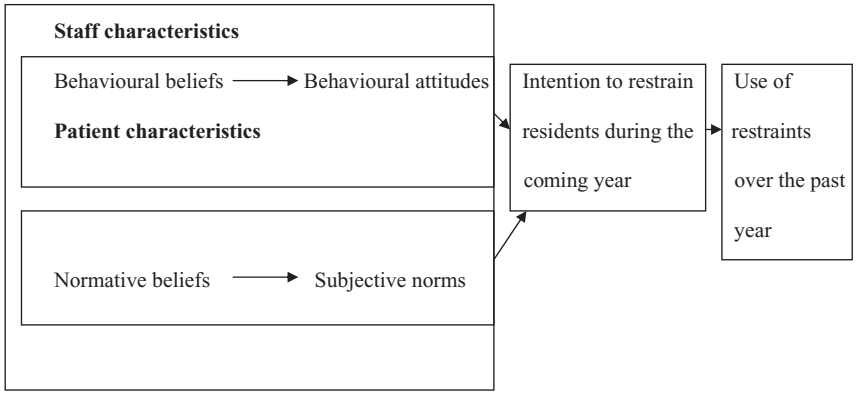

Figure 1. Research model.

literature mentions the following characteristics of elder residents as affecting nurse use of restraints. These are mobility, ADL, dementia, dependence on care, stress and prior falls. Problems with mobility, high level of dependence on caregivers and diminished cognition were found to raise residents' risk of physical restraint, as these tend to have an effect on nurses' attitudes towards physical restraint.[9] Additional support of the connection between residents' characteristics and their risk of being physically restrained by nursing staff was provided by Huizing *et al*. who showed that residents who had been restrained were more dependent on others for performing ADL.[10]

Nurses' normative beliefs and subjective norms regarding resident restraint

Physical restraint of residents is usually used by the staff of long-term care facilities in order to protect residents from falls. In addition, it is widely assumed that restraining residents reduces the risk of injury.[11] Although the common presumption is that professionals should not have to cope with peer pressure, nurses do encounter peer pressure. They might find themselves pressured to adjust their behaviour to that of their colleagues.[12] Thus, when prevalent norms dictate that restraining residents is an integral part of their nursing care, nurses feel pressured to conform.

In a study examining nurses' attitudes towards physically restraining residents, some of the subjects reported that the decision to restrain residents was not reached individually, rather influenced by the prevalent climate in their department. Department policy caused members of staff to believe that they are exclusively responsible for preventing resident falls and for the regrettable results of accidents resulting from falls.[13] The current study was held in an attempt to resolve the ambiguity regarding reasons leading nursing staff to restrain and intend to restrain residents.

METHODS

Research design

The study was designed as a descriptive correlational study.

Research population

A questionnaire was administered to a convenience sample of 120 nurses from all units of a long-term residential facility for older adults, comprising 50% of all nurses employed, producing 104 completed and returned questionnaires, with a response rate of 86%. This facility was chosen for the study as it is the largest geriatric care institution in Israel (572 beds). The research population consisted of nurses aged 20–59 years (average age 38.1 years), of them 90.4% female. Most of the subjects were Israeli born (56.7%), married (71.2%), Jewish (72.1%), and most defined themselves as secular (82.6%). The subjects included registered nurses with no academic degree (34.6%), registered nurses with Baccalaureate Degree (32.7%) and practical nurses (32.7%). Most had 15–17 years of schooling (50%), with an average of 15 years. Most of the subjects had been working in the field of nursing for > 10 years (63.5%) and with older adults for > 10 years (56.7%). Most were working in a department of nursing care (36.5%) and had been working at the department for 0–4 years (52.9%). The nurses who participated in the study are representative of all nurses working in long-term care facilities for older adults in Israel.

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Research tool

The study instrument was developed by the researchers based on the studies of Werner and Mendelsson and Werner.[2,5] The original scales were complemented by items relating to resident characteristics, and the resulting instrument was reviewed by an internal panel of five nurses, two administrators and three geriatric nurses for face validity and content validity. As a result of the panel, some language-based wording was changed. A pilot study was held with a sample of 20 members of the nursing staff at a geriatric facility in central Israel. In order to examine internal consistency of the tool, an alpha Cronbach test was performed. All alpha values mentioned for the constructs below relate to the current study.

