Management of Inpatient Aggression in Forensic Mental Health Nursing

The application of the Early Recognition Method

Franciscus Albertus Jozef Fluttert

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Thesis University of Utrecht, The Netherlands, including a summary in Dutch

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ISBN: 978-94-6108-116-2

Printed by Gildeprint Drukkerijen - Enschede, The Netherlands

Cover design Kerliai Letwory

Funded by FPC Dr. S. Van Mesdag

Management of Inpatient Aggression in Forensic Mental Health Nursing

The application of the Early Recognition Method

Management van agressie in de forensische psychiatrische verpleging

De toepassing van de Methode Vroegsignalering

(met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit Utrecht op gezag van de rector magnificus, prof.dr. J.C. Stoof, ingevolge het besluit van het college voor promoties in het openbaar te verdedigen op dinsdag 11 januari 2011 des middags te 2.30 uur

door

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Dit proefschrift werd (mede) mogelijk gemaakt met steun van Prof.dr. S. Bjørkly.

Contents

Chapter 1

General Introduction

INTRODUCTION

Forensic mental health nurses work in a very dynamic field. Their main concerns are 'security versus therapy', 'dangerousness' and 'management of violence' (Mason & Lovell 2008, Mason, King & Dulson 2009). On the interface of security and treatment professionals in forensic mental health care are confronted with two conflicting perspectives, namely the necessity of psychiatric treatment and care on the one hand, and the public outcry for more severe restrictions to prevent society from risk behaviour of the patient on the other hand. Nurses are members of a multidisciplinary treatment team in which therapeutic goals are set with emphasis on the management of violence and the path to future rehabilitation. At the same time these nurses fulfill a prominent role regarding safety; they prevent patients causing dangerous situations, e.g., threatening or abusing others (Caplan 1993, Martin 2001, Mason & Lovell 2008). Within this context of treatment and security, forensic mental health nurses in particular are confronted on a daily basis with mentally disturbed patients who are involuntary admitted to a place where they don't want to stay. These patients live in groups on forensic units in which many interactions between patients and nurses take place under sometimes stressful conditions (Martin & Daffern 2006). Forensic patients must learn to cope with their own disturbing behaviours and with those of their fellow patients. One of the treatment goals is to develop the capacity to participate constructively in social interactions with fellow patients and with nurses, e.g., participating in ward meetings with other patients (Rask & Levander 2001). Nurses have to manage the interactions within the therapeutic environment in order to create and maintain a safe living and learning environment for all patients. Nurses invest in building a therapeutic relationship with patients to work collaboratively on these goals and to tailor nursing care to the individual problems and needs of patients (Rask & Brunt 2006, Mason & Lovell 2008). In this process the occurrence of aggressive incidents causes threatening and sometimes even dangerous situations on the wards.

Aggression and violent behaviours are complex phenomena, both defined as behaviours which are threatening or harmful to self, others or property. In forensic

literature both terms are used, often as synonyms. There is no uniform definition of aggression or violence (Abderhalden et al. 2008). The World Health Organization defined *violence* rather comprehensively as : "The intentional use of physical force of power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation"(Krug, 2002, p. 5). This thesis predominantly uses the term aggression to describe patients' behaviours. Palmstierna & Wistedt (2000) explained that aggression could be described by its expressed behaviour and by its inner experienced emotions. However the conceptual problem with aggression is more semantically rooted. They propose the following dimensions in categorizing aggression: (1) inner experience versus outward behaviour, (2) aggressor's view versus observer's view, and (3) persistent state versus episodically occurrence. These dimensions might be helpful in both clinical practice and research to analyze the nature of concrete aggressive behaviours and the way it develops over time. This thesis uses the term aggression as defined by Morrison (1990): Aggression is "any verbal, non-verbal, or physical behaviour that is threatening (to self, others or property), or physical behaviour that actually does harm (to self, others, or property)". This definition is also mentioned in the Staff Observation Aggression Scale Revised [SOAS-R] (Nijman et al. 1999), which is one of the main instruments we used in our study (see Chapter 3). Nevertheless, the categorization given by Palmstierna & Wistedt (2000) may be helpful in the further exploration of precursors of aggression in forensic patients.

When forensic patients are convicted, the court assesses them as not fully accountable for the offence they committed due to their psychiatric disorder. For most of the forensic patients the core problem is to control their aggression (Daffern & Howells 2009, Vitacco et al. 2009). Aggression often occurs in situations when patient's needs are not fully met and anger and frustration arises. The occurrence of aggression is associated with the complex interaction of both intrapersonal and interpersonal factors, which we briefly will address in order to clarify how aggression could be understood. In our understanding of aggression, several intrapersonal

factors are related to factors within the social context in which the patients functions, such as poverty, stressful life-events and victimization (Hiday 1997). When looking at violence at the level of the individual patient, from the theory of social competence Bartels (2001) states that patient's individual perceptions and reactions to events are influenced by personality characteristics, life experiences and interpersonal skills. So-called core beliefs (or personally based convictions) appear to play a profound role in the shaping of reactions to events. Apart from that, forensic researchers suggest that when patients with schizophrenia experience feelings of threat and loss of control, the so-called 'threat control-override symptoms', these feelings are associated with aggressive behaviours (Link, Stueve & Phelan 1998). Deficits in both the intrapersonal as interpersonal factors, in combination with stressful environmental factors, may contribute to patients' vulnerability for aggressive responses. This notion is important for nurses who apply aggression management strategies because they need to be aware that patients' incapability to control their aggression is a complex phenomenon.

Patients who are admitted to forensic care often don't succeed in controlling their aggressive behaviours. In forensic psychiatry the occurrence of aggressive incidents leads to threatening and sometimes even dangerous situations on the wards. Frequently restrictive measures are applied by nursing staff, e.g. seclusion, in order to control patients' aggressive behaviour and to avoid danger and harm. The core message is that aggression is not allowed, but generally not much effort is made to learn from previous events of aggression. However, this learning process is of utmost importance to enhance a better self -management of aggression by forensic patients. When patients are able to recognize and control the precursors of aggression, this could help them to carry out stabilizing actions in order to gain control over their behaviours and thus prevent aggressive incidents to occur. Additionally, when patients, while admitted at inpatient wards, succeed to manage their aggression, the transfer to the rehabilitation phase is more likely to become the next treatment step. Aggression management strategies are most likely to be successful when patients

feel accepted and are treated as individuals with characteristics which are valuable to acknowledge and to explore, even in case of aggression (Meehan, McIntosh & Bergen 2006). Patients' (self)-management of aggression, i.e. those activities which patients initiate to control their aggressive impulses, should be an important issue during treatment.

A profound insight into patient's vulnerability to cope with stressful situations (e.g., due to delusions), and into the developmental process of aggression, is essential in the dynamic interactional understanding of violence (Bjørkly 2006). So far, forensic researchers have mainly made efforts to identify precursors of inpatient aggression on the basis of clinically dynamic factors by means of risk assessment instruments (Almvik, Woods & Rasmussen 2000, Ogloff & Daffern 2006, McDermott et al. 2009, Dolan et al. 2008). By applying these instruments nurses can observe and record precursors of aggression by patients in daily ward situations and thereby gain knowledge of the likelihood of aggression by the individual patient. Despite these efforts, the onset of aggression and the escalation from mild forms of agitation into full-blown aggression remains unclear. An important limitation of using risk assessment instruments is that patients generally do not play an active role in these forms of risk management and hence their capacities of self-management to prevent aggression is not addressed. One would expect, that risk management strategies guiding the nurses in teaching patients these (self)-management skills constitute an important part of forensic mental health nursing working models, however, these strategies are currently hardly available (Bjørkly 2004, Fluttert et al. 2008).

A step towards a better (self)management of patients' aggression may be the development of strategies for a joint effort of mental health professionals and patients to (1) recognize the individual early warning signs of aggression in the first phase in which they occur , and by this (2) to execute preventive actions to minimize the risk of actual occurrence of aggression. Early warning signs of aggression can be defined as changes in individual, thoughts, perceptions, feelings and behaviours of the patient that precipitate aggressive behaviour (Fluttert et al. 2008, van Meijel et al. 2006). Early warning signs represent a continuum from the very early stage of deteriorating

behaviour (e.g. increasing suspiciousness) until the phase of deterioration proximal to aggression (e.g. increasing anger). When early warning signs are recognized, intervention strategies can be applied to diffuse the threat of aggression and thereby to restore patient's equilibrium. Stabilizing interventions can be carried out by the patient himself, but also by others, e.g., nurses.

The quality of the working alliance between nurses and patients is a major determinant of the successful application of risk management strategies in forensic care (Rask & Brunt 2006). Within a safe atmosphere, nurses encourage patients, in a systematic way, to discuss their perceptions and behaviours which could be identified as precursors of aggression. Only then, when the patient experiences constructive interactions and communication with the professional, the likelihood increases that patients will participate actively and be motivated in risk management interventions, such as the Early Recognition Method [ERM].

So far we described in the context of forensic nursing, how inpatient aggression could be comprehended and how risk management strategies may contribute to the management of aggression. Before further explaining the content of this thesis, the history of the ERM is outlined in order to gain a better understanding of how the ERM was elaborated. Birchwood (2000) developed the early intervention model for patients with schizophrenia to detect their early signs of psychosis. The basic idea is that when patients with schizophrenia (often collaboratively with relatives and professionals) focus on their personal early signs of psychotic relapse, this would contribute to a better (self)management of (pre)psychotic behaviours. Special attention is paid to the notion that patient's deterioration towards psychoses is very personal in nature. For this reason it is important to accurately reconstruct the earlier processes of psychotic relapse, so as to determine the specific individual profile of early signs of psychosis. Birchwood refers to this profile as a so-called 'relapse signature' (Birchwood 2000). It serves as a personalized signature to recognize the very specific development of psychosis in one patient. The early recognition of these signs offers possibilities for early interventions, finally aiming at the prevention of severe psychotic episodes. Based on this notion, van Meijel et al. (2006) developed

for nursing practice 'The protocol for the application of the early recognition method in patients with schizophrenia'. This protocol was applied and studied in nursing practice on feasibility and effectiveness (van Meijel et al. 2006). Fluttert et al. (2002) modified this protocol in order to develop a risk management method for forensic mental health nurses aiming to prevent inpatient aggression in forensic patients with various diagnosis.

SCOPE OF THIS THESIS

In this thesis it is explained how the Early Recognition Method [ERM] (Fluttert et al. 2008) may assist forensic mental health nurses to collaborate with their patients in the identification of early warning signs of aggression and in the execution of interventions with the aim of preventing the occurrence of severe aggression incidents.

In **Chapter 2** the concept of *early recognition* for forensic mental health nursing is clarified. It is explained how patients' deteriorating behaviour towards aggression is influenced by intrapersonal, interpersonal and environmental factors. By using the social competence model it is clarified how in the case of aggression, patients may lack the skills they require to filter events they encounter. The notion of *relapse signature,* as we described before, is underlined to be important in order to identify and describe patient' personalized early warning signs.

In **Chapter 3** we describe the intervention study of ERM in patients admitted to a highly secured forensic hospital. By applying ERM, nurses and patients evaluate and explore patient's individual pattern of deterioration by describing in detail his early warning signs of aggression. By applying ERM in the total population of the hospital under study, we expect this to contribute to a decrease of inpatient incidents. A naturalistic one-way case cross-over design is used to study the relation between the application of the ERM and inpatient aggression. The outcome measures are the number of seclusions and the severity of inpatient incidents by means of the Staff Observation Scale Revised version (Nijman et al 1999, Nijman & Palmstierna 2002).

Chapter 4 describes the development and application of the Forensic Early Signs of Aggression Inventory [FESAI]in forensic care. The FESAI is based on the qualitative analyses of descriptions of early warnings signs which were found in the early detection plans of two forensic hospitals. In current clinical practice there is, to our knowledge, a lack of instruments or tools to support patients and nurses in their joint effort to assess the most relevant early warning signs of aggression. The Forensic Early Signs of Aggression Inventory [FESAI] is meant to assist both patient and nurse in their endeavors to apply the Early Recognition Method. Thereby nurse and patient together assess which items of the FESAI represent the patient's early warnings sign of aggression. The next step is the nurse and patient to formulate the early warning signs of aggression and elaborate them in the Early Detection Plan.

Chapter 5 presents the descriptive study in which early warning signs of patients of two forensic hospitals are scored on the FESAI. Aim of this study is to obtain a better insight in the prevalence of early warning signs in the patient group of the hospital under study as a whole, and in specific subgroups of patients with specific diagnoses (schizophrenia, personality disorder), types of offences and for psychopathy.

The concept *detached concern* is explained in **Chapter 6.** The nature and quality of the interaction between nurses and patients depends – among other - on nurses' skills to neutralize the emotional appeal of patients by an attitude of both objectivity and emotional involvement, referred to as *detached concern*. The Patient Contact Questionnaire [PCQ] measures the degree of detachment or concern of nurses to their patients. In a pre-post study the PCQ is applied in nurses working with ERM, aiming to gain insight into the relation between *detached concern* and ERM. Comparisons are carried out for all nurses, and for sub-groups of nurses with regard to gender, education level, years of working experience and patient populations.

Finally in **Chapter 7** the findings and limitations of this thesis are discussed. Directions for future research are described.

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Archives of Psychiatric Nursing 2008, 22(4), 208-216

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Chapter 2

Risk Management by Early Recognition of Warning Signs in Patients in Forensic Psychiatric Care

ABSTRACT

Purpose: To clarify the concept of early recognition for the field of forensic nursing. The concept is based on the proposition that patient behaviour deteriorating toward aggression is idiosyncratic but nevertheless reconstructable like a signature. Once reconstructed, this signature can be used to detect early signs of deterioration and thus prevent violent behaviour.

Concept: Early recognition is approached from the perspective of deteriorating behaviour. Special attention is paid to the social and interpersonal factors related to the individual behaving violently. From this perspective, the thoughts, feelings, and behaviour of the patient can indicate the onset of aggression, and early recognition of these warning signs can help thwart such deterioration. The aviation metaphor of a black box is used to emphasize the importance of attention to early warning signs. Patients in forensic care must draw upon their previous experiences (i.e., their own black boxes) to gain insight into their violent behaviour and the warning signals for this. The emphasis is on the cooperation between the patient and the nurse in the application of risk management strategies. The Early Recognition Method provides an approach in which patients and nurses also gradually attune their perspectives on aggressive behaviour.

Conclusion: The concept of early recognition is important because it extends the idea of early intervention to include enabling patients to control their own behaviour. Early recognition has strong practical implications for forensic nurses as it allows them to attenuate aggression by assisting patients with the detection of early warning signs.

INTRODUCTION

Forensic nurses deal on a daily basis with patients who have difficulties controlling their aggression. When the feelings of patients with forensic psychiatric disorder are not attended to or their needs are not met, frustration and anger can often result in violent behaviour (Nijman, Campo, Ravelli, & Merckelbach 1999). Nurses play an important role in the management and de-escalation of violent behaviour (Doyle, 1998; Doyle & Dolan 2002; Mc. Kenna, 2002; Morrison, Morman, Bonner, Taylor, & Lathan, 2002; Webster, Martin, Nicholls, & Middleton, 2004). At the same time, ward staff members are in a position to teach patients in forensic care the self-management skills needed to deal with aggressive impulses (Doyle, 1998; Mc. Kenna, 2002; Paterson, Turnbull, & Aitken et al., 1992). One, therefore, might expect a strong emphasis on evidence-based risk management methods in forensic nursing, but there seems to be a marked lack of such interventions and methods (Bjørkly, 2004; Fluttert, van Meijel & de Winter, 2001; Morrison et al., 2002). In addition, the term risk is rarely defined despite its frequent use in forensic care and talk of "risk assessment" (Kettles, 2004).

The focus of this article is on forensic risk as defined by Kettles (2004) who draws upon Woods (2001): "forensic risk is the clinical probability of a negative consequence, related specifically to the behaviour of those patients who are committed by law, or who are diverted from custody, to forensic settings and who have the potential to cause serious, physical and physiological harm to others. This includes those fear-inducing impulsive, intimidating, manipulative and destructive behaviours that are displayed or have been known to be displayed" (p. 491). During the treatment of patients who have committed severe crimes, attention is devoted to mostly the prevention of severe violence. Although the reasons for this seem obvious, the question of whether patients are actually capable of reconstructing and analyzing their former patterns of violent behaviour and the risk factors giving rise to these at the beginning of treatment is very much an issue. From clinical practice, for example, we know that patients at the beginning of a forced admission often show resistance to any form of treatment. A lack of insight into the relation of mental disorder with violence also makes it difficult for patients to reflect on their former

offenses. Nurses rarely face patients while acting violently or during the course of committing an offense. More often, nurses experience patients reacting in a milder but nevertheless more generally violent manner, and in many cases, forensic nurses correctly perceive these milder forms of aggression to be an enormous threat (Jansen, Dassen & Jebbink, 2005). Such threatening incidents can also signal the onset of violence and therefore provide opportunities to intervene in a timely manner. Furthermore, by focusing on the most preliminary stage of behavioural deterioration and thus forensic risk, we hope to clarify the concept of early recognition within the context of the present article.

RESEARCH AND TRAINING

Since the 1970s, research on risk assessment in connection with violent behaviour has increased tremendously (Steadman, 2000). Originally, the focus was on assessment of the "dangerousness" of the patient. This changed in the 1990s when the concept of dangerousness was gradually replaced by risk assessment (Steadman, 2000). Risk assessment instruments and tools used in recording aggressive behaviour were developed for application in nursing practice (Almvik & Woods, 1999a; 1999b; Almvik, Woods, & Rasmussen, 2000; Doyle, 1998, Doyle & Dolan, 2002, Mc. Kenna, 2002, Nijman & Palmstierna, 2002; Webster et al., 2004; Woods, Reed, & Collins, 2003). Furthermore, nursing risk assessment is based on the assumption that nurses are particularly in a position to observe the onset of violent behaviour and record those factors that seem to predict violence in the short term (Almvik & Woods, 1999a; 1999b; Almvik et al., 2000; Doyle, 1998, Doyle & Dolan 2002; Mc. Kenna, 2002; Webster et al., 2004). One limitation on nursing risk assessment today, however, is that the patients have little or no say in the assessment process. Nursing observations constitute the point of departure for reflection on the aggressive behaviours of patients. Despite the possibilities for preventive intervention due to considerable knowledge of the triggers of violent behaviour on the parts of individual patients, most nurses in current practice react only to aggressive incidents. This may be the application of highly restrictive measures such as seclusion (Lewis, 2002). Evaluation of aggressive incidents with the patients themselves is also undertaken at

times to give both patients and staff members greater insight into the origins of the aggression (Nijman, Merkelbarch, Allertz, & Campo, 1997). However, insufficient attention is generally paid to the support of patients as they gain an increased awareness of their own aggressive impulses and violent behaviour.

To limit the use of repressive measures, training programs have recently been developed to enhance the capacity of forensic nurses to handle and prevent patient's aggression. These programs often involve both verbal and physical techniques to be applied after or during instances of aggression. However, it might be more constructive to apply preventive techniques in which the patient is actively involved in risk management when no aggressive conduct has directly occurred. This might include the formulation of an "early detection plan" aimed at the recognition of warning signs of violent behaviour and the undertaking of preventive measures to reduce the risk of violence together with the patient (Fluttert, van Meijel & de Winter, 2002). It can also include the more general development of self-management skills on the part of the patient and the application of these skills to reduce the risk of violent behaviour. Along these lines, Kalogjera, Bedi, Watson, and Meyer (1989) formulated a therapeutic management protocol in which the staff, following classification of a patient's disruptive behaviour, systematically offered patients alternatives to aggression. The protocol produced a decrease in the number of seclusions and restraints, which indicates the potential value of aggression management strategies.

DIFFERENT PERSPECTIVES ON THE RISK OF VIOLENCE

Before we can attempt to answer the question of just how patients can learn from previous incidents of violence, the question of whether patients and nurses perceive patient's violence in a similar manner should first be addressed. Patients and nurses must cooperate for successful risk management, which means that the relevant management methods must match the needs of patients and the competencies of nurses.

When Duxbury (2002) developed and applied the Management and Violence Attitude Scale, they found that patients and nurses differ with respect to

their perceptions of the causes of aggression and the way in which the aggression should be managed (also see Duxbury & Whittington, 2005). Nurses emphasized mental illness and such environmental factors as, for example, ward design as the causes of aggression. Patients frequently attributed their violence to a lack of communication skills on the part of nurses. With regard to the management of aggression, nurses expressed the need to teach patients to recognize aggression; patients emphasized a lack of interpersonal skills on the part of the nurses. Duxbury and Whittington (2005) therefore conclude that aggression management should be embedded in an organizational culture (i.e., the training of forensic nurses should focus on mental illness but also stress the importance of the therapeutic relationship and environmental factors). Most recently, Bowers, Brennan, Flood, Lipang, and Olapado (2006) showed that containment (e.g., sedation, restrain, and seclusion) and conflicts with patients in acute psychiatric wards can be reduced via improved staff's appreciation (moral perception) of patients, an improved ability of the staff to regulate their own reactions to patients, and an improved ability to create an effective atmosphere (rules and routine) for ward life. Rask and Brunt (2006), nevertheless, recently found that, despite nurses and patients in forensic care having the same goals for treatment, the actual care and frequencies of verbal and social interactions were perceived very differently.

PRECIPITATING FACTORS

Apart from different perceptions of aggressive behaviour and care efforts on the parts of patients and nurses, research shows that violent behaviour has its origins in a complex interaction of both personal and interpersonal factors. The social context seems to be a particularly profound factor when it comes to the explanation of violence (Hiday, 1997, 2006; Kettles, 2004; Nijman et al., 1999; Swanson, et al., 1997). When Paterson and Duxbury (2007) recently explored the concept of the use of restraint, for instance, they found that the social context explains inpatient's violence more often than mental health problems on the part of the inpatients. Along these

lines, Hiday (1997, 2006) postulated that a directly precipitating link does not exist between severe mental illness and violence. Several other factors are associated, rather, with the occurrence of violence including poverty, stressful events, substance abuse, victimization, and symptoms of so-called threat control override (TCO). TCO symptoms are psychotic symptoms of feeling threatened and overruled (Link, Stueve & Phelan, 1998; Norko & Baranoski 2005; Swanson et al., 1997). Furthermore, the implication for the prevention of violent behaviour is that attention should be paid not only to any illness and aggressive behaviour but also to any of several social and personal factors that can possibly precipitate the occurrence of violent behaviour on the part of a specific patient. Kettles (2004) has similarly put forth a multifactor model to explain the complexity of forensic risk in terms of familial–genetic, social–cultural, interpersonal– interactive, political–economic, and criminological– legal factors. An interesting finding by Kettles (2004) is that iatrogenic risk or the risk of being damaged by treatment plays a role in forensic risk. Furthermore, in The Netherlands, this issue has been discussed at length because patients with psychiatric disorder have been found to be secluded far too often and far too long and thereby harmed.

To fully understand the causes of violence at the level of the individual, we must also look beyond objective behaviour and social factors. Drawing upon a theory of social competence, Bartels (2001) developed a model of how patients in forensic care can react with violence when thoughts, feelings, and behaviours associated with specific events interfere with their life skills and tasks (Figure 1). Stated simply, individual perceptions and reactions to events are influenced by personality characteristics, life experiences, and interpersonal skills. So-called core beliefs (or personally based convictions) seem to play a profound role in the shaping of reactions to events. Furthermore, the chain linking the perceptions of events and core beliefs to expressed behaviour can be referred to as a scenario. For patients with a personality disorder, a scenario can be grounded in certain core beliefs and related feelings of anger and thereby elicit accusations, threats, or teasing.

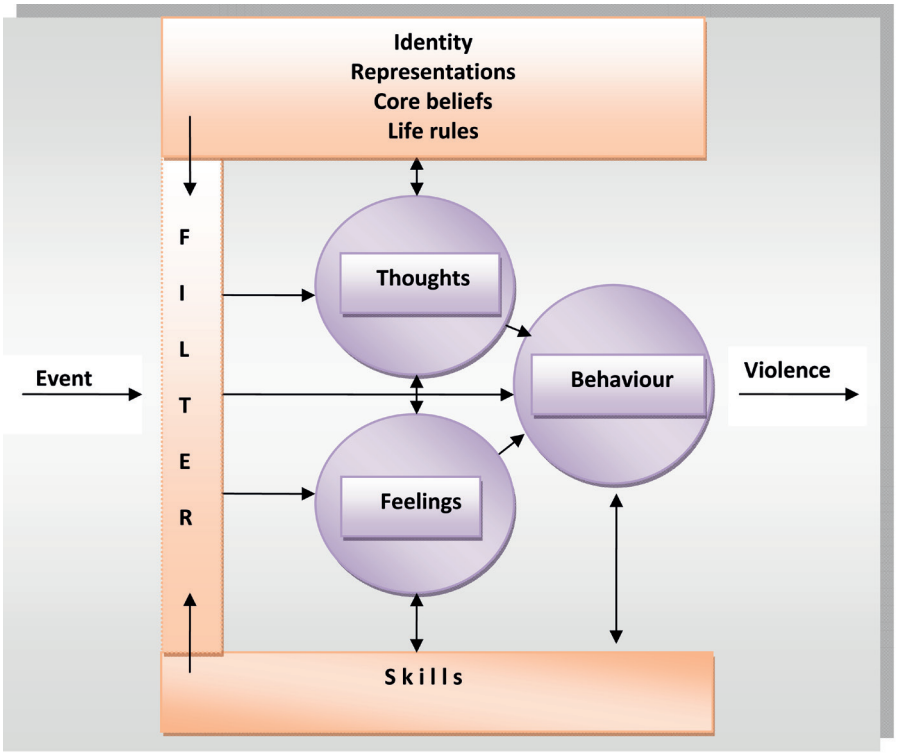

Figure 1. Process from event to violence (Bartels, 2001).

