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Maria Ameel

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ABSTRACT

Standardized nursing terminologies (SNT) have been developed to describe the nursing process systematically. The aim of this research was to study the applicability of the Nursing Interventions Classification (NIC) in the psychiatric outpatient care setting in Finland. The research includes three phases. In the first phase using an integrative literature review we identified nursing interventions in research publications (n=60) and used the NIC to analyze the identified interventions. In the second phase, we used an ethnographically oriented work-place study to identify interventions in the clinical setting. This included observations and interviews and the findings were analyzed together with nurses (n=17). The core interventions were identified using the Delphi method. The panelists consisted of nurses and nurse managers (round one n=54, round two n=26). In the third phase we identified nursing interventions in nursing progress notes (n=1150) and in nursing care summaries (n=17) and mapped these into the NIC.

In all we identified 105 different nursing interventions, of which 95% could be mapped into the NIC. The emphasis was in interventions aiming at behavioral change and more specifically interventions that support coping by building on patients' strengths. In nursing documentation, the most frequent interventions were Surveillance and Care Coordination. The group delivery method was common in all phases. The findings of this study emphasize the need for a systematic terminology to describe nursing interventions for nurses to conceptualize their work, to make the work visible and to ensure the quality of nursing documentation. The broad coverage, descriptiveness of the interventions and the taxonomical structure of the NIC support its applicability. However, the interventions in the classification were found to be overlapping which limits the systematic transfer of information and the possibilities for secondary use of data. Additional limitations are the lack of semantic coherence with the concepts used in research and the difficulty of describing interventions delivered using the group method. This research generated recommendations for the development of the classification. The most central ones include the need to include multiple methods in the research and development and the integration of concepts used in research literature.

KEYWORDS: Nursing, Outpatients, Psychiatry, Mental Health, Nursing Documentation, Standardized Nursing Terminology, Nursing Interventions

TURUN YLIOPISTO
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TIIVISTELMÄ

Hoitotyön systemaattinen kuvaaminen edellyttää yhteisen kielen ja käsitteistöjen käyttöä. Tässä tutkimuksessa selvitetään hoitotyön interventioiden luokituksen (Nursing Interventions Classification, NIC) soveltuvuutta aikuispsykiatrian avohoitoon. Tutkimus koostuu kolmesta osavaiheesta. Ensimmäisessä vaiheessa integratiivisen kirjallisuuskatsauksen avulla tutkimuksista (n=60) tunnistettiin hoitotyön interventioita ja nämä analysoitiin NIC-luokituksen avulla. Toisessa vaiheessa hyödynnettiin etnografista työntutkimusta. Hoitotyön interventioita tunnistettiin hoitajien työtä havainnoimalla ja hoitajia haastattelemalla. Analysointi tapahtui yhdessä hoitajien (n=17) kanssa. Ydininterventioiden tutkimus tapahtui sähköistä Delfoi-menetelmää hyödyntäen. Panelisteina toimivat sairaanhoitajat ja hoitotyön lähijohtajat (ensimmäisellä kierroksella n=54, toisella kierroksella n=26). Kolmannessa vaiheessa tutkittiin hoitotyön päivittäiskirjauksia (n=1150) ja hoitotyön yhteenvetoja (n=17), joista tunnistetut interventiot yhdistettiin NIC-luokitukseen.

Tutkimuksessa tunnistettiin yhteensä 105 interventioita, joista 95 %:lle löytyi vastine luokituksesta. Keskeisiä interventioita kirjallisuuskatsauksessa, etnografisessa työntutkimuksessa ja ydininterventioiden tutkimuksessa olivat käyttäytymisen muutokseen tähtäävät psykososiaaliset interventiot ja erityisesti voimavaralähtöinen selviytymiskyvyn tukeminen. Hoitotyön kirjauksissa korostuivat seuranta ja hoidon koordinointi. Interventioiden ryhmämuotoinen toteutustapa oli yleinen kaikissa tutkimusvaiheissa. Tutkimuksen tulokset korostavat yhteisten käsitteiden tarvetta hoitotyön interventioille työn käsitteellistämisen, näkyväksi tekemisen ja kirjaamisen laadun näkökulmista. Tutkitun luokituksen soveltuvuutta tukevat sen kattavuus, käsitteiden hyvä tunnistettavuus ja hierarkkinen rakenne. Luokituksen interventiokäsitteet ovat osittain päällekkäisiä heikentäen sen systemaattista käytettävyyttä ja tiedon toisiokäytön mahdollisuuksia. Soveltuvuutta rajoittavat myös luokituksen vähäinen yhteys tutkimuskirjallisuudessa käytettyihin käsitteisiin ja vaikeus kuvata ryhmämuotoisia interventioita. Tutkimus antaa suosituksia luokituksen jatkokehittämiselle. Keskeisimpänä ovat monimenetelmäisyys tutkimuksessa ja kehittämisessä sekä tutkimuskirjallisuuden käsitteistöjen vahvempi integroiminen luokitukseen.

AVAINSANAT: Hoitotyö, Avohoito, Psykiatria, Mielenterveys, Hoitotyön dokumentaatio, Hoitotyön standardoitu terminologia, Hoitotyön interventiot

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Abbreviations

AAA	American Anthropological Association
ANA	American Nurses Association
APN	Advanced Nurse Practitioner
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CCC	Clinical Care Classification
DSM	Diagnostic and Statistical Manual of Mental Disorders
EHR	Electronic Health Record
EU	European Union
FinCC	Finnish Care Classification
FiCNI	Finnish Classification of Nursing Interventions
ICD	International Classification of Disease
ICF	International Classification of Functioning
ICHI	International Classification of Health Interventions
ICNP	International Classification of Nursing Practice
ICPC	International Classification of Primary Care
IT	Information Technology
LOINC	Logical Observation Identifiers Names and Codes
MeSH	The Medical Subject Headings
NANDA	North American Nursing Diagnostic Association
NANDA-I	NANDA International
NIC	Nursing Interventions Classification
NMDS	Nursing Minimum Data Set
NOC	Nursing Outcomes Classification
OECD	The Organization for Economic Co-operation and Development
ONC	Office of the National Coordinator for Health Information Technology
PMN	Psychiatric and Mental Health Nursing
RCT	Randomized Controlled Trial
SNOMED	Systematized Nomenclature of Medicine
SNT	Standardized Nursing Terminology
THL	Finnish Institute for Health and Welfare
WHO	World Health Organization

