ASSESSING THE VIOLENCE RISK OF PSYCHIATRIC PATIENTS

A Literature Review

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Title
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Abstract
The purpose of this study was to explore what tools there are for the assessment of short-term violence risk of psychiatric patients, and what patient-related factors these tools assess. The study was conducted as a literature review. The aim was that the results of this review would contribute to evidence-based practice and could be utilised by nursing students, psychiatric nurses and other professionals in the mental health sector.

The review proceeded according to a predefined review plan. The phases consisted of setting research questions, searching and selecting relevant literature, analysing and synthesising the data, and making conclusions. In the search strategy both electronic and manual searches were used. Eleven scientific articles were eventually chosen for the review. Eleven tools for assessing whether a psychiatric patient poses a risk of violence to others were identified. Most tools represented a structured professional risk assessment and combined patient-related factors known to predict violence and the clinical judgement of a professional.

It also emerged that nurses' subjective assessments and intuition play a significant role when they make violence risk assessments. Clinical variables, prevailing at the moment of assessment and subject to possible change, were the most common patient-related variables assessed. All tools assessed the patients' current mental health status and how it affects their thinking and behaviour. The assessed static, unchangeable variables were related to the patients' history, personality features and certain demographic characteristics.

Violence risk assessment should be viewed as an integral part of violence management strategies in mental health settings. Yet, ethical problems and limitations of violence risk assessment should be acknowledged by professionals conducting such assessments. Nurse involvement in the development of violence risk assessment tools could improve their usability in clinical work.

Keywords
Violence, aggression, risk assessment, risk management, prediction, psychiatric nursing, literature review

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Tiivistelmä

Tämän opinnäytetyön tarkoitus oli kartoittaa, millaisia työkaluja psykiatristen potilaiden väkivaltariskin arvioimiseen on kehitetty sekä mitä potilaslähtöisiä väkivaltariskiin liittyviä tekijöitä kyseiset työkalut arvioivat. Opinnäytetyö toteutettiin kirjallisuuskatsauksena. Tavoitteena oli, että katsauksen tuloksia voisi hyödyntää näyttöön perustuvan psykiatrisen hoitotyön kehittämisessä ja että katsaus tarjoaisi hyödyllistä tietoa hoitotyön opiskelijoille, psykiatrisille sairaanhoitajille ja muille mielenterveyssektorilla työskenteleville ammattilaisille.

Kirjallisuuskatsaus eteni ennalta tehdyn tutkimussuunnitelman mukaan. Katsaus rakentui tutkimuskysymysten muodostamisesta, alkuperäistutkimusten hausta ja valinnasta, synteesin ja analyysin tekemisestä sekä lopputulosten esittämisestä. Tiedonhaku toteutettiin elektronisesti ja manuaalisesti. Katsaukseen valittiin yksitoista tieteellistä artikkelia. Katsauksessa löydettiin yksitoista työkalua, joilla psykiatrisen potilaan väkivaltariskiä voidaan arvioida. Useimmat työkalut olivat strukturoituja työkaluja, joissa yhdistyvät potilaslähtöiset väkivaltariskiä lisäävät tekijät sekä ammattilaisen kliininen arvio.

Katsauksessa selvisi, että myös hoitajan subjektiivisella arviolla ja intuitiolla on väkivaltariskin arvioinnissa keskeinen rooli. Arvioinnissa yleisimmin hyödynnetyt potilaslähtöiset tekijät olivat dynaamisia, arviointihetkellä havaittavia tekijöitä, jotka saattavat muuttua. Kaikissa työkaluissa arvioitiin potilaan arviointihetken aikaista mielenterveyden tilaa ja sen vaikutusta potilaan ajatteluun ja käyttäytymiseen. Staattiset, muuttumattomat tekijät liittyivät potilaan historiaan, persoonallisuuden piirteisiin ja tiettyihin demografisiin tekijöihin.

Potilaiden väkivaltariskin arvioinnin tulisi olla osa väkivaltariskin hallintaa ja ennaltaehkäisyä psykiatrisessa hoitotyössä. Arviointiin liittyy kuitenkin myös eettisiä kysymyksiä, jotka arviointia tekevien ammattilaisten on syytä tiedostaa. Sairaanhoitajien osallistuminen väkivaltariskin arviointityökalujen kehittämiseen voisi parantaa kyseisten työkalujen käytettävyyttä päivittäisessä kliinisessä työssä.

Avainsanat

Väkivalta, aggressio, riskinarviointi, riskienhallinta, ennakointi, psykiatrinen hoitotyö, kirjallisuuskatsaus, violence, aggression, risk assessment, risk management, prediction, psychiatric nursing, literature review

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1 INTRODUCTION

In recent years, occupational violence in the health care sector has been on the rise (Markkanen 2000, 1; Tiihonen, Vehviläinen-Julkunen, Nikkonen & Vuorio 2009, 4). This applies to the mental health sector in particular, where the likelihood of staff becoming victims of occupational violence is even higher than in general settings (Turnbull & Paterson 1999, 12-13; Tiihonen et al. 2009, 5; Pitkänen, Laijärvi & Välimäki 2005, 240). The human and financial costs of this problem are considerable. Thus, there is a clear demand for violence management and prevention strategies.

The choice of topic has been influenced by author's own experience of violent incidents when working in psychiatric settings. Having encountered situations involving violence by patients has made the author more interested in how to prevent, predict and manage violent incidents in psychiatric settings. Risk assessment is one aspect of violence prevention in the health care field. (Irwin 2006, 311-312). This thesis aims to review what kind of assessment methods there are with which the violence risk of psychiatric patients can be assessed.

With this thesis the aim is to gain more knowledge on violence and aggression in psychiatric settings and how the risk of violence posed by individual psychiatric patients can be assessed. The reviewer hopes that the results of the thesis will help to extend the reviewer's own professional knowledge and skills on the assessment of violence risk. Furthermore, the results can be utilised by nursing students and nursing staff in psychiatric settings.

2 VIOLENCE AND AGGRESSION

Violence and aggression are, to some extent, subjective terms and have a variety of interpretations and contextual meanings. Thus, they are not easy to define. However, defining and describing these terms is needed so that people working in the health care sector are able to manage and prevent violence and aggression in their workplace. Yet, the definitions must allow

certain personal and subjective interpretation of violence, as even similar incidents related to violence and aggression can have different impact on different individuals. (Rippon 2000, 454; Linsley 2006, 1; Pitkänen, Laijärvi & Välimäki 2005, 240; Viitasara 2004, 5.)

Many studies have shown that there has not been a clear definition of what constitutes aggression and violence in health care settings. Lack of generally accepted definitions for aggresson and violence has made it difficult to approach the problem in a consistent and reliable manner. This inconsistency with the use of terminology has hindered the ability of health care organisations to prepare to and manage incidents related to violence and aggression. As the definitions of violence and aggression may vary greatly, it can make it difficult to accurately and reliably determine and report incidents that take place. (Rippon 2000, 452-457; Irwin 2006, 1-2; Woods & Ashley 2007, 654; Linsley 2006, 6.)

The Oxford Dictionary of English defines violence as being 'behaviour involving physical force intended to hurt, damage or kill someone or something'. The definition of aggression, according to The Oxford Dictionary of English, is 'feelings of anger or antipathy resulting in hostile or violent behaviour; readiness to attack or confront'. (The Oxford Dictionary of English 2005.)

The narrow definition of violence has traditionally only referred to acts of physical aggression. Nowadays the broader definition of aggression is commonly used to describe both physical and verbal assaults. (Viitasara 2004, 5; Pitkänen 2005, 3; .) According to this definition, aggression is any form of behaviour that aims to harm or injure another person, either by causing physical or psychological injury. That is to say that, besides to just physical assault, aggression can also incorporate psychological and emotional tactics. It can, for example, occur in the form of disrespectful and uncivil behaviour towards other people. Furthermore, this definition of violence encompasses both direct violence as well as indirect violence. In indirect violence, for example the members of a worker's family are threatened. (Viitasara 2004, 5; Irwin 2006, 309-310; Linsley 2006, 3; Rippon 2000, 456.) Linsley (2006, 3)

also makes a notion that aggressive acts can be seen as a continuum in which aggression escalates progressively from verbal acts such as threats to physical assault.