For example, a male patient with the core beliefs of "you can't trust anyone" and "everyone is against me" may immediately think the following when asked to clean his room: "Why is this nurse picking on me?!" Feelings of anger and rejection are associated with these thoughts, and the constellation of negative perceptions, feelings of anger, and insufficient interpersonal skills can result in shouting and threatening: "If you keep on complaining about my cleaning, I'll give you something worse to complain about!!" To treat this patient, however, such a scenario must be explored and insight thus gained into the patient's misinterpretations of the actions (i.e., simple requests) of others on the basis of core beliefs that are probably mistaken and certainly hostile.

The most effective way to gain greater insight into the onset of an aggressive incident with a patient is to focus on the feelings or beliefs that can be recognized during the initial stages of the anger and not on the feelings during the

angry reaction itself. When the focus is on the latter, the judgment of the behaviour can overshadow the need to learn from "early signs" to manage one's aggression. Patients also confirmed this when Meehan, McIntosh, and Bergen (2006), who explored patient's perceptions and experiences with regard to violence and the management of aggression, interviewed them. The patient's first strategy for the effective management of aggression was early intervention, which meant a focus on the detection of early warning signs for aggression rather than the actual aggressive reactions in incidents.

THE AVIATION BLACK BOX METAPHOR

The aviation metaphor of the "black box" can help us better understand the role of early recognition within the context of forensic care and just how the recognition of early warning signs can help prevent the occurrence of severe aggression. According to glider pilots, soaring is one of the safest sports on earth. For this reason, glider planes need not be equipped with a black box, which is a tool used in aviation to reconstruct the occurrence of events after an incident has occurred. Several years ago, two glider planes collided at a height of 400 m. Both of the pilots, one of whom is the first author of this article, reached the earth safely. Given the absence of a black box, however, the two pilots had to reconstruct the critical course of events leading up to the accident from their own memories and their own points of view. The focus of this "mental black box" was thus upon the reconstruction of those events leading up to the incident as the collision itself was so sudden and so inevitable at the moment just prior to occurrence that consideration of the total flight from start until collision was considered most informative. What was striking in the reconstructions of the course of events was that it was possible to point—after the fact—to some unusual maneuvers made during the early stages of the flights with a considerable probability of being related to the accident. In other words, when reconstructing and analyzing incidents, whether they be accidents in the air or occurrences of aggression, a focus on the behavioural antecedents and early warning signs seems to be more informative than a focus on the incident

itself. From the perspective of prevention, it is necessary to understand at what point behaviour shifts from stable to disturbed, and thus, early warning signs occur. Inspection of the patient's mental black box allows us to create the conditions for effective interventions and thereby prevent incidents of severe aggression in the future.

EARLY RECOGNITION

The concept of early recognition within a forensic context emphasizes the description and exploration of the early signs of deteriorating behaviour in situations associated with violent and aggressive patient behaviour with the patients themselves. These early signs can be defined as the subjective perceptions, thoughts, and behaviours of the patient occurring prior to the incidence of violent behaviour (see also Henrichs & Carpenter, 1985; van Meijel, van der Gaag, Kahn, & Grypdonck, 2003). The patient's objective behaviour is usually quite easy to grasp; that is, a shouting male patient clearly shows that he is angry. However, the source of the man's anger may be more difficult to grasp at times: Why is he shouting? Why is he so angry? What is going on in his mind? For the early detection of warning signs, considerable attention must be devoted to the recognition and exploration of the subjective factors underlying patient's aggression or the precursors to violence. Furthermore, the focus of early recognition training efforts is on the enhancement of patient's self-management skills and thereby their capacity to recognize the early stages of behavioural deterioration, as depicted in Figure 2.

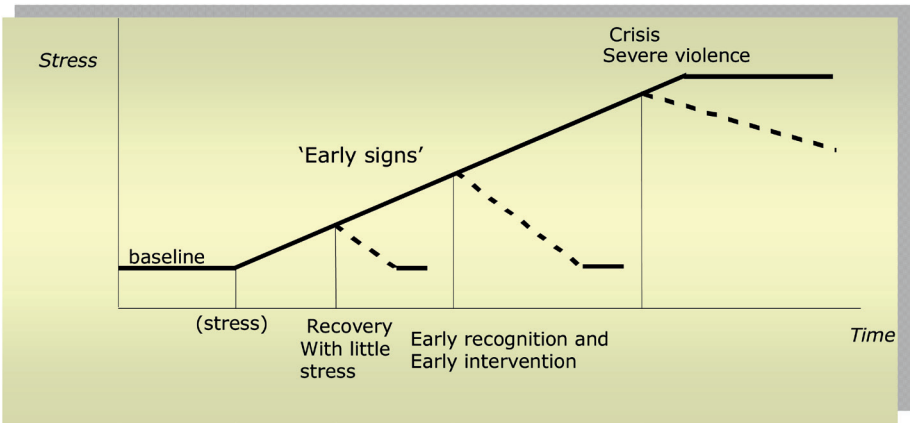

Figure 2. The process of deteriorating behaviour.

As can be seen from Figure 2, baseline involves behaviour that is constant, nonviolent, and fairly predictable. When patients experience limited stress, they are typically able to cope with setbacks or confrontations and contribute to efforts to help them maintain stability and thus recover. As the level of stress increases, however, further coping may only be possible with the support of others (e.g., professionals and members of the individual's social network), and intervention during this phase of behavioural deterioration seems to be of vital importance for treatment. When early warning signs are recognized and intervention strategies can thus be applied to diffuse the threat of violence, a patient's equilibrium can also be restored and treatment resumed. When no intervention is possible or undertaken, crisis and violence are likely to emerge, and under such circumstances, a return to baseline may take considerable time and clinical effort.

For forensic nursing care, thus, a focus on patient behaviour during the phase of early deterioration or early signs (see Figure 2) is an absolute necessity. Relatively "mild" incidences of aggression may characterize this phase, and the warning signs are often clearly detectable (Nijman & Palmstierna, 2002). Patient behaviour is not yet fully dominated by symptoms or stress, and patients can still participate in their recovery efforts to at least a certain extent and thereby return to baseline behaviour and stability with a minimum of effort.

THE EARLY RECOGNITION METHOD

To create an effective intervention for the prevention of severe incidents, the Early Recognition Method was developed and described in a previous study (Fluttert et al., 2002). Most characteristic of this risk management method is that the focus is on the early warning signs of aggression. With competent nursing attention, the signs can be detected during daily care. In addition, the method helps patient and nurse attune their perspectives on the risk of aggression and how to manage this risk with a particular patient.

In the protocol that we have developed, the Early Recognition Method has been described in detail. The protocol provides a clear structure for the four phases of early recognition: First is the introduction of the method to the patient(s) and an explanation of what is expected of the patient and the nurse. Second, the nurse, patient, and members of the patient's social network are asked to list the main warning signs for the patient in question and to describe these within the early detection plan (which is a relapse prevention plan based on early signs). Third, patients learn to monitor their behaviour to recognize early warning signs. Fourth, preventive actions are outlined, and the patient is encouraged to carry out these actions when early warning signs are detected. In addition, in the protocol, how to anticipate and manage hostility or a lack of motivation on the part of the patient is also discussed.

In our previous qualitative descriptive study, the experiences of nurses with the use of the protocol were explored (Fluttert et al., 2002). The results showed that the collaboration between nurses and patients is particularly difficult for patients with an antisocial personality disorder, which is mostly accompanied by psychopathic characteristics. These patients often show resistance to the Early Recognition Method in the beginning. Frequent disagreement was also demonstrated with regard to the need to reflect on the risks of aggression and the types of early warning signs that should be listed, monitored, and controlled. However, once the nurses had managed to develop a positive working alliance with the patient, most patients agreed to work

with the Early Recognition Method despite initial doubts about its necessity for their treatment

Since 2003, the Early Recognition Method has been used, with all of the 189 patients staying in the 16 wards of a forensic psychiatric hospital in The Netherlands. In a comprehensive nursing study, the effects of the method for patients, nurses, and the organization across a period of 30 months are being examined. The results will be reported in the future.

SIGNATURE RISK SIGNS

In the Early Recognition Method, special attention is paid to the most characteristic early warning signs for the individual patient. Early warning signs are often very personal and idiosyncratic. This is because a patient's core beliefs and patterns of behaving are the result of condensed life experiences. When provoked, some patients react in a more or less predictably hostile manner. Misinterpretation of others and negative contacts have become the patient's personal profile, and each patient behaves in accordance with his or her personal profile.

From an early recognition perspective, Birchwood (1992, 2000) introduced the personal "signature" with respect to the early warning signs for individual patients. The notion of the personal signature explains how patients with schizophrenia increasingly behave in keeping with their own personal profile as psychotic symptoms increase. When these same patients learn to recognize their personal signature (i.e., their own unique manner of behaving and expressing feelings and thoughts), preventive measures can be more frequently undertaken to stabilize the situation.

The notion of a personal signature is also applicable within the context of forensic research. The recently developed Short Term Assessment of Risk and Treatability (Webster et al., 2004) guide places considerable weight on the patient's personal signature. The authors argue that nursing and other frontline staff should be able to identify and discuss personal signatures and, in line with what is argued in this article, be in a position to utilize this knowledge to promote the therapeutic

process and create a safe working environment. They also argue for the necessity of transferring such hard-won knowledge from the inpatient care situation to a supervised living within a community. In other words, it may be that contemporary forensic nurses suffer not so much from an inability to predict future violence as from an inability to fully take the vital information that they have gathered in a painstaking manner into account and an incapacity to disseminate this information to colleagues for the care of the very patients they have served or are currently serving.

The main objective of the Early Recognition Method is thus for patients to attain some awareness and insight into the onset of their own violent behaviour. Patients must first learn to recognize their reactions and the core beliefs underlying these reactions. This is done via the formulation of an early detection plan, which is basically a description of the feelings, core beliefs, and behavioural responses associated with aggressive incidents in the past. In addition, patients must learn to be alert and aware of their reactions to specific triggers. Patients can then practice alternative responses and develop more positive skills to avert trouble and stabilize themselves in otherwise tense situations. In practice and as might be expected, this is a very difficult process, and it therefore follows that it is best to practice and reflect on early warning signs in relatively minor stress situations. Minor stress situations offer better learning opportunities than severe crisis situations. A major advantage of the Early Recognition Method is that the patient and nurse collaborate within the setting in which the regular triggers of aggression are present and violent incidents have occurred and can occur. The skillful nurse is the one who chooses to undertake the subtle teaching task under carefully selected, workable circumstances and not to attempt heroic measures after the situation has escalated and gotten out of control.

CONCLUSION

Black boxes help the flying industry determine what went wrong after things have gone wrong and can thereby prevent the occurrence of a similar fate in the future. Similarly, the therapeutic challenge for the forensic nurse is to draw upon previous knowledge to keep an aircraft flying and thus act on the behalf of a patient

before a crash becomes inevitable. Well-trained and experienced forensic nurses should have an exceptional ability to detect small signs of impending instability and be able to turn these warning signs to the patient's therapeutic advantage. To take the aviation analogy one step further, modern air flight is so safe because advanced computers are constantly making multiple moment-to-moment adjustments. The challenge for forensic nursing is to similarly teach patients to see where and when adjustments are needed and to safely make the necessary adjustments.

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Accepted: 14 April 2009

Journal Clinical Nursing 2010, 19, 1529-1537.

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Chapter 3

Preventing aggressive incidents and seclusions in forensic care by means of the 'Early Recognition Method'

ABSTRACT

Objective. The Early Recognition Method aims at improving collaboration between nurses and patients to prevent aggression in forensic psychiatric care. To achieve this goal, Early Recognition Method strongly focuses on early signs of aggression. In the current study, we investigated whether application of Early Recognition Method led to a significant decrease in inpatient incidents.

Background. Nurses in forensic settings are often confronted with patients' aggression. Better collaboration between nursing staff and patients may improve patients' ability to self manage aggression and contribute to a decrease in inpatient aggression.

Design. Naturalistic one-way case-crossover design.

Methods. The Early Recognition Method was introduced on 16 wards of a maximum security forensic hospital. Using a one-way case-crossover design, where cases were their own controls, the effects of Early Recognition Method were assessed by comparing the number of incidents of 189 patients during 'Treatment As Usual' with the period after Early Recognition Method was implemented. The Early Recognition Method intervention involved weekly evaluations of signs of aggression between staff and patients. The outcome measures were the number of seclusions and the severity of inpatient incidents.

Results. A significant decline in the number of seclusions was observed after Early Recognition Method was introduced. Apart from this decrease, the mean severity of inpatient incidents was also found to be lower during the post intervention period. The effect size was most pronounced for patients with substance abuse and personality disorders. Patients with schizophrenia, however, showed modest, yet significant, effect sizes.

Conclusions. The results suggest that Early Recognition Method may be an innovative and effective risk management method for forensic psychiatric patients, in particular for patients with personality disorders.

Relevance to clinical practice.

This article aims to contribute to evidence-based risk management for nurses in collaboration with their patients, resulting in a decrease in inpatient aggression.

Key words

Early signs, forensic mental health nursing, nurses, personality disorder, risk management.

INTRODUCTION

Nurses working in forensic settings run a high risk of being confronted with inpatient violence. Such violence can substantially undermine staff members' feelings of safety (Jansen, Dassen & Groot Jebbink 2005, Mason, Lovell & Coyle 2008a, Whittington 2002) and has a significant impact on nurses and patients (Bowers et al. 2006). The causes of inpatient violence have been explained in multifactor models using patient, staff and environmental factors (Fluttert et al. 2008, Kettles 2004, Nijman et al. 1999). Apart from Pharmacological interventions, key factors in the management and prevention of inpatient violence are assumed to be the way staff and patients interact with each other. as well as the capacity of both staff and patients to recognise preliminary signs of aggression (Duxbury 2002, Fluttert et al. 2008, Nijman et al.1999, Webster et al. 2004).

Patients and nursing staff, however, have been found to differ in their perceptions of the causes of aggression, as well as how they think these causes should be managed (Duxbury & Whittington 2005). Patients often emphasise a lack of communication skills on the part of the staff. Staff, on the other hand, typically attribute the aggression of patients to their illness. Patients and staff also perceive the frequency of their verbal and social interactions very differently (Rask & Brunt 2006). Patients are convinced that they have fewer interactions with the staff than the staff claims. In any case, the nursing staff in a forensic psychiatric care environment play an important role in the management of inpatient violence (Björkdahl, Olsson & Palmstierna 2006, Doyle 1998, Doyle & Dolan 2002, Mason, Coyle & Lovell 2008b, Meehan, Mc Intosh & Bergen 2006, Mc Kenna 2002, Morrison et al. 2002, Whittington 2002). Therefore, there is a need for evidence-based risk management methods, but large-scale empirical studies on this issue are scarce (Bjørkly 2004, Fluttert et al.2008, Morrison et al. 2002).

In this study, the results of a newly developed (Fluttert et al. 2008) risk management method called Early Recognition Method (ERM) are explored. The notion of 'early signs' as used in the ERM is derived from the idea that patients in the first phase of psychosis may be able to recognise the onset of relapse; therefore, it is helpful to train them to signal the need for preventive actions in time (van Meijel et al. 2003). Possibly, forensic patients, also patients with personality disorders, can

similarly recognise the early signs of aggression and contribute to the prevention of further escalation (Mason, Coyle & Lovell 2008b). These early signs can be defined as the subjective perceptions, thoughts and behaviours of the patient occurring prior to the incidence of aggressive behaviour (see also: van Meijel et al. 2003). The patients' early signs of aggression are assumed to be individually different between patients, a phenomenon referred to as the specific 'signature risk signs' (Fluttert et al. 2008, Webster et al. 2004) for a patient. The ERM, however, is a method of detecting and discussing these early signs with the patient based on an established protocol. In other words, ERM is aimed at increasing patients' self-awareness, but also their self-management skills to decrease the likelihood of behaving aggressively. More detailed information about the nature and background of ERM can be found in a recent publication by Fluttert et al. (2008). In the current study, the effects of ERM were tested by comparing the number of seclusions and aggressive incidents during a Treatment As Usual (TAU) period, with the number of incidents after ERM was implemented.

Aims of the current study

The main purpose of the present study was to examine the effects of using ERM with involuntarily admitted patients residing at a maximum security forensic hospital in the Netherlands. The hypothesis of this study was that patients who become actively involved in ERM will become less
aggressive and, therefore, will undergo seclusion less often. This leads to the following research questions:

1. What are the empirical effects of the intervention in terms of reduction in the number of seclusions as well as the severity of aggressive behaviour.
2. What are the characteristics of patients who did become involved in ERM compared to those who did not comply with the intervention?

METHODS

Design

A delayed implementation of the intervention was employed. The 16 wards of the hospital participating in the study were allocated to three study groups. The wards were matched according to the prevalence of various psychiatric diagnoses, the nature of the offences and the phase of treatment (admission phase, treatment phase and rehabilitation phase). The intervention based on the ERM was initiated at six month intervals between Time Zero (T0) and Time Four (T4) across 30 months: first in study group one, then in study group two and finally in study group three (Table 1).

Table 1: Research design

	Group 1 6 wards (n=61)	Group 2 5 wards (n=60)	Group 3 5 wards (n=47)	All
T0	Baseline Measures	Baseline Measures	Baseline Measures	SOAS-R
T1	**Training program Initiation of intervention**	Treatment as Usual	Treatment as Usual	
T2	*Continued Intervention*	**Training program Initiation of intervention**	Treatment as Usual	
T3	*Continued Intervention*	*Continued Intervention*	**Training program Initiation of intervention**	
T4	*Continued Intervention*	*Continued Intervention*	*Continued Intervention*	

SOAS-R = Staff Observation Aggression Scale – Revised

A naturalistic quasi-experimental, one way case-crossover design was used (Maclure & Mittleman 2000, Hugonnet, Villaveces & Pittet 2007) where each patient became his own control. We compared the number and severity of incidents in the same patients during a period before and after exposure to ERM.

Participants

The total patient population of the 16 wards was eligible for participation (Table 2). In the hospital under study only male patients were admitted. Those patients who were admitted three months prior to the end of the present study or discharged three months after the start of the study were excluded. This exclusion criterion was chosen as it was anticipated that the intervention would need sufficient time to have effect. No exclusion criteria were used with regard to the intellectual capacities of the patients or the severity of their mental illness. The ERM intervention is intended to be applicable to all patients. Of a total of 189 patients who were eligible to be included, 168 (88.9%) actually were involved in the intervention and 21 (11.1%) persistently refused to get involved. All of these 189 patients were males, involuntarily admitted and convicted of serious offences. The mean admission duration, as assessed in the middle of the 30 months study period, was 51 months (SD 35; range 3–176 months). The study procedure was reviewed by the Utrecht University and approved by the Research Department of the forensic psychiatric hospital under study. The study was conducted between January 2003–June 2005.

Table 2: Comparison of patients

a : Chi-squared test
b : T-test
c : Fischer exact test

Characteristics	A All patients (*N*=189) *N*(%)	B Patients not involved (*N*=21) *N* (%)	C Patients involved (*N*=168) *N* (%)	Test Statistics comparing B with C
Schizophrenia	90 (47.6)	4 (19.0)	86 (51.2)	p=.005 a
Autism spectrum disorder	18 (9.5)	1 (4.8)	17 (10.1)	p=.698 c
Anti-social personality disorder	100 (55.5)	15 (71.4)	85 (50.6)	p=.080 a
Sexual deviation **	22 (11.6)	3 (14.3)	19 (11.3)	P=.165 c
Substance abuse	35 (18.5)	8 (38.1)	29 (17.3)	p=.001 a
Sexual offence**	40 (21.1)	7 (33.3)	33 (19.6)	p=.157 a
Manslaughter	49 (25.9)	5 (23.8)	44 (26.2)	p=.814 a
Severe violence	90 (47.6)	8 (38.1)	82 (48.8)	p=.354 a
Arson	14 (6.2)	1 (4.8)	9 (5.4)	p=1.000 c
Ethnicity Dutch	112 (59.3)	10 (47.6)	102 (60.7)	p=.423 a
Age: mean [SD.]	40 [10]	38 [11]	40 [10]	p=.368 b
Age first conviction: mean [SD]	21 [10]	18 [7]	21 [10]	p=.165 b
Admission duration * : mean [SD]	51 [35]	51 [34]	51 [35]	p=.800 b
Psychopathy [PCL-R]: mean [SD]	21.3[7.8]	28.3 [6.3]	20.5 [7.5]	p=0.000 b

** Admission duration [months] in middle of study(15 months after start)*
*** Sexual deviation, e.g. paedophilia*

Implementation of ERM on the patient level

Implementation of ERM was conducted in four phases. In the first phase, the patient was extensively informed about the nature of the intervention. Following this, the patient and his nurse-staff mentor made an extended list of early signs of aggression in the second phase. The nature of the early signs could vary from psychotic to non-psychotic signs and symptoms. Third, the patient and his staff mentor cooperated in monitoring the patient's behaviour and detecting early signs of loss of emotional equilibrium. Finally, in the fourth phase potential preventive actions were discussed with the patient and described in the early detection plan. When warning signs emerged, if possible, these actions were carried out to help the patient regain his self-control. ERM sessions between a patient and his staff mentor generally took approximately 30 minutes/week. The intervention was implemented

as part of already existing weekly evaluations between patients and their mentors. All of the information that was obtained during these ERM sessions were noted down in the patient's individual 'Early Detection Plan'. In case a patient was transferred from one ward to another, the new staff mentor was trained to allow the intervention to be continued.

All staff members working with patients on ERM-wards were trained in applying this intervention. The training was given to each ward separately and took one day. The training addressed the following issues: factors related to aggression, the process from mild disturbing behaviours towards severe aggression, the theoretical concept of ERM (Fluttert et al. 2008), the content of the ERM-protocol and the application of the protocol in practice. By means of case history of patients, video vignettes and role-playing, ERM was practiced during the one day training.

Assessments and instruments

During baseline measurement, data pertaining to the following patient characteristics were obtained; the main psychiatric Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) diagnosis, the degree of psychopathy, type of offence of which the patient was convicted and basic sociodemographic characteristics. Psychopathy was assessed using the Psychopathy Checklist – Revised (PCL-R) (Hare 1991). This checklist consists of 20 items assessing the prototypical characteristics of psychopathy, each item is rated on a scale of 0–2, resulting in a maximum total PCL-R score of 40 in the case of full-blown psychopathy. In Europe, a cutoff score of 26 and higher is often used to diagnose a person with psychopathy (Hildebrand, de Ruiter & Nijman 2004). As mentioned before, the main outcome measures were the number of seclusions and the severity of incidents that led to these seclusions, as rated on the Staff Observation Aggression Scale – Revised (SOAS-R; Nijman et al. 1999). SOAS-R forms consist of five columns used to record the following information with regard to a violent incident: the provocation, the means used by the patient, the target of the aggression, the consequences for the victim(s) and the measures used to stop the aggression. Severity ratings are assigned and the sum of the ratings can

range from 0–22 points. In the current study, the ratings were found to range from 4–21 with a mean SOAS-R severity rating of 11 (SD 4.6). The reliability of incident registration and severity rating was pivotal in the present study. The incidents were scored every two months based on records by the primary researcher, using the SOAS-R. Due to organizational circumstances, it was not possible to score incidents immediately after an incident occurred. To assess the reliability of the scoring based on records, 20 incident descriptions were randomly selected and independently rated by a second researcher from another forensic psychiatric hospital. The Pearson correlation between these two ratings was good ($r = 0.83$, $p < 0.001$).

The reliability of the scoring of the incidents was also assessed by examining the similarity of the SOAS-R severity ratings when scored immediately following an incident vs. in retrospect based on records for the same incident. For this purpose, the nursing staff member involved in the incident was asked to perform the SOAS-R scoring in one day of the occurrence of an incident for a period of four months; during this period 31 incidents occurred. Afterward the same incidents were scored by the primary researcher using the descriptions of the incidents in the hospital records. When the scores of the 31 incidents were compared a Pearson correlation $r = 0.90$, $p < 0.001$ was found.

Registration of involvement

To study the effects of the intervention accurately, the extent of the patient's involvement in the intervention was recorded. 'Involvement' was defined as participation of the patient in the weekly ERM-evaluation. Throughout the study, participation in the weekly evaluations was recorded using a 'monitoring form'. This form contained four columns corresponding to the four phases of the intervention. In phase 1 the aim was merely introduction to the ERM; therefore 'involvement' was registered when at least phase 2 or 3 was operational and the weekly ERM-evaluation was discussed with the patient. The monitoring of patients' involvement was also tested for reliability. Of each of the 16 participating wards two patients cases were randomly selected (n = 32). The scores on the 32 forms reporting the

degree of involvement were compared with nursing records. In 100% of the cases when 'involvement' was registered on the monitor form, this was also described in the nursing records. In 30 of the 32 cases (93%), the records showed that the occurrence of Early Signs was evaluated with staff and patient (ERM-phase 2). In 25 (78%) of the cases the early signs were described in the Early Detection Plans for the individual patients (ERM-phase 3 in the patient' record). These findings indicate that the monitoring forms, compared with nursing records, provide an accurate picture of the patients' involvement in the ERM.

Data analyses

During baseline measures, data were gathered on the total population of the hospital (n = 189) (Table 2). The characteristics of those patients who participated in the intervention (n = 168) were compared to the characteristics of the patients who refused participation (n = 21), using Chi-squared and t-tests (Field 2005). The effects of the ERM were analysed between groups and within patients. Between-groups the number of seclusions in TAU was compared with ERM. Within patients the number of seclusions and severity of incidents in TAU were compared to ERM.

Between groups in TAU and ERM (Table 1) comparative measures were performed for the involved patients (n = 168) and the Chi-squared test was calculated. In this calculation the actual start of ERM for every patient was taken into account to find the distribution of the total amount of TAU exposure in the sample vs. the total duration of ERM exposure. This distribution was used in the Chi-squared test as comparative expected values.