List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

I Ameel, M, Kontio, R, Välimäki, M. Interventions delivered by nurses in adult outpatient psychiatric care: An integrative review. *Journal of Psychiatric Mental Health Nursing*. 2019, 26, p. 301–322

II Ameel, M, Kontio, R, Junttila, K. Nursing interventions in adult psychiatric outpatient care. Making nursing visible using the Nursing Interventions Classification. *Journal Advanced Nursing*. 2019, 75, p. 2899–2909

III Ameel, M, Leino, H, Kontio, R, van Achterberg, T, Junttila, K. Using the Nursing Interventions Classification to identify nursing interventions in free-text nursing documentation in adult psychiatric outpatient care setting. *Journal of Clinical Nursing*. 2020; 29: 3435–3444

IV Ameel, M, van Achterberg T, Kontio, R, Kinnunen U-M, Junttila, K. Core nursing interventions in adult psychiatric outpatient care as identified by nurses, a Delphi study using the Nursing Interventions Classification. *International Journal of Nursing Knowledge.* 2020; 1–8.

1 Introduction

Working as a nurse in the adult psychiatric outpatient services, meeting patients and their family members for the most part alone and behind closed doors, left me thinking, what do my nurse colleagues do? How do they tackle the health problems together with their patients and family members and how do they conceptualize this? Especially in the cases when I needed to step in for one of my fellow nurses and meet their patients, I often felt unsure about what they had done. The only information about the patient and the nursing care process I could get was in the multidisciplinary care plan and in nursing progress notes. The multidisciplinary care plan often used the term "conversational meetings" and the nursing progress notes contained very little information about what nurses had actually done in the meetings with their patients. Trying to find words that would describe and capture the ways that we nurses work together with patients, led me to search for words for nurses to describe their work in similar settings. Out of this search came the research plan for this study.

Psychiatric services have gone through considerable change during the past decades. Treatment and rehabilitation have moved from asylums and wards placed outside the cities to outpatient services that are provided within the community (Malone, 2007). In Finland, this change can be seen in the national statistics that show an increase of 80% in outpatient visits between the years 2006 and 2017, by which time more than 90% of patients in psychiatric services were being treated in an outpatient care setting. (THL, 2019). At the same time, mental health problems are one of the most common health problems affecting more than one in six persons every year (OECD/EU, 2018). Approximately every second person has a lifetime of risk for developing a psychiatric disorder (Kessler et al., 2007). The economic burden of mental health problems is significant: they are one of most common reasons for disability pensions (OECD/EU, 2018) and in Finland the most common cause for sick leave (Kela, 2019).

Nurses are the largest workforce providing treatment in psychiatric care settings, both in Finland (Sadeniemi et al., 2018) and globally (WHO, 2018), but the role of psychiatric nurses has been described as difficult to clarify (Santangelo et al., 2018; Hercelinskyj et al., 2014), blurred (Simpson, 2005) and ambiguous (Hercelinskyj et al., 2014). Additionally, there is a great variation between different countries in the

ways that nurses are integrated into the psychiatric services (Hemingway & Brimblecombe, 2018). The lack of understanding of nurses' work has been identified as one of the major issues behind the unclarified role (Hercelinskyj et al., 2014, Bladon, 2018) and a more clear understanding of nurses' interventions and everyday practices and their impact on patient outcomes is seen as one way to clarify nurses' work-role (Anderson, 1983; Hercelinskyj et al., 2014; Bladon, 2018).

The focus in this study is on nursing interventions and on the standardized nursing terminologies (SNTs) that have been developed to provide a consistent language to describe the nursing process, including nursing diagnosis or patient care needs, nursing interventions and patient outcomes. Throughout the study we use, the Nursing Interventions Classification (NIC) (Bulechek et al., 2013; Butcher et al., 2018) to describe the interventions.

Standardized terminology is essential for the systematic transfer of patient-related data in the electronic health records (EHRs) (De Groot et al., 2019). In addition to the changes in psychiatric services, the need for this study comes from the needs and possibilities that the use of EHRs bring to nursing documentation. To benefit from the possibilities EHRs, such as the secondary use of data for quality improvement, management or research purposes as well as cognitive support for clinical decision making, the data needs to be entered or transformed into units that can be systematically recognized and calculated (Hardiker, et al., 2019; Müller-Staub et al., 2016).

The overall aim of this research is to study the applicability of the NIC to describe nursing interventions in the adult psychiatric outpatient care setting. Much of the research on SNTs has focused on nursing documentation. We study the applicability of the NIC to conceptualize the nursing interventions additionally in research literature and in the clinical practice setting.

2 Review of the Literature

2.1 Psychiatric and mental health nursing

In this section, we describe the central concepts of the study and the relevant literature. The first section (2.1) describes nursing in psychiatric and mental health care settings. The second section summarizes the background of SNTs (2.2). The review of the literature on SNTs and nursing interventions in the mental health and psychiatric setting is described in the third section (2.3).

2.1.1 Nurses' role in psychiatric and mental health services

The role of nurses in psychiatric and mental health services has become transformed along with the historical changes in the care system. The history of western psychiatry was originally based on isolating individuals with mental health problems in large institutions in order to keep other citizens safe. The treatments offered in these instructions provided very little help for the patients and many of them such as insulin shocks or lobotomy, caused severe harm, even though the intentions were good. (e.g. Barker & Buchannan-Barker, 2011; Hyvönen, 2008). The fact that nurses played a role in the delivery of these treatments has been said to shadow the profession until this day (Barker & Buchannan-Barker, 2011). De-institutionalization and the rise of modern psychiatry in the 1960s changed the way mental health problems were understood and patients were treated. There were several factors behind the change, including the civil rights movements, developments in psychopharmaceutic treatments and the need to reduce costs of the welfare state. All of these led to a cut down in the number of hospital beds and moved the emphasis of care and services for mental health problems to community-based settings. (Loukidou et al., 2010; Malone, 2007; Chow & Priebe, 2013.) Nolan (1993) described this as a change from the perspective of nurse as "keeper" to "mental health nurse".

