Risk Assessments in Forensic Psychiatry

Consequences and Experiences for Patients and Nurses

Marielle Nyman

Institute of Health and Care Sciences
Sahlgrenska Academy, University of Gothenburg

UNIVERSITY OF GOTHENBURG

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Marielle.nyman@gu.se, marielle.mn.nyman@skane.se

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You only grow by coming to the end of something and by beginning something else

John Irving, The World According to Garp

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ABSTRACT

In forensic psychiatry, risk assessment of future violence poses a great challenge to mental health care professionals. Forensic psychiatric patients are particularly vulnerable due to their complex mental health needs in combination with criminal behavior. The **overall aim** was to evaluate the importance and validity of risk assessments in forensic psychiatric care, and the related experiences of patients and nurses. The **methods** used were, (I) statistical analyses of file register data, (II) focus group interviews with nurses, (III) semi-structured interviews with inpatients, and (IV) quantitative analyses of assessments based on forensic psychiatric investigations. **Findings:** From a cohort of 125 forensic psychiatric inpatients, the findings showed a median length of stay of slightly more than two and a half years, predicted by previous contact with child- and adolescent psychiatry, violent index crime, psychotic disorders, history of substance use, and absconding during treatment. Treatment with special court supervision resulted in an almost five times longer length of stay compared to treatment without such supervision. Sixty percent were involved in at least one adverse event during their treatment. Elements of person-centered care were identified when nurses' views were explored. Great efforts were made to confirm the unique person behind the patient, even when challenged by patients' previous violence. Relationships with patients were considered crucial for successful risk management, this needed to be balanced against caring and restricting actions. The patients' experiences of risk assessments could be summarized in three categories; taking responsibility for one's own situation, taking charge of the present, and being involved and having impact. To evaluate the utility of the SAPROF (Structured Assessment of Protective Factors for violence risk), predictive validity was compared to three risk- and strength-based instruments: SAPROF, HCR-20 (Historical Clinical Risk Management-20), and LHA (Life History of Aggression). Only the SAPROF subscale 'internal factors' and the LHA total score, showed a significant, but weak, predictive ability of the occurrence of violent incidents. C**onclusion:** Perceived risk of future violence, as determined by the court, determined length of stay in forensic psychiatric care much more than clinical needs. However, structured instrument for risk assessments, currently used by clinician, showed poor ability to predict violence during inpatient care. Nurses in forensic psychiatric care found that risk assessments offered opportunities to confirm the patient as a person and to establish a trusting relationship. The findings point to the importance of promoting agency and active participation in the patients' own care processes, highlighting the most important conditions for autonomy and well-being.

Keywords: Forensic psychiatry, Risk assessment, Qualitative content analysis, Patients' experience, Care participation

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SAMMANFATTNING PÅ SVENSKA

Introduktion

Bedömning av risk för framtida våld är ett viktigt moment inom den rättspsykiatriska vården i Sverige. Vården tar utgångspunkt i patientens komplexa psykiatriska problematik avseende diagnostik, behandling och omvårdnad men ska även, för denna patientgrupp som ofta utgörs av samhällets mest funktionshindrade och resurssvaga människor, beakta juridiska aspekter, samhällsskydd och riskfaktorer. Det är därför av stor vikt att studera vårdens innehåll och centrala vårdprocesser men också synliggöra dessa patienter och lyfta fram de aspekter som är betydelsefulla för ökad livskvalitet, delaktighet och autonomi.

Syften och metod

Det övergripande syftet med denna avhandling var att studera vårdtiden och möjliga faktorer som kan påverka vårdtidens längd, belysa rättspsykiatriska patienters upplevelser av riskbedömning, samt undersöka sjuksköterskors erfarenheter avseende riskbedömningens betydelse för planering och genomförande av omvårdnad. Syftet var även att studera riskbedömningars betydelse med eller utan beaktande av skydds- och/eller riskfaktorer.

Studie I utgjordes av en registerbaserad retrospektiv kohortstudie bestående av 125 individer som dömts till vård mellan 1999 och 2005. Studie II baserades på fokusgruppsintervjuer med sjuksköterskor verksamma i rättspsykiatrisk heldygnsvård. I studie III intervjuades patienter i rättspsykiatrisk heldygnsvård och studie IV utgjordes av prediktiva validitet- och jämförelsesanalyser av SAPROF (Structured Assessment of Protective Factors for violence risk), HCR-20 (Historical Clinical Risk Management-20) samt LHA (Life History of Aggression). Inkluderade individer utgjordes av 71 individer som genomgått en rättspsykiatrisk undersökning mellan 1999 och 2005.

Resultat

I studie I studerades vårdförlopp och vårdtid. Resultaten visade att patienter som vårdades med särskild utskrivningsprövning hade en betydligt längre medianvårdtid (1272 dagar) jämfört med de som vårdades utan särskild

utskrivningsprövning (273 dagar), detta trots att gruppernas psykiatriska vårdbehov var likartade. Negativa händelser i form av hot, våld, avvikningar och missbruk förekom hos 60 % av de inneliggande patienterna. Indexbrott i form av våldsbrott samt avvikning predicerade längre vårdtid.

Studie II visade att sjuksköterskan både utmanades av och stärktes i att bidra till ett personcentrerat förhållningssätt. Det personcentrerade förhållningssättet innebar att se hela personen med både dess svårigheter och behov men också styrkor och resurser, i riskbedömnings-/riskhanteringsprocessen. Men detta försvårades av att riskbedömningarna i stor utsträckning fokuserar på det historiska. Underlättande faktor är sjuksköterskans delaktighet i bedömningsprocessen.

I studie III framkom att patienterna ville ta ansvar för sin situation och att personalens engagemang var av betydelse för detta. Att inte förstå riskbedömningsprocessen och att inte känna sig involverad ledde till svårigheter att få grepp om sin tillvaro. Otillräcklig information och otydlighet förvärrade patienternas känslor av utanförskap.

Resultaten i studie IV visade att det inte fanns något stöd för att SAPROF kan förutsäga frånvaro av hot eller våld under pågående rättspsykiatrisk vård. Det saknas signifikant stöd för att SAPROF kan predicera frånvaro av våld eller hot under pågående vård förutom visst stöd gällande instrumentets interna faktorer.

Slutsatser

Det här avhandlingsarbetet bidrar till att ge en detaljerad bild över patienter i rättspsykiatrisk vård. Den visar att vårdtiden inom rättspsykiatrin skiljer sig åt mellan patienter i stor utsträckning men inte som en följd av den psykiatriska hälsan utan främst utifrån den bedömda risken för återfall. Resultaten pekar på vikten av att främja handlingskraft och aktivt deltagande i patienternas egna vårdprocesser, och lyfta fram de viktigaste förutsättningarna för självständighet och välbefinnande. Bedömningsprocessen kring risk- och skyddsfaktorer kan förbättras och utvecklas där riskbedömningsinstrumenten dels kan användas tillsammans i större utsträckning med alla parter, de professionella i vården, patienten och dennes anhöriga.

LIST OF PAPERS

This thesis is based on the four following studies, referred to in the text by their Roman numerals.

I. Andreasson H*., Nyman M*., Krona H., Meyer L., Anckarsäter H., Nilsson T., & Hofvander B. (2014). Predictors of length of stay in forensic psychiatry: The influence of perceived risk of violence. *International Journal of Law and Psychiatry, 37*, 635 – 642. (* The first and second authors contributed equally to this work). doi:10.1016/j.ijlp.2014.02.038

II. Nyman, M., Hofvander, B., Nilsson T., & Wijk, H. (2020). Mental health nurses' experiences of risk assessments for care planning in forensic psychiatry. *International Journal of Forensic Mental Health,19, 2*, 103 – 113. doi:10.1080/14999013.2019.1646356

III. Nyman, M., Hofvander, B., Nilsson, T., & Wijk, H. (2022). "You should just keep your mouth shut and do as we say": Forensic psychiatric inpatients' experiences of risk assessments. *Issues in Mental Health Nursing, 43, 2*, 137 – 145. doi:10.1080/01612840.2021.1956658

IV. Nyman, M., Nilsson, T., Wijk, H., & Hofvander, B. (submitted). Violence during treatment: comparing the predictive validity of three structured assessments of risk and protective factors in forensic psychiatry.

TACKORD

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CONTENT

ABBREVIATIONS

AUC	Area Under the receiver operating characteristic Curve
FPI	Forensic Psychiatric Investigation
FPSR	Forensic Psychiatric Screening Report
HCR-20	Historical Clinical Risk management-20
SAPROF	Structured Assessment of Protective Factors for Violence Risk
SCS	Special Court Supervision
SMD	Severe Mental Disorder
UPPRÄTT	Uppföljning av Rättspsykiatriska patienter [forensic psychiatric follow-up studies] – the Malmö cohort.

DEFINITIONS IN SHORT

Forensic psychiatry	Caring and treatment of mental health disordered offenders.
Risk assessment	A structured professional judgement of an offender's estimated risk for violence.
Protective factor	Characteristics of an individual, his or ger environment or situation that protect the individual from relapsing into violent behavior (19).

1 INTRODUCTION

Assessment and management of risks are ongoing processes that influence our lives more or less every day in situations in which we have to evaluate options and make decisions. For example, when a food item has passed the date for best use, a sniff may evaluate the risk of eating it. The risk of taking a shortcut through a park at night may be preceded by an estimation of the odds of a robbery weighed against arriving home quickly. To manage such an unsafe situation, walking together with another person may be a risk-reducing action. In mental health care, the concept of risk mostly involves risks for self-injuries, relapses, and substance abuse. In the context of forensic psychiatry, additional risks come into focus—namely, the risk of future violence.

Violent recidivisms may entail long-lasting consequences, primarily for victims but also in terms of societal costs. Consequences for the offender include another failure followed by changes in the care process in terms of increased supervision and coercions. Furthermore, the therapeutic alliance may also be hampered, especially in cases where the nursing staff are victims. The dualistic task of forensic psychiatric care, incorporating prevention of future violence and at the same time care with a focus on recovery is challenging. A person-centered approach has a strong focus on patient participation and empowerment. It emphasizes the importance of professional relationships that build on shared decision-making, components which may be difficult, if not impossible, to incorporate into a coercive institutional environment (1).

This thesis contributes to the scientific knowledge of the interplay between forensic psychiatric care processes and assessments of risk for future violence, using patient and nurse perspectives as a starting point.

1.1 FORENSIC PSYCHIATRY IN SWEDEN

Forensic psychiatric care in Sweden can be initiated as a criminal sanction when an offender has committed a crime under the influence of a severe mental disorder (SMD). This means that a mentally ill offender in Sweden can be held legally responsible for a crime, which is in contrast to other countries wherein the legal practices would deem the offender unfit to stand trial by reasons of insanity. Other areas in the forensic psychiatric field can differ between countries, including, in particular, criteria for admission, discharge processes, and differences in treatment attitudes (2).

In Sweden, the concept of SMDs involves a range of psychiatric conditions that, in a Swedish jurisdiction, are a prerequisite for a criminal offender to be sentenced to forensic psychiatric treatment. Disorders that are generally severe enough are chronic psychotic disorders of various states, with no discrimination of the etiology (3). Severe conditions with exceptional compulsive or impulse behavioral problems can also be included in an SMD. The grade and overall functional disability affect the level of the severity, which commonly includes symptoms such as hallucinations, disturbed perceptions of reality, delusions, and thought disturbances. The negative consequences of these mental disorders may affect individuals and their relatives to a great extent.