The main question, however, was the effect of the intervention within patients, as calculated by comparing TAU with ERM for 'involved' patients (n = 168) using the Wilcoxon signed rank test (Delucchi & Bostrom 2004, Field 2005). For every patient the seclusion frequencies and total aggression scores, scored on the SOAS-R, were examined over time. To this end, 'seclusions per patient per month' were calculated for both their TAU as well as their ERM periods. Apart from this, the severity scores of multiple SOAS-R forms in TAU and ERM conditions were expressed as mean

SOAS-R severity scores, again for both TAU and ERM separately. These mean SOAS-R scores for TAU and ERM were multiplied by the respective 'seclusions per patient per month' in TAU and ERM, creating an overall 'incident-severity-index' for each for TAU and ERM separately (Table 3). The 'incident-severity-indexes' of TAU were compared with ERM, again using the Wilcoxon signed rank

test. These analyses were also performed for the following subpopulations: patients with schizophrenia (n = 86), patients with personality disorder (n = 85), patients with substance abuse (n = 29), patients convicted of sexual offences (n = 33) and patients of whom, in TAU, at least one SOAS-R-severity-score was 13 or higher. The cut-off score for the SOAS-R severity-score 13 was chosen because a score of 13 or higher reflects incidents that were threatening for staff. Finally we calculated the correlation between age and the difference of the SOAS-R severity-score in TAU and ERM, using Spearman's Rho correlation coefficient. Effect sizes were also calculated, dividing the z-value by the square root of the respective total observations (Field 2005). Effect calculations were computed using SPSS version 14 (SPSS Inc., Chicago, IL, USA).

RESULTS

Of the 189 patients who were eligible for the study, 21 (9.4%) refused to participate. This resulted in a final sample of 168 'involved' patients (Table 2).

Patient characteristics

An analysis of the characteristics of patients who refused showed that they scored significantly higher on psychopathy compared to the patients who did participate in the intervention. No significant difference, however, was found with regard to the prevalence of antisocial personality disorder in the two groups (Table 2). The DSM-IV assessment of the 168 involved patients showed that 85 of them (50.6%) were diagnosed with an antisocial personality disorder. Apart from that, 86 (51.2%) were diagnosed with schizophrenia. With regard to ethnicity of the 168 involved patients, 102 patients (61.1%) were Dutch, 29 (17.4%) were Caribbean, eight (4.8%) were from the Middle East, seven (4.2%) were Moroccan, 6 (3.6%) were Turkish and 15 (9.0%) had another ethnic background (e.g. African).

Findings regarding the number of seclusions and severity of inpatient incidents

During the study, 436 seclusions were carried out in the total patient population (n = 189). Of these 436 seclusions, 323 pertained to the patients involved in the study (n = 168). For the involved patients (n = 168), a significant decrease in seclusions from 219 in TAU to 104 in ERM, [Chi-squared (1) = 22.82 $p < 0.001$] was found. In calculating the Chi-squared statistic, the number of months prior to involvement (2396 patient-months in total) in the interventions, as well as the length of postintervention observation (1995 patientmonths in total) were taken into account. When analysing the rates of seclusion per patient per month, as well as the mean severity of the incidents, in the 168 patients, again the ERM observation period showed substantially lower aggression in comparison to the TAU period (Table 3; Figs 1 and 2). To be more specific, the seclusion rate per patient per month decreased from a mean of 0.13 (SD 0.33, median = 0.000)–0.05 (SD 0.13, median = 0.000) ($z = -4.264$, $p < 0.001$, $r = -0.23$). The severity of the incidents, calculated by the incident-severity-index (see Data-analyses), decreased from 1.38 (SD 4.18, median = 0.000)–0.56 (SD 1.75, median = 0.000) ($z = -4.071$, $p < 0.001$, $r = -0.22$).

Table 3: Magnitude of the results

Subgroup Characteristics	Frequency of seclusions during TAU versus ERM [secl/pat/month]	Effect size	Severity of incidents during TAU versus ERM [SOAS-R x secl/pat/month]	Effect size
All (n=168)	0.13 – 0.05**	-.23***	1.38 – 0.56**	-.22***
Schizophrenia (n=86)	0.09 – 0.04*	-.21***	0.80 – 0.41 *	-.19***
Anti-social Personality disorder (n=85)	0.18 – 0.07 **	-.29***	2.04 – 0.78 **	-.26***
Substance abuse (n=29)	0.12 – 0.06*	-35****	1.11 – 0.49*	-.32****
Sexual offences (n=33)	0.05 – 0.02	n.s.	0.47 – 0.22	n.s.

(* p< 0.05, ** p< 0.01)

(***small effect, **** medium effect)

Significant decreases in seclusions as well as severity of incidents were also found in the following patient subgroups (Table 3): patients with schizophrenia (seclusions: median = 0.000–0.000, z = -2.802, p = 0.005, r = -0.21), (severity: median = 0.000–0.000, z = -2.535, p = 0.011, r =-0.19), patients with anti-social personality disorder (seclusions: median = 0.000–0.000, z = -3.752, p < 0.001, r = -0.29), (severity: median = 0.000–0.000, z = -3.381, p = 0.001, r = -0.26) and patients with substance abuse (seclusions: median = 0.053–0.000, z = -2.637, p = 0.008, r = -0.35), (severity: median = 0.000–0.000, z = -2.442, p = 0.015, r = -0.32) (Figs 1 and 2). In patients (n = 58) who in TAU, at least had one incident with a SOAS-R-severity-score of 13 or higher a significant decrease in seclusions and a significant decrease of severity of incidents was also found. To be more specific, the seclusion rate per patient per month decreased from a mean of 0.34 (SD 0.48, median = 0.143)–0.12 (SD 0.20, median = 0.000) (z = -4.565, p < 0.001, r = -0.44). The severity of the incidents, calculated by the incident-severity- index (see Data-analyses), decreased from 3.90 (SD 6.42, median = 1.535)– 1.37 (SD 2.40, median = 0.000) (z = -4.252, p < 0.001,

r = -0.41). Patients convicted of sexual offences, on the other hand, did not show significant improvement after participation in the intervention.

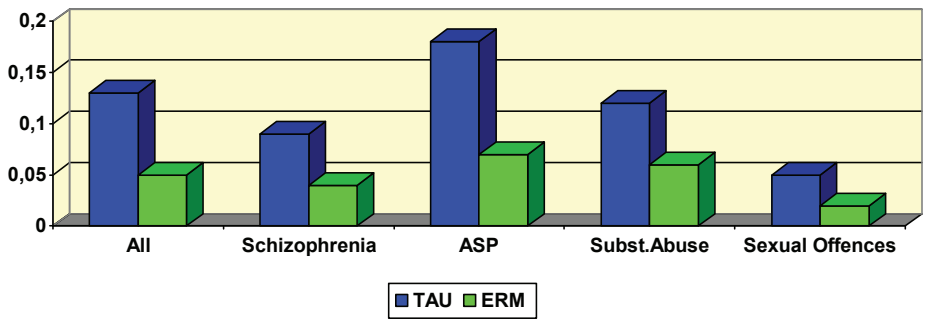

Figure 1: Results Frequencies [Seclusions/patient/month]

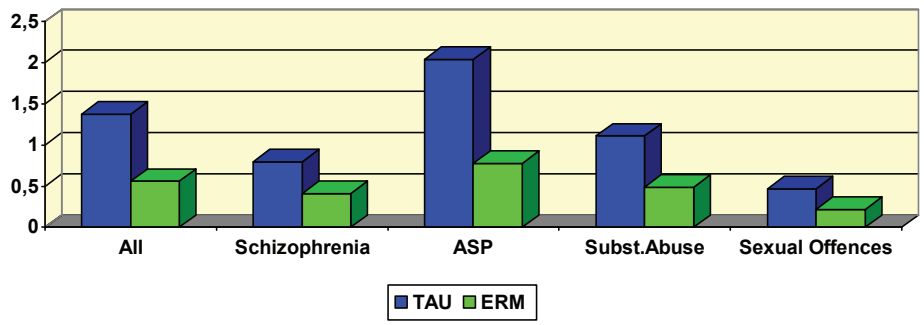

Figure 2: Results: Severity [Seclusions/patient/month x SOAS-R]

As can be seen from Table 3, the intervention resulted in a small effect size for the total sample. A medium effect size was found for the subgroup of patients with substance abuse problems. This suggests that this last subgroup may have benefited most from the intervention. Finally, we found a negative correlation between the age of the patient and the decrease of the incident-severity-index (see Data-analyses), r = -0.20, $p < 0.01$.

DISCUSSION

Of the sample of 189 patients eligible to participate in the intervention, 21 patients (11.1%) refused and these were patients with substance abuse and patients who turned out to have significantly higher psychopathy scores. This dropout rate, although substantial, in fact may be relatively small compared with other studies conducted in comparable Dutch forensic psychiatric samples. For instance, Hornsveld and Nijman (2005) reported a dropout rate of 36% from a cognitive behavioural treatment program for psychotic forensic patients. In antisocial violent patients Hornsveld et al. (2008a) found a lower drop-out rate of 13% withdrawal rate of forensic inpatients from an Aggression Control Therapy (which was derived from Aggression Replacement Therapy).

During the intervention a significant decrease in the frequency and severity of inpatient incidents was found compared with the control period. As the current study did not have a randomised controlled design, the results cannot show, however, that there is a causal relationship between the intervention and the decrease in incidents (Muralidharan & Fenton 2006). Random assignment of subjects was not possible given the conditions under which the study had to take place. Therefore, a delayed implementation design with pre and postintervention measurements was chosen.

The use of the delayed implementation design eliminates some threats to the internal validity of this (quasi-) experiment (Campbell 1957). History (Campbell & Stanley 1963), that is events outside the experiment that may influence the difference between the experimental and control group, is controlled for because the events would both influence the experimental and control situations. Selection bias is largely avoided because the same patients are included both in the experimental and the control situations, be it that they do not all contribute to both situations for the same length of time. By matching the wards comprising the three study groups as far as possible for diagnosis, we tried to reduce the impact of this difference. Despite this precaution, schizophrenia patients contributed relatively more patient-days to the experimental situation. A more equal distribution would, however, probably have increased the effect size, as the schizophrenia patients as a group proved to

benefit relatively little from the intervention. As this study, however did not have a control group where no ERM was provided, it cannot be ruled out that other hospital or treatment factors contributed to the found reduction of aggression as time progressed.

Nevertheless, in this study, moderate effect sizes were found indicating that the application of ERM may have lead to decreases in aggressive behaviour of the forensic psychiatric patients included in the study. In comparing these results to other studies, it should be noted that effects of various treatment methods in general (non sex) offender groups, although most of them are effective, in general are rather modest (see Marshall & McGuire 2003), suggesting that forensic patients as a group are hard to treat. There have until now not been many outcome studies conducted in similar Dutch forensic samples to compare with, but one study by Hornsveld et al. (2008b) is worth mentioning, as it specifically aimed at reducing aggressive behaviour by means of a well-protocolled cognitive behavioural Aggression Control Therapy. This group psychotherapy resulted in significant reductions of aggression, but again the '(...) differences between pre-treatment and post-treatment scores and between pretreatment and follow-up scores were small' (p. 14).

As mentioned before, one could argue that therapy must be seriously considered as an alternative explanation for the obtained decrease in the frequency and severity of the incidents as the patients continued their regular therapy during the course of the present study. Whether the decrease in violence found in the data is be due to enhanced self-control on the part of the patients, greater insight into the early signs of violence on the part of the nursing staff, or perhaps a combination of both is not clear from the present data. We did not measure changes in the perspectives of the patients. We did, however, gain insight into the 'involvement' of the patients in terms of their participation in the weekly meetings between nursing-staff and patients for purposes of promoting the recognition of early signs (see also: Stringer et al. 2008).

The structured intervention protocol (Fluttert et al.2008) contributed to a uniform application of the ERM. The intervention was implemented during already

existing weekly evaluation meetings between nursing-staff and patients. The use of a protocol increases the opportunity to raise awareness amongst staff members of the risk signs for a particular patient. This was also the case for patients with personality disorder, which is a profound contribution to forensic nursing (Mason, Coyle & Lovell 2008b). Bowers et al. (2006) also argues that, not only the contact between staff and patients may improve as a result of the use of transparent rules and routines, but also the ability of the staff to regulate reactions to patients. In other studies, Meehan, McIntosh & Bergen (2006) has shown a strategy focused on early warning signs and early intervention to also be important from the perspective of the patient. In our study, the staff mentioned that in their opinion the ERM better equipped them to reflect on perceived tensions and potential inpatient risks. They noticed that the patient information provided during the change of shifts was more grounded in observation and the detection of early warning signs. That is, the attention of the staff may have become more focused on early warning signs rather than waiting for imminent crises. These observations suggest that a 'change of mind' may be elicited by a structured intervention such as the ERM.

The findings show an improvement in terms of relatively fewer seclusions and less severe incidents during the period of the ERM intervention. These results, however, cannot be generalised to a community rehabilitation setting (see Quinsey et al.1998). We therefore recommend a prospective follow-up study of the use of the ERM in the rehabilitation and outpatient phases of treatment.

CONCLUSIONS

The study showed a decrease in frequency and intensity of violence in the patients during the period of participation in the ERM. As the conditions for a randomised controlled experiment could not be created, the delayed implementation design allowed for controlling for several rival explanations; however, improvements due to other treatment factors as time progressed cannot be ruled out. It is, therefore, fair to consider ERM a promising intervention for decreasing violence in forensic institutions, but replication studies on the effects of ERM are needed.

RELEVANCE TO CLINICAL PRACTICE

When the ERM is applied, patients and nurses collaborate in the setting where the regular triggers of aggression are present and violent incidents have occurred and/or could occur. The ERM protocol thus helps to embed risk management in clinical practice and thereby supports staff and patients in working together to prevent aggression and violence. The ERM was applied and studied in a hospital setting. The data collected during this study were derived from registration of events and problems in an inpatient setting at the level of nursing-staff-patient interactions. This approach was meant to contribute to a meaningful evidence-based-practice risk management method. This study offers suggestions for follow up research, such as studying ERM in ambulant settings.

Acknowledgement

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Accepted: 2 July 2010

Archives of Psychiatric Nursing

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Chapter 4

The development of the Forensic Early warning Signs of Aggression lnventory: Preliminary findings

Towards a better management of inpatient aggression.

ABSTRACT

Objective: Early warning signs of aggression refers to recurring changes in behaviours, thoughts, perceptions, and feelings of the patient that are considered to be precursors of aggressive behaviour. The early recognition of these signs offers possibilities for early intervention and prevention of aggressive behaviours in forensic patients. The Forensic Early warning Signs of Aggression Inventory (FESAI) was developed to assist nurses and patients in identifying and monitoring these early warning signs of aggression.

Methods: The FESAI was developed by means of qualitative and quantitative strategies. One hundred seventy six early detection plans were studied to construct a list of early warning signs of aggression. Inventory drafting was done by merging and categorizing early warning signs. Forensic nursing professionals assessed face validity, and interrater agreement was tested.

Results: The investigation of early detection plans resulted in the FESAI, which contains 44 early warning signs of aggression subdivided into 15 main categories. The face validity of the form was very good, and the interrater agreement was satisfactory.

INTRODUCTION

In the forensic psychiatric setting, nurses are often confronted with inpatient aggression (Camerino et al., 2007; Daffern, Mayer, & Martin, 2004; Doyle & Dolan, 2006; Lavrud, Nonstad, & Palmstierna, 2009; Nicholls, Brink, Greaves, Lussier, & Verdun-Jones, 2009). Nurses have to manage inpatient aggression to create a safe workplace and therapeutic environment (Mc Kenna, Poole, Smith, Coverdale, & Gale, 2003; Martin & Daffern, 2006; Mason, Coyle, & Lovell, 2008; Middleby-Clements, & Grenyer, 2007). Nurses have to be aware that inpatient aggression often is related to interactions between patients and staff. Therefore, nurses need to reflect constantly on their attitudes toward patients and on their personal communication style so as to improve the quality of the interactions with the patients and prevent aggressive incidents to occur (Bowers, Brennan, Flood, Lipang, & Olapado, 2006; Jonker, Goossens, Steenhuis, & Oud, 2008; Meehan, McIntosh, & Bergen, 2006). Within the relapse prevention perspective, it is important for nurses to collaborate with patients in coping with events that may escalate into aggression (Mason et al., 2008; Fluttert et al., 2008).

Aggression refers to harmful verbal or physical behaviour toward persons or objects. It can be classified in impulsive and premeditated aggression (McDermott, Quanbeck, Busse, Yastro, & Scott, 2008; Gauthier, Furr, Mathias, Marsh-Richard, & Dougherty, 2009; Surisa et al., 2004). There has been an increasing focus in research on individuals' recurrent signs as precursors to inpatient aggression (Bjørkly, 2004; Daffern & Howells, 2009; Dolan et al., 2008; Doyle & Dolan 2006; Nicholls et al., 2009; Vitacco et al., 2009).

Many researchers emphasized patients' dynamic indicators of increased risk, such as anger, symptoms of their specific psychiatric disorder, and patients' interpersonal style of responding to others as precipitants of aggressive behaviour (McDermott et al., 2008; Doyle & Dolan, 2006; Vitacco et al., 2009). A substantial number of studies have found that patients are more likely to be aggressive when they have a perceived persecutory threat and are unable to have control over their own thoughts and feelings; threat control override [TCO]; (Bjørkly & Havik, 2003; Green, Schramm, Chiu, McVie, & Hay, 2009; Link, Stueve, & Phelan, 1998; Skeem et al., 2006). TCO symptoms and other psychotic symptoms generally elicit "safety-seeking behaviour." This term refers to

patients' individual coping behaviours in response to the different types of emotional distress that symptoms trigger (Freeman et al., 2007). Freeman found that 24% of the safetyseeking behaviours displayed by patients with persecutory delusions were aggressive. Apparently, at some point, some patients try to regain "safety" by acting aggressively, but most have warning signs prior to this.

Efforts were made to identify precursors of inpatient aggression on the basis of clinically dynamic factors derived from risk assessment instruments (Almvik, Woods, & Rasmussen, 2000; McDermott et al., 2008; Dolan et al., 2008; Ogloff & Daffern, 2006). In forensic mental health nursing, the Broset Violence Checklist (Almvik et al., 2000) and the Dynamic Appraisal of Situational Aggression instrument (Ogloff & Daffern, 2006) were used in assessing the risk of inpatient aggression. High scores on the dynamic items of structured risk assessment instruments, which have been developed for predicting the risk of relapse into violence after discharge (e.g., the HCR-20; Webster, Douglas, Eaves, & Hart, 1997), also appeared to be associated with increased inpatient aggression (Dermott et al., 2008; Dolan et al., 2008).

Apparently, the "body of knowledge" regarding risk factors for inpatient aggression is growing. However, there is a paucity of methods to determine the exact nature of the onset of aggression in the individual patient (Daffern & Howells, 2009). Insight into the early signs of aggression and insight into the patient's vulnerability to cope with stressful situations (e.g., due to delusions) are essential elements in the dynamic interactional understanding of violence (Bjørkly, 2004).

Despite efforts to assess dynamic risk factors by using structured risk assessment instruments, the onset and the escalation from mild forms of agitation into full-blown aggression remain unclear. Another limitation of using risk assessment instruments is that patients do not play an active role in their assessment, and hence, their potential use of selfmanagement strategies to prevent aggression is not addressed (Fluttert et al., 2008). Empirical evidence indicates that active involvement of the patient and collaboration between the nurse and patient are important factors in managing inpatient aggression (Bowers et al., 2006; Fluttert, Van Meijel, Nijman, Bjørkly, & Grypdonck, 2010; Mason et al., 2008; Meehan, McIntosh & Bergen et al., 2006; Rask, & Brunt, 2006).

A step toward better management of inpatient aggression may be the development of strategies for a joint effort from mental health professionals and patients (a) to recognize the individual's early warning signs of aggression and by this (b) to improve their ability to cope with the early stages of aggressive behaviour (Fluttert et al., 2008). Early warning signs of aggression can be defined as changes in an individual's behaviour, thoughts, perceptions, and feelings that precipitate aggressive behaviour (Fluttert et al., 2008; Van Meijel, Gaag, Kahn, & Grypdonck, 2003). Early warning signs can be either internal, that is, perceived (only) by the patient, or external, that is, also observed by others. Early warning signs represent a continuum from the very early stage of deteriorating behaviour (e.g., increasing suspiciousness) until the phase of deterioration proximal to aggression (e.g., increasing anger). Early warning signs usually occur as part of a sequence of warning signs, which together indicate that aggressive behaviour is pending.

The Early Recognition Method (ERM; Fluttert et al., 2008) is a risk management strategy that aims at helping patients to recognize their own early warning signs of aggression. Patients describe their early warning signs of aggression in a so-called Early Detection Plan (EDP). This is a structured scheme that enables patients and nurses to monitor early warning signs of aggression. When the patient's early warning signs of aggression are identified, preventive actions can be implemented, primarily by the patient, to prevent further escalation of aggression. Thus, one of the main goals of ERM is the development of a plan for observations and actions to be taken related to the observed warning signs to enhance patient's self-management skills aiming the prevention of aggression. In a quasi-experimental research design, a reduction of aggressive incidents was found after the application of ERM (Fluttert, Van Meijel, Nijman, Bjørkly, & Grypdonck, 2010).

A major obstacle in current clinical practice is that, to our knowledge, there is no instrument or tool to support patients and nurses to work collaboratively to assess the most relevant early warning signs of aggression described in the literature. We developed the Forensic Early warning Signs of Aggression Inventory (FESAI). Using the FESAI, the nurse and patient together indicate which items of the FESAI

could represent the patient's early warnings sign of aggression, after which, the nurse and patient formulate the early warning signs of aggression. The main purpose of this article is (a) to introduce the FESAI, (b) to describe the steps involved in the development, and (c) to report some preliminary findings concerning the reliability and validity of the tool.

METHOD

The study was carried out in three phases using qualitative and quantitative research strategies (see Figure 1). In the first phase, all early warning signs of all EDPs (n = 167) were drafted collaboratively by staff and patients in two Dutch forensic hospitals. Following this, the content of this list was revised and categorized into specific items. Three forensic professionals were interviewed to establish a consensus face validity of the list. Finally, in the third phase, the reliability as function of agreement between two raters was examined (Polit & Beck, 2004).

The study procedure was reviewed by the Utrecht University and approved by the Research Departments of both forensic hospitals involved in the study. The study was conducted between September 2005 and September 2007.

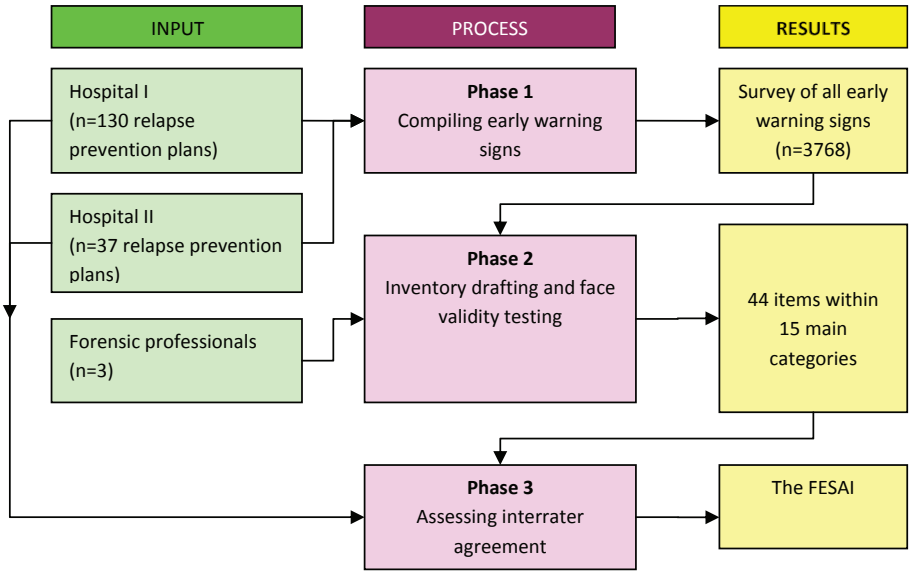

Figure 1: Flowchart of the study

Settings and Participants

Participants were recruited from two forensic psychiatric hospitals. Hospital 1 is a state hospital in which all subpopulations of forensic patients are admitted; these patients have various psychiatric disorders, such as personality disorder, schizophrenia, or autism spectrum disorder. At the time of data collection, all 189 patients admitted to this hospital were incarcerated by court after having been convicted for severe offences. Hospital 2 is a private forensic hospital in which patients (n = 78)—most of them have schizophrenia—are admitted by court order.

A total of 167 EDPs were examined, all those available for inclusion, of which 130 came from Hospital 1 (68.8%) and 37 from Hospital 2 (47.4%). To meet the inclusion criterion, patients involved in this study needed to have a documented EDP drafted, in which early warning signs of aggression were described and monitored. The mean age of the patients was 38 (SD = 9.4). The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition assessment of these patients showed that 92 patients (55.1%) were diagnosed with schizophrenia, 73 patients (43.7%) with antisocial personality disorder, and 12 patients (7.2%) with autism spectrum

disorder. Eighty-three (49.7%) patients were convicted for serious violent offences, 40 patients (24.0%) for manslaughter, 32 (19.2%) for sexual offences, and 12 (7.2%) for arson.

Professionals were recruited by searching in hospital staff files for primary nurses who had worked 5 years or more in the hospital and were involved in applying EDPs. One nurse from Hospital 1 and two nurses from Hospital 2 participated in instrument drafting (see Phase 2). Two other primary nurses from Hospital 2 were randomly selected for testing reliability (see Phase 3). All participating nurses gave informed consent.

The ERM (Fluttert et al., 2008, 2010) was the core Forensic Mental Health Nursing intervention in Hospital 1. In Hospital 2, the risk management part of ERM was not applied systematically as a procedure. However, in this hospital, an approach similar to the ERM assessment procedure was used to monitor and discuss early warning signs of pending aggression with the patient. In both hospitals, early warning signs were described in EDPs.