Nurses became active caregivers and often coordinated care for their patients in mental health teams, located in the community. In the outpatient care setting, nurses have played an important role in the delivery of psychosocial interventions for patients and their family members (Butler et al., 2014). However, the change in

nurses' role led to definition problems that still persist. (Nolan, 1993; Loukidou et al., 2010.) Cutcliffe et al. (2013) argue that the involvement of psychiatric nurses in providing psychiatric treatments and having a philosophical background in the biopsychiatry is profoundly different from mental health nursing that emphasizes a holistic and person-centered care. According to the authors, these two cannot be put together due to the philosophical differences between the professions (Cutcliffe et al., 2013.)

The unclarified role of nurses is said to have led to problems such as becoming marginalized inside the nursing profession and difficulties in defining the work of nurses (Bladon, 2018; Hercelinskyj et al., 2014). Within the nursing profession, nurses working in the mental health settings have been found to suffer from stigmatization (Halter, 2008). The negative attitudes towards this specialization have made it one of the least attractive among nursing students (Happel & Gaskin, 2013; Halter, 2008).

In psychiatric services care is being delivered by multidisciplinary team and role clarification is essential for the success of the multidisciplinary teamwork (Suter et al., 2009). The understanding and respecting of the role of all team members in community mental health teams is important in order to avoid undermining of the knowledge of the other profession (Simpson, 2007; Griffiths, 2001).

Another way of defining the role of nurses has been to study the conceptual models that nurses use in psychiatric settings. In their study on conceptual models underpinning mental health practices in both in- and outpatient settings in New Zeeland, Carlyle et al. (2012) discovered that nurses used a psychodynamic model in understanding patient problems but a medical model in describing their interventions. During the past 20 years, recovery orientation has become more central in mental health services (Hornik-Lurie et al., 2018). Instead of symptom reduction, the emphasis in recovery orientation is in an individual's strengths, needs and active involvement in the care planning and process. Hemingway and Brimbelcombe (2018) describe that, compared to the medicalized model, the recovery orientation provided psychiatric and mental health nurses with a wider perspective to patient care, by valuing patient's own goals, optimism and social inclusion.

In this study we focus on identifying and describing interventions used by nurses who work in the psychiatric outpatient care setting. We use the term psychiatric outpatient care throughout the research.

2.1.2 Psychiatric nursing practice

Studies that have examined nurses' role in the psychiatric and mental health setting from the perspective of nursing interventions or the nursing practice have used a

wide range of definitions. In a study on clinical nurses' practice in Ireland, Cowman et al. (2001) identified the role of nurses to be pivotal and to consist of nine types of main categories. These were: assessing patient needs and evaluating care, planning care, nurse/patient caring interactions, pharmaceutical interventions, education (teaching and learning), documenting information, coordinating the services of nurses and other professionals for patients, communication with other professionals and other staff, and administration/organization of the clinical area. (Cowman et al. 2001.) In another study on recovery orientation in psychiatric/mental health settings in Ireland, Cusac et al., (2017) reported that the most common interventions used by nurses in practice were goal setting, conversing, early intervention strategies and anxiety management strategies.

In a study using ethnographic methods, describing the work of nurses in community mental health teams in England, Simpson (2005) reported that the role became a coordinating one. Similar findings of working as case managers for a large number of patients were described in a study identifying the roles of mental health nurses in Australia (Heslop et al., 2016). Additionally, these studies have found that nurses often cover for other professionals, which has led to the lack of delivery of psychosocial and physical care by nurses. (Simpson, 2005; Heslop et al., 2016).

The reviews describing studies of nurses' role or nurse-delivered care in the psychiatric outpatient care setting have often been linked to a specific patient population. A review by van Dusseldorp et al. (2011) described nurses' roles in the treatment of patients diagnosed with first episode psychoses and found five major domains describing the role. These included development of a therapeutic relationship, relapse prevention, enhancement of social functioning, stimulation of medication adherence, and support for family members. The authors concluded that there is a lack of clinical trials and that the level of evidence for nurse-delivered interventions is poor (van Dusseldorp et al., 2011). The focus of a review by Goossens et al. (2007) was on studying the nursing process in the treatment of patients with bipolar disorder. They identified interventions such as psychoeducation, groups, health plans and identification of symptoms. The authors came to similar conclusions as van Dusseldorp et al. (2011) regarding the lack of clinical trials and the poor level of evidence and suggested that the daily practices of nurses working with patients with bipolar disorder would need to be investigated in order to understand the nursing process including nursing interventions (Goossens et al., 2007). Another review focusing on patients with bipolar disorder by Crowe et al. (2010) concluded that there is sufficient evidence to support the roles of nurses in the delivery of manualized treatments such as group psychoeducation and suggested that in the future the focus would need to be on conducting pragmatic trials. Similarly, pragmatic trials were suggested in the review by Macleod et al. (2011), which focused on nurse-led support for family members of patients diagnosed with

schizophrenia. They concluded that evidence of nurse-led support for family members is emerging, although the majority of the studies included in the review were not nurse-led. (Macleod et al. 2011).

In a review focusing on nursing interventions in the psychiatric care and including all patient groups, Curran & Brooker (2007) systematically reviewed nursing interventions included in randomized controlled trials (RCTs) in the United Kingdom between the years 1994 and 2005. They identified that the most studied nursing interventions were cognitive behavioral therapy-based interventions, education, and medication management interventions. They concluded that nurses are involved in a variety of different treatments with positive results and that the quality of clinical trials has been improving. In a review of studies in mental health nursing in North America, Zauszniewski et al. (2012) identified nursing interventions in three specific domains, using the biopsychosocial model developed by Boyd. Most studies were placed in overlapping domains (44 %), followed by the psychological domain (38%), the social domain (17%) and the biological domain (1%). (Zauszniewski et al., 2012.)

The findings of the reviews and individual studies share one problem, namely the lack of semantic clarity, i.e. the lack of a coherent terminology between the studies. Where for example would for example the psychoeducation group interventions described by Crowe et al. (2010) belong to in the division by Curran & Brooker or in the domains by Zausniewski? Would they be included in the roles described by van Dusseldorp et al. (2011)? Carlyle et al. (2012) defined psychoeducation relying on the biomedical model, so is it then a nursing intervention at all? In a study of the work of community mental health nurses Nolan et al. (2004) state that "*mental health nursing is vulnerable because it does not have a coherent understanding of its work*" and continue that "*Such an understanding is essential if it is to survive further and more drastic cuts in and reconfiguration of services*" (Nolan et al., 2004 p. 532). One possible solution for the shared understanding could be achieved from SNTs. The terminologies have been developed in order to describe the nursing process systematically to support patient care.