According to Chou, Lu and Mao (2002, 187) 'although there is no generally accepted definition for violence in psychiatric literature, most authors discuss assaultive behaviour as physical force that harms or threatens another individual'. Rippon (2000, 456) points out that, in spite of the terms aggression and violence being synonyms, the term violence should be reserved to describe 'those acts of aggression that are particularly intense, and are more heinous, infamous or reprehensible'.

2.1 Violence in the health care field

Occupations such as policemen and security guards have traditionally been considered as risk occupations. Nowadays health and social sector professions, such as nurses, doctors and social workers, are also counted in as occupations with a high risk for workplace violence. (Pitkänen, Laijärvi & Välimäki 2005, 240; Heponiemi, Sinervo, Kuokkanen, Perälä, Laaksonen & Elovainio 2009, 16-17.) Several studies show that occupational violence in the health care sector has been on the rise over the past three decades (Markkanen 2000, 1; Tiihonen et al. 2009, 4). Out of all health care workers, nurses are at greatest risk of assault (Nolan, Dallender, Soares, Thomsen & Arnetz 1999, 938; Turnbull & Paterson 1999, 12-13; Foster, Bowers & Nijman 2007, 141). The reason for this is that nurses spend more time with patients than any other occupational group within health care (Nolan et al. 1999, 940; Tiihonen et al. 2009, 4).

According to a Finnish survey conducted in 1999 by Tehy, the Union of Health and Social Care Professionals, every third person working in a care profession had encountered physical violence or threat of violence in their workplace during the past twelve months. Furthermore, two thirds had been subjected to verbal threats or verbal abuse. (Markkanen 2000, 13-14.) Another Finnish

survey, conducted in 2007, indicated that two thirds of registered nurses had faced physical violence and every fourth had been exposed to psychological violence in their work (Heponiemi et al. 2009, 11). According to a study conducted in 2001 by the United Kingdom Central Council for Nursing, Midwifery and Health Visiting; three quarters of British nurses have been subjected to physical violence during their career (Foster et al. 2007, 142).

2.2 Violence in the mental health sector

Nurses working in psychiatric settings have a higher risk for becoming a victim of violence than their colleagues working in general settings (Turnbull et al. 1999, 12-13; Tiihonen et al. 2009, 5; Pitkänen et al. 2005, 240). It is, however, challenging to determine the magnitude of violence towards staff in the mental health sector. This is due to various reasons, one of them being the great variety in incident reporting practices. The lack of standard measurement instruments for violence has also made it difficult to define the accurate extent of the problem. Furthermore, there not having been a clear definition of what constitutes violence and aggression has had an impact, too. Yet, there is a widespread agreement that the extent of the problem is considerable. (Rippon 2000, 454; Irwin 2006, 309-310.)

A study by Nolan et al. (2001,422) discovered that seventy-one per cent of English mental health nurses had been exposed to violence within the past twelve months. According to the same study fifty-nine per cent of Swedish mental health nurses had been subjected to violence. In a Finnish study by Pitkänen et al. (2005, 245) it was discovered that some psychiatric nurses viewed violence as something that is part of the job. In other words, occupational violence had become more of a rule than an exception to them. There is also evidence that staff working in the mental health sector are less likely to report verbal abuse (Foster et al. 2007, 142). Tiihonen et al. (2009, 4) suggest that the prevalence of violence in mental health nursing may therefore be even higher than assumed, the reason for this being that violence is viewed as an inseparable part of the work and thus, not all incidents of violence are even reported.

As community-based approach in mental health services has become more common, the number of psychiatric hospital beds has decreased. As a result, psychiatric wards have a higher concentration of patients with more severe forms of illness and symptoms. Some mental health professionals fear that this may further increase violence within psychiatric inpatient services. (Foster et al. 2007, 141.)

Studies show that attacks towards mental health nurses include verbal abuse, threats with offensive weapons and physical violence (Pitkänen et al. 2005, 242; Nolan et al. 2001, 422). Verbal and psychological violence directed towards nursing staff is more common than physical violence. Serious aggressive behaviour is relatively rare. (Viitasara 2004, 382; Tiihonen et al. 2009, 5; Foster et al. 2009, 146.)

Verbal abuse directed towards staff in the mental health sector includes for instance directing obscenities and threatening. Physical violence can occur for instance in the form of striking, scratching, pulling hair, spitting, biting, kicking, slapping and strangling. In addition, damage to ward facilities and furniture as well as throwing of objects takes place. (Pitkänen et al. 2005, 242-243; Nolan et al. 2001, 422-423; Tiihonen et al. 2009, 4-5; Foster et al. 2007, 141-145.) Pitkänen et al. (2005, 243) stress that in spite of demolishing of ward facilities not being directly directed at nursing staff, nurses present in the situation can still feel it as threatening.

2.3 Factors contributing violence risk

Factors related to increased violence risk in psychiatric settings are of interest when trying to manage violence and the risk of it. These factors can be classified as either external or internal to the patient. Traditionally, factors internal to the patient have been highlighted. However, the factors contributing to increased risk of violence are not static and cannot be viewed separately from each other. (Irwin 2006, 311.) Understanding the role of both external

and internal factors associated with violence is essential in predicting and assessing the risk of violence (Johnson 2004, 118; Irwin 2006, 311).

According to Johnson (2004, 114-119) external factors associated with violence in psychiatric settings are staff-related factors, unit-related factors and interactional variables. Staff-related factors are for example staff experience and job satisfaction. Unit-related factors include matters such as staffing, patient mix and ward environment. Interactional variables are related to staff-patient communication and interactional style. (Johnson 2004, 114-119; Woods & Ashley 2007, 655.) A study conducted by Duxbury and Whittington (2005, 474) showed that nurses viewed factors internal to the patient, like clinical diagnosis of mental illness, as a strong factor contributing to aggression. Patients, in turn, emphasised the role of interactional factors, such as ineffective listening skills.

Environmental factors have been shown to contribute to the incidence of aggression. These include unit-related matters like privacy and space, type of regime and ward design. Studies show that the structure and organisation of the ward can influence the occurance of violence. (Johnson 2004, 117; Duxbury & Whittington 2005, 470.)

Interactional variables are factors related to the relationships among staff and patients. Duxbury et al. emphasise the influence of interactional factors to the risk of violence. Several studies support the view that negative staff and patient relationships play a role in inpatient aggression. Power disparities and lack of possibility for negotiation have been shown to decrease therapeutic communication, thus contributing to increased risk of violence. (Duxbury & Whittington 2005, 470.)

Patient-related variables associated with violence include matters like clinical diagnosis, symptom patterns, personality and prior violence history (Johnson 2004, 114-119; Woods et al. 2007, 655). Studies show that there is a strong link between severe psychopathology and inpatient aggression. There is a correlation between psychotic symptoms or thought disorders and violent behaviour during inpatient treatment. Substance abuse also increases the

potential for violence. Furthermore, the combination of schizophrenia and substance abuse in particular, is found to increase the risk of violent behaviour. (Duxbury et al. 2005, 470; Johnson 2004, 114-116.) Otto divides patient-related risk factors for violence as static and dynamic. Static risk factors mean those that are unchangeable and dynamic matters are those that can change. (Otto 2000, 1243.)

2.4 Consequences of violence

Nursing is a very stressful profession and nurses work in circumstances that can be rather difficult and demanding. In addition to stressors such as having to deal with death and grief, there are additional stressors like being exposed to the risk of violence and aggression. (Rippon 2000, 457; Linsley 2006, 5.) The consequences of workplace violence in the health care sector are multiple. Health care professionals who have encountered violence in their work can suffer from both physical and psychological harm. Psychological and emotional effects of violence may remain long after the incident. This can, undoubtedly, also have an impact on their work. (Tiihonen et al. 2009, 5; Rippon 2000, 458; Pitkänen et al. 2005, 244.)