Data Collection and Data Analyses

Phase 1: Compiling a Survey of Early Warning Signs

The third author (M.L.) listed the early warning signs present in all EDPs of both hospitals. The individual early warning signs had originally been identified in collaboration between the patient and nurse. In Hospital 1, the early warning signs were described using three levels: (1) "stable," describing patient's normal or stable situation; (2) "moderate," describing the early warning sign in its light or moderate form; and (3) "severe," describing the situation when early warning signs are present to a serious degree but not in crisis. To clarify these levels, the early warning sign "increased anger" could be elaborated in the following three levels of severity: (1) stable—"I hardly experience feelings of anger"; (2) moderate—"I experience serious feelings of anger but can manage to stay calm"; (3) severe—"I experience serious feelings of anger and respond more irritated and verbally aggressive." In Hospital 2,

the early warning signs were described in a similar way; however, using four levels of severity: (1) stable, (2) moderate, (3) severe, and (4) crisis. Included in our list were descriptions of early warning signs on Levels 2 and 3 of the EDPs. Levels 1 and 4 were excluded, as the aim of our study was to develop a list with only early warning signs occurring in the first phases of deterioration until the moment just before crisis. Levels 1 and 4 do not meet this criterion. If a patient described an early warning sign more than once, it was only recorded once.

Phase 2: Instrument Drafting

Further instrument drafting was done by applying the following two steps (Kuo, 2007): (1) drawing up a first draft list of early warning signs and then categorizing the content of the list; (2) assessing the face validity of the list by interviewing forensic professionals (see Step 2).

Step 1: Instrument Drafting. Items were categorized and reduced according to these steps: (1) redundant or superfluous descriptions were deleted; (2) early warning signs with a similar content were grouped, for example, "being less in contact" and "withdrawing from the group" were combined into one category. Item descriptions referring to the same type of warning sign were rephrased into one common description, for example, "verbally abusive behaviours," "threatening," and "calling names" resulted in the early sign "respond in a verbally abusive manner." Next, the categories were ordered in a logical and comprehensible order, for example, the categories "tension, agitation, and anger" and "antisocial behaviours" were in sequence. The final step was to add an extra category "other early warning signs" to the list to allow identifying any possible early sign that was not included in our list.

Step 2: Evaluation by Experienced Professionals. Three forensic professionals were interviewed about the formulations of the items, the categories constructed, and the order of the categories and items. Issues, noted by the primary researcher in memos, were also discussed. This led to a final revision of the list, but no major changes were made at Step 2.

Phase 3: Reliability as a Function of Agreement

During the process of the development of the FESAI, descriptions of early signs were reformulated, merged, and grouped into categories. The aim of Phase 3 was to test if the reformulations of the items were adequate. Therefore, the reliability as a function of agreement was assessed by calculating the percentage of agreement (Polit & Beck, 2004). For this purpose, 20 relapse prevention plans were randomly selected from both participating hospitals. All early warning signs from the 20 plans were rated using the FESAI by the first (F.F.) and the third author (M.v.L.) independently. Both raters had clinical forensic experience, were registered nurses, and had worked more than 5 years in the position of forensic nurse in a secured forensic hospital. In addition, for Hospital 1, where early warning signs were specifically described by means of ERM, the reliability as function of agreement was also tested by two primary nurses. One relapse prevention plan was randomly selected from each of the 16 wards in Hospital 1. The FESAI early warning signs derived from the EDPs were independently rated by primary nurses, who were not involved in instrument drafting and had not seen the FESAI before.

FINDINGS

A total of 167 relapse prevention plans were scrutinized. This resulted in a list of 3,768 descriptions of early warning signs. After item reduction, 267 early warning signs remained. Further merging of early warning signs pertaining to the main categories resulted in the first FESAI draft with 53 early warning sign items within 15 main categories. After interviewing the professionals, 8 early warning sign items were merged with other items. The final version of the FESAI contained 45 items within 15 main categories (Table 1).

Table 1: Items and categories of the FESAI

	Early warning signs The change described in the individual item below can be perceived by the patient or observed by others.		Score yes/no
Change in daily activities	a)	Change in day-night rhythm	a) _
	b)	Decreased activity	b) _
	c)	Increasing boredom	c) _
	d)	Difficulties complying with agreements, daily structure	d) _
Social isolation, decreased social contact	a)	Increasingly superficial contact	a) _
	b)	Avoidance of eye contact	b) _
	c)	Increasing isolation, withdrawal	c) _
	d)	Walks away from conversation or other activities	d) _
Change of selfmanagement	a)	Declining self-care and/or care for surroundings	a) _
	b)	Decreased problem solving skills	b) _
	c)	Increasing financial problems	c) _
Physical changes	a)	Increasing physical complaints	a) _
Changed substance needs (alcohol, drugs, medication)	a)	Decreasing medication compliance	a) _
	b)	Increasing substance abuse (alcohol and/or drugs)	b) _
Cognitive changes	a)	Increasing difficulties in thinking, recalling, concentrating	a) _
	b)	Increasing associative disturbances or chaotic thinking	b) _
Dejection and anxiety	a)	Increasing worries	a) _
	b)	Increasing loneliness	b) _
	c)	Increasing low self-esteem	c) _
	d)	Increasing feelings of sadness and/or desperateness	d) _
	e)	Increasing feelings of,being hurt, offended and/or rejected	e) _
	f)	Increasing behaviours of self-harm or considering it	f) _
	g)	Increasing anxiety	g) _
	h)	Increased nightmares	h) _
Tension, agitation, anger	a)	Less open to other's ideas, thoughts or ways of behaving	a) _
	b)	Increased experience of stress	b) _
	c)	Increased anger, frustrations and/or tensions.	c) _
	d)	Increasingly responding in a verbally/physically aggressive manner	d) _
	e)	Increased suppression of emotions	e) _
Antisocial behaviour	a)	Increasingly breaking other's boundaries, humiliating and/or cynicism/sarcasm	a) _
	b)	Increased failure to take responsibility	b) _
	c)	Increasingly being unreliable or lying.	c) _
	d)	Increased splitting behaviour, setting people up against each other	d) _
	e)	Provoking conflict(s), coercive, demanding	e) _
Disinhibition and impulsivity	a)	Increasingly chaotic, restless and/or impulsive	a) _
More (extreme) sexual fantasies, needs, behaviour	a)	Increasingly having extreme sexual fantasies, needs and/or behaviour.	a) _
Criminal behaviour	a)	Absconding or considering it	a) _
	b)	Criminal contacts and/or criminal activities	b) _
Irrational ideas, perceptions	a)	Increased paranoid thoughts or feeling threatened.	a) _
	b)	Hallucinations.	b) _
	c)	Delusions, irrational convictions.	c) _
Very specific changes of behaviours	a)	Idiosyncratic behaviour	a) _
	b)	Changing eating/drinking habits, patterns	b) _
	c)	Speaking in a different manner.	c) _
Other early warning signs	**a)**	**...**	a) _

We found 74% interrater agreement for 238 ratings of early warning signs from the EDPs of both hospitals. For Hospital 1, the 148 ratings conducted by the two primary nurses resulted in an interrater agreement of 62%.

DISCUSSION

The aim of this study was to develop a tool for the recording of early warning signs that can be used for the early detection and management of aggression in forensic patients. This resulted in the FESAI, which contains 45 early warning sign items within 15 main categories. The process of development was based on the examination of early warning signs, which were described in EDPs developed in two forensic hospitals in The Netherlands. The number of EDPs analyzed (n = 167) and the number of early sign phrases identified (n = 3,768) may be considered a solid basis for this study purpose. However, the FESAI is not aimed to be an exhaustive list, and we cannot be sure about the completeness of the FESAI for all forensic patients in all different situations in which aggressive incidents occur. Therefore, we added the extra category “other early warning signs” to solve this problem. The inclusion of the warning sign items in the patient records was based on the nurse’s and patient’s experience. In their view, changes in (several of the) early warning signs mentioned in the list are indicative of an increased risk of aggression. This investigation did not measure the strength of this association, signifying that the predictive validity of the items of the FESAI must be tested in future research. An important part of this research would also be to develop approaches to distinguish between frequent and rare warning signs in the individual patient. The FESAI has to be subjected to continuous revision and development in the future as more empirical evidence becomes available about the early warning signs of aggression in forensic patient populations. The interrater agreement in terms of exact “hits” between independent raters was .74 and .62, which can be valued as “reasonable.” It should be taken into account that every early sign from the EDP had to be converted into 1 of the 44 FESAI items and that the items could be interpreted as not entirely mutually exclusive.

Staff and patients can both use the FESAI to discuss and identify the most relevant warning signs of aggression for the particular patient. When an aggressive incident has occurred or has been managed, they can also use the FESAI to check afterward whether all the relevant early signs of (imminent) aggression have been identified or whether there is a need to expand or reduce the survey of warning signs. By using the FESAI, nurses and patients may be able to better reconstruct the patient's process of escalation toward aggression. The description of the patient's specific profile of early warning signs—also referred to as a relapse signature (Birchwood & Spencer, 2001; Fluttert et al., 2008)—can lead to improved prevention of aggressive incidents. The FESAI profile can be discussed with the individual patient from the angle of his or her treatment goals: How can the precursors of aggressive behaviour be managed effectively to increase the chances of successful functioning within the clinical setting and to facilitate successful social rehabilitation in the future (Duxbury & Whittington, 2005; Fluttert et al., 2008; Jonker et al., 2008)?

It is our experience that the use of the FESAI can assist nurses to manage disturbing behaviours of particular subgroups of patients, such as patients with antisocial personality disorder (Bulten, Nijman, & Van der Staak, 2009; Goethals, Fabri, Buitelaar, & Van Marle, 2007; Koekkoek, Van Meijel, & Hutschemaekers, 2006). By identifying specific early warning signs in these patients, education at nursing team level and early intervention for such high-risk groups may be improved (Jonker et al., 2008). Still, the development of the FESAI is at a very early stage. The FESAI may improve patients' and nurses' awareness of early signs. Still, to be efficient, the instrument must be linked directly to the development and application of individual risk management strategies. More research is needed to study the reliability and the predictive validity of the FESAI as a tool to monitor early warning signs for future violent behaviour.

ACKNOWLEDGMENT

The authors thank FPC Dr. S. Van Mesdag, Groningen, The Netherlands, and Tessa Ginders, Clinical Nurse Educator Victorian Institute of Forensic Mental Health.

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Chapter 5

Early signs of inpatient aggression in forensic psychiatry: an empirical investigation with the Forensic Early Signs of Aggression Inventory

ABSTRACT

Objective: Insight into the early onset of inpatient aggression could contribute to the management of this early stage of deterioration. The Forensic Early Warning Signs of Aggression Inventory [FESAI] was developed to assist nurses and patients to draw up an Early Detection Plan and thereby recognize and manage the early warning signs of aggression.

Methods: In this descriptive study Early Detection Plans of 171 patients of two forensic hospitals were examined for early warning signs of aggression. These warnings signs were compared by means of rank order correlations for subgroups of patients with similar diagnoses, types of offences and for psychopathy.

Results: The order in which the first four of the 44 early warnings signs were ranked within the different subgroups of patients, were highly similar. In rank order these four items of early warning signs contained behaviours with regard to (1) anger, (2) withdrawal, (3) superficial contact and (4) aggressive behaviours.

Conclusion: The results suggest that, besides early warning signs of aggression, less dynamic and more internalizing behaviours are also related to the occurrence of aggression. Applying the FESAI could reveal early warning signs of aggression, which could be observed by others, and also those which could importantly noticed by the patient themselves.

INTRODUCTION

Nurses in forensic and acute general psychiatric clinical care have to manage patients' aggressive behaviours on a daily basis (Bowers 2006, Lauvrud et al. 2009, Martin & Daffern 2006, Nicholls et al. 2009). When nurses and patients gain insight in the function and process of aggression, also in perspective of aggression related to the interaction between patients and nurses, this may contribute to successfully applying preventive risk management strategies (Duxbury & Whittington 2005, Jonker et al. 2008, Mason, Coyle & Lovell 2008, Martin & Daffern 2006, Meehan, McIntosh & Bergen 2006, Fluttert et al. 2008). Although there is a need for methods to better understand patients' aggressive behaviours, such methods are scarcely available (Fluttert et al. 2008, Daffern & Howell 2009). However, there is a growing body of knowledge regarding the signs, symptoms and indicators which are associated with inpatient aggression (Daffern & Howells 2009, McDermot et al. 2008, Dolan et al. 2008, Vitacco et al. 2009). Several studies have shown that higher scores on risk assessment instruments are not only associated with criminal recidivism after discharge from the hospital (e.g. Webster et al. 1994, Monahan et al. 2001), but also with higher odds of inpatient aggression (e.g., McDermott et al. 2008, Vitacco et al. 2009). The Brøset Violence Checklist [BVC] (Almvik, Woods & Rasmussen 2000) was specifically developed to assist forensic mental health nurses in predicting short term inpatient aggression. The application of instruments like these are promising in decreasing inpatient aggression (Abderhalden et al. 2008). However, a limitation could be that patients are minimally involved in risk management strategies. It is known from clinical practice that patients' perceptions are valuable for risk management because of the unique perception of both their inner as well as outside world (Duxbury & Whittington 2005, Fluttert et al. 2008, Fluttert et al. in press, Meehan, McIntosh & Bergen 2006). Thus patient's active participation in reconstructing their own deteriorating behaviours, and in the process towards manifestation of aggression, may contribute to the identification of indicators which are associated with the onset of aggressive behaviour (Bulten, Nijman & Vd Staak 2009, Fluttert et al.2010, Nicholls et al. 2009). For example, in patients with schizophrenia feelings of threat and loss of control, referred to as 'threat control-override symptoms', may be associated with aggressive behaviour (Link, Stueve & Phelan

1998). On the other hand, the so called 'safety behaviours', such as avoidance of a threatening situation are associated with patient actions carried out to prevent feelings of threat (Freeman et al. 2007).

Nurses and patients together exploring the early warning signs of aggression and subsequently applying preventive measures when these signs occur, may contribute to a decrease of inpatient aggression (Fluttert et al. 2010). These so-called early signs can be defined as subjective experiences, thoughts, and behaviours of the patient occurring prior to the engagement in actual aggressive behaviour (Fluttert et al. 2008, van Meijel et al. 2003). Early warning signs can be described in an Early Detection Plan [EDP] offering the possibility to regularly monitor patients' behaviour, and particularly the occurrence of these warning signs. Fluttert et al. (in press) developed the Forensic Early Signs of Aggression Inventory [FESAI] to provide a tool for professionals in forensic care for listing and describing early warning signs of aggression in a systematic way. The implementation of this inventory in two forensic hospitals generated specific data about the prevalence of these early warning signs of aggression in a forensic treatment setting. The aim of this study is to provide a better understanding of the nature and prevalence of early warning signs of aggression as they occur within forensic psychiatric treatment settings.

Research question

We addressed the following research questions: (1) What is the specific nature and prevalence of early warning signs of aggression – as measured with the FESAI - in two samples of forensic patients, and; (2) Do patients with different diagnoses and different types of offending behaviour in their history, display different profiles of early warning signs?

METHOD

Design

In this descriptive study the Early Detection Plans [EDP] of forensic patients in two forensic hospitals were examined for early warning signs. Following that, we investigated the relationship between early warning signs and patient characteristics. The study procedure was approved by Utrecht University and by the Research Departments of the participating forensic hospitals. The study was conducted between September 2005 and September 2007.

Method

Early warning signs in the EDPs were recorded for all 171 patients participating in this study, using the Forensic Early Signs of Aggression Inventory [FESAI] (Fluttert et al, in press). An EDP is a structured scheme which enables patients and nurses to monitor patients' early warning signs of aggression. The recorded FESAI-scores of subgroups of patients with similar diagnoses and types of offences were compared. Additionally the FESAI-scores were examined in subgroups of patients with regard to psychopathy, which is a separate assessment apart from assessing the diagnoses.

The Forensic Early Signs of Aggression Inventory [FESAI]

The FESAI (Fluttert et al. in press) consists of 45 items of early warning signs, divided into 15 categories. According to the nurses and patients who described these signs in the EDPs, the signs were related to their onset of aggressive behaviours. The assumption is that without de-escalating interventions when these early warning signs occur, the risk of aggressive behaviour is increased (Fluttert et al. 2008). The FESAI assists forensic nurses in elaborating and expanding the detail in an Early Detection Plan [EDP].

Settings and subjects

The patients in this study were admitted to two forensic hospitals in The Netherlands. A total of 171 patients were involved, and total of 171 EDPs were examined, of which there were 130 from hospital 1 (76%) and 41 from hospital 2 (24%). Inclusion criterion was that the individual patient had an early detection plan was drafted, in which early warning signs of aggression were described and monitored. The mean age of the patients was 38 (SD 9.4). The DSM-IV assessment of these patients showed that 96 of them (56.1%) were diagnosed with schizophrenia, 74 patients (43.3%) with antisocial personality disorder and 12 patients (7.0%) with autism spectrum disorder. Eighty-three (48.5%) patients were convicted for severe violence, 40 patients (23.4%) for manslaughter, 32 (18.7%) for sexual offences and 14 (8.2%) for arson.

Hospital 1 is a state hospital in which forensic patients (n=189), after committing severe offences, are confined by court order. The participating patients of this hospital (n=130) diagnosed from different psychiatric disorders, among others antisocial personality disorder (n=65, 50%) and schizophrenia (n=61, 44.2%). Hospital 2 is a private forensic hospital to which patients also are admitted by court order (n=78). These patients, however, mostly diagnosed from schizophrenia (n=35, 85.4%). In both hospitals early warning signs of aggression were identified and registered in EDPs.

The Early Recognition Method [ERM] (Fluttert et al. 2008, 2010) was the core forensic mental health nursing intervention in hospital 1, which resulted in descriptions of early signs in EDP's. ERM was not applied in hospital 2, however, in this hospital early warning signs of risk were described and discussed with the patient as a result of weekly evaluations between nurses and patients. In hospital 1 the behaviours in the EDP's, considered to be the occurrence of early warning signs, were described on three levels of severity: (1) stable, (2) moderate and (3) severe. In hospital 2 these were described on 4 levels of severity: (1) stable, (2) moderate, (3) severe and (4) crisis.

Procedure and data collection

Early warning signs of all EDP's of both hospitals under study, scored at the levels (2) and (3) of the EDPs (see Settings and subjects) were listed. The levels (1) and (4) were excluded, as the aim of our study was to study only early warning signs occurring in the first phases of deterioration until the moment just before crisis. The levels (1) and (4) do not meet this criterion. If an early warning sign was described more than once for a patient, it was recorded only once. Every listed early warning sign was scored on the FESAI, resulting in frequencies of early warning signs for all the EDP's of the participating patients. The FESAI contains 44 early warning signs of aggression subdivided into 15 main categories. In the former study in developing the FESAI, the interrater agreement was found to be 74% (Fluttert et al. in press).

Data were gathered from hospital records. The diagnoses were assessed on the basis of the Diagnostic and Statistical Manual of Mental Disorders-IV (APA 2002). Psychopathy was assessed using the Psychopathy Checklist-Revised [PCL-R] (Hare 1991). The PCL-R is an assessment instrument with 20 items to be scored on three point scales. The maximum score is 40 in the case of full-blown psychopathy. For Europe a score of 26 or higher is considered to indicate a psychopathic personality (Grann et al. 1999).

The main offence was scored by means of a classification which is used in Dutch forensic hospitals (Korderlaar 2003). This contains the following categories: (1) Aggression, (2) Manslaughter, (3) Pedo-sexual offences, (4) Sexual offences to adults, (5) Arson and (6) Other offences. In this study the FESAI results were examined for the subgroups: aggression, manslaughter and sexual offences. In the subgroup sexual offence we combined the data of pedo-sexual offenders and sexual offenders to adults.

Data analysis

Data analysis was performed for the total population and for subgroups of patients. These subgroups were distinguished on the basis of patients' characteristics and hospital setting (Figure 1: Flowchart of the study).

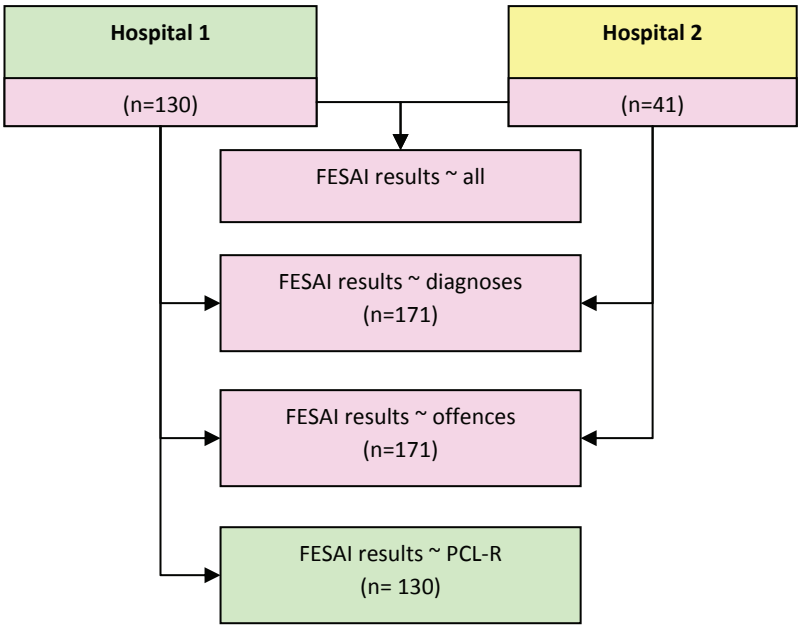

Figure 1: Flowchart of the study

The FESAI main categories were rank ordered according to the frequency of occurrence in the EPD's. Finally, for hospital 1 the FESAI-results of patients with PCL-R ≤25 were compared to those with PCL-R ≥26. The FESAI rank order scores of the subgroups patients were compared by means of Spearman's Rho rank-order correlation (Field 2005).

Data for patients with schizophrenia and for patients with antisocial personality disorder were analyzed separately due to the ERM study in hospital 1 which indicated that patients with these diagnoses appeared to be more sensitive to a significant decrease in inpatient aggression after they were exposed to ERM (Fluttert et al. 2010). The categories were exclusive, i.e., these subgroups could be calculated in a discrete way, a patient belonged only to one of the sub-groups. Patients in which schizophrenia or ASPD was a co-morbidity were excluded from this analysis. In all calculations the Statistical Package for Social Science, SPSS-17 was used.

RESULTS

The total of 171 Early Detection Plans contained 1478 early signs of risk. Table 1 (Results of FESAI categories) provides an overview of the FESAI category scores. Almost half of the recorded early warning signs (48.7%) fell within the categories *Anger, frustration and/or tension, Social isolation, Decreased social contact* and *Changes of daily activities.*

Table 1: Results of FESAI categories

Rank Order	Category	Number of early warning signs (%)
1	Tension, agitation, anger	305 (20.6)
2	Social isolation, decreased social contact	235 (15,9)
3	Change in daily activities	181 (12,2)
4	Antisocial behaviour	152 (10,3)
5	Changed substance needs	106 (7.2)
6.5	Dejection and anxiety	96 (6.5)
6.5	Irrational ideas, perceptions	96 (6.5)
8	Change of self-management	68 (4.6)
9	Very specific changes of behaviours	67 (4.5)
10	Disinhibition and impulsivity	55 (3,7)
11	Cognitive changes	46 (3.1)
12	Physical changes	36 (2.4)
13	Criminal behaviour	21 (1.4)
14	More (extreme) sexual fantasies, needs, behaviour	14 (.9)
15	Other early signs	0
Total		1478

In more detail, the FESAI scores are presented on the *item* level regarding all patients and regarding the subgroups of patients in table 2 (Results of early warning signs in sub-groups patients). The six highest ranked items for the different subgroups are listed in table 3 (Rank order results of the 1st six FESAI signs).

Table 2: Results of early warning signs in sub-group patients.