2.2 Nursing documentation and SNTs

2.2.1 Standardized nursing terminologies

SNTs are an example of tools to standardize patient related information in healthcare. The development of standardized terminologies started with medicine. The study and classification of different illnesses in the 18th century were combined into a classification of causes of mortality (WHO, 2020b). This work was taken over by the WHO in 1948 and the first volume of the International Classification of Disease

(ICD) was established. Additional widely used classifications in the health care setting include the Diagnostic and Statistical Manual of Mental Disorders (DSM), the International Classification of Primary Care (ICPC) and the International Classification of Functioning, Disability and Health (ICF). One of the newest components of the WHO classification is the International Classification of Health Interventions (ICHI) containing more than 7000 interventions, but the development work is still ongoing, and the final version has not been published (WHO, 2020b). Despite the differences, the classifications share a common purpose, to provide statistical information to support clinical and political decision making and research.

In order to fulfill their purpose, the terminologies share common criteria. Cimino summarized the criteria in a widely shared essay "Desirata", in 1998 and in the second paper discussing the same issue in 2006. He defined the criteria as "*they must support the capture, storage, manipulation, and retrieval of the information they represent in ways that faithfully preserve and communicate the original information* and *should support reuse of data"* (Cimino, 2006, p. 299). According to Cimino (2006) the language used in the terminologies needs to be more formal to convey meanings in useful ways. Similarly, in the process of patient care and the nursing documentation, the language needs to be unambiguous to avoid misinterpretations and to support the reuse of the data (e.g. de Groot et al., 2019; Kieft et al., 2017; Saranto et al., 2014). To achieve this several nursing terminologies have been developed.

SNTs are seen as a way to describe nursing process systematically, to ensure that the information transfers with the patient from one unit to another. This includes defining patient's care needs, interventions, and outcomes. (De Groot et al., 2019; Saranto et al., 2014; Rutherford, 2008) Furthermore, SNTs have been seen as a way to clarify nurses' work by making it visible (Flanagan, 2018; Rutherford, 2008; Butler et al., 2006). The SNTs typically consist of three components: nursing diagnoses, nursing interventions and nursing outcomes.

The development of nursing terminologies started in the late 1970's and the first version of the North American Diagnostic Association (NANDA) terminology that later became the NANDA-International (NANDA-I) describing nursing diagnosis was published in 1975 (Westra et al., 2008). Currently there are 12 SNTs acknowledged by the American Nurses Association (ANA) (Office of the National Coordinator for Health Information Technology, ONC, 2017). These include three types of terminologies. First, Nursing Minimum Data Sets (NMDSs) are used to describe the essential information for a specific purpose (Westra et al., 2008). For example, in Belgium the national NMDS-Be gathers nationwide data on nursing interventions from somatic hospitals that is used for staff allocation and hospital budgeting (van Den Heede et al., 2009). A review on found that NMDSs describe

fundamentals of care, but there is a lack of interactional elements such as education and comfort (Muntlin Athlin, 2018).

Second type of terminologies are two reference terminologies that interlink different controlled vocabularies. Two reference terminologies that are acknowledged by the ANA are both multidisciplinary (ONC, 2017). The first is the Systematized Nomenclature of Medicine (SNOMED) that was originally developed for pathology (Cornet & Keizer, 2008). Since 1975 it has been developed and the international version includes more than 350000 terms and aims at interlinking terms and concepts within and between terminologies (SNOMED, 2020). The Finnish National Institute for Health and Welfare (THL) became member of the SNOMED in 2019 (THL, 2018). Another reference terminology acknowledged by the ANA is the Logical Observation Identifiers Names and Codes (LOINC) that is used to code clinical observations such as laboratory tests and more recently also nursing assessments, goals, and outcomes (ONC, 2017).

Third type of terminologies includes seven interface terminologies that are meant to be used by nurses in the documentation of actual patient care. The seven interface terminologies acknowledged by the ANA include Clinical Care Classification (CCC) System, International Classification for Nursing Practice (ICNP), North American Nursing Diagnosis Association International (NANDA-I), Nursing Interventions Classification (NIC), Nursing Outcomes Classification (NOC), Omaha System, Perioperative Nursing Data Set (PNDS), and ABC Codes. (ONC, 2017.) Three of these; the NANDA-I, describing nursing diagnoses, the NIC and the NOC can be interlinked together forming a NNN-taxonomy, which is currently the most studied nursing terminology (Tastan et al., 2014; Törnvall & Jansson, 2017). The development started with NANDA-I (then NANDA). NIC and NOC have been developed later (Paans et al., 2010).

The CCC has a background in Home Health Care Classification and it was developed by using patient records from 646 health care facilities (CCC, 2020). It now covers all areas of nursing practice (CCC, 2020). Similarly, to the CCC, the development of the Omaha System began in the USA with visiting nurses. It was further developed to cover all areas of nursing in several national research and development projects. (Topaz et al., 2014.) The ICNP has been developed by the International Council of Nurses (ICN) to provide a structure and vocabulary for nursing and a framework to which existing vocabularies can be mapped into (Warren & Conenen, 1998). The PNDS has been developed and used to describe the nursing process in perioperative settings. The ABC codes include non-physician services to billing systems (ONC, 2017).

In Finland, the Finnish Institute for Health and Welfare (THL) has registered the Finnish Care Classification (FinCC) among the official terminologies to be used in health care. The FinCC has been modified from the Clinical Care Classification and

it has been suggested that it can be complemented with other existing classifications in case needed. (Nykänen & Junttila, 2014.) Table 1 summarizes the different types of terminologies used in nursing.

Table 1. Different types of terminologies used in nursing.