Pitkänen et al. carried out a study in 2002 in which nurses' experiences of violence in mental health settings were explored. The nurses interviewed reported both physical and psychological effects of violent incidents. These symptoms included for instance shaking, perspiration, lack of strength as well as fear, anger, hatred, shame and guilt. The nurses pointed out that usually in the acute incident they could maintain a calm and professional approach. However, once the incident was over, all emotions came up. Nurses did, on the other hand, also report feelings of helplessness, numbness and despair during the acute incidents of violence. According to the same study nurses who had experienced occupational violence felt fear and nervousness in their work even long after the actual incidents. This resulted to decrease in work motivation and avoiding patients. (Pitkänen et al. 2005, 244.)

In the study by Tiihonen et al. nurses reported anxiety after violent incidents. Feelings of tiredness, irritability, fear and lack of confidence in their own skills were common and could persist even long after the incidents taking place. These effects of violence had a negative impact on the well-being and job satisfaction of the nursing staff. (Tiihonen et al. 2009, 7-8.) Foster et al. (2009, 146) emphasise that the effects of verbal aggression should not be underestimated. Exposure to swearing, threats and verbal abuse on a daily basis can result in lasting emotional damage to nursing staff. Some victims of occupational violence may develop a post-traumatic stress disorder (Linsley 2006, 9; Tiihonen et al. 2009, 5; Irwin 2006, 310).

As a result of violence, sickness absence can increase. Studies show that decrease in work motivation and morale can take place. This can have a damaging impact on the therapeutic atmosphere, thus decreasing the level of patient care. (Linsley 2006, 9; Tiihonen et al. 2009, 7; Foster et al. 2009, 141.) Furthermore, staff can distance themselves from their patients following a violent incident. This can increase the risk of future assaults. (Linsley 2006, 9; Duxbury & Whittington 2005, 475.) A Finnish study conducted by Heponiemi et al. in 2007 demonstrated a correlation between workplace violence and nurses' willingness to change jobs or profession. The study showed that the risk of physical and psychological violence is a major reason for job dissatisfaction among nurses. (Heponiemi et al. 2009, 16-17.)

2.5 Violence risk assessment

The Oxford Dictionary of English defines risk as being 'a situation involving exposure to danger' or 'the possibility that something unpleasant or unwelcome will happen' (The Oxford Dictionary of English 2005). Risk assessment is an integral part of violence management and prevention in psychiatric settings. Prevention strategies should have comprehensive approach, meaning that both internal and external factors related to violence are taken into account. (Irwin 2006, 311-312.)

Mental health professionals are expected to be able to assess the violence risk of their patients. Yet, violence risk assessment has traditionally been seen as a very challenging task. One reason for this has been the lack of systematic interventions and standards for violence risk assessment. There is a need for the development of standardised violence risk assessment tools. This way the reliability and evidence base of clinical practice can be improved. (Borum 1996, 945-947; Woods et al. 2007, 653-654.)

There has traditionally been two approaches to violence risk assessment: the unstructured clinical risk assessment and actuarial risk assessment. The unstructured clinical risk assessment, also known as professional risk assessment or first-generation risk-assessment, depends purely on professional experience of the person making the assessment. This approach has been criticised for being unreliable and for producing non-accurate assessments due to what is called assessor-bias. (Almvik 2008, 13-14; Woods & Ashley 2007, 653.)

The second-generation approach to violence risk assessment, actuarial risk assessment, has been used since the late 1980s. Contrary to unstructured clinical risk assessment, the actuarial approach relies solely on defined rules and data that research has shown to correlate with violent behaviour. (Borum 1996, 951; Almvik 2008, 13.) In this approach it is assumed that an individual coming from a population in which a certain type of behaviour is common is more likely to display this form of behaviour. The actuarial risk assessment has, however, been criticised for not taking clinical experience into account and for being too mechanical. (Almvik 2008, 13; Woods et al. 2007, 653.)

The most recent approach to violence risk assessment is known as structured professional risk assessment. In this approach parts from both unstructured clinical risk assessment and actuarial risk assessment are combined. In structured professional risk assessment checklists are used to collect information which clinicians then filter with the help of their experience and knowledge on the particular case. In structured risk assessment actuarial factors only form the basis from which the risk assessment is individualised to a particular patient. (Almvik 2008, 13-14; Woods et al. 2007, 654.) This third-

generation approach to risk assessment has been praised, yet, there is a general agreement that structured risk assessment methods need to be further developed and tested (Almvik 2008, 13).

Many of the risk assessment methods have been criticised for the fact that they require extensive information and are far too time-consuming for nursing staff to use on a daily basis (Borum 1996, 951; Almvik 2008, 14). Short-term prediction of violence risk has been proved to be more accurate than long-term prediction (Johnson 2004, 118-119).

3 PURPOSE, AIM AND RESEARCH QUESTIONS

The purpose of this study was to find out what tools there are for assessing the violence risk of psychiatric patients. Another purpose was to find out what type of patient-related factors, in other words, factors internal to the patient, these tools take into consideration. The means to achieve this goal was by conducting a literature review in which information from relevant scientific papers is gathered and synthesised.

The aim was to produce a literature review on the recent tools, methods and knowledge on the short-term violence risk assessment of general psychiatric patients. Another aim was that the results of this review would provide useful information regarding violence prevention and risk assessment in psychiatric setting, thus contributing to evidence-based practice. The results of the review could be utilised by nursing students, registered nurses and other professionals working in the mental health sector.

This study has two research questions:

1. **What instruments there are for assessing the violence risk of psychiatric patients?**
2. **What patient-related factors these instruments take into account?**

4 CONDUCTING THE LITERATURE REVIEW

In this thesis the method of a literature review is applied. Although this thesis does not completely fall under the definition of a systematic review, the principles of systematic review methodology are followed to a great extent.

4.1 Principles of literature review

Systematic literature review is a research method in which previous scientific knowledge on specific topic is collected together, systematically evaluated and synthesised. In the health care sector systematic reviews aim to increase the evindence-base behind professional interventions and to assess, as well as improve, the effectiveness of clinical work. (Tähtinen 2007, 10; Kääriäinen & Lahtinen 2006, 38.) Thus, systematic reviews not only provide the scientific community with new information, but also serve nursing professionals as well as other health care workers in the field (Leino-kilpi 2007, 2).

In literature reviews through synthesis it is possible to understand the phenomenon studied as a whole. Synthesising the results of several studies gives a more reliable evindence base than a single study alone can. It can provide us with reliable generalisations. (Kääriäinen et al. 2006, 37; Pudas-Tähkä & Axelin 2007, 46; Centre for Reviews and Dissemination 2009.)

Systematic reviews follow the principles of scientific research.The process of a systematic review is cumulative in the sense that each phase is built upon the phases preceding. Furthermore, the systematic review process must be repeatable and systematical bias should be minimised. (Kääriäinen et al. 2006; 39.) Following the rigorous phases in conducting a systematic review reduces the risk of flaws and makes it possible to repeat the review at a later time. (Johansson 2007, 5; Pudas-Tähkä et al. 2007, 46; Centre for Reviews and Dissemination 2009.)

Research plan forms the basis of a systematic review. In this phase the reasearch questions are defined after which the methods for the review are chosen. The research questions determine the goal of the systematic review, in other words, what the review aims to answer to. In the research plan a strategy for data collection is set. Inclusion and exclusion criteria for journal articles is set so that the boundaries of the research question are clearly defined. (Johansson 2007, 6; Pudas-Tähkä et al. 2007, 47; Kääriäinen et al. 2006, 39-40; Centre for Reviews and Dissemination 2009.)

A systematic review proceeds according to the research plan made. The papers for the review are chosen step by step and the predefined inclusion criteria form the basis for study selection. Quality of the papers chosen is also assessed. After study selection, data analysis and synthesis are carried out. The aim is to answer the research question in a holistic and objective manner. In systematic literature review all phases are recorded and reported, so that the review can later be repeated. In the last phase of a systematic review the results are reported and possible conclusions are made. (Johansson 2007, 6-7; Kääriäinen et al. 2006, 37-41; Pudas-Tähkä et al. 2007, 47.)