Forensic psychiatric care in Sweden is primarily carried out in specialized forensic psychiatric clinics. Every year, about 300 individuals are transferred to forensic psychiatric care based on the complexity of their psychiatric status in consideration of legal aspects, social protection, and risk factors. In 2020, 1,845 individuals underwent forensic psychiatric care, 85% of whom were men (4). The most common age range of these individuals was 25–34 years (4).

A report from the Swedish prison and probation service (5) stated that of all individuals who underwent a forensic psychiatric investigation (FPI) from January 1, 1992 to December 31, 2002 (n = 5,943, of which 43% were transferred to forensic psychiatric care), 53% (n = 3,125) relapsed into criminality before the follow-up ended on December 31, 2008. In almost half (47%) of the cases, the first committed crime was of a violent nature, such as murder, manslaughter, a sexual offence, arson, unlawful threat/coercion, or causing bodily harm/illness/death (5).

1.1.1 PRE-TRIAL INVESTIGATIONS

To determine whether an offender suffers from an SMD and thereby must have a sanction other than prison,[1] the court can either require a minor forensic psychiatric examination, or a pre-trial FPI (6). In most cases, the court orders a minor forensic psychiatric examination, which is based on a 1–2 hour assessment of the offender and is presented in a forensic psychiatric screening report (FPSR) compiled by a senior forensic psychiatrist. However, if the evidence is strong or the offender confesses, an FPI will be required without being preceded by an FPSR (see Figure 1). Every year, approximately 1,300 FPSRs are carried out in Sweden (7). About 500 people undergo FPIs each year, and of these, slightly less than half are transferred for forensic psychiatric care. If the results from the FPI indicate that the crime may have been committed under the influence of an SMD and that the conditions for forensic psychiatric treatment are fulfilled, the offender will be convicted by the court to forensic psychiatric care (8). When the sentence gains legal force, care is initiated.

An FPI is conducted by a team consisting of a psychiatrist, a psychologist, a forensic social worker, and a representative of the care staff (often a nurse). In most cases, the examinee stays at the investigation unit during the four weeks it takes for the FPI to be carried out. The FPI comprises demographic and offense-related information, including current mental health and physical status. A careful inquiry into childhood and family circumstances, as well as psychiatric and criminal histories, are also included. The FPI aims to elucidate the mental state of the offender at the time of the crime and to determine whether the condition is severe enough to fulfil the prerequisite for the judicial concept of an SMD. Additionally, these circumstances must imply a need for involuntary psychiatric treatment. The investigations are offered by the National Board of Forensic Medicine and are carried out in the divisions for forensic psychiatry in either Gothenburg or Stockholm.[2]

Furthermore, to estimate the risk for relapse into crime, the FPIs include a risk assessment. If the risk is considered high, the court can decide that forensic psychiatric treatment shall be combined with a “special court supervision” (SCS), and if the risk is assessed to be low, then the offender is sentenced to care without SCS. From a patient perspective, the differences between these two sanctions are of great matter; if care is stipulated with SCS, a county administrative court must approve ground privileges, conditional leaves,

[1] In exceptional circumstances, as prison sentence can still be enforced.
[2] At the time for Paper I, the forensic psychiatric clinic in Malmö was also mandated for these investigations.

transfers to outpatient treatment, and discharges (3). These decisions rely on the assessment of violence relapses. When care is given without SCS, the chief medical officer at the clinic makes these decisions, which in general facilitates the process. The impact of risk assessments is hence essential, and identifying factors related to risks for violence is therefore of great importance.

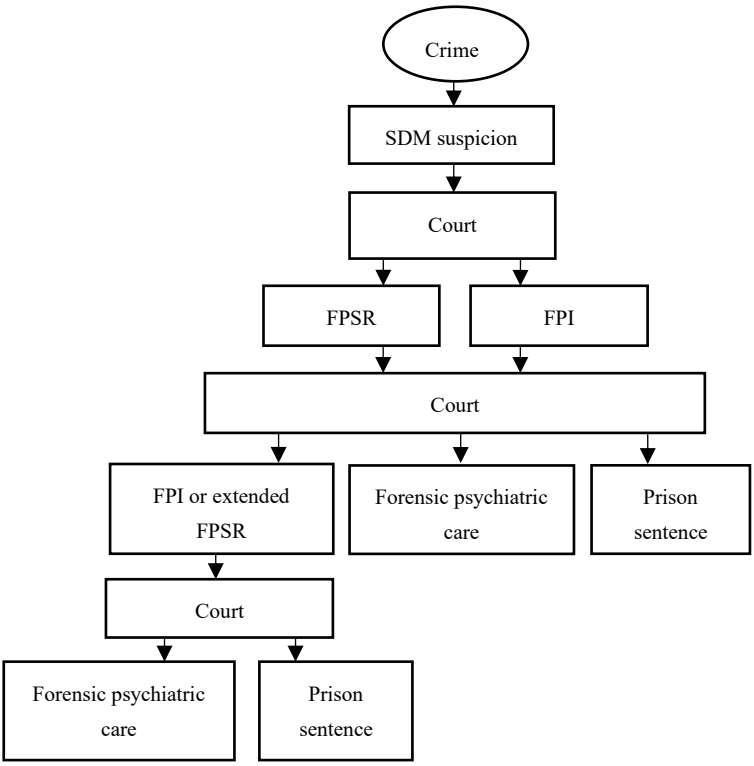

Figure 1. Description of the judicial procedure

1.2 RISK ASSESSMENTS—THEN AND NOW

Assessing the risk for violence recidivism is an essential process in forensic psychiatry. Risk assessments usually come into question in the following situations: as a part of the FPI and when patients with SCS are considered for temporary leave or discharge. The assessments are commonly based on structured instruments, such as the Historical Clinical Risk Management-20 (HCR-20) (9), and Psychopathy Checklist-Revised (PCL-R)[3] (10), which are carried out regularly by the psychiatric treatment team involved in the care of the patient (3). The nurses have, together with the care staff, daily contact with the patients and have access to extensive observations of behavior, which provides a major source of clinical information that is crucial for assessing risks.

The HCR-20 is a structured professional judgment instrument commonly used worldwide to estimate the risk for future violence. The instrument consists of 20 static and dynamic factors, which are divided into three subscales. The 10 historical items are static, meaning that once they have been considered to be present, they will continue to be so, unless new information is revealed (11). The five clinical items reflect the risk of violent behavior in the present time, and the five risk management items rate the individual's ability to adjust behavior to reduce the risk for violence in the future. The clinical and risk management factors are dynamic in nature, meaning that they are changeable and therefore useful for performing and revising management plans and, further, for achieving goals for risk reduction. Evidence-based risk factors, as well as individual risk factors, reflect common-sense clinical practice. A risk level is then settled to low, moderate, or high, and future risk situations and suitable interventions are pointed out.

Historically, risk assessments originated from assessments of "dangerousness" based on the dichotomous assumptions that a person could be either harmless or dangerous. Gradually, this perspective has changed, and research on dangerousness has come to focus more on the probability of violence.

Since the 1970s, the first generation of risk assessment has constituted unstructured clinical judgements based on clinicians' experiences and knowledge about the person concerned. These assessments were mostly based on the offender's criminal history in combination with personality traits

[3] The PCL-R is an assessment tool comprises 20 items for measuring the extent of psychopathic personality, including antisocial features. The PCL-R is mainly used to support the risk evaluation, included as one of the items in HCR-20.

associated with criminal behavior (12). However, critical voices gradually raised the issue that this unsystematic procedure caused the assessments to lack reliability as well as validity (13) and were considered akin to flipping a coin in their ability to assess the risk of recidivism in violence.

The next generation of assessments was gradually developed and was based on statistical estimates of characteristics that had been shown to be likelier in individuals who act violently (14). The risk factors in those assessments are constituted of historical and static factors, such as age, gender, ethnicity, and early violent behavior, and are added up according to an algorithm, resulting in a risk conclusion (15). However, these statistically associated factors have been criticized for being complicated to transfer into a clinical context, as their nature of presenting fixed information makes them inapplicable for rehabilitation (16). These factors are easy to stipulate, but their usefulness in a clinical context is limited, as they are unchangeable and, as such, not treatable.

During the late 1990s, the third generation of risk assessments was developed, and this generation was characterized by structured clinical judgments. These assessments were based on a combination of clinical judgments and actuarial factors, typically by measuring 20–30 risk factors thoroughly chosen from evidence-based research (9), including, for example, the abovementioned instrument, the HCR-20.

However, critical voices were eventually raised concerning the negative contribution that risk-only evaluations were bringing to the forensic psychiatric population, as well as to its professionals, by the unbalanced focus on risks that thereby excluded factors that otherwise emphasized the individual's strengths and recourses (17). The response to this was the development of a fourth-generation risk assessment approach: completing the risk assessments with potential protective factors (18). Such a strength-based approach is apparent in the Structured Assessment of Protective Factors for Violence Risk[4] (SAPROF), which was developed for use in conjunction with a risk factor-based instrument, such as the HCR-20 (19). The benefits of adding protective factors to the assessment were emphasized to provide a more comprehensive picture of violence risk (20). Furthermore, the changeable nature of the factors assists in developing risk management strategies, and the positivity that comes with the factors may strengthen important components, such as self-esteem and hope.

[4] The instrument is further explained in the Measures section.

1.3 FORENSIC CARE FROM A SWEDISH NURSING PERSPECTIVE

Overall, patients in forensic psychiatric care are a vulnerable and exposed patient group with complex mental health needs in combination with criminality (21). Their care constitutes an explicit context with the purpose of rehabilitating and promoting recovery while at the same time protecting society from these patients. As such, coercion and restrictions are elements included in care. This dual task of societal protection versus the patient's well-being brings, from a caring standpoint, the nurses into great and sometimes inconsistent demands in relation to the patient (22).

Nurses play an essential role in building supportive relationships with patients, as manifested by verbal interactions. These caring relationships are essential for understanding patients as human beings (23). With a *lifeworld* approach, as described by Dahlberg and Segesten (24), the listening and understanding of the patient's comprehension of their own situation gives access to the patient's lifeworld, which in turn creates a basis for conditions for offering care (21).

Furthermore, verbal interactions are intended to improve patients' social skills (25), as well as bring out their inherent power to utilize their capacities in a positive way (26). However, these interactions do not always support the patient's best interest (27). Nurses in forensic psychiatric care have been found to struggle with promoting patient participation due to the complex compulsory psychiatric care context and the secure setting obstructing the caring relationship (28).

Observations of conduct, symptoms, side effects, and risk behaviors are common elements in nurses' daily clinical work. The concept of caring embraces processes that are supposed to support and strengthen patients' needs and resources. The nurses make daily decisions based on observations of the patients' well-being and symptoms to manage risk situations. Furthermore, nurses have to be attentive and continuously assess factors essential for patients' recovery and their reintegration into society through a process of nurse-patient collaboration (29). This can be manifested by supporting patients to gaining insight into their criminal behavior and how this can affect their lives in the future (30). Thus, nurses play a fundamental role in the risk assessment and risk management process (12).