	INTERFACE TERMINLOGY	REFERENCE TERMINOLOGY	NURSING MINUMUM DATA SETS
USE OF THE TERMINOLOGY	Standardized language for clinical patient care	Interlinkages between and within terminologies	Minimum sets of essential data collected for a specific purpose
ANA APPROVED TERMINILOGIES	NANDA-I, NIC, NOC, CCC, Omaha-system, PNDS, ABC-Codes, ICNP	SNOMED, LOINC	NMDS
NURSING TERMINOLOGIES IN FINLAND	FinCC	SNOMED	

The research of SNTs in Finland has a history from the early development of the FinCC on the basis of the Home Health Care Classification by Ensio in 2001 and studying the use of Belgian NMDS in Finland (Turtianen, 1999). Additionally, there has been research on SNTs focusing on the perioperative care setting (Junttila, 2005) and intensive care (Pyykkö, 2004). Kinnunen (2013) developed the FinCC terminology further to describe wound care more specifically. None of the studies in Finland have focused on psychiatric care. Psychiatric wards were included in a national research in 2005-2007 that studied the use of the FinCC in different hospital settings. The FinCC sub-classification, Finnish Classification of Nursing Interventions (FiCNI), describing nursing interventions was found to be insufficient in describing nursing in psychiatric care settings and suggested to be complemented by using the NIC. (Sainola-Rodriguez & Ikonen, 2007.)

In this current study, we study the applicability of the NIC in the psychiatric outpatient care setting in Finland. One of the reasons for choosing the NIC is the recommendation to use it to complement the FinCC in psychiatric settings (Sainola-Rodriquez & Ikonen, 2007). Second, NIC is the most widely studied classification of nursing interventions, covering all areas of nursing (Butcher et al., 2018; Tastan et al., 2014; Törnvall & Jansson, 2017). It has been used as a framework in the update of the Belgian NMDS (van den Heede et al., 2009), suggesting that it can be used to define NMDSs. Third, the NIC includes a definition for each intervention, supporting the consistent understanding of the terms. Fourth, the NIC includes both direct and indirect nursing interventions. This was important since earlier research

has shown that the amount of indirect patient care activities plays a large part in nurses' work in the psychiatric outpatient care setting (Happel et al., 2016). Fifth, the developers of the NIC state that the interventions are evidence based and the use of the classification includes areas of nursing beyond documentation, such as research and in education (Butcher et al., 2018). This supports the aim of our study to conceptualize interventions from a broader perspective than documentation.

2.2.2 Nursing documentation and the EHR

One of the most central applications for nursing terminologies is the patient documentation. Nurses are expected to document the care they plan, deliver and the decisions they make. Additionally, the Finnish legislation demands that patient documentation includes information concerning the decisions supporting the chosen examinations and treatment as well as how the treatment was provided, including adverse events (Potilasasiakirja-asetus 289/2009). Traditionally documentation was done in paper format but since the past decades it is mostly done in the electrically in the EHR (Saranto et al., 2014). The primary purpose of EHR is to describe the patient care process from setting objectives, planning, delivery to outcomes. (Häyrinen et al., 2008).

According to a systematic review, nurses spend an average of 23% of their working time in documenting care using the EHR (Baumann et al., 2018). This is often seen as time away from patients and found sometimes to be burdensome by nurses (Olivares Bøgeskov & Grimshaw-Aagaard, 2019). In the psychiatric outpatient care setting, especially the written care plans have found to be time consuming (Simpson et al., 2016). The most important aspect of nursing documentation is to accurately represent the patient situation and to secure the accurate transformation of patient data from one healthcare provider to another (e.g. Kieft et al., 2017; Müller-Staub et al., 2016). To do this the documentation needs to be consistent and the language unambiguous (Kieft et al., 2017; Müller-Staub et al., 2016). Reviews on nursing documentation have found SNTs as a means to improve the quality of nursing documentation (e.g. De Groot et al., 2019; Törnvall & Jansson 2017; Saranto et. al., 2014; Müller-Staub et al., 2006).

A review of nursing documentation studies found that the use of SNT has positive impacts on the quality of nursing data, by increasing descriptions of nursing interventions (Müller-Staub et al., 2006). In another more recent review of reviews on nursing documentation, De Groot et al. (2019) emphasized the importance of developing EHRs on the basis of standardized terminologies that follow the nursing process. Similar conclusion was drawn by the working group commissioned the Finnish Institute for Health and Welfare to support the systematization of nursing documentation. In the final report, the working group concluded that the use of SNTs

is recommended. (Nykänen & Junttila, 2014.) Furthermore, SNTs support the secondary use of data retrieved from EHRs (Saranto et. al., 2014; De Groot et al., 2019; Kieft et al., 2017; Müller-Staub et al., 2006; Törnvall & Jansson, 2017). A recent study by Peltonen et al. (2016) found that SNTs were seen as the most important study area in nursing information technology (IT).

Many researchers find that additionally to standardized terminologies, some patient related data needs to be entered in free text form (e.g. Hardiker et al., 2019; Salanterä, 2015). There are different approaches on whether nurses need to use SNTs in entering the data or a free text form that is then further processed into a standardized terminology using natural language processing or text mining (Ford et al., 2016). Both approaches emphasize the need for standardization for the secondary use of data.

The possibilities for the secondary use of data retrieved from EHRs include: to evaluate the effects of different interventions on patient outcomes, including adverse events, assessments of nursing staff levels, billing systems, and quality of care (Hardiker et al., 2019; Saranto et al., 2014). Furthermore, the use of EHRs makes it possible to gather big amounts of patient related data to support clinical decision-making in real time (e.g. Hardiker et al., 2019; Tastan et al., 2014). Therefore, documentation is required to happen in at the pint of care (Hardiker et al., 2019). If the data is entered in a standardized way in real time, clinical decision-making support is seen as a possibility to enhance patient safety, by providing cognitive support and automatic suggestions for clinicians (Hardiker et al., 2019). The term ‘big data’ is often used for describing the amount of data that can be retrieved from different data bases (e.g. Brennan & Bakken, 2015). In the EHR big data includes nursing interventions that can be retrieved from large hospital data bases making it possible to understand the impacts that nursing interventions have on patient outcomes on a large scale (Westra et al., 2008).

