Restraint use in somatic acute care hospitals

SUMMARY

The title of this thesis questions whether we need to care about restraint use in the hospital setting. Based on five studies and a subsequent general discussion, restraints are frequently used in the hospital setting, affect a vulnerable patient group and there are opportunities for improving practice. Therefore, it is evident that we need to care about restraint use in the hospital setting. A more comprehensive summary of each chapter is presented below.

Chapter 1 includes a general introduction to the topic. Restraint use is a potential human rights violation and can have negative effects on patients and health professionals; therefore, a reduction in restraint use is recommended. Initiatives to meet this demand have long focussed on the mental health and long-term care settings. For the hospital setting, most of the evidence has related to intensive care and emergency care and mostly involved only mechanical restraints. However, to ensure that any type of restraint is reduced as much as possible and only used as a last resort in the whole hospital setting, it is important to first fully describe the current situation. Therefore, the aim of this thesis was to describe restraint use in hospital settings comprehensively, independently of subpopulations and specific restraint types, and to identify influencing factors on different levels. With the background, it will be possible to identify in the future whether an improvement in restraint practice is indicated and, if so, in which area interventions could potentially have the greatest impact on reducing restraints. In addition, Chapter 1 presents the theoretical framework and the outline of the thesis.

In **Chapter 2**, restraint use was investigated independently of ward type in terms of prevalence, restraint type used, reasons for restraint use, process indicators when restraints are used and patient characteristics associated with restraint use based on a multicentre cross-sectional design. The findings involving 29,477 patients from 140 hospitals in Switzerland and Austria showed that 8.7% of all patients were restrained during their hospital stay (retrospectively over a maximum of 30 days). The largest proportion was due to mechanical restraint (55.0%). The main reason for restraint use was fall prevention (43.8%). The required ethical and legal processes were not implemented systematically. Hence, the documentation of restraint use in the patient documentation was the most frequently implemented process indicator (64.3%). All other process indicators (e.g. regular evaluation of restraint use, information of the patient/relatives) were implemented even less frequently. Regarding patient characteristics, care dependency followed by mental and behavioural disorders proved to be most strongly associated with restraint

use. The conclusion from this study was that restraints are used in complex patient situations and there is great potential to improve the implementation of ethical and legal processes. Standardisation of these, combined with appropriate training of staff, could be beneficial in promoting awareness of restraint and the corresponding potential for reduction.

In **Chapter 3,** variation in restraint use between hospitals was investigated. A secondary analysis of the same data as in Chapter 2 was performed to determine how much variance in restraint use can be explained on the hospital level and to examine the impact of organisational factors (structures) on restraint use. Based on a multilevel logistic regression analysis, the availability of guidelines regarding restraint use and refresher courses for nursing staff were associated with less restraint use. In addition, the total explained variance of restraint use increased from 24% to 55% when hospital was added to the regression model as a random effect. From this study it was concluded that restraint use varies widely among hospitals, even when considering the different patient mix of hospitals. Accordingly, the findings emphasise earlier assumptions by other researchers that routine and institutional culture may play a role in restraint use. Thus, identifying situations where restraints are used based on routine or due to institutional culture could be relevant to reduce restraint use. Investing in structures and staff knowledge could further promote restraint reduction.

In **Chapter 4**, daily restraint practices and the factors which influence their use were investigated from an outsider's perspective. Fieldwork with unstructured participant observation was conducted. Before this study was performed, restraint use had mostly been described only quantitatively and from the perspective of health professionals. Quantitative assessment tools can only be as good as the current state of knowledge allows. The view of health professionals might be biased by routine and personal beliefs that seem to play an important role in restraint use. Therefore, the perspective of someone who is not involved in the daily restraint practice was considered to be useful to describe the restraint practice as comprehensively as possible. Based on 67 hours of observation, daily restraint practice can be described in three categories: the context in which restraints are used, the decision-making process on the use and continued use of restraints and the avoidance of restraint use. In addition, processes and decisions on restraint use often seem to be executed unconsciously and in a poorly standardised manner. The conclusion from this study was that the low standardisation of restraint

practice favours intuitive and unreflective actions. Therefore, the decision to use restraints seems to be a heuristic process. Digitalisation could be used to improve daily restraint practice and, thus, reduce restraint use – for example, by making the electronic documentation system promote and demand the implementation of required ethical and legal processes.

In **Chapter 5**, the attitudes of hospital nursing staff towards restraint use were investigated by means of a survey. This information is critical because the attitude one adopts is an essential condition in any decision-making process. In addition, the construct validity and reliability of a measurement instrument that was developed and validated in long-term care settings (Maastricht Attitude Questionnaire [MAQ]) was tested for its use in the hospital setting. Based on the data of 180 participants, nursing staff in hospitals had a neutral attitude towards restraint use. Furthermore, it was found that the MAQ can be used in the hospital setting with minor adaptations, even though further testing is recommended. Based on the findings of this study, and given that attitudinal change has already been identified as a challenge in mental health and long-term care settings, interventions at a national and institutional level are indicated to change nursing staffs attitudes towards restraint use and to change restraint practice in the longer term.

In **Chapter 6**, the potential of restraint use as a national quality indicator for the hospital setting was investigated based on cross-sectional data of 18,938 patients from 55 Swiss hospitals. Across the sample, the 30-day restraint prevalence was 10.2%. Based on multilevel regression analyses, Swiss hospitals differed significantly in their restraint use, even after adjusting for patient mix. In total, 40% of all included hospitals used either significantly more or less restraints than the average. In comparison to the other quality indicators in the hospital setting, the 40% outlier is a very high value indicating potential for quality improvements. Because such large differences in restraint use seem questionable from professional, ethical and legal points of view, the findings indicate the need for national monitoring and benchmarking of restraint use in hospitals, such as with a national quality indicator. This monitoring, combined with clearer and binding regulations, would help to ensure restraint management that is in line with ethical and legal requirements (as a last resort).

Chapter 7 completes the thesis with a general discussion of the findings. First, the findings of Chapters 2-6 are summarised. Second, methodological and theoretical reflections are presented. The methodological reflections focus on the internal and external validity of the findings. The theoretical reflections address three key, relatively interconnected themes: 1) the definition of restraints, 2) advocacy as a key nursing role in restraint use and 3) identifying starting points for changing restraint practice. Third, implications and recommendations for (clinical) practice and future research are presented.