The prevalence of inpatient violent behavior in forensic psychiatric settings is considerable (31). The definition of such behavior is, however, inconsistent in

the literature, which hampers comparisons. Further, aggression is commonly expressed through verbal threats (32), and the severity of these threats is mostly dependent on the interpretation by the receiver; the psychological disturbances that may follow are difficult to evaluate. The consequence of inpatient violence (besides potential damage to properties and, in worst cases, personal injuries) is that it may lead to an unsafe environment—primarily for nursing staff, who were the target for assaults in 18.9% of all registered incidents, followed by fellow patients (33)—resulting in higher use of seclusion and restraint (34). A higher prevalence of violence, as well as a higher number of violent events per patient, has been reported for forensic psychiatric inpatients compared to patients in acute settings and general psychiatric hospitals when inpatient violence and aggression from 424 empirical studies from 12 different countries were reviewed (35). Occurrence of aggressive behavior, including verbal and physical aggression toward both objects and other persons, were reported in 54.2% of 120 males in a forensic psychiatric hospital in Canada during a one-year span (36).

In conclusion, nurses are exposed to patients' aggressive behavior, including violence (37). Nurses are also constantly challenged by ethical dilemmas that stress the complexity of forensic psychiatric care. The combination of caring for the patient's well-being by strengthening and supporting autonomy and participation and at the same time carrying out risk-related restrictions and interventions that may violate the patient's integrity constitutes a balancing act. Similar to what was found by Nolbeck (38), these conflicting demands (including the restricted care environment and safety regulations) can constitute gaps between the patients' needs and the care nurses consider adequate. This could generate a distance between the nurse and the patient, which hinders the therapeutic alliance (39).

1.4 FORENSIC PSYCHIATRIC CARE FROM A PATIENT PERSPECTIVE

Persons who are undergoing forensic psychiatric treatment are not a homogenic group, although there are common circumstances in that they have committed a crime that warrants a sanction more severe than fines and are suffering from a mental disorder severe enough to require continuous psychiatric care. These two qualifiers are often accompanied by other features as well. Histories of previous criminality are a well-known predictor for violent reconvictions (40) and substance abuse has been found to increase the risk of violent crime for patients with schizophrenia (41). In comorbidity with other mental conditions, such as personality disorders and neurodevelopmental disorders (42), these patients often demonstrate severe psychiatric difficulties.

Nationwide statistical data are presented yearly (43) based on registered collected data from forensic psychiatric clinics in Sweden. These reports include several kinds of evaluations, such as of symptoms, patients' insights into the disease, and compliance with treatment. Furthermore, the prevalence of treatments and interventions are reported, as well as the prevalence of coercion and recidivism. Additionally, the reports contain data where patients have been asked to self-rate their estimated level of health, quality of life, and risk for future criminality (43). The most recent edition shows that somatic health issues are highly prevalent in the forensic psychiatric population, which is exemplified by 12% receiving pharmacological treatment for diabetes and 28% having heart diseases (43). Additionally, pre-existing social disadvantages, such as family instability, failure in school, and difficulties in employment, often make these people doubly stigmatized (44).

The institutional environment that patients in forensic psychiatric inpatient hospital face is characterized by high levels of security—buildings surrounded by high walls, security glass, alarms, passing gates, and various kinds of supervision. Most hours, at least in the early stages of the care period, patients are kept indoors, together with fellow patients; they have limited opportunities to be alone. The furnishing is generally sparse, with a minimized number of loose objects in the healthcare facilities. The design of forensic psychiatric hospitals has been found to influence patients' well-being, and opportunities to have a private space are essential (45).

Despite the risk assessment included in the FPI, patients undergoing forensic psychiatric care are primarily assessed in connection with decisions about

privileges granted during stay, transfer to outpatient forensic psychiatric care, or in relation with discharges (46). A conclusion of the risk assessment is commonly included in care planning, which should be performed in collaboration with the patient and, when feasible, should include significant others.

1.4.1 PATIENT PERSPECTIVES

The experiences of forensic psychiatric care from a patient perspective have been investigated only sparingly. Due to differences between countries in legislation, patient populations, placement for care, different security levels in forensic psychiatric settings, and divergent concepts concerning criminal responsibility (47), comparisons and generalizations are difficult and complicated (47). Previous studies of patients' experiences of compulsory care have generally excluded those who were undergoing forensic psychiatric treatment (48).

In recent years, research concerning the forensic psychiatric population has increased, and studies exploring mental health care processes and phenomena are more frequently including forensic psychiatric patient perspectives (e.g., 49–52).

A systematic review by Clarke et al. (53) aiming to determine forensic mental health patients' perceptions of recovery found the themes of connectedness and a sense of self to be the most emphasized. They discuss the recovery process in terms of a holistic approach that, instead of focusing on symptom reduction from the medical tradition, advocates empowering patients to increase autonomy, develop self-awareness, and overcome the challenges of stigma and social isolation (53). Staff competences and skills were identified as essential; in particular, a non-confrontational attitude and the ability to infuse hope were seen as crucial (53).

Another systematic review based on research using qualitative methods (52), describes recovery in a similar way, as a personal process of changing attitudes, values, goals, and skills to achieve quality of life, even with the limitations that the illness causes (54). Hope and self-determination are also key factors in recovery (54). Feeling safe and secure in both the psychological and physical senses were found to be cornerstones for the recovery process in forensic mental health patients (55). These elements could be provided by the environment as well as through relationships with professionals. On the contrary, an unsupportive relationship was found to hamper the individual's sense of progress (55).

Forensic psychiatric inpatients who had their estimated risk for violence decreased on the HCR-20 risk assessment were interviewed in a Swedish study (56). The trajectories of recovery were described in three phases: the high risk, turning point, and recovery. The latter two included elements of self-reflection, acceptance, maturation, and responsibility. Caring support and a good

relationship with staff were crucial to being able to move forward (56). The impact of nursing staff in terms of lack of engagement and nonchalance has further been stressed by forensic psychiatric inpatients as increasing their risk for violence (31).

A recent study using patients from a forensic psychiatric setting as informants described their nursing care needs based on the NANDA-I[5] (57) classification of nursing care problems, risks, and potential (58). In the deductive content analysis, length of stay was addressed by dividing the patients into three groups, depending on the number of years they had been in care. Time influenced the patients' views, and three themes emerged: denial gradually led to insight, and for those who served more than seven years, the comprehension of care was summarized into the theme of listlessness (58). The prominent nursing diagnoses that were identified were powerlessness which was exemplified as not being involved in their own care, and lack of control (58).

Evidence for how forensic psychiatric patients experience risk assessment processes is, however, still scarce. Nonetheless, research in which mentally disordered offenders' voices have been heard indicates an ability to communicate potential risk factors for violence. For instance, Meehan et al. (59) interviewed patients in focus groups who were in a high-security forensic setting and who described their main causes of aggressive behavior as being influenced by a combination of patient, staff, and environmental factors—namely, staff–patient interactions influenced by a superior and controlling attitude from staff emerged as a crucial risk factor. Expressions for risk management were also communicated by the patients, such as preventing boredom and a more proactive role from staff when signs of aggression were arising (59).

A recently published Swedish study investigated patients' perceptions concerning risk factors by conducting semi-structured interviews with 13 patients sentenced to forensic psychiatric care (60). The findings revealed previous exposure to traumatic events in childhood and being a part of a violent social context during adolescence as risk-increasing factors. A lack of external support and prosocial role models also contributed to mediating violence. Internal individual risk factors were also found, such as mental health problems, attitudes, and lack of coping strategies. The patients could relate their mental health issues, including substance addictions, to an increased risk for violence. However, the patients also expressed risk-reducing factors

[5] NANDA-I is an international organization for nurses that facilitates the use of a standardized nursing diagnosis terminology.

presented as protective factors in terms of internal characteristics, external circumstances, and risk management, including aspirations, strategies, and interventions such as, for example, providing well-formulated care plans with patient involvement (60).

2 THEORETICAL CONSIDERATIONS

This thesis is designed with both quantitative and qualitative approaches, which originated in the health and care scientific field. Health and care science is associated with a humanistic approach that places the human subject in focus, characterized by the concepts of patient, health, environment, and caring (24), and it describes, develops, and analyzes caring relationships and interactions that aim to encourage health processes (61). The scientific discipline therefore takes its standpoint from a patient's lifeworld perspective using a holistic approach in which research methods from two different epistemological traditions—quantitative and qualitative—contribute to extending scientific knowledge and creating a more comprehensive picture of the research area in our quest for truth (62). Further, the author's clinical practice has influenced and guided the choice of methods, given this thesis a pragmatic standpoint by using methods that complement one another.

2.1 THE CONCEPT OF THE PATIENT

The concept of the patient can be understood from an ethical patient-centered perspective where they are considered an expert on their self, their own experiences of suffering, their well-being, and their life situations, which should be supported and strengthened by the health processes (24). The patient perspective also includes the encounter with the caregiver which in turn is influenced by the caregiver's commitment to care and to establish a person-centered relation with the patient (63). Patients in forensic psychiatric care each have their own life experiences and possess a unique combination of needs, strengths, abilities, and sufferings. However, their vulnerability due to the severity of their mental conditions in combination with care that is carried out under involuntary conditions—including an environment permeated with incarceration and high levels of security (64)—constitutes specific challenges (65). The health and care scientific perspective provides conditions for a patient perspective where the forensic psychiatric patient gets a chance to be heard and enables opportunities to reflect on the process of being risk assessed. Additionally, it is essential to explore the ways in which nurses' reflections on their own strengths and weaknesses, their preconceived ideas and prejudices can improve the authenticity of the patient meeting in trying to understand the patient's lifeworld (24, 66).

2.2 THE PERSON-CENTERED APPROACH

In line with the health and care scientific framework, this thesis takes an ontological point of departure in the person-centered approach, which, in its essence, is about knowing the patient as a person—the understanding of the patient takes its starting point in their experiences (24). Person-centered care can be described as an attitude and method of working in care wherein patients play an active role in their own care and the decision-making process (67). The patients' involvement in their own health promotion is also crucial (67).

The person-centered approach is grounded in the holistic human values (68) and focuses on the person's subjective experience of illness (69). The approach is based on ethical principles striving to make the whole person visible and emphasizes the call for patients to be treated as persons (70); it asserts that the patient's perspective as an expert on himself, should be given the same validity as the professional perspective (71)—in other word, all parties must have respect for each other's knowledge. People with the same diagnosis handle their situations in different ways and have different experiences with their illness.

The person-centered approach emphasizes the importance of seeing the person behind the patient and, thus, care for the patient is based on an individualized care plan with the patient as a participating, active partner (26). This partnership also includes the involvement of significant persons in the patient's life, provided that all parties agree on that (72). Furthermore, the patient's own statements (i. e., the narrative) regarding what is of concern are essential. The narrative includes what the patient considers important in the present situation, previous experiences, and future expectations, which in turn should be documented in agreement (67).

Person-centered care has been evaluated in several health care settings, where positive effects on self-efficacy and shorter length of stay have been shown for patients with various conditions (73). Studies of person-centered care interventions have been shown to improve the experience of health and physical capacity among the elderly (74) and to be cost saving (75).

In the context of compulsory psychiatric care, however, the person-centered approach has been found to be challenging to apply due to the potential weakness of patient agential capacities in terms of moral reflection and responsible decision-making, as well as varying levels of motivation (76). The

lack of an agreed-upon definition of the concept of patient participation has, from caregivers' view, been conceptualized as either giving the patients opportunities to be heard or as a reflection of patients' compliance (76).