FESAI- Early warning signs The changes as described in the items below could be perceived by the patient self or being observed by others in the patient' environment.	All n=171		Schizo-phrenia n=69		ASPD n=47		Man-slaughter n=40		Severe violence n=83		Sexual offence n=32		PCL-R≤25 n=90		PCL-R≥26 n=38	
	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%
1. Increased anger, frustrations and/or tensions	1	59.6	3	59.4	1	70.2	1.5	60.0	3	57.8	1	71.9	3	50.0	2.5	60.5
2. Increasing isolation, withdrawal	2	57.3	2	60.9	5	53.2	4	50.0	2	60.2	2	65.6	1	61.1	4.5	55.3
3. Increasing superficial contact	3	56.7	1	62.3	4	55.3	1.5	60.0	1	62.7	4	53.1	2	54.4	2.5	60.5
4. Increasingly responding in a verbally/ physically aggressive manner	4	54.4	5	50.1	2	68.1	3	55.0	4	54.2	4	53.3	5	53.1	4.5	55.3
5. Difficulties complying with agreements, daily structure	5	45.6	4	52.2	8	38.3	6	40.0	5	51.8	6	40.6	4	45.6	6	47.4
6. Increasingly overstepping other' boundaries, humiliating and/or cynicism/sarcasm	6	39.8	10	31.9	3	59.6	5	45.0	8	33.7	4	53.3	7	30.0	1	65.8
7. Change in day-night rhythm	7	35.1	8	36.2	10	36.2	11.5	27.5	6	38.6	10	31.3	6	41.1	10	28.9
8. Less open to other's ideas, thoughts or ways of behaving	8	33.9	11	30.4	6.5	40.4	7.5	32.5	7	34.9	8	34.4	12.5	22.2	7	44.7
9. Increasingly chaotic, restless and/or impulsive	9	32.1	7	37.7	11.5	27.7	9.5	30.0	9	32.5	11	28.1	8.5	28.9	10	28.9
10. Increasing of substance abuse (alcohol and/ or drugs)	10	27.5	21	18.8	6.5	40.4	9.5	30.3	10.5	27.7	16.5	18.6	8.5	28.9	8	36.8
11. Increased paranoid thoughts or feeling threatened	11	26.9	6	39.1	20.5	12.8	13.5	25.0	10.5	27.7	8	34.4	10	27.8	18	13.2
12. Provoking conflict(s), coercive, demanding	12	26.3	14	24.6	9	36.2	7.5	32.5	18	19.2	8	34.4	12.5	22.2	10	28.9
13. Increasing feelings of sadness and/or desperateness	13	25.1	14	24.6	11.5	27.7	13.5	25.0	12	25.3	13.5	21.0	11	25.6	18	13.2
14. Increasing physical complaints	14	21.1	12	27.5	20.5	12.8	11.5	27.5	13.5	21.7	24.5	12.5	14.5	20.0	27.5	7.9
15. Idiosyncratic behaviour	15	19.9	14	24.6	26	10.6	15.5	22.5	15.5	20.5	20.5	15.6	23	13.3	12	21.1
16. Hallucinations	16	18.1	9	33.3	41	2.1	17	20.0	18	19.3	30	9.4	19.5	15.6	34	5.3

17.	Increased experiences of stress	17	17.5	21	18.8	15.5	19.1	15.5	22.5	22	15.7	13.5	21.0	16	18.9	21.5	10.5
18.	Declining self-care and/or care for environment	18.5	17.0	16.5	21.7	26	10.6	19	17.5	15.5	20.5	20.5	15.6	14.5	20.0	15.5	15.8
19.	Increasing difficulties in thinking, recalling, concentrating	18.5	17.0	18	20.3	36.5	2.3	31.5	10.0	18	19.3	12	25.0	19.5	15.6	27.5	7.9
20.	Decreased activity	20	15.8	21	18.8	17	17.0	19	17.5	20	16.7	24.5	12.5	18	16.7	13.5	18.4
21.	Avoidance of eye contact	21	14.0	16.5	21.7	20.5	12.5	36	7.5	13.5	21.7	30	9.4	34.5	7.8	34	5.3
22.	Changing eating / drinking habits patterns	22	13.5	24	15.9	26	10.6	21.5	15.0	22	15.7	30	9.4	17	17.8	27.5	7.9
23.	Increasing anxiety	24	12.9	21	18.8	36.5	4.3	25.5	12.5	22	15.7	43.5	0	23	13.3	38.5	2.6
24.	Increased failure to take responsibility	24	12.9	34.5	7.2	15.5	19.1	25.5	12.5	30	10.8	20.5	15.6	28	11.1	18	13.2
25.	Increased suppression of emotions	24	12.9	30	10.1	20.5	12.5	19	17.5	32.5	9.6	16.5	18.6	21	14.4	27.5	7.9
26.	Decreased problem solving skills	26	11.7	37.5	5.8	14	21.3	31.5	10.0	27	12.0	20.5	15.6	23	13.3	21.5	10.5
27.	Delusions, irrational convictions	28	11.1	21	18.8	41	2.1	21.5	15.0	24.5	14.5	39.5	3.1	28	11.1	34	5.3
28.	Increasing feelings of hurt, being offended and/or rejected	28	11.1	32.5	8.7	36.5	4.3	31.5	10.0	27	12.0	30	9.4	28	11.1	27.5	7.9
29.	Increasing loneliness	28	11.1	26.5	11.6	26	10.6	25.5	12.5	27	12.0	30	9.4	31	10.0	34	5.3
30.	Increasing associative disturbances or chaotic thinking	30.5	9.9	26.5	11.6	20.5	12.5	25.5	12.5	30	10.8	35.5	6.3	34.5	7.8	27.5	7.9
31.	Increased splitting behaviour, playing people off against each other	30.5	9.9	37.5	5.8	13	23.4	25.5	12.5	35 8.4		24.5	12.5	37	5.6	13.5	18.4
32.	Criminal contacts and/or criminal activities	33.5	9.4	41	4.3	20.5	12.5	31.5	10.0	39.5	6.0	24.5	12.5	34.5	7.8	15.5	15.8
33.	Decreased medication compliance	33.5	9.4	26.5	11.6	41	2.1	25.5	12.5	30	10.8	39.5	3.1	25	12.2	21.5	10.5
34.	Increasing boredom	33.5	9.4	32.5	8.7	30.5	8.5	42.5	2.5	24.5	14.5	35.5	6.3	28	11.1	38.5	2.6
35.	Walks away from conversation or other activities	33.5	9.4	34.5	7.2	26	10.6	42.5	2.5	35	8.4	16.5	18.6	34.5	7.8	27.5	7.9
36.	Increasingly having extreme sexual fantasies, needs and/or behaviour	36	8.2	37.5	5.8	30.5	8.5	31.5	10.0	41	4.8	16.5	18.6	28	11.1	43	0

FESAI- Early warning signs The changes as described in the items below could be perceived by the patient self or being observed by others in the patient' environment.	All n=171		Schizo-phrenia n=69		ASPD n=47		Man-slaughter n=40		Severe violence n=83		Sexual offence n=32		PCL-R≤25 n=90		PCL-R≥26 n=38	
	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%
37. Increasing behaviours of self-harm or considering it	37	7.6	30	10.1	30.5	8.5	36	7.5	32.5	9.6	35.5	6.3	39	4.4	38.5	2.6
38. Increasing worries	38	7.0	30	10.1	33.5	6.4	39.5	5.0	37.5	7.2	30	9.4	39	4.4	34	5.3
39. Increasingly being unreliable or lying	39	6.4	37.5	5.8	41	2.1	39.5	5.0	39.5	6.0	30	9.4	32	8.9	38.5	2.6
40. Speaking in a different manner	40	5.8	26.5	11.6	41	2.1	44.5	0	35	8.4	39.5	3.1	41.5	3.3	43	0
41. Decreasing self-esteem	41	5.3	41	4.3	30.5	8.5	39.5	5.0	37.5	7.2	39.5	3.1	41.5	3.3	27.5	7.9
42. Increasing financial problems	42	4.7	41	4.3	33.5	6.4	36	7.5	42.5	3.6	35.5	6.3	43.5	2.2	21.5	10.5
43. Absconding or considering it	43	2.9	43.5	2.9	36.5	4.3	31.5	10.0	44	1.2	43.5	0	39	4.4	43	0
44. Increased nightmares	44	1.2	43.5	2.9	44.5	0	39.5	5.0	42.5	3.6	43.5	0	43.5	2.2	43	0
45. Other early warning signs	45	0	45	0	44.5	0	44.5	0	45	0	43.5	0	45	0	43	0

When comparing the early warning signs of patients of both hospitals within the different subgroups, it seems fair to conclude that the rank orders of the first 4 ranks are highly similar (Table 3: Rank order results of 1st six FESAI signs). The rank-order correlation between the subgroups 'schizophrenia' and 'ASPD' was r= 0.614, p<0.001, for the different offence subgroups this varied between r=.747, p<.001 and r= 0.856, p<0.001, and for the subgroups regarding high or low PCL-R scores the correlation was r= 0.768, p<0.001. For patients with PCL-R ≥26, however, the highest rank score was *Overstepping other' boundaries, humiliating, cynicism*. For these patients this score was significantly higher [65.8% of this sub population patients] compared to patients of the subgroups 'severe violence' [33.7%], 'schizophrenia' [31.9%] and 'PCL-R ≤25' [30.0%], calculated by means of Pearson Chi-squared varying between (1) 9.62 p=0.002 and (1) 12.74 p= 0.001.

Table 3: Rank order results of the 1st six FESAI signs

	Diagnoses		Offence			PCL-R	
1st 6 rank order FESAI early signs all patients N=177	Schizo-phrenia N=69 Rank n(%*)	ASPD N=47 Rank n (%*)	Man-slaughter N=40 Rank n(%*)	Severe Violence N=83 Rank n(%*)	Sexual Offence N=32 Rank n(%*)	PCL-R ≤25 N=90 Rank n(%*)	PCL-R ≥26 N=38 Rank n(%*)
1. Increased anger, frustration and/or tension	3 41(59.4)	1 33(70.2)	1.5 24(60)	3 48(57.8)	1 23(71.9)	3 45(50)	2.5 23(60.5)
2. Increasing isolation, withdrawal	2 42(60.9)	5 25(53.2)	4 20(50)	2 50(60.2)	2 21(65.6)	1 55(61.1)	4.5 21(55.3)
3. Increasingly superficial contact	1 43(62.3)	4 26(55.3)	1.5 24(60)	1 52(62.7)	4 17(53.1)	2 49(54.4)	2.5 23(60.5)
4. Increasingly responding in a verbally/physically aggressive manner	5 35(50.1)	2 32(68.1)	3 22(55)	4 45(54.2)	4 17(53.3)	5 38(42.2)	4.5 21(55.3)
5. Difficulties complying with agreements, daily structure	4 36(52.2)	8 18(38.3)	6 16(40)	5 43(51.8)	6 13(40.6)	4 41(45.6)	6 18(47.4)
6. Increasingly overstepping other' boundaries, humiliating and/or cynicism/ sarcasm	10 22(31.9)	3 28(59.6)	5 18(45)	8 28(33.7)	4 17(53.3)	7 27(30)	1 25(65.8)

* % = percentage patients

DISCUSSION

In this study we examined the early warning signs of aggression in forensic patients. The highest ranking FESAI items belonged to the FESAI categories *Anger, frustration and/or tension*. The FESAI results of the subgroup of patients regarding different diagnoses, offences and PCL-R scores, showed considerable similarities in the ranking of early signs with rank correlations varying from r=0.614 to r=0.856. Thus no significant differences could be identified between the patterns of early warning signs in the various subgroups. However, patients with PCL-R ≥26 scored significantly

higher on the item *Increasingly overstepping other's boundaries, humiliating and/or cynicism/sarcasm* compared to three of the six other subgroup of patients.

The FESAI scores reveal inpatient warning signs in a broad spectrum of behaviours. So far, most studies emphasized inpatient aggressive behaviours to be associated with anger and other dynamic variables of risk assessment instruments, such as threatening behaviour of patients towards staff (McDermot et al. 2008, Daffern & Howells 2009, Doyle & Dolan 2006, Vitacco et al. 2009). In this study *anger* and *responding in a verbally and physically aggressive manner* was found in the highest ranked results. It could be expected that responding in an aggressive manner will be the precursor of further deterioration leading towards aggressive incidents. However in this study in the highest ranked results also included *isolation* and *superficial contact*.. Apparently when scoring *early* warning signs of aggression by means of the FESAI, warning signs with regards to patients less dynamic and more internalizing behaviours are suggested to be related to the occurrence of aggression.

The FESAI items cover a broader scope of behaviours compared to, e.g., the items of risk assessment instruments aiming to assess the likelihood of inpatient aggression. E.g., the Broset Violence Checklist [BVC] (Almvik, Woods & Rasmussen 2000) contains the following items: irritated, physically threatening, verbally threatening, boisterous, confused and attacking objects. The FESAI items cover a broader perspective on inpatient precursors of aggressive behaviours (Palmstierna & Wistedt 2000), such as*: isolation, withdrawal* and *superficial contact* These early warning signs can possibly also be experienced by the patient, and may not be observed as being striking or relevant behaviour by others, such as the ward staff. In this respect nurses could apply the FESAI as an inventory in order to explore and identify the broader scope of possible inpatient aggressive precursors in terms of changes in thoughts, cognition, awareness and specific behaviours (Fluttert et al. 2008). To move the application of the FESAI a step further towards risk management: the scoring of early warning signs of EDP's on the FESAI could be a collaborative intervention between the nurse and individual patient. The application of the FESAI could then

assist nurses to discuss with their patients which early warning signs of aggression are most profound in, e.g. a particular period of treatment which has to be evaluated.

The early warning signs, which were derived from the EDP's and recorded on the FESAI, were not all listed in a similar way. In most cases patients and nurses collaborated in listing and describing the early warning signs in EDP's. However, in both hospitals in this study we recorded early signs from EDP's of patients who did not collaborate with nurses. In this subgroup patients the PCL-R score showed ≥26 whereas the PCL-R of patients who did collaborate were ≤25 (see also Fluttert et al. 2010). In those cases the early warning signs in EDP's were described by nurses according their point of view. Perhaps this contributed to the result that the highest rank score of this subgroup was the item *Overstepping other's boundaries, humiliating, cynicism.* However, based on our clinical experiences, this item does reflect the particular characteristic behaviour of psychopathic patients.

The early warning signs, which were scored on the FESAI were listed in clinical practice in two highly secure forensic hospitals. This is a limited scope of risk management; those early warning signs occurred within the context of these hospitals and for example do not reflect patients' behaviour while on leave outside the hospital. We do not know which behaviours of these patients are related to the aggressive incidents occurring outside the hospital. Further research could validate the FESAI for forensic outpatients.

ACKNOWLEDGMENT

The authors thank Tessa Ginders, Clinical Nurse Educator Victorian Institute of Forensic Mental Health.

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Accepted:

Archives of Psychiatric Nursing 2010, Vol. 24, No. 4: 266–274

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Chapter 6

Detached Concern of
Forensic Mental Health Nurses in
Therapeutic Relationships With Patients:
The Application of the
Early Recognition Method Related to
Detached Concern

ABSTRACT

Objective: Improvement of the interaction between forensic mental health nurses and patients may lead to a reduction of inpatient violence. The concept under study is detached concern, which refers to nurses' skills to neutralize the emotional appeal of patients by a balanced attitude between objectivity and emotional involvement. The Patient Contact Questionnaire [PCQ] aims at measuring the degree of concern of nurses for their patients.

Methods: The PCQ was applied in a pretest-posttest design, evaluating the effects of the Early Recognition Method [ERM]. This method aims at the prevention of inpatient violence in forensic psychiatry. Subjects were 116 forensic mental health nurses working on 16 wards of a large Dutch forensic hospital. First, the baseline scores were compared to scores reported in an earlier study conducted in general psychiatry. Second, pretest-posttest comparisons were carried out for all nurses, and for subgroups of nurses with regard to gender, educational level, years of working experience, and patient population. Third, pretest-posttest comparisons were made on the PCQ-item level.

Results: The baseline scores of male nurses indicated significantly higher levels of concern than those of female nurses. In addition, more experienced nurses scored significantly higher with regard to concern than less experienced nurses. When comparing the scores before and after applying ERM, no significant differences were found. However, the sores of female nurses showed a tendency toward more concern after implementation of ERM.

Conclusions: Detached concern may be a meaningful concept in forensic mental health nursing in measuring nurses' concern for their patients. Levels of detached concern did not change significantly after application of ERM. However, the application of the PCQ could contribute to a better understanding of the interaction between nurses and their patients.

INTRODUCTION

The occurrence of severe aggressive incidents on acute psychiatric wards is a serious problem and can have a great impact on staff; they can trigger feelings of shock, fear, or anger and are often followed by rumination, guilt, or anxiety (Bowers, Brennan, Flood, Lipang, and Olapado, 2006; Camerino, Estryn-Behar, Conway, Heijden van der, & Hasselhorn, 2007; Jonker, Goossens, Steenhuis, & Oud, 2008; Martin & Daffern, 2006; Mason, King, & Dulson, 2009; Needham, Abderhalden, Halfens, Fischer, & Dassen, 2005). Patients also suffer from the consequences of their aggressive behaviour; it is likely that these kinds of behaviours cause conflicts with staff, possibly resulting in coercive measures (Meehan, McIntosh & Bergen 2006; Paterson & Duxbury, 2007). However, nurses are more often confronted with milder forms of aggression, such as verbally abusive behaviour. In many cases, forensic nurses also perceive these "milder" forms of aggression as difficult occupational challenges (Jansen, Dassen, & Groot Jebbink, 2005).

A large proportion of inpatient violence is precipitated by escalating interactions between nurses and patients (Bowers et al., 2006; Kettles, 2004; Nijman, Palmstierna, Almvik, & Stolker, 2005; Paterson & Duxbury, 2007; Rask & Brunt, 2006). In the research literature, increasing attention is devoted to staff management of and attitudes toward inpatient aggression (Björkdahl, Olsson, & Palmstierna, 2006; Bowers et al., 2006; Duxbury & Whittington, 2005; Martin & Daffern, 2006; Mason, Coyle, & Lovell, 2008; Meehan, McIntosh, & Bergen, 2006; Needham et al., 2005). Improvement of the interaction between staff and patients, for example, by collaborating on relapse prevention plans, may lead to a reduction of rates of inpatient violence (Duxbury & Whittington, 2005; Fluttert et al., 2008; Kettles, 2004; Meehan, McIntosh & Bergen, 2006). Bowers et al. (2006) argued that conflicts with patients in acute psychiatric wards can be reduced by improving staff skills in regulating their own reactions to patients and by creating a predictable and safe ward atmosphere. Nurses may also become more confident in managing patients' aggression when they learn to apply risk management interventions and preventive strategies (Martin & Daffern, 2006; Mason, Coyle, et al., 2008). The need for safe and supportive working conditions is vital in forensic care, and nursing care would profit from implementation of evidence-based risk management strategies (Bjørkly, 2004; Morrison et al., 2002).

The quality of the interactions between nurses and patients and the regulation of aggressive behaviours in particular influence patients' and staff members' feelings of well-being (Holmqvist & Armelius 2006; Jansen et al., 2005; Martin & Daffern, 2006; Meehan, McIntosh & Bergen, 2006; Rask & Brunt, 2006; Stringer et al., 2008). Burdening interactions and frequent confrontation with aggression are supposed risk factors for staff burnout (Bowers et al., 2006; Decaire, Bedard, Riendeau, & Forrest, 2006; Dickinson & Wright, 2008; Whittington, 2002). Maslach & Jackson (1981) and Maslach, Schaufeli, and Leiter (2001) claimed that if health care workers succeed in prolonged detached concern in their relationships with patients, this may prevent burnout. Maslach & Jackson (1981) and Maslach et al. (2001) referred to detached concern as being able to moderate "… one's compassion for clients by emotional distance from them…" (p. 400). Betgem (2000) explained that detached concern means that the staff has to neutralize the emotional appeal of patients by an attitude of objectivity and at the same time show emotional involvement in which cynical and distant reactions are avoided. In a survey of 667 Canadian nurses, Leiter, M., & Maslach, C. (2009) found cynicism to be the key burnout dimension. In particular in risk management, nurses' detachment from and concern for patients are more often discussed in relation to a balance between security and treatment. In this respect, Mason et al. (2009) described "…the tension between professional

knowledge and public outcry in the event of an untoward incident" (p. 217) could cause nurses to perceive fear, abuse, failure, loss, and countertransference. Nurses' interactive skills should contribute to the de-escalation of tense situations and encourage patients to participate in relapse-prevention strategies (Fluttert et al., 2008; Jonker et al., 2008; Mason, King & Dulson, 2009; Meehan, McIntosh & Bergen, 2006).

The Early Recognition Method [ERM] is a risk management strategy with emphasis on the interaction between staff and forensic psychiatric patients aiming at prevention of inpatient violence (Fluttert et al., 2008). In applying ERM, nurses teach patients how to explore and describe their personal early signs of violence. The patient and nurse evaluate the patient's behaviour systematically to recognize the

warning signs at an early stage. When warning signs occur, nurses encourage patients to carry out preventive actions to stabilize their behaviour. In ERM trainings, nurses learn to prolong a balanced, nonjudgmental attitude toward patients.

The ERM has been applied since 2003 to forensic patients of a high-security psychiatric hospital in The Netherlands (Fluttert et al., 2008). The policy of this hospital was to improve interaction between staff and patients by applying ERM. It was anticipated that by using ERM, staff would be better able to integrate security with treatment objectives. It was assumed that this would result in a less-restrictive approach and more concern for patients. A study of the ERM involving 168 patients suggested a significant decrease in seclusions and lower severity of aggression after implementation (Fluttert, Van Meijel, Nijman, Bjørkly, & Grypdonck, in press).

The application of ERM, a decrease of incidents, and the degree of detached concern of staff toward their patients were expected to be interrelated. For descriptions of the ERM and its influence on incident rates, the reader is referred to earlier studies (Fluttert et al., in press; Fluttert et al., 2008). In the current article, the focus is on the detached concern of the psychiatric nurses who applied ERM in a maximum security forensic hospital. More specifically, the Patient Contact Questionnaire (PCQ) of Betgem (2000), an instrument aiming to measure the level of detached concern, was used to measure (changes in) the nurses' detached concern. We addressed the following research question: How does Forensic Mental Health Nursing (FMHN) staff score on the PCQ with regard to the level of detached concern before and after applying the ERM?

METHOD

Design

The PCQ was applied in pretest–posttest within a delayed implementation design in which ERM was initiated over 6-month intervals in three ward groups of the hospital under study (see Fluttert et al., in press). The study procedure was reviewed by

the Nursing Science Department of Utrecht University and approved by the Research Department of the forensic psychiatric hospital involved in the study. The study was conducted between January 2003 and June 2005.

Subjects and Setting

All 192 nurses working on one of the 16 wards were eligible for participation in this study. Although in most countries nursing staff members in forensic psychiatric hospitals are registered nurses, in The Netherlands, these staff members are professionals from a variety of disciplines and backgrounds, for example, nurses, social workers, psychologists, former prison guards. However, despite the differences in professional background, daily care to patients is structured and carried out according to a nursing care planning framework. The activities of these staff members in daily care for patients are comparable to those of registered nurses on forensic wards in general psychiatry. In this study, we will refer to the professionals under study as "nurses."

In the hospital under study, detachment and concern in daily relation with patients were acknowledged to be important issues. A previous audit of the staff of this hospital revealed that the approach to patients was rather unbalanced: in some cases, staff members appeared to be too much personally involved, but more often staff strongly emphasized security and detachment to patients.

Procedure and Data Collection

All the nurses of the hospital under study were trained in ERM and started to apply ERM with their patients after the training. At T1 (May 2003) and at T2 (December 2005), all participating nurses were asked to fill out the PCQ. To avoid a "threshold effect," by which an innovation does not seem to be effective during the early period after its implementation (Bowers et al., 2006), T2 took place 30 months after T1. Baseline characteristics of staff were derived from hospital records at T1. A demographic questionnaire was attached to the PCQ at T1. With this questionnaire,

additional staff characteristics were obtained, such as years of work experience with forensic patients, occupational background, and highest education level.

Instrument

The PCQ contains 20 statements about behaviours of staff toward patients. Some of the translated) PCQ items are shown in Figure 1. The total scores on the PCQ can range from 20 to 180.

1. Most patients are sympathetic.
   Completely disagree 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 Completely agree
2. The problems of patients are quite understandable.
   Completely disagree 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 Completely agree
3. No matter how difficult patients in contact are, I do not withdraw from them.
   Completely disagree 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 Completely agree

Figure 1: Example of PCQ-items

The questionnaire captures nurses' behaviour in relation to detachment and concern on a continuum, with detachment at one end of the continuum and concern at the other end. The extremes of the spectrum are depicted in the sub ranges I and III. According to Betgem (2000), the middle range of the PCQ represents detached concern, whereas the extremes represents either too much detachment or too much concern. Figure 2 illustrates this.

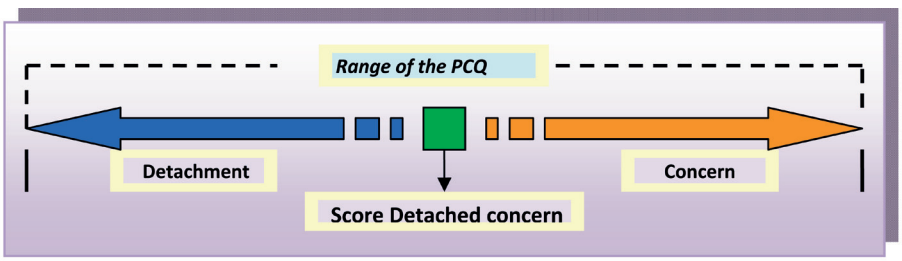

Figure 2: Range of the PCQ (Betgem 2000)

The PCQ in the original study (Betgem, 2000) had an acceptable internal consistency (Cronbach's alpha) of .7 and a normal distribution of the scores. Factor analyses did not reveal subscales; the PCQ is to be considered a one-factor instrument measuring the level of detached concern of psychiatric nurses to their patients. In our study, the Cronbach's alpha was .804 (n = 116).

Data Analyses

The analyses of the scores on the PCQ were performed in two steps. First, the results of this study were compared with a former study conducted in general (nonforensic) psychiatry (Betgem, 2000). Second, the T1 scores, that is, the scores before the ERM intervention was applied (called the treatment-as-usual condition or TAU) were compared with T2 scores (called the ERM condition in this article). We also compared the PCQ T1 (TAU) and T2 scores (ERM) at the item level.

The T1 scores (TAU) were compared with the results of a former study in general psychiatry (Betgem, 2000) using an independent t test. Subgroup analyses were performed at T1 by using Mann–Whitney tests (Field, 2005). The following subgroups were studied: male and female nurses; nurses with medium and high education levels; nurses who had professional experience with forensic patients for 0–1 year, 2–5 years, and more than 5 years; and staff working with patients with personality disorder and those working with patients with schizophrenia. Pretest–posttest comparisons were performed for the total sample and for subgroups, using Wilcoxon signed rank tests for related samples. Subgroup differences in the pretest–posttest measurements were analyzed using the Mann–Whitney test. Finally, to study the PCQ data in more detail, we explored the PCQ scores at the item level applying Bonferroni's correction. This was done to correct for an increasing likelihood that some of the differences will be declared significant even when the null hypothesis is true (Type I error; see also Field, 2005). Bonferroni's corrections were applied tablewise for the significant tests by dividing the P value by the number of items: $p < .05/20$, which yielded a significance level of $p < .0025$. In all calculations, the Statistical Package for Social Science, SPSS-14 was used.

RESULTS

In (TAU), 116 (60.4%) of the 192 nurses eligible for participation completed the PCQ. After removing two outliers, the data were normally distributed, tested with the Kolmogorov–Smirnov test (Field, 2005), which left 116 nurses in the sample. At T2, after ERM was applied by the nurses; 93 nurses (48.4%) completed the instrument. For 60 nurses, a paired analysis could be carried out because they completed the PCQ both at T1 and T2.

Demographic Characteristics

Of the 116 nurses who completed the PCQ before ERM was applied, 67 (57.7%) were men; 58 (50.0%) were educated at medium level, whereas 56 (48.3%) were educated at high level. The mean years of experience working with forensic patients was 8.7 (SD = 7.3). Of the nurses who did not respond to the PCQ at T1 (n = 76), 47 (61.8%) were men, 46 (60.5%) were educated at medium level, and the mean years of experience was 9.3 (SD = 7.4). No significant differences in these backgrounds of staff who completed the PCQ at T1 compared with the nonparticipating staff were found.

Results Pertaining to Detached Concern

We compared the scores from our study to the scores reported in a previous study in general psychiatry. In this previous study by Betgem (2000), the PCQ scores (n = 224) had a mean score of 121 (SD = 15). This was located significantly further along the spectrum toward “concern” compared with the T1 (TAU; n = 116) scores (116 SD 12) from our study, $t = 3.16$, $df = 115$, $p < .01$.