The questionnaire is constructed of 57 items, which examined 10 concepts, as follows:

1. Demographic data.
2. **Professional characteristics** such as professional status, experience and training on the subject of resident restraint. These sections were examined through 15 closed-end questions, for example 'marital status'.
3. **Behavioural beliefs** (alpha = 0.732). This concept was examined through three items, for example: 'Restraints should never be used even if the resident is in risk of falling'.
4. **Behavioural attitudes** (alpha = 0.756). This concept was examined through three items, for example: 'Use of physical restraining is permissible when it allows me to perform other duties in the department'.
5. **Normative beliefs** (alpha = 0.701). This concept was examined through three items, for example: 'When close acquaintances hear that residents are restrained at my work place, they are shocked'.
6. **Subjective norms** (alpha = 0.736). This concept was examined through four items, for example: 'If my family would react negatively to physical restraining of residents, I would try to reduce my use of physical restraining'.
7. **Intention to restrain elder residents**, examined by one item. The statement is: 'In the future, I will make every effort to avoid restraining residents'.

For constructs 3–7, a five-level Likert scale was used, 5 meaning 'completely agree' and 1 'completely disagree'.

8. **Resident characteristics** (alpha = 0.75), which might have an effect on nurses' potential restraint of elder residents in 10 hypothetical situations, for each of which subjects are requested to check 'I would restrain' or 'I would not restrain'. For example: 'An elder resident with dementia is wandering among the residents' rooms and bothering them, 1. I would restrain and 2. I would not restrain'. The situations were based on the most common reasons for restraining residents as mentioned in the literature: residents' dementia, physical state and stress.
9. **The target behaviour**, namely actual restraining of residents, through 12 closed-end questions with multiple-choice answers. Examples: (i) 'Have you restrained an elder resident for his/her own safety over the past year, 1. Yes; 2. No'; and (ii) 'If so, how many times has this happened in the past year, 1. Ten times or less; 2. 1–10 times; 3. 10–50 times; 4. More than 50 times'.
10. **Level of knowledge** regarding regulations on use of physical restraint through four multiple-choice questions.

Research procedure

The study was conducted after approval had been obtained from the ethical committee of the long-term care facility. In addition, permission to conduct the study was obtained from the director of nursing at the long-term care facility and the head nurses. The questionnaires were distributed among nurses willing to participate.

Subjects' anonymity was assured. The questionnaires were distributed by the researcher. An information sheet explaining the nature and importance of the study was attached to the questionnaire. Oral consent was obtained from participants after informing them of the research and before data collection began. The study was conducted between January and April 2009.

Data analysis

Data analysis was performed with the Statistical Package for Social Sciences (SPSS-PC, SPSS Inc., Chicago, IL, USA). Descriptive statistics were used to depict the demographic characteristics of the sample and responses to the TRA and its subscales. The analysis of resident characteristics was based on a mean score calculated from the scores of the different subscales. Means and standard deviations of the responses were calculated. Pearson correlations χ^2 were used to determine the relationship between the research variables.

RESULTS

One hundred and four nurses completed and returned questionnaires, for a response rate of 86%. Half of the respondents received in-house training on restraint use,

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and most of these (70%) received 2 h of training or less. Most of those responding (67.2%) reported that they had restrained residents over the past year. Of these, 30.7% had restrained residents > 10 times. In contrast, the subjects reported a low (23.1%) to very low (42.3%) intention to restrain residents during the next year and only ≈13.3% reported that they intend to restrain residents in the future.

Factors affecting the restraining of elder residents

Behavioural beliefs and attitudes towards restraining elder residents

Most of the subjects believe that it is permissible to restrain elder residents when there is a risk that the residents might fall (83.3%) or a risk of self-injury (66%). However approximately half of the nursing staff are not aware of the risks involved in restraining elder residents (48%). Of all nurses studied, 24.3% support restraining residents when there is a heavy workload, created in a situation of many residents and few staff members (see Table 1). No correlation was found between nurses' level of education and years of experience on the one hand—and use of restraints on the other.