4.2 Literature search

The electronic article search was conducted on the 29th of September, 2010. The words violence, aggression, assessment, prediction and psychiatric were cut, so the keywords used in the search were violen*, aggress*, assess*, “risk assessment”, predict* and psych*. The keywords were combined as follows: violen* or aggress* AND predict* or assess* or “risk assessment” AND psych*. The electronic search was carried out in the Ebsco, Ovid and Pub Med databases. The search was limited to articles available as free full text. This search produced altogether 2434 results. As three different electronic databases were used, there were undoubtedly some duplication articles, which, however, were not excluded at this point.

In addition to the electronic search, a manual search of articles was performed in September 2010. The manual search was carried out from relevant scientific journals. Contents of the following journals were scanned: Advances in Nursing Sciences, Tutkiva hoitotyö, Hoitotiede, Scandinavian Journal of Caring Sciences, Nursing Research, Journal of Advanced Nursing, Journal of Psychiatric and Mental Health Nursing, Journal of Psychosocial Nursing, International Nursing Review, Vård i Norden and International Journal of Forensic Mental Health. Furthermore, reference lists of two scientific articles relevant to the topic were also scanned. The manual search identified altogether 61 articles. The electronic and manual searches were limited to articles published in Finnish, Swedish or English; between January 2000 and September 2010.

4.3 Article selection

The papers for the review were chosen step by step and the predefined inclusion and exclusion criteria formed the basis for study selection. The articles had to address the topic of violence risk assessment in the context of general psychiatric settings. The patient group discussed in the articles had to be adult psychiatric patients. Violence risk assessment in domestic settings, forensic violence risk assessment and sexual violence risk assessment were not included in this review.

The intervention discussed in the articles was violence risk assessment of individual psychiatric patients. Thus, this excluded articles that only addressed violence risk assessment in relation to factors external to the patient, e.g. the organisation of ward environment. Studies discussing violence risk assessment in the context of factors related to the patient were included in the review. The focus of this review was on short-term or imminent violence risk assessment in clinical settings. Thus, articles addressing long-term violence risk assessment of psychiatric patients were excluded. The inclusion and exclusion criteria for articles are listed in Table 1.

TABLE 1. Inclusion and exclusion criteria for papers

• Scientific articles addressing the short-term violence risk assessment of adult psychiatric in- or outpatients and answering the research questions • Articles written either in Finnish, Swedish or English and published between the years 2000 and 2010 • The patient group discussed in the articles is general psychiatric patients • The intervention discussed in the articles is violence risk assessment tools and methods • Violence risk assessment discussed in the context of individual patients and factors internal to patients • The articles available as free full-text
• Literature reviews not included • Violence risk assessment related to factors external to the patient not included • Domestic, sexual and forensic violence risk assessment excluded • Long-term violence risk assessment not included

In the first phase of article selection, the articles were browsed and chosen based on their titles only. In this phase, the excluded articles had titles which revealed that they do not fit the inclusion criteria set. After this phase there were 194 electronic articles left. In the manual search contents of the journals were browsed in order to find articles with titles relating to violence in psychiatric settings. The manual search based on article titles produced altogether 61 articles. After this phase there were altogether 255 articles left.

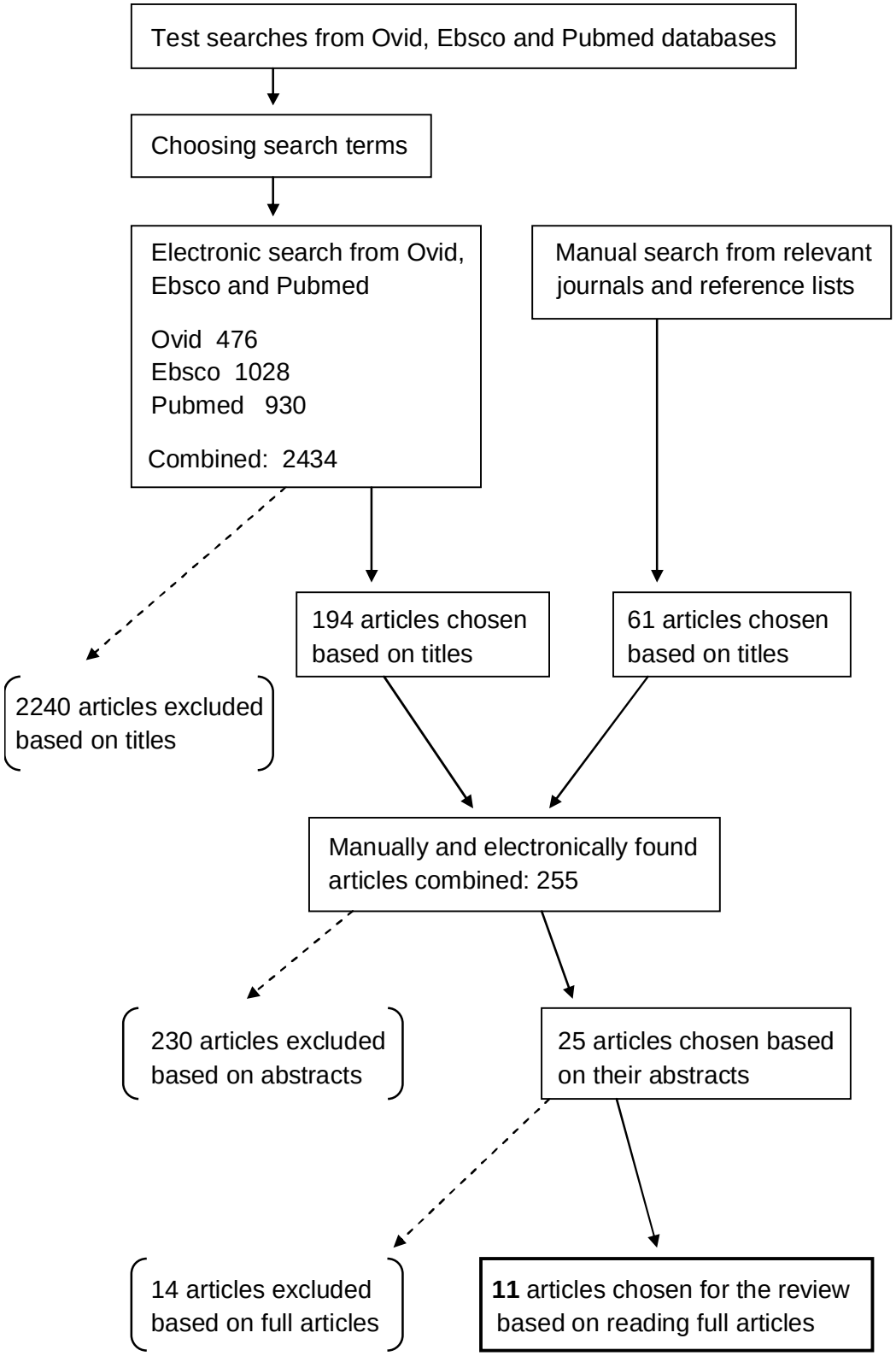
In the second phase of article selection, the abstracts of 255 articles were read through in order to find out whether they match the more specific inclusion criteria. Altogether 230 articles were excluded in this phase. 207 articles were excluded because they did not meet the inclusion and exclusion criteria. Many dismissed articles addressed violence risk assessment in the forensic context. Some articles excluded discussed patient-related factors behind aggression, but did not discuss how they could be utilised in violence risk assessment. Some articles were excluded because they described long-term violence risk assessment tools for community violence. Articles were also

excluded because they discussed factors related to violence that are external to the patient. 23 duplication articles were identified at this point and they were also excluded. This left altogether 25 articles for a more careful view.

The 25 articles chosen based on their abstracts were read through in order to find out whether they match the inclusion criteria set. In addition, their quality was also assessed. In the articles chosen for the review, the purpose and aim of the study were clearly stated. Each study had to form a coherent entity and the findings had to be clearly represented. The studies chosen had to have relevance for the development of psychiatric mental health nursing.