In Table 1, the PCQ scores at T1 of the various subgroups are presented. A look at the table shows that the scores of male nurses showed significantly higher levels of concern (118, SD = 13, Mdn = 118) than those of female nurses (114, SD = 11, Mdn = 114), $U = 1267.5$, $z = -2.092$, $p < .05$, $r = .19$. Apart from that, nurses with more than 5 years of experience with forensic patients scored significantly higher on concern for their patients (119, SD = 12, Mdn = 117) compared with nurses with

2–5 years of experience (112, SD = 12, Mdn = 111), U = 796.5, z = −1.336, $p < .05$, $r = .25$. There were no significant differences in the detached concern scores between groups with different educational levels, neither was the patient category for whom staff members were caring (i.e., schizophrenic vs. personality disordered patients) significantly associated with the detached concern scores.

Table 1: Nurses' DC scores in TAU

	All N=116	Male Nurses n=67	Female Nurses n=49	Medium Education Level n=58	High Education Level n=56	A 0-1 years experience n=13	B 2-5 years experience n=35	C >5 years experience n=65	Sub-group Schizophrenia n=28	Sub-group Personality Disorder n=46
Mean	116 SD12	118 SD13	114 SD11	117 SD14	116 SD11	118 SD13	112 SD12	119 SD12	116 SD14	113 SD11
Median	116	118	114	116	116	119	111	117	115	113
Mann-Whitney test		z=-2.092, p=.036*		z=-.150, p=.881		**A versus B** z=-1.336, p=.181			z=-1.082, p=.279	
							B versus C z=-2.466, p=.014*			

* p<.05

The detached concern scores at T1 (TAU) were compared with those at T2 (ERM) for all the nurses who completed the PCQ at both points in time (n = 60; Table 2**).**

Table 2: Scores on PCQ

Related samples	T1 (TAU)	T1 Median	T2 (ERM)	T2 Median	Wilcoxon signed -rank Test	P value
All n=60	118 SD12	117	118 SD11	120	z=-.368	.71
Male nurses n=38	120 SD12	120	117 SD10	118	z=-.983	.33
Female nurses n=22	115 SD13	114	120 SD11	123	z=-1.87	.06
Medium education level n=29	119 SD13	117	118 SD11	120	z=-.388	.70
High education level n=30	118 SD12	117	118 SD11	119	z=-.154	.88
0-1 year experience with forensic patients n=5	122 SD15	121	124 SD9	122	z=-.674	.50
2-5 years experience with forensic patients n=18	114 SD10	114	113 SD11	113	z=-.398	.70
>5 years experience with forensic patients n=36	121 SD11	121	120 SD11	121	z=-.522	.60
Nurses caring for patients with schizophrenia n=14	118 SD13	120	118 SD7	118	z=-.157	.88
Nurses caring for patients with personality disorder n= 21	114 SD11	114	115 SD10	117	z=-1.200	.23

As can be seen in Table 2, no significant differences in PCQ scores were found before and after the implementation of ERM. The scores of female nurses (n = 22) showed a tendency toward more concern (Mdn = 114 and 123, P = .006). The median of male nurses moved in the direction of detachment. This change, however, was not significant (p = .33). In TAU and in ERM, nurses with 0–1 year experience scored further toward concern compared with those who had a working experience of 2–5 years; however, these changes were not significant. Finally, we explored in

the paired sample (n = 60) the PCQ scores at the item level by comparing TAU with ERM for each of the 20 items (Table 3). Differences were, however, not significant after Bonferroni's correction at p<0025. Trends were found for the following PCQ items: (a) I feel respect for patients (Item 15; p = .008); (b) The problems of patients are quite understandable (Item 2; p = .010); (c) I always manage to give 100% to my patients (Item 6; p = .012). For Item 15, the respondents showed a tendency toward increased disagreement with the item, for Items 2 and 6, the scores moved toward more agreement.

Table 3: PCQ scores on item level

Items PCQ N=60	T1 (TAU)	T2 (ERM)	Wilcoxon Signed Rank test	P-value
1	5.48 SD 1.5	5.02 SD 1.6	z=-1.977	.048
2	6.36 SD 1.3	6.80 SD 1.0	z=-2.592	.010
3	6.87 SD 1.0	7.07 SD 1.2	z=-1.452	.147
4	7.30 SD .9	7.23 SD 1.0	z=-.428	.668
5	5.43 SD 2.2	5.63 SD 2.0	z=-.779	.436
6	5.77 SD 1.7	6.22 SD 1.7	z=-2.505	.012
7	7.41 SD 1.0	7.70 SD .9	z=-1.996	.046
8	6.78 SD 1.3	6.66 SD 1.5	z=-.775	.438
9	5.64 SD 1.4	5.27 SD 1.6	z=-1.573	.116
10	5.90 SD 1.3	5.95 SD 1.5	z=-.587	.558
11	7.07 SD 1.6	6.75 SD 1.5	z=-1.336	.182
12	7.54 SD .9	7.53 SD 1.1	z=-.157	.875
13	7.12 SD 1.1	6.86 SD 1.1	z=-1.526	.127
14	3.43 SD 1.6	3.30 SD 1.7	z=-.496	.620
15	6.97 SD 1.3	6.41 SD 1.5	z=-2.669	.008
16	1.67 SD 1.0	1.77 SD 1.2	z=-.459	.646
17	7.24 SD 1.3	7.17 SD 1.2	z=-.366	.714
18	7.38 SD 1.0	7.17 SD .8	z=-1.595	.111
19	4.90 SD 1.8	4.54 SD 2.0	z=-1.266	.206
20	2.70 SD 2.0	2.48 SD 1.7	z=-1.159	.246

DISCUSSION

Our findings suggest that staff members working with forensic patients as a group scored significantly further toward distance on the detached concern spectrum when compared with staff members working in general (nonforensic) mental health. On the subgroup level within TAU, the scores of nurses with more than 5 years experience compared with nurses with 2–5 years experience, and the scores of male nurses compared with female nurses, showed significant differences toward concern.

In the hospital under study, only male patients were admitted, of which 55.5% (n = 100) had an antisocial personality disorder (Fluttert et al., in press). These patients in particular have difficulty regulating their frustrations and aggression, also in contact with nurses (Koekkoek, Van Meijel, & Hutschemaekers, 2006; Mason, Lovell & Coyle, 2008; Mason, King & Dulson, 2009). They often have difficulty to discuss these kind of behaviours, and this may particularly be the case with female nurses. Many of these patients, admitted to the hospital under study, grew up in a social context where men are considered to be superior to women and where men do not allow women to interfere when problems arise. To work with these patients, nurses should be aware that they need to keep detachment and concern in balance: to keep in contact with these patients and at the same time be a role model for respectful communication. In this respect, in particular, the PCQ scores of female nurses (n = 22) changed, however not significantly, in the direction from detachment to concern.

Experience in terms of duration of employment at a forensic hospital is an important factor in developing FMHN skills from novice to expert level (Jonker et al., 2008; Lauvrud, Nonstad, & Palmstierna, 2009; Leiter & Maslach, 2009; Mason, Lovell, & Coyle, 2008). In TAU and in ERM, newly employed nurses (0–1 year experience) scored further toward concern compared with those who had worked 2–5 years with the same patient group. The most experienced nurses (>5 years) scored significantly further toward concern compared to nurses employed 2–5 years. It may be that these differences reflect the following process: When nurses start working in a forensic hospital, they often are very dedicated to their work and allow themselves to be

concerned about patients. However, when nurses start to experience inpatient manipulation or aggression in their first year at the hospital, they may cope with this phenomenon by becoming more cautious and taking a more detached attitude (Lauvrud et al., 2009; Mason, Lovell & Coyle, 2008). Probably, it takes some years of experience to allow oneself, more deliberately, to have more concern for patients. Alternatively, it may be that staff that care for their patients and work are the ones that continue to work in forensic psychiatric for longer periods and are therefore overrepresented in the group of staff members with 5 years of working experience or more.

Further, we hypothesized that the participating nurses, due to their training in ERM and subsequent application of this method in nursing practice, would show a shift from a repressive, detached-like attitude toward a more concern-oriented attitude toward patients. This result, however, was not found for the total sample, although there was a tendency ($p = .06$) for female nurses significantly to score further toward concern when ERM was being carried out. In the ERM training, in particular, attention was paid to how to achieve this balance by reacting neutrally to patient's attempts to frustrate the collaboration between patient and nurse (Fluttert et al., 2008). These kinds of skills prevent nurses from getting too involved in patients' efforts to have the nurse feel personally responsible for the patient's situation. On the other hand, the ERM skills enable nurses to understand patients' behaviours as expressions of behavioural deficits.

On item level of the PCQ, low, but not significant, p-values were found with regard to the scores of nurses who indicated that they more "strongly disagree" with the statement, "I feel respect for patients." One might expect that applying ERM would improve the collaboration between nurse and patient, resulting in increasing respect. However, ERM may also reveal the hostile side of patients: The weekly discussion about risk behaviour can be confrontational for patients, who then often resisted and rejected nurses' efforts to apply ERM. Nurses have to bear and manage these kinds of behaviours: This might explain the trend toward a decreased feeling of respect for patients.

Nurses more often indicated that they "strongly agree" with the statement, "I always manage to give 100% to my patients" and "The problems of patients are quite understandable." Particular attention was given to the latter item in the ERM training, for example, in explaining the model of Hiday (1997). It was explained to nurses which factors may be related to the occurrence of violence in forensic psychiatric patients. In addition, by applying ERM, nurses gain more insight into patients' backgrounds and the reasons for aggression. Probably, it is the combination of acquiring more knowledge about the causes of aggression from a theoretical and research standpoint, and in a systematic way gaining more understanding of patient-based aggression that result in nurses becoming more dedicated to their patients.

This study has several limitations. The number of nurses in the subgroups of paired samples was small, which limits the statistical power of the analyses. Because of the lack of standardized norms for PCQ scores, the scores from this study only could be interpreted in a descriptive way. Betgem (2000) developed the PCQ to measure the level of detachment or concern in relation to work stress and burnout. He applied this instrument to nurses in general psychiatry to validate the PCQ. He concluded from this study that the subrange "concern" was less related to burnout than he originally hypothesized. Therefore, detached concern as an optimal middle range has to be interpreted with caution. Likewise, the results of this study have to be interpreted with caution; the values of the mean PCQ scores indicate how nurses scored on average on the continuum between detachment and concern. We do not know whether this position is related to more or less successfully applying ERM and to the occurrence of (severe) aggressive incidents (Fluttert et al., in press). Apart from that, this study was carried out in a single hospital where both the experimental and the control conditions were applied in a delayed implementation design. This may have caused contamination between TAU and ERM due to exchange of information and experiences between the professionals working in both research conditions.

We recommend further research of measures on detached concern of nurses working with forensic patients and with patients admitted to general psychiatric hospitals. Results of such measures could be linked to the incident rate of inpatient

violence to explore the relation between detached concern and inpatient aggression. Acquiring more insight into the impact of nurses' detached concern in patient care and treatment may prove to be an important contribution to the development of clinically optimal nurse–patient relationships.

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Chapter 7

General Discussion

INTRODUCTION

Patients who are involuntary admitted to a highly-secured forensic hospital in general feel severely affected in their autonomy. After several intensive assessments by a psychologist, psychiatrist and possibly other experts, the judge gave the patient a custodial sentence in a forensic hospital (van Marle 2002). Involuntary admission to a forensic hospital for most patients is a stressful event (Meehan, McIntosh & Bergen 2006). Patients don't know what to expect from their stay in hospital and they don't know how long their sentence will be. During their stay they are highly dependent on individual staff members who decide which behaviours are allowed and which are prohibited. At the same time, the psychiatric disorders of these patients may limit their ability to cope with stressful events and frustrations. Forensic psychiatric nurses on a daily basis are faced with the challenges of caring for these involuntarily admitted patients, whose psychiatric problems mostly are reflected in expressions of aggression and hostility (Martin 2001, Martin & Daffern 2006, Mason, Coyle & Lovell 2008).

The Early Recognition Method [ERM] was developed in order to provide forensic mental health nurses with a structured risk management strategy (chapter 2). The ERM is a structured framework in which nurses and patients collaborate in detecting and managing early warning signs of aggression. The concept of Early Recognition among others is based on the notion that patients themselves are in a position, or can learn, to signal the precursors of aggression which occur in the first phase of deterioration. The Forensic Early Signs of Aggression Inventory [FESAI] was developed in order to assist nurses and patients to identify these early warning signs systematically (see chapters 4 and 5). With regard to the interaction between patients and nurses, nearness and distance (referred to as *Detached Concern*) was also examined in this thesis (chapter 6) in forensic nurses who participated in the ERM program. Thereby we aimed to contribute to a better understanding of whether applying ERM and Detached Concern were related.

The thesis discussion reflects on the main findings and limitations of the studies and, the possible contribution of ERM to forensic care. More specifically, the following issues will be addressed in this chapter: (1) The results of the application of ERM, (2) The development and application of the Forensic Early Signs of Aggression Inventory [FESAI], (3) The study of nearness distance (*Detached Concern*) in forensic nurses in relation to ERM, and (4) the potential contributions the ERM process may have to forensic mental health nursing. This is the first ERM study in the forensic field, but the study was performed in only one forensic hospital. This context presented several challenges and constraints for the study which will be discussed in this chapter. Finally, possible directions for future developments and research will be addressed in this chapter, taking into account the limitations of the current studies.

Findings

The ERM was applied to 189 patients of a highly secured forensic hospital, of which 168 patients (88.9%) became involved or participated to a certain extent in using this method. It should be noted that in the subgroup of patients who persistently refused to be involved in the intervention, the mean psychopathy score (measured by means of PCL-R) was 28.3 as compared to 20.5 of the patients who did get involved. The refusal of patients with high psychopathy scores to participate in the ERM is unfortunate, as we know from the literature that these patients relatively often cause (aggressive) incidents in forensic hospitals (e.g., Dolan et al. 2008, Hildebrand, De Ruiter & Nijman, 2004, Vitacco et al. 2009). On the other hand we managed to include 85 patients with anti social personality disorder (50.6% of the 168 involved patients) all of whom were also believed to be often involved in inpatient incidents (Daffern & Howells 2009, Mason, Coyle & Lovell 2008, Nicolls et al. 2009). Apart from that, a considerable subgroup of the involved patients(n=86 or 51.2%) were diagnosed schizophrenia. In the various subgroups of involved patients significant decreases in the number of seclusions and in the severity of incident behaviours (measured by means of the SOAS-R) was found after implementation of the ERM. However no decline was found for patients who had committed sexual offences (see chapter 3). The effect size was most pronounced

for patients diagnosed with a personality disorder, more specifically the subgroups of patients with anti social personality disorder and patients with substance abuse. For patients with schizophrenia the effect size was modest, but significant.

The Forensic Early Signs of Aggression Inventory [FESAI] was developed in order to assist nurses and patients identify patients' personalized early warning signs of aggression. The development of the FESAI was based on the analyses of 167 early detection plans of two forensic hospitals. The face-validity seemed acceptably based on the examination of the items by qualitative research strategies (see Chapter 4). Additionally we interviewed professionals who assessed the content and structure of the FESAI. The FESAI exists of 45 items within 15 categories. The items reflect as well dynamic warning signs, e.g., *responding in a verbally and physically aggressive manner*, also less dynamic and more internalizing early warning signs such as *superficial contact* (Chapter 4 and 5). These signs were described according patients' and nurses' observations and perceptions of early warning signs of aggression. In this thesis only the preliminary stage of the development of the FESAI is described. For instance, it is unknown whether the FESAI, as it was developed, covers all possible early warning signs, for this reason an open category for *Other early warning signs* was added to the instrument. Apart from that it is unclear at this moment which of the FESAI items can only be perceived by the patient himself or can also be observed by others. Therefore the FESAI, certainly in this stage of development, is meant to assist nurse and patient in their collaborative search for patient' early warning signs.

Forensic mental health nurses interact with patients on a daily basis, and play an important role in risk management and the prevention of aggression (Martin 2001, Martin & Daffern 2006, Mason, King & Dulson 2009). *Detachment* and *concern* are assumed to be important issues in the interaction between nurses and patients (Betgem 2000, Björkdahl, Palmstierna & Hansebo 2010). ERM was introduced to guide nurses towards more structured interactions with patients. In Chapter 6 we studied the nurses' position from the perspective of *detachment* and *concern*. For this purpose the Patient Contact

Questionnaire [PCQ] was applied measuring the position of nurses on a continuum from complete detachment to complete concern and whether this position was related to applying ERM. At base line measures male nurses significantly scored higher on *concern* compared to female nurses, and nurses with a more experience (> 5 yrs) with forensic patients scored significantly higher on *concern* compared to those with limited experience (2-5 yrs). However no relation was found between PCQ scores and the application of ERM.

HOW THE ERM PROCESS MAY CONTRIBUTE TO FORENSIC CARE

Patients who are involuntary admitted to a highly-secured forensic hospital often lack motivation to participate in treatment programs or risk management strategies. When these patients, in particular those with personality disorder, are invited to get involved in a program, many of them are not able to articulate their resistance with arguments others then to object and /or express hostility (Meehan, McIntosh & Bergen 2006). A pitfall for nurses could be to interpret these reactions as unwillingness only and thereby to conclude that these patients are not capable of profiting from the program (Lewis 2002, Meehan, McIntosh & Bergen 2006, Paterson & Duxbury 2007, Whittington 2002, Duxbury & Whittington 2005). In the application of ERM much attention is given on how to deal with patients' resistance to collaboration. It is explained that the interactions with these patients mostly develop from *exposure to discussion* to *participation in discussion.* A case situation from clinical practice may illustrate how in sequence the conversations between a patient and nurse develop*:* When the nurse invited the patient to participate in ERM, patient's response in the first phase of *exposure* was*: "I won't do anything else than just sit here and drink my coffee!".* Despite these clear verbal rejections, the patient still may listen to the nurse's explanations about ERM. Two months later when the patients was more familiar with the weekly ERM evaluations, his formerly rejection transformed into participation in the *discussion*, even though that may be in a blunt way*: "This so-called ERM is bull-shit; those early warning signs are formulated absolutely wrong!"*. The nurse, however, is encouraged to view such a reaction as a preliminary stage of

the patient getting interested in ERM. Three months after starting ERM evaluations ultimately the patient started arguing about his early signs, which can be understood as a more constructive way of participation. In that phase the patient remarked: *"I am the only one who can explain which early signs are current"*. In other words, going from overt resistance to really taking part in a collaborative process which the ERM aims at, may be a gradual and lengthy process. When forensic nurses intend to apply motivational strategies to their forensic patients, they have to be aware that patients' verbally negative responses still could be the initial beginning of a process of participation.

The ultimate aim of ERM is participation of, and later on self management by, the patient in controlling his aggressive impulses and behaviours. Staff expect the patient to comply with treatment or at least to participate. However, presenting a pre-described treatment to the patient, with no individual choice hardly encourages compliance with treatment or development of confidence in a successful outcome. Moreover Meehan, McIntosh & Bergen (2006) illustrated that – concerning the problem of aggression - patients' perceptions differ from staff regarding the origin of, and response to, inpatient aggressive behaviours. Shared decision making, in which patient and staff collaboratively decide on treatment strategies may encourage the patient to participate in, and comply with, treatment (Stringer et al. 2008). Drake & Deecan (2009) stresses the importance of involving psychiatric patients in decision-making during treatment. When the patient is acknowledged as an autonomous adult who (to a certain extent) has the right to participate in decision-making, this may contribute to better compliance. It places the patient in the center of his own treatment and care process. Drake states that psychiatric patients are seldom incapable of deciding on their own treatment. He objects to the so-called 'circular reasoning' in clinical practice: "*When the client is compliant, shared decision making is a virtue; when there is disagreement about treatment, the client "lacks insight" and shared decision making is a risk".* (Drake & Deecan, 2009, p. 1007). Shared decision

making is also the aim in applying ERM: in all four phases of the ERM protocol nurses are guided to involve the patient actively in the risk management strategy, i.e. when introducing ERM, when drawing up the Early Detection Plan, when monitoring his behaviour, and when describing actions. Nevertheless we are aware that, in particular at the start of treatment forensic patients often lack insight and motivation to participate in their treatment. Then shared decisions are hardly possible. However, from the perspective of nursing care, efforts should be made to involve patients in risk management strategies and start dialogues regarding their behaviours, as is advocated in the ERM protocol.

Instead of ad hoc responses towards disturbing behaviours, in the ERM interactions, nurse and patient discuss patient's aggression and how this could be recognized at an early stage. Next patient's behaviours and the possible occurrence of precursors of aggression are systematically evaluated. In these evaluations nurse and patient interact in predetermined intervals. The next step is to teach the patient to monitor his behaviours himself and starting to detect his early warning signs in everyday situations. The Early Detection Plan, in which patients on a weekly basis score their early warning signs, offers a concrete document to work with. The monitoring of the early warning signs in the individual patient may allow for early intervention. This could be achieved in a three step process: (1) Nurses observe patient' behaviours systematically in order to detect recurrent sequences of early warning signs and apply interventions at the earliest point and in a less restrictive and intrusive way, (2) Patient and nurse collaborate within the same agenda, meaning working with the early detection plan, and (3) The patient carries out interventions (coping) himself without further help from the nursing staff. When in the inpatient situation nursing staff notices progress in the patient's self management in using his Early Detection Plan, letting the patient prolong this in the rehabilitation phase could be considered. In a general sense, but also in case of ERM this of course has to be put in practice with caution. We do not know whether potential skills and insights

acquired with ERM endure in the outdoor context; the main aim of ERM, in this first phase of forensic application and research, was to contribute to risk management skills for patients staying at inpatient wards and a safer work environment for nurses.

The systematic approach of ERM, may contribute to nurses interacting as professionals in risk management. Mason, King & Dulson (2009) studied nurses' roles within the context of binary themes, e.g., confidence versus fear, and success versus failure with regard to nurses' endeavors to contribute effectively to forensic care and treatment. One of the findings of that study is that forensic mental health nurses show little confidence in their ability to manage patients' dangerous behaviour, while the fear they experience in their work is relatively high. In the hospital under study, before ERM was introduced, the response towards inpatient aggression was often of a restrictive nature by means of applying coercive measures such as seclusion. ERM was introduced in order to provide nurses with a structured approach to act more professionally in risk management and proactively start dialogues with their patients on hostile and aggressive behaviours. Also from the angle of prevention towards inpatient aggression, ERM may assist nurses in their endeavors to interact in advance of the occurrence of aggression. For the patients involved in ERM, the number of seclusions decreased. Moreover the severity of inpatient incidents also decreased (see Chapter 3). From the viewpoint of the nursing process in forensic care, ERM may contribute to nurses being professionals applying a systematic, stepwise approach in risk management. Nurses achieved interaction with their patients resulting in weekly evaluations between nurses and patients regarding the Early Detection Plans (see also Chapter 3).

LIMITATIONS

ERM is a risk management strategy for forensic mental health nursing aiming at an effective management of patients' aggression. As mentioned before, this first study on ERM could only be performed in one forensic hospital. In this

particular hospital only male patients are admitted, all of whom all resided at maximum security inpatients wards. Clearly, one can question the degree to which the current results can be generalized to other forensic psychiatric populations and samples. Apart from that, the current results are limited to the inpatient situation only, and therefore we do not know whether patients would still use ERM skills they may have learned over time in outdoor situations. The hospital consists of separate wards for patients with schizophrenia, for patients with personality disorder and one ward for sexual offenders. Moreover this hospital is located in one building where most of the patients and staff members can meet each other. This particular context may have influenced the results. In order to control for biasing factors, a randomized clinical trial would be the optimal research design. In the clinical reality of the forensic psychiatric hospital under study, however, random assignment to a intervention or a control condition did not appear possible, neither for patients, nor for wards. Due to the lack of a untreated control group, we cannot rule out that the found reduction of aggression after the implementation of ERM is not the result of factors other than the intervention. In this hospital all kinds of other interventions are applied that may have produced a decline of aggression as time progressed (e.g., psychotherapy). Nevertheless, by applying the delayed implementation design and one-way case cross-over design (see Chapter 3), in which over time patients were included in both the pre-intervention control condition as well as in the post intervention 'experimental' condition, we tried to decrease the threats to internal validity.

The application of ERM was studied in relation to the *occurrence of aggressive behaviour*, as assessed by means of SOAS-R (Staff Observation Aggression Scale Revised, Nijman et al. 1999, 2005). The SOAS-R was retrospectively scored based on the description of inpatients incidents, derived from hospital records. Due to hospital circumstances it was not possible to score the SOAS-R immediately after an incident occurred. Information bias, such as lack of accuracy in the retrospective recording and scoring of incidents, could have influenced the results on the SOAS-R. However, as is outlined in Chapter 3, we did put effort in checking reliability of the SOAS-R

by examining the similarity of the SOAS-R severity ratings when scored immediately following an incident versus in retrospect based on records for the same incident.

The aim of applying the Forensic Early Signs of Aggression Inventory [FESAI] is to facilitate patients and nurses discussion in describing early warning signs, which in the patients' and nurses' views are an indicative risk for aggression. The FESAI items are presumed to be related to the occurrence of aggression. However, we did not examine the extent to which the behaviours and perceptions, as described in the items, are indeed statistically related to the occurrence of aggressive behaviours. Neither do we know which items are aggression-distal, meaning warning signs as part of a sequence of warning signs distant to aggression and which are more aggression-proximal warning signs. Nevertheless, the recorded early warning signs are derived from the experiences from two hospitals (see Chapter 4) in which the focus is the exploration and management of inpatient aggression.