2.2.3 The Nursing Interventions Classification

The origin and development of the NIC happens at the University of Iowa Center for Nursing Classification & Clinical Effectiveness. The development work is described as a process that takes place together with nurses and nursing researchers and the interventions are defined as evidence based (Butcher et al., 2018). The classification is being updated every five year and suggestions for new interventions or modifications for existing ones can be sent to the Center for Nursing Classification & Clinical Effectiveness. The decision to revise or to remove an existing intervention, or to include a new intervention is made by the editors. (Butcher et al., 2018.)

In a study on the early development of the NIC, Bowker & Leigh-Star (1999) describe the three principles on which the classification was built. First, nursing needed a systematic way to describe nursing interventions to build a scientific understanding of the impacts that nursing has on patient outcomes. NIC needed to respond to the need to describe the nursing process, differing it from the medical model. Nursing interventions would describe a response to the nursing diagnosis and the outcome of the interventions would be described using the NOC. The second principle was the central role of nursing interventions in relation to the need for professionalization and autonomy of nursing. The third principle were the needs arising from IT and the demand to produce knowledge in a way that can be used in EHR and make nursing visible in these. (Bowker & Leigh-Star, 1999.) From early on, one of the aims was to provide a linguistic unity. A clear understanding of interventions that is shared across different areas of nursing is needed for the communication between nurses as well as to define to hospital administrators, what nurses do. (Butcher et al., 2018.)

The first edition of NIC was published in 1996. It included 336 interventions. (Bulechek & McCloskey, 1995). This current research project began with the sixth edition that included 560 interventions (Bulecheck et al., 2013) and Phase IIb and Phase III were completed with the seventh edition that includes 565 interventions (Butcher et al., 2018). Both the sixth and the seventh edition divide nursing interventions into six domains and 30 classes. The domains include: Physiological: Basic, Physiological: Complex, Behavioral, Family, Health system and Community. Interventions consist of several actions which are not standardized and can be modified according to the patients care needs. (Butcher et al., 2018)

For example, the intervention "Exercise Promotion" belongs in the domain Physiological: Basic, in the class "Activity and Exercise Management". The domain is defined as "*Care that supports physical functioning*" and the class is defined as "*Interventions to organize or assist with physical activity and energy conservation and expenditure*" Butcher et al., 2018. p. 107). The intervention is defined as "*Facilitation of regular physical activity to maintain or advance to a higher level of fitness and health*" (Butcher et al., 2018 p. 366) and lists 24 actions beginning with the following five

- Appraise individual's health beliefs about physical exercise
- Explore prior exercise experiences
- Determine individual's motivation to begin/continue exercise program
- Explore barriers to exercise
- Encourage verbalization of feelings about exercise or need for exercise

The activities describing assessment are included in the list of actions of interventions. They included as monitoring or identifying activities. (Butcher et al., 2018.) Butcher et al. (2018) state that nurses do not need to know all the 565 listed interventions, only the ones that are relevant in their field of working. These are described as core interventions and defined as "*interventions used more often by nurses in the specialty or interventions that distinguish the specialty from other nursing specialties*" (Butcher et al., 2018 p. 905). The 7th edition of NIC includes core interventions for 53 different nursing specialty areas including Addictions Nursing, Camp Nursing, Critical Care Nursing, Psychiatric/Mental Health Nursing and Pediatric Nursing for example. (Butcher et al., 2018). The NIC is not freely available. It is distributed by a commercial distributor (Elsevier) and the book needs to be purchased and the implementation of the terminology into an EHR requires a licensing fee (Butcher et al., 2018).

2.3 SNTs and nursing interventions in psychiatric settings

This chapter is based on literature searches conducted using three electronic databases CINAHL, PubMED (Medline) and ISI Web of Science. Both MeSH-terms and free text words with combinations were used in the search.

The need to describe nursing interventions systematically in the psychiatric setting was identified already in the 1980's. Anderson (1983), in an article describing psychosocial nursing interventions, defines the need for detailed description of used interventions form the point of view of patients, nurses and other professionals. In the study she asked, '*what did you do that helped them*?'. As an answer, she lists 41 intervention labels with definitions concluding that "*Specifically labeled nursing interventions may decrease the trial-and-error approach to patient care, clarify role descriptions, increase accountability, and facilitate research. Individuality and uniqueness in the nurse-patient relationship will not be compromised by a clear identification of what occurs within that relationship*" (Anderson, 1983 p. 8).

Loomis et al. (1987) stated that a classification for psychiatric and mental health nursing (PMN) is needed for two reasons. The first one is political: by identifying the domain for PMN the profession can describe and defend the resources needed. The second need arises from the need to develop and test the theoretical background and understanding that guides the practice (Loomis et al., 1987). Since then there have been debates on whether to use a standardized language in psychiatric and mental health nursing. In the research on language in ethnographic studies in acute inpatient settings, Hamilton & Manias (2006) describe how nurses' use of non-standardized language in acute inpatient hospitals could be seen as an attempt to resist the biomedical view on patients.

Studies on the use of SNTs to describe nursing interventions in the psychiatric inpatient care have been increasing in the last decades (Frauenfelder et al. 2013; 2018; Escalda-Hernandez et al., 2015; Taghani Larijaini & Staachi, 2019; Gonçalves et al., 2019). Frauenfelder et al. (2013) published a systematic review of nursing interventions in inpatient psychiatric care, in order to describe the nursing interventions in this setting. They mapped the results to the fifth edition of NIC. They reviewed 31 papers with 45 different nursing interventions, concluding that the most common domain was Safety and most common interventions were 'Medication Administration' followed by 'Environmental Management: Safety' and 'Surveillance: Safety'. The authors concluded that the NIC was useful in describing nursing in inpatient psychiatric care and suggested an addition of eight interventions. (Frauenfelder et al., 2013.)

In another study focusing on nursing documentation in acute psychiatric inpatient unit in the Switzerland, the same authors (Frauenfelder et al., 2018) discovered that the NIC was descriptive of nursing interventions in the care setting, although some interventions were found to be missing in the classification. The most prevalent domain in their study was Safety followed by Health System. Similar results on the emphasis of interventions in the domain safety were found in a study by Taghani Larijaini & Staachi (2019) describing the results of an educational intervention on the use on the NNN-taxonomy in acute psychiatric inpatient care setting in Iran.