The reviewer also evaluated whether the papers were able to answer the research questions set for this study. 14 articles were excluded during this phase. The reasons for dismissal at this point were that articles were not research articles or in the articles it was not clearly stated which patient-related variables were taken into account in the violence risk assessment. There were also four articles that discussed the same violence risk assessment tool, and out of these, the most representative one was chosen. This left altogether 11 articles for the literature review. Figure 1 features how the literature search and study selection were conducted.

FIGURE 1. The process of literature search and study selection



4.4 Analysis and synthesis

The 11 study articles chosen for the review were carefully read and tabulated in order to constitute a general view of the data and to enable the comparison of articles. The central information regarding the studies included in the review are presented in the table in Appendix 1. The table illustrates the basic information regarding the research articles and the core features of each violence risk assessment tool or method, as well as the factors predictive of violence considered in the assessment.

Narrative synthesis is a textual approach used to analyse the studies included in the review. The relationships within and between studies are analysed. The interventions emerging from the studies are described and a synthesis on the findings of included studies is developed. (Kääriäinen et al. 2006, 43; Centre for Reviews and Dissemination 2009.)

In this review, a descriptive, narrative synthesis of the literature was made. The data extraction followed the purpose of this literature review, formulated in research questions. The data emerging from the articles were categorised and organised in themes. The results were then described in a narrative way. This included comparing the elements of the studies chosen and identifying their similarities as well as differences. Finally generalisations and conclusions were made based on the literature.

5 RESULTS

This review provides information on what kind of short-term violence risk assessment tools have been developed for general psychiatric settings and what patient-related variables are used in the assessment. The results of this review show that there is a number of structured professional risk assessment tools used in the assessment of short-term violence risk in general psychiatric settings. Most of these tools combine patient-related dynamic variables,

historical variables and clinical judgement, when conducting violence risk assessment.

5.1 Characteristics of violence risk assessment tools

The articles included in the review had been published between the years 2002 and 2010 in scientific journals in the field of psychiatry, psychiatric nursing and psychology. All research articles had been published in English. The studies discussed in the articles were British (n=5), Norwegian (n=2), Swedish (n=1), Dutch (n=1), North-American (n=1) and Australian (n=1). This literature review identified altogether 11 different short-term violence risk assessment tools that have been used in general psychiatric settings. Most studies (n=9) focused on violence risk assessment in inpatient settings only.

In the studies included in the review, the terms violence and aggression had been used inconsistently. Some violence risk assessment tools aimed to predict both verbal and physical aggression, whereas others did not consider verbal assault as being actual aggression, but rather viewed it as a risk factor for aggression, which was narrowly defined as being physical assault. In addition, the studies chosen for the review had diverse aims as well as methods. These factors made comparing and synthesising the information more challenging.

Two studies included in the review did not describe any actual violence risk assessment tool, but explored how mental health nurses make violence risk assessments in clinical situations (Trenoweth 2003, 278; Murphy 2004, 407). However, the reviewer decided to include these studies in the review, as they give an important glimpse into the silent knowledge and intuition utilised by mental health nurses as they make violence risk assessments.

The authors of most papers included in this review were researchers on the field of psychology or psychiatry. In case of four assessment tools, violence risk assessments would be completed by different staff members, either by a

nurse, social worker, psychiatrist or psychologist (Nijman, Merckelbach, Evers, Palmstierna & à Campo 2002, 391; Bindman, Watts, Slade, Holloway, Rosen & Thornicroft 2004, 569-570; Stein 2005, 624-625; Hartvig, Roaldset, Moger, Ostberg & Bjorkly 2010, 3). As for three tools, nurses were the only professionals to perform violence risk assessments (Watts, Leese, Thomas, Atakan & Wykes 2003, 174; Björkdahl, Olsson & Palmstierna 2006, 226; Ogloff & Daffern 2006, 804). In three tools the assessment was completed by psychologists and one tool was only used by psychiatrists (McNiel, Gregory, Lam, Binder & Sullivan2003, 945-946; Roaldset & Bjorkly 2010, 153).

Most assessment tools were only designed to assess whether a patient poses a risk of violence to others. Two tools, however, were developed to assess also other risks in addition to violence. The Modified Sainsbury Tool (MST) is a broader risk assessment framework developed for psychiatric settings. The tool consists of separate checklists that assess the risk of violence, neglect and self-harm or suicide. (Stein 2005, 620-621.) Also the Self-Report Risk Scale (SRS) is designed to assess both the risk of violence to others, as well as risk for self-harm and suicide (Roaldset et al. 2010, 153-156).

Most tools (n=7) in this review represented structured professional violence risk assessment. These tools combined both clinical judgement and actuarial assessment into the form of a structured checklist. The structured professional risk assessment tools combined both historical and clinical variables when making assessments. In the assessment tools certain variables were rated as being present or not present. Based on these a numerical value indicating the severity of violence risk was then counted. (Watts et al. 2003, 174-175; Bindman et al. 2004, 569-574; Stein 2005, 628-633; Björkdahl et al. 2006, 225-227; Ogloff et al. 2006, 805; Hartvig et al. 2010, 3.)

Two actuarial violence risk assessment tools, the Hare Psychopathy Checklist Screening Version (PCL-SV) and Violence Screening Checklist (VSC) were included in the review. The PCL-SV is based on the idea that a person with certain stable, in other words unchanged, emotional, interpersonal and behavioural traits linked to psychopathy has a high risk of becoming violent (McNiel et al.2003, 946). VSC is a brief tool consisting of five actuarial items

that have been identified as predictors of violence (McNiel et al. 2003, 947). One tool represented unstructured clinical risk assessment and utilised Visual Analogue Scales when making violence risk assessments (Nijman et al. 2002, 392). One tool was based on the idea of patients themselves acting as risk assessors (Roaldset et al. 2010, 156). Table 2 illustrates the 11 different violence risk assessment tools and which approach to violence risk assessment they represent.

TABLE 2. Violence risk assessment tools

Unstructured clinical risk assessment

- **VAS** (Risk assessments obtained with Visual Analogue Scales)

Actuarial risk assessment

- **PCL-SV** (Hare Psychopathy Checklist Screening Version)
- **VSC** (Violence Screening Checklist)

Structured professional risk assessment

- **HCR-20** (Historical, Clinical, Risk Management-20)
- **CARDS** (Clinical Assessment of Risk Decision Support)
- **MST** (Modified Sainsbury Tool)
- **BVC** (Broset Violence Checklist)
- **DASA** (Dynamic Appraisal of Situational Aggression)
- **V-RISK-10** (Violence Risk Screening-10)
- **BPRSE** (Risk factors assessed with Brief Psychiatric Rating Scale)

Patient's own assessment

- **SRS** (Self-Report Risk Scale)

Two studies that examined the reliability and predictive value of unstructured clinical violence risk assessment were included in the review. However, the results of these two separate studies were contradictory. According to the study by Nijman et al. (2002, 394) unaided clinical prediction is quite accurate in short-term violence risk assessment. On the contrary, in the study by Ogloff

et al. (2006, 809) it was shown that structured risk assessment is significantly more accurate in comparison to unstructured clinical assessment.

In the Clinical Assessment of Risk Decision Support (CARDS) tool, as well as in the Modified Sainsbury Tool (MST), risk assessment is a two-level process. At first, a shorter and simpler assessment is performed. After this screening phase, a more comprehensive assessment is completed if the first phase indicates a need for it. (Bindman et al. 2004, 570; Stein 2005, 623.) Two tools, the Broset Violence Checklist (BVC) and the Dynamic Appraisal of Situational Aggression (DASA), were designed to be used as a part of daily psychiatric nursing procedures. With BVC and DASA assessments were made in each shift, three times a day. (Björkdahl et al. 2006, 226; Ogloff et al. 2006, 803.)

5.2 Patient-related variables used in the risk assessments

The articles included in this review highlighted a considerable number of patient-related factors that act as predictors of violence. Patient-related variables emerging from the literature were divided by the reviewer into two categories. The first category consists of clinical and dynamic variables. They are factors that are prevailing at the moment of assessment and that are conceivable to change, thus being dynamic. The second category consists of static factors. They are characterised by being unchangeable or not prone to rapid change. Patient-related variables assessed in the risk assessment tools are listed in Table 3.