Nurses' behaviour or interaction style was examined in terms of their *detached-concern* towards their patients (Chapter 6). The Patient Contact Questionnaire [PCQ] was used for this purpose, which initially was developed for general psychiatry. In the current study, the PCQ was applied for the first time in forensic psychiatry. The initial PCQ was developed in a study by Betgem (2000), yet still little research has been done on the validity of the instrument. Therefore the current results of the PCQ have to be interpreted with caution. Due to lack of a standardized norms for the PCQ-scores and the lack of a norm for the preferable middle range on the continuum between detachment and concern, the results could only be presented and interpreted in a descriptive way. Apart from that, at the start of the *detached-concern* study in this thesis, 192 nurses were eligible for inclusion. Only 60 nurses, however, and even smaller numbers in the subgroups, could be included for the paired analyses (see Chapter 6). These small samples, limit the power of the analyses. The values of the mean PCQ-scores indicate how nurses scored on average on the continuum between detachment and concern. We don't know whether this position is related to more or less successfully applying ERM.

DIRECTIONS FOR FUTURE RESEARCH

Taking into account the above limitations of this study, various follow-up studies can be recommended. Replication of this study is necessary to gain more knowledge as to whether the results of this study are related to the ERM intervention. Preferably (if feasible in practice), such a study should incorporate randomized experimental and control conditions. From a methodological perspective it would be interesting to study ERM in a prospective design in which patients or wards could be assigned to 'control' or 'intervention' condition, even if the randomization for practical reasons could only be taken on the ward level (see Abderhalden et al. 2008). Apart from that, more examination of ERM in subgroups of patients could advance knowledge with regard to potential differences in effects of ERM in the various patient groups. Follow up studies in patients who apply ERM for longer time and in rehabilitation phase could reveal if ERM skills sustain in other treatment conditions and after treatment.

More follow up research is necessary with regards to the psychometric characteristics of the Forensic Early Signs of Aggression Inventory [FESAI] and Patient Contact Questionnaire [PCQ]. The FESAI has to be further validated with regard to, e.g., prospective research on the relation between items of the FESAI and occurrence of inpatient aggression, how the items could be interpreted with regard violent-distal versus violent-proximal behaviours and in if FESAI-items could be perceived only by the patient or also observed by nursing staff.

Further validation of the PCQ, may reveal if standardized norms could be developed for the forensic field. Qualitative research may further explore the concept of *detached-concern*. For instance, it could be studied whether *detached-concern* is related to nearness-distance or related to other concepts, such as transference and counter- transference between patients and nurses. *Detached-concern* in this study addressed nurses' views on, and interactional styles towards their patients. A challenge may be to explore patients' views on nursing staff (Meehan, McIntosh & Bergen 2006, Duxbury & Whittington 2005) by reversing the concept and study *detached-concern* of

patients to their mentor nurse. It may also be worthwhile to study nurses' *detached-concern* in relation to patient's commitment and exposure to ERM.

So far ERM is mainly discussed in relation to inpatient aggression, however, the main aim for treating forensic patients is the prevention of relapse into severe violence such was the case in patient's index offence. The context of an inpatient ward in a forensic psychiatric hospital is that of a rather controlled and safe environment. Stressful events on the wards may hardly mirror the severity and stress patients may have faced while committing the offences in society for which they were convicted. Future research should aim to enlighten if ERM could be modified in order to contribute to the management of early indicators of offence related behaviours.

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Chapter 8

Summary

Samenvatting

Dankwoord
(Acknowledgement)

Curriculum Vitae

Forensic mental health nurses work in a complex and dynamic field. Their main concerns are *security versus therapy*, *dangerousness* and *management of violence*. They take care of forensic patients convicted for an offence for which they were assessed not to be fully accountable due to their psychiatric disorder. For most forensic patients the core problem is to control their aggression. Forensic mental health nurses are members of a treatment team in which therapeutic goals are set which emphasize the management of violence aiming to rehabilitate the patient to society. Within this context nurses work with disturbed patients who are involuntarily admitted and often express, in aggressive behaviours, their rejection of, and hostility to, their admission. Nurses must manage these behaviours to create and maintain a safe living and learning environment for all patients on the ward. Aggression, in this thesis, is defined as Morrison (1990) did as: '*any verbal, non-verbal, or physical behaviour that is threatening (to self, others or property), or physical behaviour that actually does harm (to self, others or property)'.* Forensic researchers have developed risk assessment instruments in order to identify precursors of aggression on the basis of clinically dynamic factors. Despite these efforts, the onset and escalation from mild forms of agitation to aggression remains unclear. Another limitation of using risk assessment instruments may be that patients generally do not play an active role in the risk assessments and hence their capacities of self-management to prevent aggression are not addressed. Forensic mental health nurses need risk management strategies guiding them in teaching patients how to manage their aggression. However, these strategies are currently hardly available.

A step towards better management of patients' aggression may be the development of strategies for a joint effort of forensic nurses and patients to (1) recognize the individual early warning signs of aggression during the first phase in which they occur, and by this (2) to execute preventive actions to minimize the risk of actual occurrence of aggression. The Early Recognition Method [ERM] aims at providing forensic mental health nurses with a structured risk management strategy which enables them to interact with their patients in managing patients' aggression.

This thesis describes the concept of early recognition and how the ERM was applied in a highly secured forensic hospital in The Netherlands.

In **Chapter 2** the concept *early recognition* is clarified for the field of forensic mental health nursing. Early recognition approaches risk management from the perspective of deteriorating behaviour. In early recognition of aggression, special attention is paid to the social and interpersonal factors related to the individual behaving aggressively. Several intra- and interpersonal factors are related to aggression, in combination with factors in the social context, such as poverty and stressful life-events. At the level of the individual patient, the theory of social competence outlines that patients' individual perceptions and reactions to events are influenced by personality characteristics, life experiences and interpersonal skills. So-called core beliefs (or personally based convictions) appear to play an important role in shaping reactions to events. Patients with schizophrenia in psychotic episodes, may experience feelings of threat and loss of control, the so called 'threat control-override symptoms', which are associated with violent behaviours. Deficits in both the interpersonal and personal factors may intertwine and contribute to patients being vulnerable to aggressive responses to stressful events. From this perspective, certain thoughts, feelings, and behaviours of the patient can indicate the onset of aggression and early recognition of these warning signs can help thwart such deterioration.

The aviation metaphor of a black box is utilized to emphasize the importance of attention to early warning signs. The focus is on patient's "mental black box" upon the reconstruction of those events leading up to the incident instead of only analyzing the incident itself after it occurred. Or in terms of aviation; collisions between airplanes occur so suddenly that consideration of the total flight from start until collision with emphasis on the start of deterioration, is considered most informative.

The concept of *early recognition* within a forensic context aims at the description and exploration of the early signs of deteriorating behaviour in situations associated with aggressive patient behaviour with the patients themselves. These early signs can be defined as the perceptions, thoughts, and behaviours of the patient

occurring prior to the occurrence of aggressive behaviour. This concept is based upon the proposition that patient behaviour deteriorating towards aggression is idiosyncratic but nevertheless reconstructable like a "signature." Once reconstructed, this signature can be used to detect early signs of deterioration in order to prevent aggressive behaviour.

The Early Recognition Method [ERM] provides an approach in which patients and nurses try to gradually attune to aggressive behaviour. In ERM interactions, nurse and patient discuss the patient's aggression and how the precursors of aggression could be recognized at an early stage. Next the patient's behaviours and the possible occurrence of precursors of aggression are systematically evaluated in predetermined intervals. The next step is to teach the patient to monitor his behaviours himself and to start to detect his early warning signs in everyday situations. The Early Detection Plan [EDP], in which patients on a weekly basis score their early warning signs, offers a concrete document to work with.

Chapter 3 describes the ERM intervention study. The main purpose of this study was to explore the effects of using ERM with involuntarily admitted patients residing at a maximum security forensic hospital in the Netherlands. The hypothesis of this study was that patients who become actively involved in ERM will become less aggressive and therefore will undergo seclusion less often. The following research questions were leading: (1) What are the characteristics of patients who did become involved in ERM compared to those who didn't comply with the intervention?, and (2) Is the number of seclusions, as well as the severity of aggressive behaviour, reduced after the ERM intervention is applied?

A delayed implementation of the ERM intervention was used. The 16 wards of the hospital participating in the study were allocated to three study groups. The intervention was initiated in all the wards at six month intervals over 30 months. Using a one-way case-crossover design, where cases were their own controls, the effects of ERM were assessed by comparing the number of incidents during 'Treatment As Usual' [TAU] with the period after ERM was implemented. The outcome measures

were the number of seclusions and the severity of inpatient incidents, as rated retrospectively on the Staff Observation Aggression Scale – Revised based on reports in the hospital files.

The number of seclusions in the TAU-condition was compared with those in the ERM-condition by means of a Chi square test. Within patients the number of seclusions and severity of incidents in TAU were compared to ERM by means of the Wilcoxon signed rank test. Additionally, an 'incident-severity-index' was created in order to compare TAU with ERM for the severity of incidents, also based on the retrospective ratings on the SOAS-R.

Of a total of 189 male patients who were eligible to be included, 168 (88.9%) actually were involved in the intervention, whereas 21 patients (11.1%) persistently refused to be involved. These refusing patients scored significantly higher on psychopathy compared to the patients who did participate in the intervention. No significant difference, however, was found with regard to the prevalence of antisocial personality disorder in the two groups.

A significant decrease in seclusions from 219 in TAU to 104 in ERM was found for the 168 patients that became involved in the intervention, [Chi-squared (1) = 22.82 $p < 0.001$]. The rates of seclusion per patient per month, as well as the mean severity of the incidents, in the 168 patients, decreased significantly when comparing TAU with ERM. The seclusion rate per patient per month decreased from a mean of 0.13 (SD 0.33) to 0.05 (SD 0.13) [$z=-4.264$, $p=0.000$, $r=-0.23$]. The severity of the incidents, calculated by the incident-severity-index, decreased from 1.38 (SD 4.18) to 0.56 (SD 1.75) [$z=-4.071$, $p<0.001$, $r=-0.22$]. Significant decreases in seclusions as well as in severity of incidents were found in the following patient subgroups: patients with schizophrenia, patients with anti-social personality disorder and patients with substance abuse. Patients convicted of sexual offences did not show significant improvement after participation in the intervention.

As this study did not have a randomised controlled design the results clearly cannot be seen, however, as proof that the ERM intervention lead to the decrease in incidents. Random assignment of subjects, however, was not possible given the

conditions under which the study had to take place. Nevertheless, the results suggest that ERM may be an innovative and promising risk management strategy for forensic psychiatric patients, but further controlled studies are needed.

In **Chapter 4** of this thesis the focus is on the identification of early warning signs. The Early Recognition Method [ERM] aims at helping patients to recognize their own early warning signs of aggression, which they describe in the so called Early Detection Plan [EDP] (see also Chapter 2). A major obstacle in current clinical practice is that there hardly are instruments or tools available to support patients and nurses to collaboratively assess relevant early warning signs of aggression in a structured way. For this purpose, the Forensic Early Signs of Aggression Inventory [FESAI] was developed. Using the FESAI the nurse and patient together explore which items of the FESAI represent the patient's early warning signs of aggression, after which nurse and patient elaborate on theses early warning signs in the EDP.

Both qualitative and quantitative research strategies were used to develop the FESAI. One hundred and seventy six early detection plans containing a total of 3768 "early sign" phrases of two forensic hospitals were studied in order to construct a list of early warning signs of aggression. The first draft of the inventory was constructed by merging and categorizing these early warning signs. Following this, forensic nursing professionals assessed the face validity of the FESAI and inter-rater agreement was tested.

The FESAI finally contains 44 early warning signs of aggression subdivided into 15 categories. The face validity of the FESAI was judged to be adequate and the inter-rater agreement was satisfactory. It is hoped that the FESAI is a useful listing of early warning signs of aggression in forensic patients, which may facilitate the construction of EDPs for the prevention of aggressive behaviours in forensic psychiatry. However, as this is the first study in developing the FESAI, more research is necessary for further validation of this inventory.

In **Chapter 5**, a follow-up study on the use of the FESAI is presented. In this study, the following research questions are addressed: (1) What is the specific nature and prevalence of early warning signs of aggression – as measured with the FESAI - in two samples of forensic patients? And; (2) Do patients with different diagnoses and different types of offending behaviour in their history, display different profiles of early warning signs? In this descriptive study, EDPs of 171 patients of two forensic hospitals were examined for early warning signs of aggression. These warnings signs were compared by means of rank order correlations for subgroups of patients with similar diagnoses, types of offences and for psychopathy, as assessed by means of the Psychopathy Checklist-Revised [PCL-R].

The results show that the 171 Early Detection Plans contained 1478 early warning signs. Almost half of the recorded early warning signs (48.7%) fell within the categories *Anger, frustration and/or tension, Social isolation, Decreased social contact* and *Changes of daily activities.* Patients with a PCL-R score of 26 or higher scored relatively often on the item *Increasingly overstepping other's boundaries, humiliating and/or cynicism/sarcasm.* The FESAI results of the subgroup of patients showed considerable similarities. In the ranking of early signs, between subgroups a rank correlations varying from r=0.614 to r=0.856 was found. Applying the FESAI could reveal early warning signs of aggression, which could be observed by others, and, importantly, also those which could noticed by the patient themselves.

Chapter 6 addresses the interaction between forensic mental health nurses [FMHN] and patients. Improvement of the interaction between nurses and patients in the framework of ERM may lead to a reduction of inpatient violence and positively influence patients' and nurses' feelings of well-being. Burdening interactions and frequent confrontations with aggression are assumed to be related to staff-burn out. The literature suggests that health care workers succeeding in prolonged *detached concern* in their relationships with patients, may prevent burn-out. *Detached-concern* could be defined as the capacity to moderate one's compassion for patients by taking some emotional distance from them. It was investigated whether the application

of ERM and the degree of detached–concern of staff towards their patients were interrelated. The nurses' *detached-concern* was measured by the Patient Contact Questionnaire [PCQ]. We addressed the following research question: *How does FMHN-staff score on the Patient Contact Questionnaire with regard to the level of detached-concern before and after applying the Early Recognition Method?*

The PCQ was applied in the study evaluating the effects of the Early Recognition Method (ERM). Subjects were 116 forensic mental health nurses working on 16 wards of the similar forensic hospital where the ERM intervention was implemented (see Chapter 3). The baseline scores were compared to scores of a former study conducted in general psychiatry (Betgem 2000) by calculating an independent t-test. Apart from that, pre-post test comparisons - by means Wilcoxon signed rank tests - were made for all nurses as well as for sub-groups of nurses with regard to gender, educational level, years of working experience and the type of patients they were working with. Pre-post test comparisons were also made on the PCQ item level applying a Bonferroni correction.

In the TAU-condition (T1), 116 (60.4%) of the 192 nurses eligible for participation completed the PCQ. At T2, in the ERM-condition, 93 nurses (48.4%) completed the instrument. For 60 nurses a paired analysis could be carried out as they completed the PCQ both at T1 and T2. Of the 116 nurses who completed the PCQ at T1, 67 (57.7%) were male, 58 (50.0%) were educated at medium level, whereas 56 (48.3%) were educated at high level. The mean years of working experience with forensic patients was 8.7 (SD 7.3). Of the nurses who didn't complete the PCQ at T1 (n=76), 47 (61.8%) were male, 46 (60.5%) were educated at medium level and the mean years of experience was 9.3 (SD 7.4). No significant differences in the background characteristics of staff who completed the PCQ at T1 compared to the non-participating staff were found.

At T1, male nurses showed significantly higher levels of concern than female nurses. More experienced nurses scored significantly higher with regard to concern than less experienced nurses. The mean PCQ-scores of a previous study in general psychiatry [n=224] (Betgem 2000) had a mean score of 121 (SD 15) which was located

significantly further along the spectrum towards 'concern' compared with T1 [n=116] scores (mean 116 SD 12) in our study [t=3.16, df=115, p<0.01]. When comparing the scores before and after applying ERM no significant differences were found. The sores of female nurses, however, showed a tendency towards more concern after implementation of ERM.

In theory, *detached-concern* could be a meaningful concept in forensic mental health nursing in measuring nurses' concern to their patients, yet little research on this topic has been conducted so far. In fact, the study described in this thesis to our knowledge was the first one addressing *detached-concern* in forensic care by means of the PCQ.

Finally in **Chapter 7**, the findings of this thesis are discussed and potential directions for future research are addressed. Taking into account the limitations of the current study on the ERM intervention, further research is recommended. Preferably (if feasible in practice), such a study should incorporate randomized experimental and control conditions. Apart from that, follow-up studies with controlled designs, in patients who apply ERM for longer time and well into the rehabilitation phase are needed to reveal whether skills that patients may have learned by applying ERM can be sustained in other treatment conditions and after discharge from the hospital.

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Chapter 8

Summary

Samenvatting

Dankwoord
(Acknowledgement)

Curriculum Vitae

Sociotherapeuten[1] werken in een complex en dynamisch veld. Hun belangrijkste aandachtsgebieden zijn *beveiliging*, *therapie*, *gevaar* en het *management van geweld.* Zij hebben de zorg voor forensische patiënten die veroordeeld zijn voor een delict waarvoor de patiënten niet geheel toerekeningsvatbaar zijn vanwege een psychiatrische stoornis. Voor de meeste forensische patiënten is het centrale probleem het beheersen van agressie. Sociotherapeuten zijn leden van het behandelteam waarin doelen worden gesteld gericht op onder meer het beheersen van geweld en resocialisatie van de patiënt. Binnen deze context werken sociotherapeuten met patiënten met psychiatrische stoornissen die onvrijwillig opgenomen zijn en vaak hun afwijzing van de opname afreageren met agressief gedrag. Sociotherapeuten moeten deze interacties effectief managen om een veilige leef- en leeromgeving te creëren en deze te handhaven voor alle patiënten op de afdeling. Agressie is in dit proefschrift gedefinieerd volgens Morrison (1990): '*Ieder verbaal, non-verbaal, of fysiek gedrag dat bedreigend is (voor de patiënt zelf, voor anderen, of voor objecten), of fysiek gedrag dat daadwerkelijk schade aanricht (aan de patiënt zelf, aan anderen, of aan objecten)'.* Forensische onderzoekers hebben instrumenten voor risicotaxatie ontwikkeld om de voortekenen van agressie te identificeren op basis van klinische dynamische factoren. Ondanks deze inspanningen blijft het procesmatige ontstaan van agressie grotendeels onduidelijk. Een andere beperking van het gebruik van deze instrumenten kan zijn dat patiënten gewoonlijk geen actieve rol spelen in deze vorm van risicotaxatie. Daardoor worden hun vaardigheden in zelfmanagement ten aanzien van agressief gedrag vaak onvoldoende ontwikkeld. Sociotherapeuten hebben *riskmanagement* strategieën nodig die hen de weg wijzen hoe zij patiënten kunnen leren om hun agressie beter te beheersen. Deze strategieën zijn momenteel echter nauwelijks beschikbaar.

Een stap vooruit naar een beter beheersen van agressie van patiënten bestaat uit de ontwikkeling van strategieën waarin sociotherapeuten en patiënten in een gezamenlijk inspanning: (1) individuele vroege risicosignalen van agressie

[1] Met *sociotherapeuten* wordt verwezen naar de medewerkers die in Tbs-klinieken werken op de afdeling in de dagelijkse zorg voor Tbs gestelden.

herkennen in de eerste fase waarin deze optreden, en daarmee (2) preventieve acties uitvoeren om het risico van het optreden van agressie te minimaliseren. De Methode Vroegsignalering (verder aangeduid met ERM: Early Recognition Method) streeft ernaar sociotherapeuten een gestructureerde *riskmanagement* strategie aan te bieden die hen in staat stelt om patiënten effectief te ondersteunen bij het beheersen van hun agressie. Dit proefschrift beschrijft het concept *vroegsignalering* en hoe de ERM toegepast werd in een streng beveiligde forensische kliniek in Nederland.

In **hoofdstuk 2** wordt het concept *vroegsignalering* verduidelijkt voor het veld van de forensische psychiatrische verpleging. Vroegsignalering benadert *riskmanagement* vanuit het perspectief van ontwrichtend gedrag. Bij vroegsignalering van agressie wordt er in het bijzonder aandacht gegeven aan sociale en interpersoonlijke factoren die van invloed zijn op het individu dat zich agressief gedraagt. Verschillende intra- en interpersoonlijke factoren zijn gerelateerd aan agressie, dit in combinatie met factoren in de sociale context zoals stressvolle gebeurtenissen en armoede. Op het niveau van de individuele patiënt beschrijft de 'Sociale competentie-theorie' dat de individuele percepties van de patiënt, evenals reacties op gebeurtenissen beïnvloed worden door persoonlijke kenmerken, levenservaringen en persoonlijke vaardigheden. De zogenaamde 'core beliefs' (ofwel persoonlijke overtuigingen) blijken een nadrukkelijke rol te spelen in het vormen van reacties op gebeurtenissen. Patiënten met schizofrenie bijvoorbeeld kunnen in psychotische episoden sterke gevoelens van dreiging en verlies van controle ervaren: de zogenaamde 'threat control-override symptoms', die in literatuur en onderzoek geassocieerd worden met gewelddadige gedragingen. De tekorten op zowel intra- als interpersoonlijk vlak, al dan niet in combinatie met de belastende contextuele factoren, dragen bij aan de kwetsbaarheid van patiënten en aan de verminderde vaardigheden om adequaat op stressvolle gebeurtenissen te reageren. Vanuit dit perspectief kunnen bepaalde gedachten, gevoelens en gedragingen van de patiënt

een indicatie zijn voor het ontstaan van agressie: zij kunnen als signalen worden opgevat van een verhoogd risico op agressie. Het vroegtijdig opmerken van deze signalen kan bijdragen om een dergelijke ontwrichting af te wenden.

De luchtvaartmetafoor van de 'black box' is gebruikt om het belang te benadrukken van de aandacht voor vroege risicosignalen. De focus bij ERM ligt op de 'mentale black box' van de patiënt. Er vindt een precieze reconstructie plaats van de gedachten, gevoelens en gedragingen die aan de agressie-incidenten vooraf gingen in plaats van slechts het evalueren van het incident zelf. Ofwel in luchtvaarttermen: een aanvaring tussen vliegtuigen gebeurt zo onverwachts dat de beschouwing van de totale vlucht van start tot en met aanvaring als het meest informatief wordt gezien.

Vroegsignalering binnen de forensische context beoogt samen met de patiënt de vroege signalen van agressief gedrag te beschrijven en te verkennen. Dit gebeurt in het bijzonder vanuit situaties die geassocieerd worden met geweld en agressief gedrag van de patiënt. Het gaat hierbij dus om de beschrijving van de subjectieve belevingen, gedachten en gedragingen van de patiënt die plaatsvinden voor het optreden van gewelddadig gedrag. Dit concept is gebaseerd op de aanname dat de aanloop naar het agressieve gedrag van de patiënt 'idiosyncratisch' is en als zodanig gereconstrueerd kan worden als een persoonlijke 'handtekening': het specifieke patroon van vroege signaleren die voorlopers zijn van het agressieve gedrag wordt in beeld gebracht. Deze 'handtekening' van vroege signalen kan gebruikt worden om signalen van agressie ook in de toekomst vroegtijdig te gaan onderkennen waarmee naar verwachting bijgedragen kan worden aan de preventie van gewelddadig gedrag.

De Methode Vroegsignalering [ERM] biedt een benadering waarin patiënten en sociotherapeuten kunnen afstemmen op het procesmatige ontstaan van agressief gedrag. Bij ERM bediscussiëren de patiënt en sociotherapeut de aard en omvang van de agressie en hoe de voortekenen van agressie in een vroeg stadium herkend kunnen worden. Vervolgens worden deze voortekenen systematisch gemonitord - met hierbij een actieve rol voor de patiënt - en wordt het mogelijke optreden van agressie systematisch geëvalueerd. Het Vroegsignaleringsplan, waarin de patiënt

wekelijks zijn vroege waarschuwingssignalen scoort, biedt een concreet document om mee te werken.

Hoofdstuk 3 beschrijft een ERM interventie onderzoek. Het belangrijkste doel van dit onderzoek was om de effecten te bestuderen van de toepassing van ERM bij onvrijwillig opgenomen patiënten die verblijven in een streng beveiligde forensische kliniek in Nederland. De hypothese van dit onderzoek was dat patiënten die de principes van vroegsignalering en vroege interventie actief toepassen, minder agressief zijn en daardoor minder vaak gesepareerd behoeven te worden. De volgende onderzoeksvragen waren leidend: (1) Wat zijn de kenmerken van patiënten die actief deelnamen aan ERM, vergeleken met de patiënten die zich niet verbinden aan de interventie?, en (2) Is er een afname te zien in het aantal separaties, alsmede van de ernst van agressief gedrag, nadat ERM was toegepast?

Er werd een gefaseerde implementatie van ERM met wachtlijstgroepen ('delayed implementation') uitgevoerd. De 16 deelnemende afdelingen werden toegewezen aan drie onderzoeksgroepen. De interventie werd op alle afdelingen gestart met zesmaandelijkse intervallen over een totale periode van 30 maanden. Met het gebruik van een 'one-way case-crossover design', waar cases hun eigen controle waren, werden de effecten van ERM onderzocht door het aantal incidenten tijdens 'Treatment As Usual' (TAU) te vergelijken met de periode waarin ERM werd uitgevoerd. De uitkomstmaten waren het aantal separaties en de ernst van agressie-incidenten, op grond van de in de dossiers vermelde verslagen retrospectief gescoord op de Staff Observation Aggression Scale – Revised [SOAS-R].

Op niveau van de totale steekproef werd het aantal separaties in de TAU conditie vergeleken met de separaties in de ERM-conditie door middel van een Chi-kwadraat toets. Op patiënt niveau werden het aantal separaties en de ernst van incidenten in TAU vergeleken met die in ERM door middel van de 'Wilcoxon signed rank' toets. Aanvullend werd een 'incident-ernst-index' gecreëerd om ten aanzien van de ernst van incidenten TAU te vergelijken met ERM, eveneens gebaseerd op retrospectieve scores op de SOAS-R.

Van het totaal van 189 beschikbare mannelijke patiënten, werden 168 (88.9%) patiënten daadwerkelijk betrokken in het onderzoek. Eenentwintig patiënten (11.1%) weigerden de deelname aan het onderzoek. Deze weigeraars scoorden significant hoger op psychopathie, vergeleken met deelnemende patiënten. Er werden geen significante verschillen gevonden met betrekking tot het voorkomen van een antisociale persoonlijkheidsstoornis in de twee groepen van deelnemers en weigeraars.