Resident characteristics

The research findings indicate that nurses would decide to restrain residents if the latter endanger their own lives (80.8%) or threaten the lives of others (66.3%), and only about half the subjects (53.8%) claimed that they would restrain a resident in risk of recurring falls. About 10% of the subjects reported that they intend to restrain residents who are in a poor cognitive state and bother their neighbours.

Normative beliefs and subjective norms towards restraining elder residents

Approximately one quarter of the nursing staff believe to a moderate to very large degree that the management of the facility supports the use of restraints (25.2%). In contrast, 74.8% of the nursing staff believe to a moderate to very large degree that their significant others have a negative attitude towards restraining residents. The nursing staff tends to attribute great to very great significance to

Table 1 Distribution of behavioural beliefs and attitudes of nursing staff towards physical restraining of elder residents (n = 104)

Statement	Completely agree (%)	Highly agree (%)	Moderately agree (%)	Slightly agree (%)	Completely disagree (%)	Mean	SD
Use of physical restraining is justified when wishing to prevent older adults from harming themselves	32.0	34.0	12.6	16.5	4.9	3.72	1.216
Physical restraining might be employed when residents are in risk of falling	58.8	24.5	9.8	4.9	2.0	1.67	0.978
Physical restraints involve considerable physical risk, including mortal harm	9.0	18.0	25.0	32.0	16.0	2.72	1.198
Physical restraining of residents is legal	51.9	13.5	14.4	16.3	3.8	2.07	1.294
Use of physical restraining enhances resident safety and cannot be abolished	7.8	31.1	23.3	19.4	18.4	2.90	1.249
Use of physical restraining is permissible when it allows me to perform other duties	1.0	0.0	12.5	12.5	74.0	1.41	0.783
After physically restraining a resident, I feel relieved to be able to perform other duties	1.0	4.9	19.4	18.4	56.3	1.76	0.995
Use of physical restraining helps me care for residents and its absence would negatively affect the quality of care	3.0	17.8	21.8	15.8	41.6	2.25	1.252

A five-level Likert scale was used. 5 = 'completely agree'; 1 = 'completely disagree'.

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Table 2 Distribution of normative beliefs and subjective norms of nursing staff towards the restraining of elder residents ($n = 104$)

Statement	Completely agree (%)	Highly agree (%)	Moderately agree (%)	Slightly agree (%)	Completely disagree (%)	Mean	SD
If nurses would choose to restrain residents, the directors would express their approval	2.9	6.8	15.5	17.5	57.3	1.81	1.112
My friends and relatives have a negative attitude towards the restraining of residents	26.0	21.2	29.8	11.5	11.5	3.38	1.302
When close acquaintances hear that residents are restrained at my work place, they are shocked	19.6	15.7	19.6	22.5	22.5	2.87	1.440
If my department policy supported use of less physical restraining, I would use less physical restraining	27.6	26.5	18.4	11.2	16.3	3.38	1.418
If the facility would allow staff to act as they see fit, I would avoid restraining residents	14.3	16.3	21.4	27.6	20.4	2.77	1.338
If my family would respond negatively to resident restraining, I would try to reduce my use of it	14.1	14.1	14.1	15.2	42.4	2.42	1.499
If proven to be harmful to residents, I will completely refrain from physically restraining residents	31.3	20.2	11.1	24.2	13.1	3.32	1.463

A five-level Likert scale was used. 5 = 'completely agree'; 1 = 'completely disagree'.

Table 3 Correlation between staff characteristics, namely behavioural beliefs, behavioural attitudes, normative beliefs and subjective norms—and intended and actual restraining of elder residents

Variable	Intention to restrain residents	Actual restraining of residents
Behavioural beliefs	0.285**	0.459**
Behavioural attitudes	0.383**	0.211*
Normative beliefs	0.254*	0.394**
Subjective norms	0.331**	0.224*

* $P < 0.05$; ** $P < 0.01$.

the policy of their department/facility as affecting their intention to refrain from physical restraining or to reduce the number of cases in which they use physical restraining (54.1%) (see Table 2).