TABLE 3. Patient-related variables assessed in the tools

Clinical and dynamic variables

- patient's current mental health status
- negative attitudes & frustration
- obstacles in cooperation
- typical manic behaviour
- disordered thinking
- current substance abuse
- current involuntary admission
- lack of insight
- behaviours related to psychopathy and some personality disorders
- expression of violent intentions

Static variables

- history of violence
- patient's overall history
- history of involuntary hospitalisations
- history of major mental illness
- history of substance abuse

- psychopathy and some personality disorders

- male gender
- young age

5.2.1 Clinical and dynamic variables

From the literature it emerged that most variables utilised in the violence risk assessment tools were clinical and dynamic variables. They are variables that are prevailing at the moment of assessment and that are conceivable to change. All studies and violence risk assessment tools in this review included clinical and dynamic variables. All risk assessment tools took into account patient's current mental health status and how it affected their thinking and

behaviour. Active symptoms and signs of a major mental illness were assessed. It also emerged from the literature that clinical variables were more accurate predictors of aggression than static variables deriving from patient's history or demographic features for instance (Watts et al. 2003, 179; Ogloff et al. 2006, 808; McNiel et al. 2003, 949).

Many assessment tools considered manifestation of patient's negative attitudes and frustration as risk factors for violence. Variables to be assessed included for instance hostility, anger and irritability. Typical manic behaviour, such as impulsivity and heightened levels of arousal, were also common signs assessed. (McNiel et al. 2003, 946-947; Watts et al. 2003, 175; Stein 2005, 631; Björkdahl et al. 2006, 226; Ogloff et al. 2006, 805.) In addition, disordered thinking was a common variable to be assessed. This included paranoid symptoms, delusions, hallucinations and confusion. (Watts et al. 2003, 175; Bindman et al. 2004, 570; Stein 2005, 631; Björkdahl et al. 2006, 226.)

The review included one assessment tool, the Hare Psychopathy Checklist-Screening Version (PCL-SV), that assesses emotional, interpersonal and behavioural traits commonly associated with psychopathy and some personality disorders (McNiel et al. 2003, 946). Some variables included in the PCL-SV, such as impulsivity, antisocial behaviour, lack of empathy and remorse, were also included in other assessment tools (Stein 2005, 631; Ogloff et al. 2006, 805; Hartvig et al. 2010, 3). Three violence risk assessment tools took into consideration patient's current substance abuse (Bindman et al. 2004, 570; Stein 2005, 631; Hartvig et al. 2010, 3). Also in the study by Murphy (2004, 410) all nurses participating in the study identified patient's present substance abuse problems to correlate with risk of violence.

The studies by Nijman et al. (2002, 393) and Bindman et al. (2004, 575) identified current involuntary admission to psychiatric care as a risk factor for violence. In three studies obstacles in patient-staff cooperation were identified as risk factors for violence. To be exact, this was characterised by patient's inability to accept limits set by staff and patient's resistance to building therapeutic alliance. These factors were, on the other hand, strongly linked to

lack of insight, too. (McNiel et al. 2002, 946; Murphy 2004, 411; Ogloff et al. 2006, 805.) Two assessment tools, the HCR-20 and the V-RISK-10, assessed patient's lack of insight into their illness and behaviour as a risk factor. Lack of insight was characterised for instance as unrealistic planning by a patient. (McNiel et al. 2002, 946; Hartvig et al. 2010, 3.)

Several studies identified patient's current expression of violent intentions as a strong predictive factor for violence. Verbal threats and threatening gestures were commonly assessed. (Trenoweth 2003, 282; Bindman et al. 2004, 574; Stein 2005, 631; Ogloff et al. 2006, 808; Hartvig et al. 2010, 3.) The V-RISK-10 tool assesses the violence component comprehensively, taking into account current as well as past threats and attacks of violence, both verbal and physical. (Hartvig et al. 2010, 3.) Furthermore, in the study by Trenoweth (2003, 282) nurses named invasion of nurse's personal space as an indicator of imminent risk of violence.

In their study Roaldset et al. (2010, 156-157) investigated how accurate predictors patients' own statements of their violence risk are. Self-Report Risk Scale was shown to accurately predict violence. The patients who assessed their risk for violent behaviour being moderate or higher, were more likely to act in a violent manner during their hospitalisation. Furthermore, also patients who refused to answer about the risk of violence were shown to have high risk for violent incidents. The SRS assessment tool was one of its kind in this literature review. However, the Clinical Assessment of Risk Decision Support (CARDS) also included a question about patient's own estimation of their violence risk (Bindman et al. 2004, 575).

5.2.2 Static variables

Static variables are either unchangeable or not prone to rapid change, unlike the dynamic factors predictive of violence. In the studies included in the review, historical variables were the most common static variables assessed. Besides to deriving from the patient's history, static variables can be personality features or demographic characteristics.

A past history of violence, aggression and threats was the most common historical variable taken into consideration in the violence risk assessment tools. In the Violence Screening Checklist the history of violence and aggression was, however, limited to recent pre-admission violence occurred within the two weeks prior to hospitalisation (McNiel et al. 2003, 947). Also the study by Watts et al. (2003, 179) emphasised the recent pre-admission violence as a risk factor. In the studies by Trenoweth (2003, 281) and Murphy (2004, 410) nurses pointed out the significance of knowing patient's overall history as well as history of violence for violence risk assessment.

The study by Nijman et al. (2002, 393) showed that the history of involuntary hospitalisations correlates with higher risk of violence. Also the modified Sainsbury tool takes previous admissions to secure psychiatric settings into account as a risk factor (Stein 2005, 631). History of major mental illness was addressed as a risk factor for violence in many tools. The HCR-20 and V-RISK-10 tools included history of substance abuse as a risk factor for violence (McNiel et al. 2003, 946; Hartvig et al. 2010, 3).

Two tools, the HCR-20 and PCL-SV, assessed certain personality features commonly associated with psychopathy and some personality disorders. The emotional and interpersonal traits assessed in the PCL-SV included superficiality, grandiosity, deceitfulness as well as lack of responsibility, remorse and empathy. (McNiel et al. 2003, 946.) The only particular psychiatric disorder that emerged from the literature as possibly being linked to increased violence risk was schizophrenia (McNiel et al. 2003, 947; Björkdahl et al. 2006, 226).

Certain demographic variables were considered as risk factors in only three studies. In the risk assessment studies by Nijman et al. (2002, 392) and McNiel et al. (2003, 947) male gender was considered a risk factor for violence. Furthermore, young age was considered a risk factor in two studies (Nijman et al. 2002, 392; Watts et al. 2003, 17). In the Violence Screening Checklist (VSC) the fact that a patient is currently married or cohabiting is considered as increasing their risk of acting violently (Mc Niel et al. 2003, 947).

5.3 Subjective assessment and intuition

Nurses' subjective assessment and prediction based on intuition emerged from three studies. The study by Nijman et al. (2002, 395) suggests that unaided clinical prediction can be quite accurate in estimating short-term violence risk of psychiatric patients. In two separate studies on how psychiatric nurses make violence risk assessments in clinical situations, nurses emphasised the utilisation of intuition in their risk assessments (Trenoweth 2003, 283-284; Murphy 2004, 410-412).

Intuition, also described as "gut feeling", together with personal knowledge and experience, was shown to constitute a significant part of nursing violence risk assessment. However, the nurses did not utilise unaided clinical prediction and intuition only, but combined it with historical and clinical factors shown to correlate with violence. Yet, the nurses interviewed in these studies did not utilise any standard risk assessment protocols. (Trenoweth 2003, 283-284; Murphy 2004, 410-412.)

The study by Murphy (2004, 410-411) into how community mental health nurses assess the risk of violence from their clients, identified that nurses' unaided clinical violence risk assessment is greatly influenced by how well they know and observe their patients. Nurses taking part in the study viewed change to what was norm to patient and for instance recent reduction in attention to self care as possible risk factors for violence.