2.3 PATIENT PARTICIPATION

The importance of patient participation is stated in Swedish law, and to stress the patient's right to be involved in his or her care, legislation was revised to gain legal force in January 2015 (77), aiming to promote patient integrity, self-determination, and participation. Treatment and care must be, as far as possible, elaborated and performed in alliance with the patient. The patient should have the opportunity to choose treatment and to seek a second opinion. In addition, the legislation emphasizes the patient's right to receive individually adjusted information to make responsible decisions according to his or her individual preferences (77).

Integrity can be described as an individual's personal sphere within which values, desires, and opinions are respected. However, respecting integrity does not necessarily mean that these values, desires, and opinions have to be satisfied (78). The concept of autonomy can be referred to as an individual's right to be treated as a self-determining agent with the possibility of making their own decisions by free choice, as long as the action does not violate the autonomy of others (79). Autonomy can be viewed as a process in which nurses and patients are engaged that is characterized by openness and responsiveness to each other's contributions and the collaborative work between the nurse and patient to accomplish caring goals (80).

Participation comprises an active action, which, from a patient's perspective, can be expressed by being a part of the performance of the care and carrying through taking part in their own care (78). This requires the patient to be well informed and to have the capability to make decisions. Additionally, the nursing staff must be well informed, acknowledge the patient's expectations, wishes, and opinions, and communicate information adjusted to the patient's conditions (78). Patient participation can be supported by a caring relationship, which may gain the patients' trust (81).

Patient participation means being involved in one's own health processes. The nurses' ability to encounter the patients' participation is important for their well-being. To be able to participate in the health process, patients need to understand their own situation (82). Thus, to participate does not mean merely to be informed or receive information, which is described by Johansson and Ekebergh (82) as 'false participation'. In her thesis, Eldh (83) found that participation for patients who experienced heart failure was conceptualized as being listening to and recognized for one's knowledge and experience, as well as being considered an individual with resources—concepts that are in line with the person-centered approach (67). However, like Johansson and

Ekebergh (82), non-participation was described as lacking information and not being recognized (84).

Being a patient implies, besides the unwellness related to the disease, a vulnerability and a state of dependence. To bring the patient into a caring context where health and well-being will be able to grow, the patient must be involved and participate in his or her own care and get opportunities to take responsibility and have influence. Patient participation is, however, particularly challenged in forensic psychiatry due to involuntary and restrictive conditions. To facilitate the patient's participation in the health and care processes, nursing staff need to have the necessary competences. As posited by Dahlberg and Segesten, to fulfill his or her life project despite having a serious illness, the patient's care should be based on an understanding of how the illness influences that person and how it affects his or her everyday life (24).

From a nurse's perspective in a forensic psychiatric context, patient participation can be regarded as a balancing act between caring for the patient's interests and adhering to the rules and regulations that are incorporated in the system of forensic psychiatric care (81). Nurses in forensic psychiatric care play an essential part in supporting patients in gaining insight into their criminal behavior (30). Shared decision-making, a strategy for supporting patient participation in therapeutic decision-making processes, involves the elements of self-determination and the right to a satisfying explanation of one's illness, including its treatment options, which by indirect means may increase the patient's autonomy (85).

2.4 RATIONALE

The present thesis is expected to increase knowledge about the importance of risk assessments, risk management, and structured evaluations of protective factors within forensic psychiatric treatment. Identifying individual protective factors will increase the opportunities for strengthening key components such as patient involvement, responsibility, and self-esteem, which will facilitate recovery. The patient perspective in this thesis focuses on a patient group who constitute a significant proportion of psychiatric care and who, from a societal perspective, often arouse interest and are the subject of debate. This thesis will increase understanding of this patient group and contribute to their opportunities to have their voices heard.

Scientific knowledge about forensic psychiatric care processes, including psychiatric, social, and care-related aspects in relation to length of stay, is limited. The importance of risk assessments in patient care is also unstudied. Despite its central importance, there is also a lack of knowledge concerning patients' experiences with risk assessments regarding violent relapse in the context of forensic psychiatry. From the author's clinical practice, it is well known that there are frequently asked questions concerning treatment issues related to 'length of stay' and the patients' difficulties in connecting care needs to risk factors. Deepening the understanding of how they experience the risk assessment processes, with or without consideration of protective factors, will provide important insight into the patient's situation, which is a prerequisite for high-quality person-centered care.

Nurses in forensic psychiatric care play an important role in building supportive relationships with the patients and play an essential part in supporting them in gaining insight into their criminal behavior and its consequences. A health-promoting perspective emphasizes nurse-patient interactions that aim to stimulate the patient's self-efficacy and strengthen the health resources but also aim to identify hindrances to health improvements. This requires patients to be cared for in an environment with a reflective attitude and with the goal of understanding the patients' experiences and seeing the human being 'behind the criminal actions' (86).

Care planning with a focus on the patient's reintegration into society is central in nursing care, and this includes assessing the patient's needs in collaboration with the patient (29). Risk assessment is a common element for nurses in forensic psychiatric care; however, scientific knowledge is lacking regarding the impact of the focus on risk assessments from their perspective, and how

the nurses view the importance of the assessment within care planning and risk management.

Additionally, the impact of protective factors on the risk assessment process from both patient and nurse perspectives remains unexplored. The ability of the SAPROF instrument to identify protective factors and predict the absence of recidivism in a Swedish forensic psychiatric population is also unknown.

For the abovementioned reasons, these important knowledge gaps related to the risk assessment process need to be investigated to improve the understanding of their use and value in the forensic psychiatric care.

3 AIMS

The overall objective of this thesis is to evaluate the importance and validity of risk assessments in forensic psychiatric care and the related experiences of patients and nurses. To achieve this objective, the following aims have been addressed in the four papers:

1. To describe the basic conditions of forensic psychiatric treatment in a population-based, epidemiologically representative, total cohort in Sweden over a specified period and to compare conditions for so called high-risk offenders with those for low-risk offenders.
2. To explore mental health nurses' experiences of risk assessments within their care planning and management of risks for violence by forensic patients.
3. To explore how forensic psychiatric inpatients experience their role and participation in the risk assessment process.
4. To examine SAPROF's predictive validity regarding desistance from violent behavior in a cohort of forensic psychiatric patients during their stay in a clinical setting and to determine whether the application of SAPROF in combination with HCR-20 would enhance the predictive accuracy with respect to the occurrence of violent incidents during inpatient treatment. The aim was also to explore the importance of protective factors by investigating the association between SAPROF and aggressive and antisocial behavior in a lifetime perspective (LHA).

4 METHODS

The research design for this thesis adopted both quantitative (Papers I and IV) and qualitative (Papers II and III) approaches. An overview of the design, samples, data collection, and data analysis in the studies is presented in Table 1.

4.1 DESIGN

In Papers I and IV, a descriptive, retrospective design was used in which the data were analyzed with statistical methods. Papers II and III both had a qualitative structure, although Paper II was designed with an explorative deductive approach, and Paper III was designed with an explorative inductive approach.

Table 1. Overview of included papers in thesis.

	Paper I	Paper II	Paper III	Paper IV
Study design and approach	Descriptive, retrospective study design with a quantitative approach	Qualitative deductive approach	Qualitative inductive approach	Validation study with a quantitative approach
Data collection	Review of file register	Three focus group interviews	Individual semi-structured interviews	Review of FPIs
Participants	Patients in FPC (n=125)	Nurses in FPC (n=15)	Patients in FPC (n=11)	Patients in FPC (n=71)
Data analysis	Descriptive statistics, logistic regression models	Qualitative content analysis	Qualitative content analysis	Descriptive statistics, ROC-analyses

Note: FPC = forensic psychiatric care

4.2 SETTINGS AND PARTICIPANTS

Paper I was conducted as a retrospective file and register study of the UPPRÄTT-Malmö study cohort of individuals sentenced to forensic psychiatric care during a specific period of time. The cohort consisted of individuals belonging to the Malmö University Hospital's (later Skåne University Hospital) catchment area.

The cohort consisted of all individuals sentenced to forensic psychiatric treatment between January 1, 1999, and December 31, 2005. The final cohort comprised 125 individuals who were followed retrospectively through their treatment period of in-patient stay (including furlough, if any granted), from admission until discharge, or at the latest until June 30, 2008. The inclusion process is described in Figure 2.

In Papers II and III, the participants were recruited from two forensic psychiatric clinics in two different regions in Sweden—one in the south and one in the west. Both clinics had similar care mandates and sets of patients according to gender, diagnosis, and crime offenses.

For Paper II, a purposive sample strategy was used and the inclusion criteria for participating nurses were set as having a minimum of one year of work experience performing assessments of patients' risk of violence. For this reason, only nurses working during the daytime were included.

The recruitment was supported by the managers of the wards, who distributed written information about the aims and conditions for participating in the study. One focus group interview was performed at the clinic in the western region, and there were two focus group interviews at the clinic in the southern region. Altogether, 15 nurses (6 male, 9 female) participated in the study.

The recruitment for participants in Paper III began, after approval from the management, with contact with the unit managers and staff for their assistance in informing and inviting patients who met the inclusion criteria. The inclusion criteria in this case were that the patients were 18 years or older, had been in forensic care with a restriction order (SCS), and been in psychiatric care for at least 6 months. Patients with more severe ongoing psychotic behaviors were not asked. The interviews were performed individually and documented using audio-recording. In total, 11 interviews were carried out, of which 10 were with males. All patients were in ongoing inpatient treatment, with seven treated at the clinic in the western region and four in the southern region.

Paper IV was based on the same cohort as Paper I. From the original cohort from the UPPRÄTT-Malmö study, 97 patients who underwent FPI were selected for inclusion. Due to missing data, 26 cases were excluded, which resulted in a total of 71 patients being included in the study.

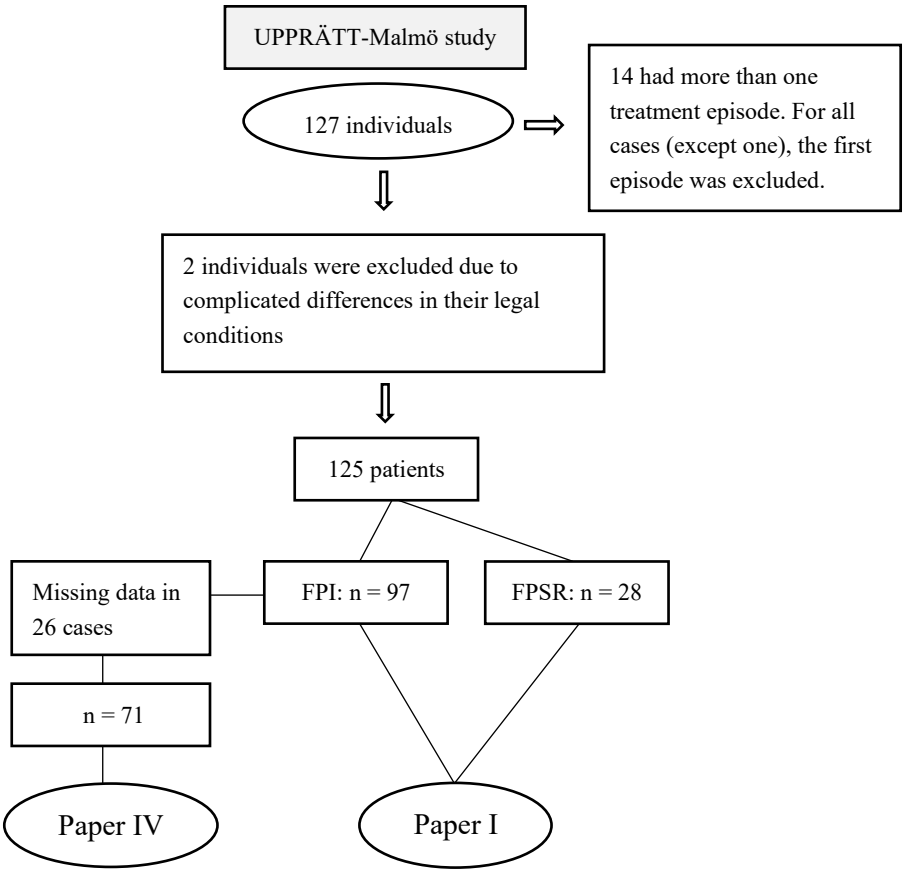

Figure 2. A flowchart of how data were processed in Paper I and IV.