Examination of the research model

Table 3 indicates the correlations between the model variables. A positive moderate to strong significant correlation was found between behavioural beliefs and attitudes of nurses and their behavioural intentions and actual behaviour. Thus, the more positive the behavioural beliefs and attitudes of nurses towards restraining elder residents, the greater their intention to restrain elder residents and their actual use of physical restraining. A moderate significant positive correlation was also found between subjects' normative beliefs and subjective norms—and their behavioural intentions and actual behaviour. Thus, the more positive the attitude of

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nurses' work place and significant others towards restraining elder residents, the greater the significance attributed by nurses to this attitude.

A χ^2 test was held in order to identify the relationship between resident characteristics and intended decision to restrain. A significant correlation was found between the dementia ($\chi^2 = 18.04$, $P < 0.01$, d.f. = 3), physical state ($\chi^2 = 24.01$, $P < 0.01$, d.f. = 3) and stress ($\chi^2 = 13.59$, $P < 0.05$, d.f. = 3) of older adults and their risk of being restrained by nurses responsible for their care.

A Pearson test was held to identify the correlation between behavioural intention and actual behaviour. Test results show a moderate significant positive correlation between the intention of members of the nursing staff to restrain elder residents and actual restraining ($r_p = 0.334$, $P < 0.01$).

DISCUSSION

The purpose of the current study was to identify and analyse major variables affecting decisions of nursing staff to physically restrain elder residents of long-term care facilities. For this purpose, the study examined whether the research model succeeds in predicting the causes of nurses' intended decisions to restrain elder residents of long-term care facilities. Research results indicate that nurses' intended decision to restrain elder residents of long-term care facilities might be predicted based on factors within the model. Thus, it is possible to conclude that nurses' intended decisions to restrain elder residents derive from their behavioural beliefs, behavioural attitudes, normative beliefs and subjective norms, as well as from residents' dementia, physical state and stress.

Some studies support the claim that nurses' attitudes affect their use of resident restraint in long-term care facilities.[13,14] Werner and Mendelsson, in a study held in Israel, found that nurses' attitudes were related to their intended and actual restraining of residents.[2] Another study reinforces this claim, showing that positive attitudes towards restraining residents and negative attitudes towards older adults were found to predict nurses' intention to restrain residents.[9] This conclusion is compatible with the current findings, which show a moderate to strong positive significant correlation between nurses' behavioural beliefs and attitudes and their intended and actual restraining of residents. In other words, the more positive nurses' behavioural beliefs and attitudes towards restraining elder residents, the greater their intended and actual restraining of elder residents. Most of the subjects in the current study believe that it is wrong to restrain residents in order to allow nurses to perform other duties or to reduce workloads in the department. The results of the current study are contrary to those of Bourbonniere *et al.*,[15] who claim that nurses regularly cite lack of staff and trouble with adequate supervision of residents as the reason that they end up using restraints. This difference between the studies might stem from the current research method, using self-report by nurses rather than observing actual behaviour, a method that leaves room for discrepancies between statements regarding actual behaviour and behaviour per se. However, at the same time, 12.5% of the subjects believe that it is permissible to restrain residents in order to allow staff to perform other duties in the department, and 25.3% of the subjects believe that residents might be restrained in order to reduce workloads, a finding partially compatible with Bourbonniere *et al.*[15]

The research findings indicate that most of the subjects reported low intention of restraining residents, but when asked whether they had restrained residents over the past year, 57.2% answered positively and only 27.9% reported that they had not restrained residents at all. Subjects' behavioural beliefs were found to be compatible with their actual behaviour, but their declared low intention to restrain residents is incompatible with their self-report on the issue of actual restraining. This is explained by Cheung and Yam,[4] who claimed that although nurses would prefer to avoid restraining residents, many report that their work place often does not afford any viable alternative. Another possible explanation is questionnaire bias.