Escalda-Hernandez et al. (2015) studied the relation of patient characteristics and nursing documentation in five psychiatric inpatient settings, consisting of long- and medium-term units and a geriatric day care center in Spain. The nursing care plan was described using the NNN in the units' EHR. They discovered that the NNN-taxonomies described the nursing process and that emphasis in the interventions was in the domain of Behavioral. (Esclada-Hernandez et al., 2015).

Psychiatric wards were also included in a study on the applicability of the NIC in Iceland by Thoroddsen (2005). The survey study included 198 nurses who estimated the frequency of the use of the NIC interventions. Nurses in the psychiatric wards emphasized interventions in the domain Behavioral in comparison to nurses working in the somatic units. (Thoroddsen, 2005.) A case study in the psychiatric inpatient setting was written by Kotowski (2012), describing the care process of a patient suffering of auditory hallucinations using the NNN-system. The conclusion was that that the NNN-system provides a framework for the nursing process for this type of patients (Kotowski, 2012).

For more specific interventions, studies describing a nursing intervention missing from the NIC, include the research by Voogt et al. (2013; 2014; 2016). Their study focused on the description of a nursing intervention called 'Providing Structure' used in the psychiatric inpatient setting. The authors define it as an

independent intervention and suggest that adding the intervention in the NIC needs to be evaluated (2016). Another interesting line of research is the use of the NIC in the description of therapeutic nursing interventions by Sampaio et al. (2017; 2018). In a modified Delphi study, using the NANDA-I, NIC and NOC as a reference framework, the authors identified 29 nursing interventions to belong in the conceptual model of psychotherapeutic nursing intervention. In 2018 Sampaio et al. published the results of a RCT in which the nursing therapeutic model was used to test the effects of a nursing psychotherapeutic intervention in the treatment of anxiety against an active control group. The authors conclude that the nursing therapeutic intervention was effective and suggest that the use of a SNT (NANDA-I, NIC and NOC) can make the results more relevant to nursing practice. (Sampaio et al., 2018.)

According to our knowledge, only few studies have used the NIC to describe nursing interventions in psychiatric outpatient care setting (Wallace et al., 2005, Thomé et al., 2013; Boomsma et al., 1999). Nursing documentation of home health teams was studied by using NIC as a framework in two different types of psychiatric home care settings in the Netherlands by Boomsma et al. (1999). These were an acute and one long term unit. The authors identified 52 nursing interventions in the long-term care and 31 nursing interventions in the acute care setting. In both settings, the emphasis was on interventions in the domain Behavioral interventions as well as on Medication Management. Wallace et al. (2005) used a different approach by interviewing nurses using a critical incidents technique. Their study included nurses working in the community link services. They identified 93 nursing interventions from the NIC, out of which Case Management and Complex Relationship Building were the most common ones. They concluded that the NIC was descriptive of direct patient care, but it did not cover indirect interventions, need for interdisciplinary teamwork and for community support, which formed a large part of nurses' work. (Wallace et al., 2005.)

The most recent study conducted in the psychiatric outpatient care setting, by Thomé et al. (2013), used patient health records to identify nursing diagnoses and nursing interventions in an acute community outpatient care unit in Brazil. They identified 23 nursing interventions, out of which the most common were: Self-care Assistance, Socialization Enhancement, Exercise Promotion, Behavior Modification: social skills, and Nutrition Management.

The use of other terminologies describing nursing interventions in the psychiatric care setting include studies on the Omaha System in relation to nursing education (Connolly & Elfink 1999; Barrera et al. 2003) and in a study focusing on the nursing process of Latin Mothers with depression (Park et al., 2019). The Home Health Care Classification was studied by Parlocha & Henry (1998) in the psychiatric home health care setting. They found that classification covered most of the nursing interventions, but some terms would need to be added. Additionally, in a study by

Morris et al. (2010) nursing minimum data set was validated to describe the work of psychiatric nurses in all care settings in Ireland. The study did not use a single classification as a framework. Soon after the publication of the study, Cowman (2010) challenged the idea of minimum data sets in mental health nursing. According to Cowman (2010) the role of psychiatric nurses cannot be scrutinized to a minimum data set.

The ICNP has been studied by Dontje & Coenen (2011) against the evidence-based practise recommendations for adults with depression. The authors concluded that there were several difficulties in the mapping process, which suggests that there is a need to define the ICNP concepts more clearly (Dontje & Coenen, 2011). The use of ICNP was studied by Gonçalves et al., (2019) by analyzing nursing documentation in 39 psychiatric hospitals in Portugal. They identified a total of 2881 different interventions that were divided into different types of interventions: 1) Surveillance / Diagnosis / Evaluation activity, 2) "Informing" intervention, 3) Implementing" intervention and 4) Intervention that represents an intention / an objective. The authors conclude that there is a lack of standardized language in psychiatric nursing and state that this is needed both for the visibility of nursing care as well as to produce nursing indicators. (Gonçalves et al., 2019.)

2.4 Gaps in the current literature

Despite the growing interest in studying the SNTs in psychiatric settings, studies focusing on the psychiatric outpatient setting have been very few and none have taken place in Finland, where the outpatient services have a substantial role in the psychiatric services. Research on psychiatric nursing practice in Finland during the past ten years has focused on inpatient care setting (e.g. Pitkänen, 2010; Berg, 2012; Kontio, 2011; Hottinen, 2013; Soininen, 2014; Lantta, 2016), on the possibilities of using Internet based support (Kurki, 2014) including mobile technology (e.g. Kauppi, 2016; Anttila, 2018) or on specific patient groups such as forensic patients (Askola, 2018; Turpeinen, 2018). According to our knowledge, comprehensive studies on nursing interventions in the psychiatric outpatient care setting are missing in Finland.

Much of the research on the use of NIC in the psychiatric care settings has used patient documentation as data (Boomsma et al., 1999; Escalda-Hernandez et al., 2015; Frauenfelder et al. 2018; Thomé et al., 2013). The authors of these studies have concluded that adding a more holistic study methodology, including a better understanding of what nurses actually do in the clinical field would be needed (Boomsma et al., 1999; Escalda-Hernandez et al., 2015), since nurses do not document all of the activities they perform (Fore et al., 2019). Another gap in the research is the lack of active involvement of nurses. The importance to involve

nurses in the research and development of nursing documentation was identified in a Cochrane review by Urquhart, et al. in 2009.