4.3 DATA COLLECTION

The data in Paper I concerning baseline and clinical information came from the FPIs. Written decisions from district courts, courts of appeal, and county administrative courts were scrutinized to follow legal processes. The treatment process data were gathered from medical records. The collected data were assembled in structured protocols.

Paper II was a qualitative descriptive study where data were gained by focus group interviews conducted by two researchers, one having the role as a moderator (leading the discussions), and the other acting as an observer making notes of the group interactions (87). The focus groups interviews were guided by open-ended questions, such as *"What are your experiences of risk assessments? Could you give examples of when risk assessments can be useful for your care planning?"*. The three focus groups lasted about 70-90 minutes and were all audio-recorded. They took place near the nurses' workplaces in a secluded environment chosen by the nurses.

To capture forensic psychiatric inpatients' experiences of risk assessments, the third paper was based on individual semi-structured interviews. To maintain the structure of the interview but still encourage the patients to speak openly, an interview guide with open-ended questions was used, which was further elaborated upon when needed. To create a peaceful and undisturbed an environment as possible, the interviews were set up either in the area specifically designated for visitors at the clinic or in an area adjacent to the ward. The interviews were conducted by the author of this thesis. They lasted between 10 and 40 minutes and were all audio-recorded and later transcribed verbatim.

Data collection in Paper IV was based on the previously collected database from the UPPRÄTT-Malmö study. This database provided the scores of the HCR-20 (the historical and clinical items), as well as the background and clinical data necessary for the purposes of this study. Based on information from anonymized FPIs, the SAPROF items were rated in consensus by two trained psychologists. The three external factors—professional care, living circumstances, and external control—were all scored as fully satisfying the condition described by the item, i.e., with the value 2 in most of the cases, since most of the patients were incarcerated during the FPIs. This is the recommended procedure by the developer when using the instrument for research (88). The scorings of the Life History of Aggression scale (LHA; further described in the Measures section) were, like the rating of SAPROF,

based on background data from the FPIs. The scores were assessed by one of the psychologists who scored the SAPROF.

4.4 MEASURES

Paper I presents background, clinical, and treatment process data. The diagnoses were set according to the DSM-IV Axes I and II (89) and categorized according to the headings of the DSM-IV. The index crime variable was dichotomized as "violent" or "not violent". If more than one index crime was committed, the severest one was used for the division. Violent crimes were defined as all forms of crimes against other persons, such as murder, manslaughter, negligent homicide, assault, violence against an officer, violation of a woman's integrity, sex crimes, robbery, arson, and creating danger to another. The definition also included all aggravated forms of those crimes in terms of "slight", "gross", and/or "attempted."

Adverse events included absconding, substance abuse, criminal recidivism, suicide attempts, death, violence, and threats. Absconding involved situations in which a patient ran from staff or the ward, or when conditions for permission to move freely in the hospital area (e.g., being allowed to go outdoors unsupervised for about 30-60 minutes) or leave the hospital area were not followed as agreed. Substance abuses were noted on any occasion where a measure by breath analyses or urine sampling had been registered as an intake of alcohol and/or narcotics, such as amphetamines, cannabis, cocaine, or heroin. Violence during the hospital stay was defined as any kind of physical assault directed at another person, such as pushing, punching, or kicking. Threats were defined as verbally expressed abuse perceived as a threat by the hearer.

The dates for permission to move freely in the hospital grounds or to leave the hospital area were only collected for the patients treated with SCS. The reason for this was because these patients had to receive their permissions to leave by the court of the administrative county, which supplied a specific date to note. Temporary moves of patients between wards occasionally occurred, for example to solve temporary tensions between patients. Transfer to another ward was therefore defined as a stay that lasted for more than a month.

In Paper IV, three instruments (SAPROF, HCR-20, and LHA, were used to measure the data. As mentioned, the HCR-20 contains 20 items related to risk for future violence, of which 10 are static historical factors, five are dynamic clinical factors, and five are dynamic risk management factors. The items were scored on a three-point scale. Zero points means that the item is absent, 1 point is given when the item is possibly present or present only to a limited extent, and if the risk is definitely present, the item is rated 2. As the risk management items (i.e., 10 points in total) were not available (90), the maximum total score

for HCR-20 was 30 points. Additionally, the total score was adjusted in 10 cases in which an item had been omitted. For these cases, an imputation mean score was calculated and imputed for that item.

The SAPROF consists of 17 factors with protective effects against future violent behavior, all of which are rated on a 3-point scale (0, 1 or 2), with higher scores reflecting the presence of protection for violence risk. The total score that can be reached is 34. The internal factors (1 to 5) include characteristics of a historical as well as dynamic, i.e., possible to change with treatment, nature. Factors 6 to 12 represent motivational factors, which assess the person's attitude toward treatment and life motivating aspects in general. External factors (13 to 17) refer to protective circumstances that surround the person. These factors include voluntary support as well as protective interventions of coercive nature, of which factor 15-17 are expected to decrease during the treatment period.

The LHA intends to measure occurrence of aggressive and antisocial behavior from a lifetime perspective. This scale is based on 11 items, each of which is rated from 0 to 5, where 0 represents the occurrence of 'no events', and 5 represents a number of occurrences that is 'so many that they cannot be counted' (91). Like the HCR-20 and the SAPROF, this scale is divided into three subscales. Items 1 to 5 measure aggression, items 6 and 7 measure self-directed aggression, and the third subscale (items 8 to 11) measures antisocial behaviors. In total, the scores can reach a total of 55 points; greater than 15 points indicates high occurrence of aggressive behaviors across the lifetime (92).

Additionally, a total was calculated to obtain an aggregate risk score that was corrected for available protection. This was calculated by subtracting the total SAPROF score from the total HCR-20 score.

The outcome measures in Paper IV, *occurrence of violent incidents during inpatient treatment,* were defined as any occasion of violent behavior, such as any kind of physical assault directed at another person, and threats in terms of verbal abuse. New convictions of a violent nature during treatment, causing a fire on the ward, and other violent criminal acts that were reported to the police were also included in the definition. To consider the length of stay, the occurrence of violent incidents was divided by the numbers of treatment days: *violence incidents per treatment day.*

4.5 DATA ANALYSIS

In Paper I, the conditions for those patients receiving forensic psychiatric treatment with SCS were compared with those receiving forensic psychiatric treatment without SCS. The data distributions were, in most cases, skewed, which induced the use of non-parametric tests—the Mann-Whitney U-test for continuous variables and the x^2-test for dichotomous variables (the Fisher's exact x^2 test was used when any cell count was less than five). Differences between the two treatment groups were evaluated in reference to baseline data and treatment data.

Further, the two treatment groups (SCS, or without SCS) were compared concerning median length of stay by using survival analysis (the Kaplan-Meier method) and log-rank tests. Furthermore, we used logistic regression and Cox (proportional hazards) regression models with time-dependent covariates to predict the length of stay. In the first step, a univariate regression model for each covariate was calculated. The variables that showed a p-value less than .20 were then entered into the stepwise Cox proportional hazards multivariate regression model. In the final step, hazard ratios with $p < .05$ and CI 95% were presented as a measurement for relative risk.

Papers II and III were qualitatively designed using qualitative content analysis. In Paper II, the analysis was conducted using a deductive approach (93). This implied that three central concepts within the person-centered approach—'Person', 'Relation' and 'Agreements' (94)—were used to elucidate whether it was possible to identify the person-centered approach in the nurses' reflections (95, 96). The first step in the analysis proceeded from these three concepts by the researchers reading the transcribed versions of the interviews several times to obtain a sense of the whole. In the next step, meaning units comprised of wordings or sentences that could be related to the three concepts were identified. The meaning units were then condensed and labeled with a code, which, in the following step, were categorized into pre-determined categories related to the person-centered approach. The labeling of these three categories was modified to fit the findings of the nurses' statements. Several sub-categories were created as well. The analysis process hence moved from the general to the specific (93).

In Paper III, a qualitative content analysis was used with an inductive approach inspired by Graneheim and Lundman (97). After reading the transcriptions several times, meaning units comprised of wordings or sentences related to experiences of risk assessments were labeled with codes. These codes were sorted into emerging categories, a process that involved several stages of

refinements, moving forward and backward between the text as a whole and its parts. The analysis was then progressed from a manifest level to a latent level (98). Three categories were finally formulated, which are further presented in the Findings section.

The statistical analyses in Paper IV were composed of descriptive comparisons between the patients who had violent incidents and those who did not. The Mann-Whitney test was used for the continuous variables, and chi-square of Fishers exact tests was used for the categorical data (Fisher exact x^2 test was used when any cell count was less than five). The level of significance was set at $p \leq 0.05$. Spearman correlation tests were used to test for associations between the instruments (HCR-20, SAPROF, and LHA). A longer length of stay in hospital increases the probability of violent incidents. For this reason, the outcome variable *violence incidents per treatment day* was used.

The predictive validity was examined for the SAPROF total score and HCR-20, including adherent subscales, using receiver operating characteristics (ROC) area under the curve (AUC) analyses. The AUC magnitudes for the protective measures were interpreted such that a higher AUC indicates that a randomly selected individual with no violent incidents is likelier to achieve a higher score than a randomly selected individual with a violent incident. Inversely, the AUC for the risk assessment measures is expected to be higher for a randomly selected individual with a violent incident than for an individual who engaged in no violent incidents. For the interpretations of AUC, we used the values: < 0.60 = low accuracy, 0.60–0.70 = marginal accuracy, 0.70–0.80 = modest accuracy, 0.80–0.90 = moderate accuracy, and > 0.90 = high accuracy (99).

For SAPROF and its subscales, the absence of violent incidents was used as the outcome variable. Correspondingly, the presence of violence was used for the risk scales, including the composed overall total score of risk and protection: HCR-20 minus SAPROF.

From the optimal inflection point of the ROC-curves, sensitivity, specificity, and Positive Predictive Values (PPV) as well as Negative Predictive Value (NPV) were calculated to estimate the accuracy of the instruments' ability to predict the outcome of occurrence of violent incidents. The PPV represents the proportion of those predicted to be at high risk of behaving violently who do so (true positive). Correspondingly, the NPV represents those who are assessed as having a low risk who did not commit violent acts (true negative).

4.5.1 PRE-UNDERSTANDING

Pre-understanding comprises our experiences and affects our perceptions of how we interpret what we discover and what we will focus on. Pre-understanding can be seen as a part of the researcher's lifeworld; hence, it is impossible to disregard during the research process (24). The researcher's experiences can be useful in understanding the correlations and interpretations of the phenomena (100). However, it is important that this pre-understanding does not lead the researcher into precipitated interpretations and conclusions. A bridle of the pre-understanding is necessary to avoid its uncontrolled influence (24). This can be achieved by slowing down the process of understanding by keeping a constantly reflecting attitude in combination with an open mind (24). Without this openness, the possibility of discovering the unpredictable or "the new" will be hampered (62).