6 ETHICS AND VIOLENCE RISK ASSESSMENT

Violence risk assessment in psychiatric settings aims to avoid or minimise harm related to violence, thus increasing the security of staff and patients on the ward. In this sense, the aims of violence risk assessment are perfectly legitimate and acceptable. Yet, some ethical problems arise from violence risk assessment. (McGuire 2004,329.) Violence risk assessment may have an

impact on the rights and freedom of an individual patient assessed. Thus, a balance between two demands, rights of an individual in treatment and other people's rights for protection, has to be achieved. (Irwin 2006, 314; Crowe & Carlyle 2003, 22.)

In spite of progress on the field of violence risk assessment, the methods for recognising violent patients in advance is not error-free, and will never be. Actuarial protection based on statistics can be accurate in general terms, but this is not necessarily the case when an individual patient is considered. All violence risk assessment methods can produce false positives and can be used as a means of controlling patients. A patient may incorrectly become classified as violent and this can have a negative impact on the rights of the patient. (McGuire 2004, 336-338.) The limitations and possible consequences of violence risk assessments have to be understood by the professionals executing such assessments.

An important question to be asked is whose interests are being served as violence risk assessments are made. Mental health professionals ought to be aware of the professional conduct and not to lose sight of the therapeutic responsibilities they have to their patients. (McGuire 2004, 337; Crowe et al. 2003, 22.) Crowe and Carlyle (2003, 22) emphasise this contradiction that arises from violence risk assessment in psychiatric settings. They claim that if mental health professionals are meant to act in the interests of their patients, violence risk assessment may contradict with this and can be viewed as an attempt to control the behaviour of patients. It is extremely problematic if the fundamental principles of nursing, e.g. patient advocacy, are forgotten in the course of making violence risk assessments.

In violence risk assessment tools, certain attributes or behaviours are seen as signs of increased violence risk. Thus, the assessment of whether a patient poses a risk to others is determined by how they conform to the norm. There is a danger that violence risk assessments are being used to divide patients into two categories: those who act in a cooperative and compliant manner, and those who do not follow 'the rules of the game' and are therefore seen as risky individuals. (Crowe et al. 2003, 22.) Hence, it is important to keep in

mind that patients and situations are highly individual and unique (Irwin 2006, 316).

Irwin (2006, 312-314) and McGuire (2004, 337) argue that it is problematic if aggression is merely seen as a symptom of mental illness. Instead, they emphasise the social context of aggression. Certainly, aggressive behaviour rarely takes place in a vacuum and also factors external to the patient can increase the risk of violence. For instance staff-patient interaction is a crucial aspect to be considered.

According to Olsen (2001, 128), answers to ethical dilemmas arising from mental health nursing practice are rarely black and white. In this sense, violence risk management and assessment is a grey area of practice, too. When psychiatric nurses assess the violence risk of their patients, they constantly balance on the fine line between caring and controlling. When trying to protect others, individual freedom always is, to some extent, compromised. (McGuire 2004, 337; Irwin 2006, 314-315.)

7 DISCUSSION

This literature review followed the principles of a systematic review and synthesised existing knowledge on violence risk assessment in psychiatric settings. The review shed light on the features of short-term violence risk assessment tools used in psychiatric settings. Patient-related factors used in the assessments were also explored. In addition, a chapter discussing ethical problems that arise from violence risk assessment was included in the thesis. The results of this thesis can be utilised by mental health nurses and students as well as in the development of violence risk management strategies in psychiatric settings.

7.1 Reliability of the review

A literature review that follows the principles of a systematic review is a demanding and time-consuming process (Kääriäinen et al. 2006, 43; Johansson et al. 2007, 55). The reviewer was inexperienced when it comes to systematic reviews, but carefully familiarised herself with the principles of literature review in advance. The literature search and article selection were more time consuming phases than the reviewer would have thought. In order to minimise the bias related to literature search, the search of articles ought to be as extensive as possible (Centre for Reviews and Dissemination 2009). For the literature search to be thorough, electronic search was accompanied by manual search. Furthermore, in order to minimise language bias, the search was directed at journals either in English, Finnish or Swedish.

Inconsistencies and mistakes can occur at any phase of a literature review. This can undermine the reliability of the review. However, at its best, systematic reviews can be the most competent way of pooling previous scientific information. (Kääriäinen et al. 2006, 43-44.) A clear review plan helped in conducting the review, as it defined the boundaries for the review as well as criteria for choosing the articles. The reviewer aimed to execute each phase thoroughly. All phases of the review, as well as the decisions made by the reviewer, were consistently reported and documented. In order to increase the validity and reliability, only research articles were included in the review. Quality of the articles was also assessed and the articles had to be relevant in the sense that they were able to answer the research questions set for this review.

The reliability of a review in mind, more than one reviewer is recommended when conducting systematic reviews. With more than one reviewer, subjective bias in the phases of study selection and data extraction can be reduced. (Kääriäinen et al. 2006, 41; Centre for Reviews and Dissemination 2009.) The fact that this review was executed by one reviewer only, may have influenced the reliability of the review. Literature selection and synthesis were thus based on one reviewer's subjective judgement only. However, the reviewer aimed to

compensate this by clearly defining the inclusion and exclusion criteria for the articles as well as thoroughly documentating the whole process. Rigorous documentation of the review process makes is possible for others to evaluate the reliability of this review as well as to possibly replicate the review at a later point.

7.2 Conclusions

The assessment of violence risk posed by psychiatric patients has been hindered by the lack of standard assessment tools that would be practical and usable in daily clinical work (Woods et al. 2007, 653-654). During the phases of literature search and article selection it became evident that most violence risk assessment tools have been developed for long-term violence risk assessment in forensic settings. In spite of this, this literature review identified 11 short-term violence risk assessment tools that have been used in general psychiatric settings.

Most of the tools discussed in this review are modern in the sense that they represent structured professional risk assessment. They combine factors known to be predictive of violence as well as clinical judgement of a professional. In addition, the review shows that intuition also has significance when mental health professionals make violence risk assessments.

The most common clinical variables assessed were related to patient's current symptomatology and signs of mental illness. Out of historical variables assessed, past history of violence was the most common. All violence risk assessment tools, except for one, were based on the idea of staff members acting as observers or assessors. The Self-Report Risk Scale was a fresh tool in which patient's own estimation of their violence risk was explored (Roaldset et al. 2010, 156-157). This tool could be seen as representing the modern care philosophy which highlights a patient's own participation in their care.

In this review patient's inability to accept limits and resistance to building therapeutic alliance emerged as risk factors for violence (McNiel et al. 2002,

946; Murphy 2004, 411; Ogloff et al. 2006, 805). However, this interpretation can be problematic as it only focuses on cooperation on the part of patient. Communication and cooperation on the part of staff are undoubtedly of equal importance as interaction always takes place between at least two individuals.

This review discussed only patient-related variables predictive of violence. However, if we only focus on factors internal to the patient, our conception of factors contributing to violence and aggression is left incomplete. Thus, it cannot be stressed enough that factors external to patient, such as unit-related or interactional variables, also contribute to violence in psychiatric settings. When completing structured violence risk assessments, it should not be forgotten that patients and situations are highly unique and individual.

Violence risk assessment ought to be an integral part of violence management strategies in mental health settings. Hence, violence risk assessment is a professional skill essential for all psychiatric nurses. However, more training on violence management and systematic risk assessment is undoubtedly needed. Ethical considerations related to violence risk assessment should not be forgotten either and violence risk assessment should not override the duty to care. Nor should it lead to staff demonising their patients or predominantly seeing them as risky subjects.

As for future research, some areas of violence risk assessment could be further explored. It would be interesting to know more about the factors external to patient that contribute to increased violence risk. This could shed more light for instance on the role of ward environment and nurse-patient interaction in the prevention of violence.

None of the tools identified in this review were Finnish and they may not be applicable to Finnish mental health settings as such. However, the tools and risk factors discussed in this review could be of use when developing violence risk assessment tools and strategies in Finnish mental health settings.