The current findings prove that most of the subjects tend to agree with the claim that their significant others have a negative attitude towards restraining residents. The literature review on public opinion regarding the restraining of elder residents provides no suggestions for the causes of the current findings. On the contrary, many studies exploring public opinion on the issue of restraining residents showed that despite concerns regarding the negative effects of this practice, people tend to justify it where there is a risk of self-harm.[11,16] The absence of similar support in the literature for the results of the current study might have a logical explanation. Changing approaches to the subject of restraining residents over the past few years must be taken into account. The long-term care standard proposed by the Joint Commission on Accreditation of Healthcare Organizations in 2005,[12] which instructs practice in Israel as well, forbidding the

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use of restraints for purposes of discipline, staff convenience, and to prevent wandering, shows to what extent attitudes have changed over recent years.

The search for a correlation between subjects' normative beliefs and subjective norms regarding restraining elder residents—and their intended and actual restraining of residents—produced a moderate significant positive correlation. In light of these findings, it is possible to conclude that the more positive the stated policies of nurses' work places or the attitude of their significant others towards restraining elder residents, and the more significance attributed by nurses to these attitudes, the greater their intended and actual restraining of residents. Support for this correlation was found in the literature as well, in a study that examined nurses' attitudes towards restraining residents. This study found that the decision to restrain residents was not individual, rather affected by departmental norms, namely a climate in which restraining is an integral part of the nursing care of elder residents. Nurses conform to this norm and restrain residents, having reached a decision affected by the departmental climate rather than an independent decision. The approval of directors and superiors was found to be a very critical factor influencing staff decisions whether to physically restrain residents.[17]

This study has shown a significant correlation between residents' characteristics, namely dementia, physical state and stress of elder residents, and their risk of being restrained by nurses responsible for their care. A similar state of affairs is reflected in the literature as well: several characteristics of elder residents were found to affect use of restraining. These characteristics include mobility, ADL status, dementia, dependence on care, stress and prior falls.[14] A study held in Dutch psychogeriatric facilities reflects a similar state of affairs. Here too a connection was found between physical restraining of residents and the residents' degree of dependence as regards ADL, namely physical state.[9] One possible explanation is difficulties encountered by the nursing staff in their work, where use of physical restraint is perceived as a protective means of care.

Some limitations of the present study should be considered. These include the relatively small sample size, the fact that only one long-term care facility was sampled, and the fact that the questionnaire is based on nurses' self-report, without clarifying the degree of congruence between reported and actual practices. Thus, the research results might be biased. In addition, the research findings relate only to restraints in long-term care facilities for older adults, and use of restraints at hospitals was not examined. Any future studies in this area should aim to overcome these limitations.

Recommendations

The recommendations of the study on the clinical level include changing nurses' behavioural attitudes and beliefs towards use of physical restraint by holding lectures and study days. Such guidance should stress regulations governing physical restraint of residents, explain the implications of physical restraint and offer alternatives. Directors of the facilities should be made aware of the negative effects of restraining elder residents, the number of cases in which residents of long-term care facilities are restrained annually. In addition, they should be informed that a high proportion of the nurses at these facilities believe that the facility is in favour of restraining elder residents and that a high proportion restrain residents in accordance with the regulations of the facility. They should also be made to understand that the attitude of facility directors and the facility's policy on restraining elder residents have a direct effect on nurses' intended decision whether to physically restrain residents in given situations. Raising awareness might lead to changes in policy, facilitating reduced use of physical restraining.[9,13] Research recommendations include conducting a study that will examine the characteristics of the facility regarding workload, or large number of residents and lack of staff. In addition, there is need for more extensive studies with larger numbers of subjects, as well as a prospective study based on observation, in order to reduce inconsistencies between reported and actual cases of physical restraint.

Another recommendation based on the findings is that as nurses' views of what others think might have implications for their practice, it would be beneficial to effect changes on higher levels as well as at the level of the actual practitioners. Consultation intervention as conducted by an advanced practice nurse might be helpful as well.

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