The author's experience of mental health nursing, alongside personal values and views, as well as obtained theoretical knowledge, probably influenced the analysis in some respects. However, to decrease the effect of pre-understanding, frequent discussions were carried out between the co-authors throughout the analysis processes. The pre-understanding was thus reflected on in order to restrain it and keep the analytical process explicit.

Furthermore, the author's background as a nurse included working at the same forensic psychiatric clinic in the south region as some of the participants in Papers II and III. This may have influenced recruitment and the interviews. To minimize the influence of pre-understanding, the focus group interviews for the southern region of Sweden to which the author is affiliated were moderated by the co-author; the author acted as an observer. The researcher's ability to maintain self-reflection and, through that, raise the level of consciousness about their own influence is important to consider (101); however, pre-understanding is simultaneously crucial for the researcher to be able to be alert to the interviewees' worlds and their experiences of the phenomenon (24).

4.6 ETHICAL CONSIDERATIONS

The studies included in this thesis have been approved by the Ethics Committee of Lund (registration numbers 64/2007, 2013/329, and 2018/846). All studies were carried out according to the principles described in the Declaration of Helsinki (102). The declaration states the importance of meeting the health needs of vulnerable persons and that the group will benefit from the results.

Ethical considerations concerning research are important to reflect on throughout the whole research process. The researcher must continuously pay attention to and be sensitive to ethical aspects during the entire study process, from data collection and analysis through the presentation of results. For each paper presented in this thesis, specific ethical aspects have been regarded, such as the four ethical principles that are of specific importance in research: *autonomy*, *non-maleficence*, *beneficence*, and *justice* (103).

To justify autonomy, all participants included in Papers II and III were informed in writing, as well as verbally, about the study. Informed consent was requested for all participants. Regarding Paper I, the assessment was made that since data material was based on register data, informed consent was not considered necessary, partly due to the unreasonableness of contacting each individual who had been a patient before and probably discharged a long time ago, and partly because a possible contact could create risks or increase vulnerability for these individuals. Additionally, the register-based design was, most likely, not causing any harm or discomfort for the participants. The same circumstances apply to Paper IV.

In Paper II, the participants consisted of nurses working in forensic psychiatric inpatient settings. The recruitment process was supported by the managers in the wards, which may have prompted some ethical concerns. First, there was a chance that the nurses felt pressured to participate or decline, depending on the manager's attitude to participation. However, this procedure was considered acceptable to coming in contact with nurses who met the inclusion criteria. The author's employment at the clinic in the south of Sweden could raise ethical concerns in the sense of there being a chance that being familiar with the participating nurses. This was, however, considered to have a minor impact, since the author was not involved in the in-patient treatment. Furthermore, to minimize any disadvantages, the focus groups interviews in the south of Sweden were moderated by one of the coauthors.

Second, there was a risk of the nurses feeling constrained in expressing themselves negatively, in fear of possible consequences from the employer. It was therefore emphasized, both in written and verbal information, that individual statements would remain anonymous and unidentifiable after transcription, and that all data material would be kept locked up and only available to the research group. The same information was given to participants in Paper III, with the added assurances that their responses would not get back to the clinical team or caregiver and that, regardless of what was said during the interview, it would not affect the person's care in any way. If the patient had any further questions, these were sorted out, and the statement emphasized that the participant was able to cancel the interview at any time without further explanation. To minimize disturbance and to optimize patient comfort, the interviews took place in an area outside the ward.

As patients undergoing forensic psychiatric treatment, the participants in Paper III were in an exclusively vulnerable position in terms of participation in the research. This state of dependence increased both the risk of feeling demanded to participate and fear of negative consequences if not compliant. The recruitment was therefore supported by the manager and staff who cared for the patients. The purpose was to make the patients feel comfortable and give them the opportunity to read the study information together with someone they trusted. Nevertheless, the researchers were dependent on the staff's evaluation of the patients' mental conditions related to the exclusion criteria for patients with ongoing confusing or severe psychotic conditions.

Possible benefits for participating patients may be reflected in the opportunity to increase their understanding of their own care, which in turn may strengthen the sense of ownership of their recovery. Additionally, participation may be of positive significance in the respect that their situation in relation to psychiatric care is given specific attention. Patients in psychiatric care should have the same right to be heard as patients in all sorts of care and should be able to contribute to science from a patient's perspective.

The principle of beneficence also involves ensuring that participants experience as little discomfort as possible. Participating in an interview can, however, bring forth sensitive and stressful memories and thoughts, making the risk of causing emotional harm, such as stress or anxiety, inherent to the process. To reduce the risk, the patients were asked afterwards about how they had experienced the interview situation, and if follow-up questions arose, they were welcome to contact the interviewer. Efforts were made to not force the informants to continue the interview in any aspects if signs of discomfort or

reluctance were shown. Several participants in Paper III mentioned afterward that they enjoyed talking about their experiences.

For the participating nurses, it was considered important that they felt safe with each other and as comfortable as possible to share their views and experiences. It was therefore emphasized that what was said in the group stayed between the participants. The benefits may have led to reflections and a greater understanding of the risk assessment process. The potential risks of any maleficence for the nurses were considered low, and nothing suggested that the results could be used specifically for negative purposes.

5 FINDINGS

The following section summarizes the results of the original papers that compose the thesis.

5.1 PAPER I

Paper I describes a total cohort (UPPRÄTT-Malmö) of forensic psychiatric patients, focusing on their prevalence of adverse events and length of stay. Additionally, these conditions were compared for those with SCS (i.e., high-risk offenders) and those without SCS (i.e., low-risk offenders).

When analyzing background characteristics, 81 % of the cohort were men. A majority of the index crimes were of a violent nature (n = 86, 70%), and 67% of the cohort were sentenced to forensic psychiatric care with SCS.

Of the 89 patients (71 %) who left the forensic psychiatric clinic during the study period, 82 (66%) were discharged, 4 died, 4 were deported from Sweden, and 4 patients were lost to follow-up for administrative reasons. The median length of stay for the whole cohort was 951 days. For the SCS-group, the median length of stay was 1,272 days, and for the patients without SCS, the median was 273 days—a difference that was statistically significant.

To predict the length of stay, several time-independent variables, such as those related to background, crime, and clinical characteristics, were entered into univariate analyses. Additionally, age, gender, and immigrant status were used. Clinical variables were also used, such as psychiatric diagnoses and global assessment of functioning (GAF) score at the time of the FPI. The time-dependent variables (suicide attempts, absconding events, substance abuse events, threats, and violent events) were entered both as dichotomous and continuous variables. The strongest prediction for a longer hospital stay emerged for absconding events and current conviction of a violent index crime. Being a parent, scoring high on GAF, and suffering from a mood disorder were, on the other hand, related to reduced treatment time, where mood disorder remained as the strongest predictor with a significant p-value less than .01.

Sixty percent of the patients were involved in at least one adverse event during the study period. The patients who received treatment with SCS were involved significantly more often in these events compared with those without SCS, and gender comparison showed that men were likelier to be involved (87% vs. 13%, $p < .05$). When compared, the adverse events were divided into specific types, where violence and threats differed significantly. Further, the number of absconding attempts differed significantly ($p < .05$) between the groups with and without SCS. The length of stay was significantly longer ($p \leq .001$) for those 60 % who were involved in adverse events than those who were not (1,206 days vs. 471 days). However, when controlling for the length of stay by dividing the number of adverse events by the number of treatment days, a

significant difference between the two treatment groups remained only for the combined number of threats and violent events.

5.2 PAPER II

In Paper II, the nurses in forensic psychiatric inpatient care were in focus—particularly exploring their experiences of the usefulness of risk assessments for care planning and implementation of nursing interventions related to risk management.

The nurses made great efforts to confirm the patients as unique persons, each with their individual conditions. However, this was hampered by the patients' life histories of violence. The nurses were challenged by keeping the balance between the dual task of both seeing the person behind the crime and, at the same time, being aware of and considering the risks that exist for violence and recidivism.

Assessing risks was an ongoing process in the nurse's daily work, used as a checklist, and thus the risk of subjective assessments was minimized. The risk assessment helped the nurses provide important information about the patient's historical and clinical factors. However, the assessments did not provide an overall picture of the patient, and the nurses emphasized the importance of highlighting the patient's resources and strengths to increase the quality of care. Furthermore, the absence of input from relatives made it difficult to obtain an overall picture.

Relationships with patients were considered crucial for successful risk management, although the balance between caring and restricting actions was challenging. A good relationship between the nurse and the patient made the difficulties easier to handle. This became especially important when negative messages related to risks, such as refusal of leave, were to be presented. Additionally, keeping a balance between restrictions based on risk assessments and, at the same time, making the patient feel involved was difficult. Talking about results and consequences of the risk assessment could be regarded as problematic, especially when the nurse had not been involved.

Documented agreements were discussed in terms of increasing the nurses' feeling of being a part of a team. If the risk assessments were conducted with all involved staff members present, care-related aspects were highlighted, and various observations and inputs were able to be discussed more widely. Risk aspects became more visible as the nurses were supported in their risk-related discussions with the patents. Lack of participation could lead to insecurity and a lack of important information, which in turn created feelings of being excluded. Then, the risk assessments were considered less important.

5.3 PAPER III

Paper III intended to deepen the understanding of forensic psychiatric patients' experiences of the risk assessment process and which opportunities they had of being involved and influencing their care in relation to risk assessments. The findings were summarized in three categories: *taking responsibility for one' own situation*, *taking charge of the present*, and *being involved and having impact*.

The category *taking responsibility for one's own situation* involved aspects such as to look forward, having an ambition to do right, taking medicine, not causing any trouble on the ward, and a willingness to contribute to society and to not be a burden. The risk assessment was important in terms of the patient being aware of what was going on. To come up with own suggestions and desires was also considered as a responsibility. However, if the staffs' engagement was not permeated by genuineness, the inspiration of taking responsibility faded. The patients did not always trust the stuff members' ability to deal with conflict situations, which could be related to a doubt about the staffs' fulfillment of promises. This could also be related to a doubt about the staffs' fulfillment of promises. However, there was also a sense of confidence that the staff wanted to help and that they guided the patients through difficult decisions. Good feelings were expressed when the staff was well informed about the patient as a person.

Taking charge of the present involved challenges in grasping reality. This was emphasized by feelings of uncertainty, which were expressed in terms of receiving documents that were difficult to understand, getting insufficient information, or even having such information withheld. Conflicting and confusing information contributed to difficulties in taking charge of the present. This happened, for instance, when a patient was informed of a high-assessed risk level despite compliance with the care plan and good behavior. Fairness of impact from the past, such as previous criminality, would hamper future goals. Similarities with prison stay were also stated, and the care was described as a repository, being kept in passivity. However, forensic psychiatric care could also be preferable in the sense that it included better planning for post-treatment care.

Being involved and having impact was characterized by the opportunities to be involved but also by being excluded from decision-making. Participation implied having conversations with the staff, being invited, and participating in care planning with opportunities to express thoughts and desires, as well as discuss medications. However, the quality of the meetings was crucial for the

perception of involvement. Non-participation led to decreased motivation, and feelings of hopelessness were expressed as being related to limited possibilities to change one's situation. The institutional environment, as well as a sense of social stigma and being regarded as a dangerous person, contributed to the feeling of being an outsider.