The authors of most papers included in this review were researchers on the field of psychology or psychiatry. Nurse involvement in the development of

violence risk assessment tools could be increased, as nurses spend most time with patients and are the most likely group to encounter violence from patients. Furthermore, studies show that nurses' estimation and assessment of violence risk is as equally correct as that of psychiatrists (Lewis & Webster 2004, 403; Haim, Rabinowitz, Lereya & Fennig 2002, 623). Nurse involvement in the development of violence risk assessment tools could further improve the usability and practicality of such tools in daily clinical work.

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APPENDICES

Appendix 1: Table of the articles included in the review

	Authors, Country, Year, Title	Purpose / Aim	Tool / Method & Characteristics	Patient-related variables assessed	Central findings
1.	Nijman, Merckelbach, Evers, Palmstierna & à Campo. Netherlands. 2002. *Prediction of aggression on a locked psychiatric admissions ward.*	To evaluate the accuracy of clinical prediction of violence vs. accuracy of archival predictors of violence during psychiatric hospitalisation	Unstructured clinical assessments obtained with Visual Analogue Scales (VAS) Variables predicting violence assessed	Historical: previous admissions and involuntary hospitalisations Clinical: diagnosis of a psychotic disorder at admission, current involuntary hospitalization Demographic: young age, male gender	Unaided clinical prediction quite accurate in estimating short-term violence risk during acute psychiatric admission. Clinical VAS predictions correlated with occurrence & severity of violence. History of involuntary admission a strongly correlated with violence.
2.	McNiel, Gregory, Lam, Binder & Sullivan. USA, 2003. *Utility of Decision Support tools for Assessing Acute Risk of Violence.*	To evaluate three tools for acute violence risk assessment	Structured professional: HCR-20 Actuarial: PCL-SV VSC	HCR-20: Historical: previous violence history, social problems, substance abuse, previous psychiatric diagnoses Clinical: current mental health status, lack of insight, noncompliance with remedation attempts, negative attitudes, impulsivity PCL-SV: Historical & Clinical: Emotional&interpersonal traits: superficial, grandiose, deceitful, lacks remorse and empathy, does not accept responsibility Behavioural traits: impulsive, lacks goals, irresponsible, antisocial behaviour	Clinical factors have a stronger predictive value than historical factors. VSC showed significant correlation with violence. Clinical items of HCR-20 correlated with violence. Assessing the signs & symptoms of current mental disorder & recent behavior assist in prediction of short-term violence.

				VSC: <u>Clinical:</u> recent aggressive behavior, absence of recent suicidal behavior, acute schizophrenia or mania <u>Demographic:</u> male gender, currently married or cohabiting	
3.	Trenoweth. UK. 2003. *Perceiving risk in dangerous situations: risks of violence among mental health inpatients.*	To explore how mental health nurses make violence risk assessments in clinical situations	Nurses' subjective assessment	<u>Historical:</u> violence history, patient's background <u>Clinical:</u> current mental health status, observing the patient's behaviour and changes in it for e.g. threatening gestures, heightened levels of arousal, pressure of speech, anger and frustration	Intuition and personal knowledge are features of nursing decision making. Experience of previous violent incidents and an overall observation of current clinical situation play an important role in violence risk assessment by nurses.
4.	Watts, Leese, Thomas, Atakan & Wykes. UK. 2003. *The Prediction of Violence in Acute Psychiatric Units.*	To evaluate violence prediction within two weeks of admission to psychiatric units	Structured professional: Combining elements from several tools and studies Risk factors assessed with Brief Psychiatric Rating Scale (BPRSE)	<u>Historical:</u> recent pre admission violence <u>Clinical:</u> current mental health status and symptoms, hostility, suspiciousness, withdrawal-retardation, agitation-excitement, thinking disturbance <u>Demographic:</u> younger age, male gender	Recent pre-admission violence is a significant predictor of inpatient violence. Clinical variables most predictive of violence.
5.	Murphy. UK. 2004. *An investigation into how community mental health nurses assess the risk of violence from their clients.*	To explore how violence risk is assessed by community mental health nurses	Nurses' subjective assessment	<u>Historical:</u> violence history, patient's history <u>Clinical:</u> current mental state, alcohol & substance use, change to what is norm behaviour to client, patient's resistance to building therapeutic alliance	Although the nurses did not utilise any standardised instrument, they were aware of factors predictive of violence. The nurses emphasised past experience, good knowledge of the client and intuition when making risk assessments.

6.	Bindman, Watts, Slade, Holloway, Rosen & Thornicroft. UK. 2004. *Clinical assessment of risk decision support (CARDS): The development and evaluation of a feasible violence risk assessment for routine psychiatric practice.*	To develop an evidence-based method of assessing the risk of violence & demonstrate its' clinical utilisability in adult psychiatric settings	Structured professional: CARDS A tool with two phases: screening and full assessment	Historical: violence history Clinical: current mental health state and symptoms, substance abuse, hostility, threats, involuntary admission, patient's own estimation of their violence risk, expression of concern from others about violence risk	CARDS proved to be simple, relevant, acceptable by staff and usable in psychiatric settings.
7.	Stein. UK. 2005. *Modified Sainsbury Tool: an initial risk assessment tool for primary care mental health and learning disability services.*	To evaluate the usability and acceptance of MST by staff	Structured professional: MST A tool assessing the risk of violence, suicide and neglect	Historical: violence history, previous admissions to secure settings Clinical: psychotic symptoms, substance abuse, impulsivity, anger and frustration, expressing intent to harm others	The majority of staff supported the introduction of the tool. The tool provided a logic structure for risk assessment practice.
8.	Björkdahl, Olsson & Palmstierna. Sweden, 2006. *Nurses' short term prediction of violence in acute psychiatric intensive care*	To evaluate the short-term predictive capacity of Broset Violence Checklist	Structured professional: BVC Patients are assessed 3 times a day, behaviours assessed marked as absent/present.	Historical: violence history (verbal, physical, attacking objects) Clinical: confusion, irritability, boisterousness	BVC proved to have good predictive properties. BVC was simple enough to use and passed on valuable risk information between shifts. Patients with schizophrenia or schizoaffective disorder were more violent.

9.	Ogloff & Daffern. Australia. 2006. *The Dynamic Appraisal of Situational Aggression: An Instrument to Assess Risk for Imminent Aggression in Psychiatric Inpatients*.	To identify risk factors for violence and to develop a new violence risk assessment tool To compare the accuracy of structured risk assessment and clinical judgement	Structured professional: Dynamic Appraisal of Situational Aggression (DASA) Patients assessed 3 times a day by their allocated nurses	Clinical: negative attitudes, impulsivity, irritability, verbal threats, sensitivity to perceived provocation, easily angered when requests denied, unwillingness to follow directions	DASA proved to be a useful, brief, structured risk assessment tool predicting violence during the next 24 hours. The behaviours and states included in the tool were easily observed and the assessment did not take too much time. Structured risk assessment was shown to be significantly more accurate than unstructured clinical risk assessment alone.
10.	Hartvig, Roaldset, Moger, Ostberg & Bjorkly. Norway, 2010. *The first step in the validation of a new screen for violence risk in acute psychiatry: The inpatient context.*	To validate a brief structured risk assessment screen of inpatient violence	Structured professional: Violence Risk Screening-10 (V-RISK-10)	Historical: violence history, substance abuse, major mental illness, personality disorder Clinical: aggression and threats, substance abuse, current mental health status, lack of insight, suspiciousness scoring)	The tool was easy to use and completion took a short time. The tool had good predictive value.
11.	Roaldset & Bjorkly. Norway. 2010. *Patients' own statements of their future risk for violent and self-harm behaviour: A prospective inpatient and post-discharge follow-up study in an acute psychiatric unit.*	To evaluate how well patients' self-reported risks of violence and self-harm at admission correlate with violence	Self-report risk scale (SRS) Patients' self-reported estimates of violence & self-harm behaviour recorded	Clinical: Patients asked: "What is your own opinion of the risk that you will try to hurt yourself/ try to kill yourself/ threaten other people with violence/act violent against others?" (scale 0 – 4 no risk – very high risk, 5 don't know, 6 won't aswer)	SRS predicted violent threats & violent acts during hospital stay. Patients' own estimation of moderate or higher risk was a strong predictor of violence. Also the option "Won't answer about the risk of violence" was a predictor of violence.