Bij de 168 geïncludeerde patiënten werd een significante afname van het aantal separaties gevonden: van 219 in TAU naar 104 in ERM [Chi-kwadraat (1): 22.82, p<.001]. De frequentie scores van incidenten per patiënt per maand, alsmede de gemiddelde ernst van incidenten bij de 168 patiënten, daalden significant bij vergelijking van TAU met ERM. De gemiddelde score per patiënt per maand daalde van 0.13 (SD 0.33) naar 0.05 (SD 0.13) [z=-4.264, p=0.000, r=-0.23]. De ernst van incidenten, berekend met de incident-ernst-index, daalde van 1.38 (SD 4.18) naar 0.56 (SD 1.75) [z=-4.071, p<0.001, r=-0.22]. Bij subgroepanalyses werden significante afnames in het aantal separaties, alsmede in de ernst van incidenten gevonden in de volgende patiëntengroepen: patiënten met schizofrenie, patiënten met een antisociale persoonlijkheidsstoornis en patiënten met middelenafhankelijkheid. Patiënten die veroordeeld waren voor een seksueel delict lieten geen significante verbeteringen zien.

Omdat dit onderzoek geen gerandomiseerd gecontroleerd design heeft, kunnen de resultaten niet gezien worden als bewijs dat de interventie leidde tot de afname van separaties en tot verminderde ernst van de incidenten. Het randomiseren van patiënten was niet mogelijk gegeven de omstandigheden waarin het onderzoek plaatsvond. Desalniettemin suggereren de resultaten dat ERM een innovatieve en effectieve *riskmanagement* methode kan zijn voor forensische psychiatrische patiënten. Gecontroleerde studies zijn echter nodig om de effectiviteit van de interventie vast te stellen.

Hoofdstuk 4 van dit proefschrift staat in het teken van de specifieke aard van de vroege waarschuwingssignalen van agressie. ERM streeft ernaar patiënten te helpen hun vroege waarschuwingssignalen van agressie bij zichzelf te herkennen met als doel de preventie van ernstige agressieve incidenten (zie ook hoofdstuk 2). Een belangrijk opstakel in de huidige klinische praktijk is dat er nauwelijks instrumenten of middelen beschikbaar zijn om patiënten en sociotherapeuten te ondersteunen om gezamenlijk relevante vroege waarschuwingssignalen van agressie op een gestructureerde wijze te beoordelen. Voor dit doel ontwikkelden wij de 'Forensic Early Signs of Aggression Inventory' (FESAI). Met behulp van de FESAI kunnen sociotherapeut en patiënt gezamenlijk een eerste beeld krijgen van de aard van de vroege waarschuwingsignalen die voor deze patiënt gelden. Deze kunnen vervolgens in het Vroegsignaleringsplan verder worden uitgewerkt.

Zowel kwalitatieve en kwantitatieve onderzoekstrategieën zijn gebruikt voor de ontwikkeling van de FESAI. Honderdzevenenzestig signaleringsplannen uit twee forensische klinieken, die in totaal 3768 omschrijvingen van vroege signalen bevatten, werden bestudeerd om een eerste lijst van vroege waarschuwingsignalen op te stellen. De eerste versie van het instrument werd opgesteld door het samenvoegen en categoriseren van deze vroege waarschuwingssignalen. Daaropvolgend beoordeelden sociotherapeuten de 'face validity' van de FESAI en de 'inter-rater betrouwbaarheid' werd getoetst. De betrouwbaarheid werd uitgedrukt in het percentage overeenstemming tussen twee beoordelaars.

De FESAI bevat uiteindelijk 44 vroege waarschuwingsignalen van agressie onderverdeeld in 15 hoofdcategorieën. De 'face validity' van de FESAI werd beoordeeld als zijnde adequaat en de interbeoordelaarsbetrouwbaarheid was voldoende. De verwachting is dat de FESAI een bruikbare lijst is van vroege waarschuwingsignalen bij forensische patiënten, die kan bijdragen aan het opstellen van signaleringsplannen voor de preventie van agressief gedrag in de forensische psychiatrie. Meer onderzoek is echter nodig voor verdere validering van deze lijst.

In **hoofdstuk 5** is het vervolgonderzoek met de 'Forensic Early Signs of Aggression Inventory' (FESAI) weergegeven. In dit onderzoek stonden de volgende onderzoeksvragen centraal: (1) Wat is de specifieke aard van vroege waarschuwingssignalen van agressie – gemeten met de FESAI – in twee steekproeven forensische patiënten? En: (2) Laten patiënten met verschillende diagnoses en verschillende types delicten verschillende profielen van vroege waarschuwingssignalen zien? In dit beschrijvende onderzoek werden signaleringsplannen van 171 patiënten van twee forensische klinieken bestudeerd op vroege waarschuwingssignalen van agressie. Deze waarschuwingssignalen werden vergeleken door middel van de rangordecorrelatie voor verschillende subgroepen patiënten, die onderscheiden werden naar diagnoses, type delict en mate van psychopathie.

De resultaten laten zien dat de 171 signaleringsplannen 1478 vroege waarschuwingssignalen bevatten. Bijna de helft van de beschreven vroege waarschuwingsignalen (48.7%) vielen binnen de categorieën *Woede, frustratie en /of spanning, Sociale afzondering, Verminderd sociaal contact* en *Veranderde dagactiviteiten.* Patiënten met een psychopathiescore van 26 of hoger op de PCL-R scoorden echter relatief vaker op het item *In toenemende mate over een ander zijn grenzen gaan, vernedering en/of cynisme/sarcasme.* De vroege voortekenen zijn binnen de subgroepen in hoge mate vergelijkbaar. De FESAI resultaten van de verschillende subgroepen patiënten hadden een rangordecorrelatie variërend van r=0.614 tot r=0.856.

Hoofdstuk 6 gaat in op de interactie tussen sociotherapeuten en patiënten. De verwachting is dat een verbetering van de interactie tussen sociotherapeuten en patiënten, binnen het raamwerk van ERM, kan leiden tot een afname van agressie tijdens een opname. De constructieve interactie tussen beide partijen kan een positieve invloed hebben op de gevoelens van welbevinden van patiënten en sociotherapeuten. Verstoorde interacties en frequente confrontaties met agressie worden verondersteld gerelateerd te zijn aan burn-out van de werknemer. De literatuur suggereert verder dat als werkers in de gezondheidszorg erin slagen om

in de relatie met patiënten aanhoudend *detached concern* (*professionele distantie; zie Betgem 2000*) te betrachten, dat dit een preventieve werking heeft ten aanzien van het optreden van burn-out. *Detached concern* kan gedefinieerd worden als het vermogen om de compassie voor patiënten - *nabijheid* - te reguleren met emotionele *afstand* tot hen. Onderzocht werd of er een onderlinge relatie was tussen de toepassing van ERM en de mate van *afstand-nabijheid* van staf naar hun patiënten. *Afstand-nabijheid* van sociotherapeuten werd gemeten met de Vragenlijst Patientencontacten (V-Pacon). De volgende onderzoeksvraag stond hierbij centraal: *Hoe scoren sociotherapeuten op de Vragenlijst Patiënten Contacten met betrekking tot het niveau van afstand-nabijheid vóór en na de toepassing van ERM?*

Onderzocht werden 116 sociotherapeuten die werkten op de 16 afdelingen van dezelfde forensische kliniek waar ERM werd geïmplementeerd (zie Hoofdstuk 3). De baseline scores werden vergeleken met scores uit een voormalig onderzoek in de algemene psychiatrie (Betgem 2000). Daarnaast werden pre-post test vergelijkingen uitgevoerd voor alle sociotherapeuten, alsook voor subgroepen sociotherapeuten ingedeeld naar geslacht, opleidingsniveau en jaren ervaring met forensische patiënten. Pre-post test vergelijkingen werden ook gemaakt op het item niveau van de V-Pacon.

In de TAU conditie (T1) voltooiden 116 (60.4%) van de 192 sociotherapeuten de V-Pacon. Op T2, in de ERM conditie, voltooiden 93 (48.4%) sociotherapeuten de meting. Bij 60 sociotherapeuten kon een gepaarde analyse uitgevoerd worden omdat zij de V-Pacon op zowel T1 als T2 invulden. Van de 116 sociotherapeuten die de V-Pacon invulden op T1 was meer dan de helft (57.7%) van het mannelijk geslacht. Achtenvijftig sociotherapeuten (50.0%) waren opgeleid op middelbaar niveau, de overigen hadden een hogere opleiding . Het gemiddeld aantal jaren ervaring met forensische patiënten was 8.7 (SD 7.3). Geen significante verschillen werden gevonden in de achtergrondkenmerken tussen de deelnemende en de niet-deelnemende sociotherapeuten.

Op T1 lieten mannelijke sociotherapeuten significant hogere niveaus van *nabijheid* zien dan vrouwelijke sociotherapeuten. Meer ervaren sociotherapeuten

scoorden significant hoger met betrekking tot *nabijheid* dan mindere ervaren sociotherapeuten. De gemiddelde V-Pacon-score uit een voorgaand onderzoek in de algemene psychiatrie ((Betgem 2000) bedroeg 121(SD 15; n = 224), wat inhoudt dat de verpleegkundigen in het onderzoek van Betgem significant hoger scoorden op de dimensie *nabijheid* dan de sociotherapeuten in ons onderzoek(n=116; gemiddelde 116; SD 12; t=3.16, df=115, p<0.01). Wanneer de scores vóór en na de toepassing van ERM werden vergeleken, werden geen significante verschillen gevonden. De scores van vrouwelijke sociotherapeuten lieten echter een tendens zien richting meer *nabijheid* na de implementatie van ERM.

Detached concern (professionele distantie) kan een betekenisvol concept zijn voor forensische psychiatrische verpleging door bij sociotherapeuten hun betrokkenheid naar hun patiënten te meten. Vooralsnog is er naar dit onderwerp nog weinig onderzoek gedaan.

Tenslotte worden in **Hoofdstuk 7** van dit proefschrift de bevindingen bediscussieerd en de richtingen voor toekomstig onderzoek beschouwd. Rekening houdend met de beperkingen van het huidige onderzoek wordt verder onderzoek aanbevolen. Bij voorkeur zou een dergelijk onderzoek opgezet moeten worden op basis van een RCT-design. Daarnaast zijn er vervolgonderzoeken met gecontroleerde designs nodig waarin de toepassing van ERM in de rehabilitatiefase centraal staat, waarmee onderzocht wordt of de ERM vaardigheden ook gehandhaafd blijven in andere behandelomstandigheden en na ontslag uit het ziekenhuis.

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Chapter 8

Summary

Samenvatting

Dankwoord
(Acknowledgement)

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In zweefvliegen vind ik het 'detached–concern' met de 'elementen'; afstand nemen van de aardse beslommeringen en nauwe betrokkenheid bij wind, zon en wolken. Turbulent-vrije serene lucht is geweldig bij een avondvlucht, wanneer ik vliegend met één van mijn 'bikkels' de zon langzaam in de skyline van Terlet onder zie dompelen. Maar om te stijgen hebben we thermiek, en dus dynamiek nodig! '*De turbulentie neemt toe evenals mijn adrenaline gehalte; onze vliegtuig begint te schudden en we worden speelbal van de lucht. Alles duidt erop dat er hoogte gewonnen kan worden: de spanning stijgt… het echte werk kan beginnen! Het is flink manoeuvreren om de juiste koers te vinden. Het lukt, we stijgen en de endorfine schiet door mijn aderen!*' Dan weer terug naar 'huis', terug naar aarde; de landing is dan cruciaal... er is maar één kans ...die moet goed gaan. Vooral tijdens 'final approach', is het even stressen wanneer uit onverwachtse hoek een windvlaag de koers dreigt te verstoren. Maar dankzij goede begeleiding van instructeurs en goed teamwork van de veldploeg komt het goed!

Hoe treffender kan de vergelijking met mijn promotietraject zijn. Bij de start was het zoeken naar de juiste koers. De periode daarna, het onderzoek, was intensief maar beheersbaar. Adrenaline en concentratie stegen bij het indienen en publiceren van artikelen! 'Final approach' was echter bijsturen, snelheid aanpassen en erop vertrouwen dat we de goede koers te pakken hadden. Dit was geen 'solo-vlucht', maar een teamprestatie. Ik had het voorrecht ondersteund te worden door deskundige begeleiders, belangstellende collegae en een stabiel thuisfront, waarvoor ik mijn dank hier kenbaar wil maken:

De inzet van de medewerkers sociotherapie van de FPC. Dr. S. Van Mesdag was een belangrijke factor in mijn onderzoek. Ik heb bewondering voor jullie dagelijkse inzet voor jullie patiënten. Jullie hebben vragenlijsten ingevuld, Vroegsignalering in de kliniek toegepast en ingeweven in de praktijk, waarvoor dank!

De promotoren Prof. dr. Mieke Grypdonck en Prof. dr. Henk Nijman, co-promotor Dr. Berno van Meijel en extern begeleider Prof. dr. Stål Bjørkly dank ik voor hun ondersteuning en begeleiding. Ik ervaar het als een groot voorrecht om in dit buitengewone team te hebben mogen leren, fouten te maken, nieuwe inzichten te verwerven en aan academische scherpte te winnen.

Prof. dr. Grypdonck, beste Mieke, mijn eerste ontmoeting met u was in 1987 in Leuven. Ik was HBO-V student en sprak met u over integrerende verpleegkunde. Het werd een boeiend gesprek! Zestien jaar later was u mijn hoofdpromotor. We hebben we veel gediscussieerd waarbij u me de 'spiegel' heeft voorgehouden en heb laten ervaren hoe vraagstukken meer wetenschappelijk te benaderen. Dit was bijzonder leerzaam, intensief en voor mij ook wel confronterend. Ik dank u voor deze boeiende momenten en voor uw niet aflatende inspanningen om mij te stimuleren tot wetenschappelijk denken en redeneren.

Prof. dr. Nijman, beste Henk, je had een belangrijke invloed op het helder formuleren van dit onderzoek en het scherpzinnig beschrijven van de verrichtingen en bevindingen. Met een aanstekelijk enthousiasme heb je me vaak bemoedigend toegesproken als we de zoveelste tekstherzieningen doornamen. Dit waren bijzonder leerzame momenten, waarvoor dank! Mijn dochter herinnert je nog als 'een professor zonder baard maar wel heel vrolijk' ☺.

Dr. van Meijel, beste Berno, ik had het grote voorrecht bij jouw af te studeren bij Verplegingswetenschap. Later kwam de Mesdag in beeld; we gingen naar Groningen voor een verkennend gesprek, dronken een biertje en nog diezelfde dag componeerde je een eerste opzet voor een promotietraject. Daarmee was de eerste stap gezet van de doorstart van onze samenwerking. We hebben gediscussieerd, talloze modellen en concepten uitgetekend op vele A-4-tjes, die ik als Phd-memories nog eens bundel. Je hebt me met tomeloze inzet begeleid en tegelijk belangstelling

getoond voor mijn ontwikkelingen en mijn 'wel en wee'. Ik dank je bijzonder voor je persoonlijke betrokkenheid, je sms-jes en je professionele begeleiding!

Prof dr. Bjørkly, dear Stål, since our first 'breakfast meetings' at the IAFMHS conference in Montreal, we share our interest in early warning signs and in linking this interest with clinical practice and research. It was a pleasure to experience your very encouraging and to-the-point style of feedback! Tusen takk for at du har valgt å dele din ekspertise med meg og for din personlige støtte i prosessen for å fullføre min doktorgrad! Det vil være en stor glede for meg å fortsette vårt Twente – Molde samarbeid.

Ik dank de leden van de leescommissie, Prof. dr. Schuurmans, Prof. dr. van Marle, Prof. dr. van Nieuwenhuizen, Ass. Prof. dr. Palmstierna en Prof. dr. Van Widdershoven voor het beoordelen van mijn proefschrift.

Mirjam van Leeuwen, jij hebt een cruciale en bijzondere bijdrage geleverd aan de ontwikkeling van de FESAI. Je planmatige aanpak en volhardendheid waren belangrijk om de ruim 3700 (!) vroege signalen te analyseren. Dank voor de samenwerking en het prachtige resultaat!

Reclassering Nederland en FPC Dr. S. Van Mesdag maakten het mogelijk om als externe promovendus dit onderzoek te doen. Bert Edens, voormalig directeur van Reclassering Ressort Arnhem, dank voor het vertrouwen dat je me gaf om de overstap naar een promotietraject mogelijk te maken.

De voormalig directie van de FPC Dr. S. van Mesdag, Corstiaan Bruinsma en Gabriël Anthonio, en huidige directie, Harry Beintema en Gerard Koorman, jullie creëerden de voorwaarden die nodig waren om in de Mesdag mijn onderzoek te doen. Ik dank jullie voor aanhoudende ondersteuning bij- en belangstelling voor mijn verrichtingen!

Mijn leidinggevende, eerst Joop van Velzen en later Daan Zeldenrijk, gaven me de ruime en het vertrouwen om me als onderzoeker te ontplooien! Joop, jouw bevlogenheid heeft me gunstig besmet, waarvoor dank. Daan, zoals je me de ruimte en vertrouwen geeft én tegelijk belangstelling toont waardeer ik bijzonder, dank hiervoor! Een woord van dank aan mijn (voormalige) kamergenoten, Rik, Marieke en Jolanda, voor jullie belangstelling en reflecties. Rik, ons weerzien na 2 jaar was als vertrouwd; Jolanda, ik 'blijf nog even staan', dat zit wel goed op onze kamer. Mijn directe collegae van PO&O, vakgenoten van 'Deskundigheid'. Jolanda, Tanneke, Pieter, Henk, Karin en Klaas, dank voor jullie belangstelling en de ruimte die jullie me gaven om mijn eigen pad te kunnen volgen. Tonny en aandachtsfunctionarissen, jullie ondersteuning en monitoring van Vroegsignalering zijn een belangrijke schakel tussen praktijk en onderzoek, dank voor jullie inzet!

Ook een woord van dank aan Bureau Onderzoek van de Mesdag; Marinus en Arnold dank voor jullie ondersteuning bij mijn zoektocht hoe binnen de Mesdag-context mijn onderzoek op te zetten.

Last but not least: mijn grote waardering voor Christie Wage. Christie jij bent de ster achter te schermen en het logistieke genie van de afdeling PO&O. Dank voor je ondersteuning en enthousiasme, zelfs met muzikale omlijsting.

Stephen Neill, Andrea Gasten and Tessa Ginders, you did excellent work in revising the manuscripts into proper English! Thanks for your accurate and timely responses; also when I again articulated another deadline.

The last years I had the privilege to discover my Norwegian colleagues: 'Mr. Arsenal' -Gunnar, Lars-Erik, Bjørn, Maria and Stål. Gunnar, Viking-friend, first we met at the Amsterdam conference, listened to the 'Bergkamp fragment' and noticed us sharing the same interests. Now we collaborate in a wonderful project! Thanks to

you all for your inspiring and friendly moments. Gunnar, I am looking forward to getting picked up again in your Arsenal-car!

Eva Bjerke and Tom Palmstierna I really appreciate the opportunities you created to reflect on ERM in a broader context. Inger, Malin, Anja and Axel thanks for your enthusiasm and your endeavors to participate in our ERM enterprises. Eva, thanks for arranging the meetings and for your outstanding hospitality.

A special thank to Richard Whittington, Roger Almvik and all the other members of the European Violence in Psychiatry Research Group for very inspiring and instructive moments when I discussed the progress of my research.

Er zijn vele collegae in het werkveld, met wie ik samenwerkte om Vroegsignalering in de praktijk te brengen. Gerben, Saskia, Heidi, Miranda, Rob en overige enthousiaste collegae uit het GGZ en Forensische veld, dank voor de samenwerking, voor het verstrekken van data en het delen van jullie persoonlijke en professionele ervaringen.

Beste Pa en Ma, de basis van mijn ontwikkelingen ligt bij jullie. Ik heb van jullie geleerd om ambities na te streven en wanneer het tegenzit te kunnen incasseren, relativeren maar wel vol te houden. 'Milopa', 'Idepa' en de 'Afstandhouder' gingen mij voor ☺.

Mijn lieve stoere bikkels Kerliai en Rarnai, het is zover: mijn boek is af. Laat vanaf nu 'Black Eyed Peas' maar door de huiskamer schallen, vanaf CD of met jullie heerlijke pianospel! Jullie hoeven niet meer de denken dat 'papa nog even met zijn boek bezig is'… dat 'even' duurde vaak veel te lang.

Kerliai, TEMAN!, dank voor jouw schitterende omslag! Nog even en jij kunt mijn Latijnse diploma vertalen, ik blijf je graag overhoren. Straks mag jezelf leren zweefvliegen en kun je ook letterlijk tot grote hoogte komen. We gaan meer balletje trappen en natuurlijk… 'Forza Twente'! Rarnai, lieve 'Motukker', niet te stoer hé, jouw

mawasi-geri komt steeds harder aan ☺. Geniet op school, jij kunt het wel! Volgend jaar gaan we echt met de motor op pad gaan om te kamperen. Ik beloof je dat ik niet meer op sloffen naar je pianoles ga ☺.

Lieve Kitty, alles in dit proefschrift, al mijn onderzoeksactiviteiten (in binnen- en buitenland) komen uiteindelijk samen in deze alinea voor jou. Ik zou het 'luchtig' houden, ga ik doen… maar toch, als het gaat om bewondering en prestatie is dit proefschrift niet mijn verdienste maar slechts een beschrijving van onderzoeksverrichtingen die niet in de schaduw kan staan van jouw steun, geduld en begrip dat je voortdurend had als mijn aandacht weer eens van onze 'Rumah JP-4' weggetrokken werd, *Terimah kasih banyak!*

Chapter 8

Summary

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Dankwoord
(Acknowledgement)

Curriculum Vitae

Frans Fluttert werd geboren op 28 februari 1962 in Hengelo (O). Van jongs af aan 'bevlogen' van vliegen behaalde hij op 16 jarige leeftijd zijn eerste (zweef) vliegbrevet. Na de MAVO/HAVO studeerde hij 2 jaren HTS-Vliegtuigbouwkunde/ elektrotechniek. In 1983 begon hij in het Streekziekenhuis Almelo de inservice-opleiding tot A-verpleegkundige die hij in 1986 voltooide. Aansluitend deed hij de HBO-V die hij in 1989 succesvol afrondde. Daarna werkte hij 9 jaren als sociotherapeut in de Pompekliniek (Tbs kliniek te Nijmegen). In 1997 maakte hij de overstap naar Reclassering Nederland en startte tegelijkertijd de deeltijdstudie Gezondheidswetenschappen afstudeerrichting Verplegingswetenschap aan de Universiteit van Maastricht gedoceerd aan de Universiteit Utrecht. Bij de reclassering werkte hij in diverse functies: reclasseringswerker, werkbegeleider, Forensisch Milieu Rapporteur en interim-manager.

In 2002 behaalde hij zijn doctoraal bij de studie Verplegingswetenschap, werd toegelaten tot *Sigma Theta Tau International* en startte vervolgens zijn promotieonderzoek bij Verplegingswetenschap bij de Universiteit Utrecht. Daarnaast bleef hij van 2002 tot 2006 betrokken bij de deeltijdstudie Verplegingswetenschap in de rol van tutor bij het studieblok 'Filosofie en Verplegingswetenschappelijke theorie'.

In 2004 werd hij fulltime aangesteld als onderzoeker in FPC Dr. S. Van Mesdag (Tbs kliniek te Groningen). Sinds 2005 combineert hij deze functie met het geven van trainingen *Riskmanagement*, gastcolleges op hogescholen en universiteiten en wordt hij regelmatig door DNV (Det Norkse Veritas) als expert betrokken bij HKZ audits in Nederlandse Tbs-klinieken. In de klinische zorg was hij veelvuldig betrokken bij de implementatie/scholing van de Methode Vroegsignalering in de forensische zorg, de GGZ en de jeugdzorg. Hij gaf hierbij trainingen in instellingen in Nederland, Duitsland, Zweden en Noorwegen.

Hij nam deel aan (inter)nationale netwerken, gaf lezingen op internationale congressen en publiceerde, naast de artikelen in dit proefschrift, onder andere drie hoofdstukken in handboeken. Hij werd in 2005 lid van de *European Violence In Psychiatry Research Group* [EVIPRG], waar hij in 2009 toetrad tot de EVIPRG-

stuurgroep. In 2006 startte hij met forensische instellingen in Nederland, Duitsland en Zweden een multi-center onderzoek 'Early Recognition Method in forensic care'. In 2006 was hij auditor in een expertteam bij de beoordeling van forensische klinieken in Roemenië, waarna hij sinds 2006 in Boekarest jaarlijks seminars *Riskmanagement* geeft. In 2008 werd hij *Chair* van de *Nursing Special Interest Group* van de *International Association of Forensic Mental Health Services[IAFMHS]*. In 2008 werd hij lid van de stuurgroep *Pilotstudy Early Recognition Method* [ERM] van het 'Centre for Research and Education in Forensic Psychiatry' van de Buskerud Hospital Trust en het Research Centre van de Ullevål University Olso. Samen met Noorse collegae onderzoekt hij sindsdien de toepassing van ERM in de forensische klinische- en ambulante zorg in Noorwegen. Sinds 2009 is hij ook betrokken bij een onderzoeksproject van de Universiteit Gent naar de toepassing van Vroegsignalering in psychiatrische klinieken in België. Sinds 2008 is hij jurylid bij de 'Johannes van Duurenprijs'; een prijs die wordt toegekend aan een verpleegkundige (of team) die zich uitzonderlijk heeft ingezet voor innovaties met als doel het terugdringen van dwang in de geestelijke gezondheidszorg.

Frans Fluttert zal zich de komende jaren blijven inzetten voor het verder ontwikkelen van *Forensic Mental Health Nursing,* met wetenschappelijk onderzoek, educatie en klinische ondersteuning. Ondertussen blijft hij met zijn 'co-piloten' Kerliai en Rarnai zweefvliegen boven hun woonplaats Arnhem vanwaar ze Kitty een 'warme' *gliders-saluut* geven.