The level of involvement in risk assessments emphasized inconsistent experiences, from the patient having a clear perception of the risk assessment's meaning, benefits, including ones' own risk factors, to those patients who had little or no understanding of the content of risk assessments, how they were performed, and by whom. However, the awareness of individual risk levels was generally high. Housing, meaningful activities, and family were seen as important factors for preventing recidivism, as well as staying apart from old friends who were potential bad influences.

5.4 PAPER IV

The main purpose of this paper was to relate the scores of SAPROF, HCR-20, LHA, and a combination of HCR-20 minus SAPROF to the occurrence of violent incidents during treatment in a cohort of forensic psychiatric inpatients, to assess the predictive validity of these instruments.

As presented in Figure 2 (in Methods section), the cohort consisted of 71 inpatients who had been sentenced to forensic psychiatric care after undergoing an FPI. Fifty-eight (82%) were men, and 86% (n = 61), were sentenced to treatment with SCS. Twenty-eight of them (39%) were responsible for at least one occurrence of a violent incident during treatment. Altogether, they had committed 119 events, of which 24% were violent acts directed at fellow-patients or staff.

The nonviolent group (n = 43) had significantly higher scores on the internal factor's subscale of the SAPROF instrument (p = .03). Except for a borderline effect for the LHA total score (p = .05, CI, 1.0–1.11), there were no differences between the scores on the instruments and the two groups (violent incidences vs. no violent incidences).

The correlations between *violent incidents per treatment day* and the three instruments only showed a significant association for the LHA scores. As for the predictive validity of SAPROF, HCR-20, HCR-20 – SAPROF, and LHA, (including their subscales), only Internal factors of the SAPROF showed a significant effect in predicting absence/occurrence of violent incidents during treatment. The LHA score showed a poor but significant predictive effect.

The instruments' sensitivity, specificity, PPV, and NPV were tested to predict violence, and no violence for the cohort. The cut-off for each instrument was identified from the inflection point of the ROC-analyses. The optimal inflection point for SAPROF was set at 13.5 where scores falling equal to or above the value correctly classified those who did not have any occurrence of violent incidents. For HCR-20, the inflection point was set at 18.5, although scores equal to or above were associated with a high risk for violence. Equally, for the LHA, the inflection point was 26.5, and for the HCR-20 – SAPROF, it was 6.5. The best ability to identify those who did not have any occurrence of violent incidents during their treatment period was shown by the LHA scale, which presented a specificity of .74. The SAPROF correctly identified 63% of those who had occurrence of violence.

5.5 SUMMARY OF THE MAIN FINDINGS

In this thesis, the importance and experiences of risk assessments, risk management, and structured evaluations of protective factors within forensic psychiatric treatment were studied.

Scientific knowledge about forensic psychiatric care processes is limited, including psychiatric, social, and care-related aspects in relation to the length of stay. Also, the implications of risk assessments for the patients' care remain unstudied. Therefore, a 10-year follow-up study on data from a cohort of 125 patients receiving forensic psychiatric care was conducted. The results showed that the median length of stay was slightly more than two and a half years, where patients who underwent treatment in the group with SCS stayed in hospital almost five times as long as patients who underwent treatment without SCS. However, the burden of the clinical nature was the same between the groups. Seventy percent of the cohort had committed an index crime of a violent nature, and 67% had undergone treatment with SCS (Paper I). Of those 97 individuals who were examined by FPIs, a derived sub-group consisting of 71 patients was retrospectively assessed using the strength-based risk assessment instrument SAPROF and life history aggression instrument LHA (Paper IV).

Previous contact with child and adolescent psychiatric services, violent index crime, previous substance use, psychotic disorders, and absconding during the treatment period were found to be associated with a longer length of stay. In a Cox-regression model, the remaining variables for a significantly longer stay were the violent index crime and absconding. Being a parent, scoring high on GAF, and suffering from a mood disorder were associated with shorter lengths of stay, where mood disorder remained as the strongest predictor for discharge (Paper I).

Approximately two-thirds of the patients in the total cohort were involved in at least one adverse event during their treatment. Those who underwent forensic care with SCS were significantly overrepresented in committing adverse events, specifically threats and violence, even when controlling for the length of stay. In summary, the majority of forensic psychiatric patients were men with a psychotic disorder who had committed a violent crime (Paper I).

The small background and clinical differences between the two treatment groups formed the basis for further investigation of the impact of risk assessments. Furthermore, the ability of the SAPROF instrument to identify protective factors and predict absence of recidivism in a Swedish psychiatric

population is unknown. To examine the predictive validity of this instrument, the occurrence of threats and violence was studied for this sub-cohort, showing that almost 40% of the patients had at least one violent incident noted. The structured risk assessment instruments were not able to predict violence, except for the LHA total score, which had a weak but significant association with future violence. The ability to predict absence of violence was found only for the internal subscale in the SAPROF, although with poor strength. Statistically significant correlations between the instruments were found only between LHA and HCR-20 when considering the length of stay in relation to the number of violent incidents (Paper IV).

Furthermore, to enlarge the picture of the risk assessment process and the impact of protective factors on the process, from a patient perspective, as well as a nurse perspective, two qualitative studies were conducted. The limitations regarding patients' autonomy and self-determination related to the involuntary circumstances of forensic psychiatric care make the nurse's work particularly challenging, and it can be questioned how a person-centered approach can be used in contexts related to risk assessment and risk management. However, the findings show that the nurses were both challenged and strengthened by the person-centered approach in terms of seeing the whole person, including difficulties and needs as well as strengths and resources, in the risk assessment/risk management process. The nurses were hence striving to confirm the unique person behind the patient, even when hampered by the patient's history of violence (Paper II).

The risk assessments provided a comprehensive picture of the patient that was useful in obtaining information about the patient; however, the importance of including families to extent the picture was emphasized (Paper II). From the patient perspective, the value of the staff being well informed about the patient as a person, was important (Paper III). A good relationship was emphasized by both nurses and patients for successful risk management (Papers II and III); however, the relationship, according to the nurses, was challenged by the balancing act between risk-related restrictions and patient participation (Paper II).

The importance of being involved in the risk assessment process to find them useful was emphasized (Papers II and III). The nurses' participation strengthened the nursing focus giving them opportunities to take part in risk discussions with other professionals, which in turn, facilitated their patient interactions. Non-participation led to uncertainty and feelings of exclusion (Paper II).

For the patients, involvement in risk assessments was emphasized with inconsistent experiences. Having conversations with the staff, and invitations to meetings strengthened the sense of involvement. On the other hand, several factors were obstructing, such as disengaged staff, insufficient information, unsatisfying meetings, and receiving documents that were difficult to understand, which led to decreased motivation, feelings of hopelessness, and feelings of being an outsider (Paper III). Taking responsibility for one's own situation was found to be prominent, concretized by behaving well and a willingness to contribute to society in the future, to which the risk assessment contributed in terms of being aware of what was going on.

In this thesis, the central process of risk assessment was studied using both quantitative and qualitative methods. Psychiatric, social, and care-related aspects in relation to the length of stay were investigated. Furthermore, the importance and experiences of risk assessments, risk management from a patient and nurse perspective, and structured evaluation of protective factors within forensic psychiatric treatment were studied.

6 DISCUSSION

The following section discusses the principal findings of the four papers included in the thesis, how they are associated with previous research, and, finally, argue for the thesis' contributions to research.

Forensic psychiatric care in Sweden – Length of stay in relation to estimated and true risk

This thesis has provided an extensive description of a forensic psychiatric population with detailed data about psychiatric, social, and care-related characteristics, and the discrepancies between the two treatment groups (with and without SCS). The findings present new knowledge about lengths of stay and how these are related to patient characteristics and adverse events in forensic psychiatric care. The clinical similarities between the two groups exclude burden of illness as an explanation for the longer length of stay in the SCS group. Instead, this extended stay in treatment could be interpretated as an attempt by the legal system to prevent violence relapse, as violent index crimes and absconding events were related to a longer length of stay.

The huge impact of SCS (primarily based on the nature of the index crime) and the lack of influence from patients' clinical needs on the length of stay highlight important ethical concerns in forensic psychiatric care. Risk assessments, together with care and treatment information, are central pieces of information in decisions regarding permission to leave the hospital, transfers to outpatient treatment, and being discharged. Hence, it is crucial that the instruments and measures used in risk assessment are valid and reliable. No matter how sophisticated risk assessments may be, future behavior cannot be predicted with perfect accuracy, which in practice leads to the potential risk of restricting patients on incorrect estimates (104). The aim of risk assessments is to estimate the risk of future violence. In practice, however, the severity of the index crime weighs heavily on which form of treatment (with SCS or without SCS) the patient will receive (105). It is notable that patients who received treatment with SCS were less likely to relapse into crime, general as well as violent, compared to those without SCS, after a follow-up period between 3 and 10 years (90). These findings could either be interpreted as SCS playing a protective role against recidivism or they could merely reflect the need to develop better instruments to predict future violence.

A prolonged length of stay raises several concerns. As described by Krona (106), treating patients in forensic psychiatric care brings about high costs and may, from a societal level, lead to reduced funding of other important welfare areas. The findings of Paper III indicated that the patients found a prolonged length of stay ineffective, resulting in increased anxiety and frustration, where even a prison sentence was found to be preferable in some cases. Studies have found a negative association between length of stay and health-related quality of life among patients suffering from schizophrenia (107).

The impact of involvement and relationship

The findings in this thesis revealed some points in common for the patients and the nurses, although from opposite standpoints. Feelings of being left out were experienced by both parties, which affected the perception of the usefulness of the risk assessment. From the patient perspective, the level of involvement in risk assessments was emphasized with inconsistent experiences, ranging from a clear perception of the purpose to the opposite. A feeling of being excluded from meetings or not being able to understand documents triggered feelings of being left outside and, hence, stigmatization. The importance of patient involvement has been stressed in other studies (108, 109). A recently published study on mental health professionals' perceptions of patient participation emphasized the need for good communication as crucial (110). Encouragement in terms of listening and support the patient's independency were also highlighted (110).

Further, involving patients in their risk assessments have been studied with positive results on the accuracy of predicting violence (111). On the contrary, other studies have reported no support for risk assessments embedded in shared decision-making for preventing criminal relapse when forensic psychiatric out-patients were investigated in a randomized controlled trial study of risk assessment and shared care planning (112). Still, it can be expected that increased patient participation in the risk assessment process results in a better understanding of ones's own care process as well as the healthcare staff's understanding of the patient's situation.

The importance of a trusting relationship was emphazised by both patients nurses. However, both groups highlighted hindrances to establishing and maintaining the relationship. The nurses were concerned about harming the therapeutic alliance, and greater patient involvement in the risk assessment process was suggested as a mitigating action. Findings from other studies support the importance of good relationships (113, 114). Further, trusting

relationships with staff has also been found crucial for the recovery process (115). For the patients (Paper III) the staff's engagement level was important and increased the feeling of being cared for and their own motivation. This is in line with a study by Shattell and colleagues (116) where the meaning of being understood from a patient perspective, emphazized the importance of being treated as a person where being listened to involved the feelings of being important and of connectedness with the caregiver, for example, in terms of being touched.

However, challenges in support for recovery within forensic psychiatric care may present specific conflicts—particularly in the relation to potential tensions between personal autonomy and the need to manage violent risk (117). History can not be rewritten, but with increased knowledge about the patients' experiences, the nurses will have better conditions to provide starting points for supporting the change in destructive lifestyles and promoting the patients' health processes in directions to complete their life goals (24).

The definition of person-centered care has been criticized as vague and difficult to describe to what extent healthcare settings are perceived as person-centered (68) and can furthermore be regarded as incompatible with compulsory care. However, studies have found support for integrating person-centered principles into forensic psychiatric milieus (1). Factors that decreased violent incidents in a forensic psychiatric ward found that a person-centered care had an essential impact (118) suggesting that multi-disciplinary treatment plans and treatment meetings may increase patients' perception of progression and promote the therapeutic relationship.

Can risk assessments be improved by the inclusion of protective factors?

There has been a long discussion on the possible benefits of adding protective factors to risk assessments. This amendment could, as mentioned above, facilitate care according to the person-centered approach. The patients reported that risk factors were discussed more often than protective factors. However, they were able to identify factors that were important for preventing recidivism. In terms of predictive validity, the findings from the present thesis do not support the use of SAPROF (total scores reached an AUC value of merely 0.59), neither alone nor combined with HCR-20, to predict violence. Other studies have presented similar weak support (119) with an AUC value of .60 for the SAPROF total score, here interpreted as marginal in size, although not significant, in a forensic inpatient setting (n = 55). The predictive validity of SAPROF tends to vary across forensic research samples. A meta-

analysis of the predictive performance of SAPROF for institutional misconduct, presented 11 studies with a range of time at risk between 1 and 30 months, where the AUCs were at the lowest 0.58 and at the highest 0.87, and when combined with HCR-20, the AUCs increased in most cases (120). This may be due to the diverse definitions of the "violent outcomes," including different kinds of unpleasant behavior such as misconduct (121) or verbal insulting, curses, and angrily shouts (122).

When we examined the predictive validity for the instruments' subscales, the internal factors in SAPROF, showed the best ability to predict desistance of violent incidents. These factors are static and historical, yet the last three factors—empathy, coping, and self-control—are dynamic and thereby changeable. As discussed by Burghart et al. (120) inpatients are expected to be supervised extensively, which reduces the score variances on the external subscale and can lead to less ability to reach a significant level for predicting absence of violent behavior.

Furthermore, we did not find satisfying predictive abilities in the HCR-20, either in terms of violent events during inpatient care. A possible explanation may be the transfer of specifically troublesome patients to clinics with higher security levels. Another possible explanation is that, during the follow-up period, permissions for temporary leaves for up to six months could be granted, which eliminated any registrations of violent incidents. The HCR-20 instrument's ability to predict violence with at least a moderate level of efficacy have previously been presented (123).

The use of AUC as a measure for accuracy has, however, raised criticism because it does not reflect the instruments' ability to predict violence in clinical practice, and the instruments' usefulness is only valuable if they lead to successful risk management (124).

The instruments' vague ability to predict violence suggests the use of a more holistic view of the risk assessment process by including perspectives from all professionals involved in the patients' care, as well as the patient and his or her relatives.

Risk assessments, especially those based solely on actuarial items, have been described as both time- and cost-efficient (125). However, these kinds of assessments lack patients' involvement. To support the patients to take an active role and be more involved in their own care, they need to be invited and encouraged. This is not the case in most current risk assessment paradigms.

Previous research has shown that combining a risk assessment process with a strengths-based lens with transparent care facilitates for the patients' understanding and involvement and raises the chance of higher compliance and engagement among patients (126). It also offers a more holistic approach, resulting in fairer risk assessments, which provide for enhanced satisfaction and inspiration for those being assessed, as well for the professionals (127), factors known as important for institutional violence risk reduction (128). The benefits of adding instruments like SAPROF can improve attention to strengths rather than risks, which may enhance the motivation of patients and nurses. Furthermore, having internal strengths, such as having patience, a strong will, and optimistic thinking, were highlighted by forensic psychiatric patients as contributing factors for a successful recovery process (56).

The concept of protective factors is frequently questioned in the literature as being independently protective or the opposite of risk factors. The mechanism of protective factors has been described as mediating or buffering the risk for violence, where the former refers to the direct effect on risk, and the latter buffering mechanism has an indirect effect in the presence of risk (139). The developers of SAPROF does not claim one or the other for the protective factors included in the instrument. However, they emphasize the limitations of the factors that almost all of them have the potential characteristic of being a risk factor (19), which is further highlighted by Abbiati et al. (129). The insufficient consensus on how protective factors should be defined is shown as the absence of a risk factor, or a protective factor can be seen as the opposite of a risk factor (129).

6.1 METHODOLOGICAL CONSIDERATIONS

In this thesis, both qualitative and quantitative methods were used. The chosen methods may contribute to strengths and limitations in the results. Quantitative research is often assessed in terms of validity and reliability, and in qualitative research, quality refers to terms of trustworthiness, a concept that includes credibility, confirmability, transferability, and dependability (97).

The following section further discusses methodological aspects related to quantitative as well as qualitative considerations in relations to the studies' designs, samples, data collection and analysis.

Validity and reliability

The quantitative studies presented in Papers I and IV were based on retrospective file register data—a design that includes several limitations. In the papers, each of their specific limitations are discussed in detail. Below follows some additional methodological aspects of concern.

Validity refers to the usefulness of the measurement and whether it measures what it is intended to measure (130). Research related to the quantitative tradition is generally based on a sample that is supposed to represent a population, and from that sample, researchers should be able to draw conclusions about the population. Papers I and IV are based on a total cohort, meaning all individuals who underwent an FPI and were sentenced to forensic psychiatric care over a period of seven years. Since then, organizational aspects, the content of treatment, and care interventions have gone through changes and do not reflect current clinical circumstances in all aspects. Furthermore, replications of these studies would most probably report different lengths of stay due to the revised Swedish legislation in 2008, which enables patients to be transferred to outpatient forensic psychiatric care, which in turn comprises different terms.

Reliability also refers to the consistency of the measures and the degree to which the measurements are reproducible; the results are the same over repeated measurements (131). To obtain data for Paper I, structured protocols were constructed. Two researchers (of which one was the author) together scrutinized the medical records and detailed clinical and administrative information. When questions or indistinctness arose, they were discussed until a satisfactory consensus was reached. However, there is chance of bias,

especially due to the immense amount of written information in papers and on data files.

Trustworthiness

Trustworthiness refers to how well the focus of the study corresponds to the choice of context, participants, and data collection, as well as how data and analysis correspond to the aims (97).

The purposive sample strategy is considered to strengthen credibility where participants with various experiences can be included, which in turn may increase the possibilities of receiving rich and pertinent data that confront the research questions from different aspects (Papers II and III) (132). Nurses from five different wards and from two different hospitals participated, which established credibility. Furthermore, the inclusion and exclusion criteria were set with the purpose of capturing a sample of nurses with proper prerequisites related to responding to the aims.

The recruitment of nurses (Paper II) was challenging in terms of limited interest. However, after conducting three focus group interviews, the data were considered rich enough, and saturation was established. In Paper III, the data was considered rich enough after 10-11 interviews since new information did not emerge.

The use of a guideline with pre-formulated themes were supported the moderator in maintaining a structure and ensured that all themes were covered related to the research questions (Paper II and III). However, as described by Elo et al. (133), it is important that the researcher does not steer the participants' answers too much, at risk of losing the inductive purpose.

Focus group interviews are a data collection method for qualitative studies and are commonly used in health and care science (134, 135). The method is particularly useful for examining peoples' attitudes and their reasonings (87). The focus group interviews were intended to explore and increase the understanding and widen perspectives and views that a specific group of interest are expressing (134). In contrast to group interviews, focus groups emphasize the observations of interactions and non-verbal communications between the participants as important material that can add essential data for the analysis (87). Furthermore, the dynamics of the interactions between the

participants may further encourage them to explore their mutual and/or diverse experiences (135).

To establish confirmability, quotations from the interviews in Papers II and III were used in the reports of the findings to allow the reader to assess trustworthiness. The confirmability was further established by descriptions of the pre-understanding, where the analysis process was kept bridled by carrying out critical discussions and questionings between the authors of the papers.

Transferability, a term comparable with external validity (136) implies that the context must be well-known to the researcher so that the findings can be validated in the setting from which the data material is derived (136). Transferability also refers to how the findings can be useful in other groups or contexts (97). Furthermore, the transferability can be facilitated by reporting the findings vigorously (97). This was intended to be obtained by presenting the findings together with appropriate quotations from the participating nurses (Paper II) and patients (Paper III), as well as descriptions of the environment. Nevertheless, the transferability will, in the end, be up to the reader to determine (97).

Dependability refers to the degree to which data may change over time and how this effects the stability of the findings (137). An interview guide was used in Paper II and III. The data collection was carried out in time frames of approximately nine months (Paper II) and six months (Paper III). The research process was described thoroughly to facilitate the assessment of dependability.

6.2 CLINICAL IMPLICATIONS AND FUTURE RESEARCH

The findings of this thesis contribute to our knowledge of the influence of perceived risk for violence in forensic psychiatric care. Further, they highlight the importance of individual experiences of structured risk assessments and risk management interventions through nurses' and patients' responses to these central care processes.

The benefits of increased patient participation in the risk assessment process can give patients a deeper awareness of their own resources and weaknesses. Furthermore, participation facilitates increased opportunities for engagement and un understanding of their own risk assessment process, which can strengthen feelings of personal responsibility and a better understanding of their situation. This can in turn, strengthen autonomy by giving them a sense that it matters what they do and by increasing the motivation for risk interventions with a positive influence on recovery. Parallels can be drawn to Antonovsky's theory (138) about a sense of context, where the importance of understanding one's existence, and it being manageable and meaningful, is important to maintaining good health.

The exploration of patients' experiences of a central forensic psychiatric care process provides important sources for forensic psychiatric nursing staff to understand the patient's situation, which is a prerequisite for providing person-centered care. It also allows for aspects that are significant for increased quality of life, participation, and autonomy to be highlighted, which in turn supports recovery toward having as independent a life as possible.

The thesis offers mental health care professionals in general—and nurses in particular—extended perspectives and a deeper understanding of the patient's experiences and reactions, which can benefit the care relationship. It can also be useful in discussions of a further development of the risk assessment process for violence risk in the forensic psychiatric context. Additional findings suggests that we need to further continue exploring valid instruments for identifying those patients who may commit violent incidents during treatment.

Still, further research is needed to expand the field of risk assessments and risk management and to develop ethically justifiable policies for future forensic psychiatric treatment. The revised legislation in 2008, which enables patients to be transferred to outpatient forensic psychiatric care, make up for replications concerning length of stay for inpatient treatment, and outpatient treatment. The clinical experience since the revision mirrors a perception

among many patients that their length of stay now is substantially due to a prolonged outpatient treatment.

To increase our knowledge and spur the development of new risk assessment and management interventions we also need research investigating multi-professional perspectives. In addition, the attitudes and experiences of decision-makers and leaders must be incorporated in our new methods in order to increase treatment alliance and facilitate a person-centered care in forensic psychiatry.

It would also be interesting to study the prospective development of protective factors among forensic psychiatric patients during their whole length of stay. Furthermore, studies on risk and protective factors in a forensic psychiatric outpatient population would contribute to a broader knowledge base for the field of risk and protective factor assessments.

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