Furthermore, there is still very little research conducted in psychiatric settings that have studied research literature and SNTs (Frauenfelder et al., 2013) or practice recommendations (Dontje & Coenen, 2011). We find this problematic since new knowledge and evidence on interventions is constantly cumulating. For SNTs to keep up with the emerging evidence, the language used in the terminologies needs to be consistent with the concepts used in research.

The emerge of EHRs has already taken place but the possibility for secondary use of data can only be achieved if nursing is described in a systematic way. Furthermore, SNTs have been seen as a way to describe and to characterize nursing (Törnvall & Jansson, 2017) by the identification and description of nursing interventions. We hope to clarify the role that nurses have in delivering care as part of the multidisciplinary team and to achieve this we have limited this study to nursing interventions only, leaving out nursing diagnosis and nursing outcomes.

The four main concepts of the nursing metaparadigm (person, environment, health and nursing) (Fawcett, 1984) are defined in this study in the following way. Person in this study is a patient who suffers from mental health problems and/or his/her family member(s). A lack in the person's health is seen here as the reason for seeking help in a psychiatric outpatient care setting. The environment in this study is the psychiatric outpatient care setting where nursing takes place. We have defined the outpatient care setting as ambulatory care in which care is delivered to patients without admission to a hospital. The care includes clinics that work on time reservation basis and the work of mobile teams delivering care in patient's homes or in other facilities.

The focus in this study is on nursing and, more precisely, on conceptualizing nursing interventions. We use the NIC definition of a nursing intervention that describes it as "*any treatment based upon clinical judgment and knowledge that a nurse performs to enhance patient/client outcomes.*" (Butcher et al., 2018 p. xii). These include both direct and indirect care activities (Butcher et al., 2018). Within the discipline of nursing science, this research is located in the studies of nursing practice and, more precisely, in the conceptualization of the nursing practice using a SNT.

3 Aims

The overall aim of this research was to study the applicability of the NIC to describe nursing interventions in the psychiatric outpatient care setting in Finland. The aim is divided into two study objectives. To describe the [types of] interventions nurses use, working as members of the multidisciplinary team in the psychiatric outpatient care setting, the first study objective was to identify nursing interventions in research literature (Phase I), in the clinical care setting (Phase II) and in nursing documentation (Phase III). Then, to study the possibility of using the NIC in the Finnish psychiatric outpatient care setting, the second objective was to explore the applicability of the NIC. Throughout the research, the factors supporting and limiting the applicability of the NIC in the psychiatric outpatient care setting were identified and recorded. On a more general level, the study aims at bringing new knowledge for nursing science on the possibility of a SNT to describe nursing interventions in contexts of research and clinical practice, including documentation. Table 2 describes the objectives of the different phases of this study.

Table 2. Objectives of the research phases.

CONTEXT AND *STUDY PHASE*	OBJECTIVE 1: TO DESCRIBE NURSING INTERVENTIONS IN THE PSYCHIATRIC OUTPATIENT CARE SETTING	OBJECTIVE 2: TO STUDY THE APPLICABILITY OF THE NIC IN THE PSYCHIATRIC OUTPATIENT CARE SETTING
INTERVENTIONS IN RESEARCH ***PHASE I***	To identify and to describe interventions delivered by nurses as they are found in research literature. RQ: Which interventions delivered by nurses can be identified in the research literature?	To understand the applicability of the NIC to describe interventions identified in research literature. RQ: How does the NIC correspond to the interventions identified in research literature?
INTERVENTIONS IN CLINICAL SETTING ***PHASE IIa***	To identify interventions used by nurses in the clinical setting. RQ: What are the interventions nurses use in their daily work? ---	To study the applicability of the NIC from the perspective of clinical nursing. RQ: What are the factors supporting and limiting the applicability of the NIC from the perspective of clinical nursing?
PHASE IIb	To identify core interventions RQ: What are the core interventions identified by nurses?	
INTERVENTIONS IN DOCUMENTATION ***PHASE III***	To study how nursing interventions are being described in the current documentation system. RQ: Which nursing interventions can be identified in the current free-text based nursing documentation?	To explore the possibility of using the NIC in the nursing documentation. RQ: What are the factors supporting and limiting the applicability of the NIC in the nursing documentation?

4 Materials and Methods

4.1 Methodological approach and Design

The methodological decisions were chosen to support the aims of each phase of the study. The overall design can be described as mixed methods given that in the different phases we use different approaches to study the same topic (Johnson et al., 2007), the applicability of the NIC in the psychiatric outpatient care setting. In Phase I, we studied nurse delivered interventions in research literature**.** We used the integrative review method, which made it possible to include different types of studies and to analyze and synthetize the findings (Whittemore & Knalf, 2005).

Phase II consisted of two sub-studies. In the first one, the methodological background was in anthropologically (Allen, 2015) or ethnographically grounded studies of work (Szysmanski & Whalen, 2011). The interest in this type of enquiry is in asking "what do people (or in our case specifically nurses) do when they are working?" (Syzsmanski & Whalen, 2011). Unlike sociology, the work practice studies are grounded in ethnomethodology and emphasize the actors' point of view (Syzmanski & Whalen, 2011). These two premises founded the two aims of the first sub-study (Phase IIa), of which the first was to describe the work that nurses do. The second aim was to analyze the applicability of the NIC together with the nurses. In the second sub-study (Phase IIb), we used the Delphi method to develop and validate our findings as well as to gain a consensus on the core interventions. The Delphi method is an iterative method consisting of several rounds of questions. It was originally developed to predict the future but has since been used in business and in nursing studies (Keeney et al., 2006). The aim is to achieve a judgment or consensus of experts by asking them anonymously to comment and to validate the findings (Keeney et al., 2006; Diamond et al., 2014).

To gain a better understanding of how nursing interventions are described in the current patient documentation, as well as of the applicability of NIC in nursing documentation, we used a document analysis of secondary data in Phase III. The identified interventions in the documentation were studied using deductive content analysis (Graneheim et al., 2017). In our study, we used the NIC to describe interventions identified in the data that consisted of free text nursing documentation. Table 3 summarizes the research designs and methods.

Table 3. Summary of research design and methods.

RESEARCH PHASE	DESIGN	METHODS
PHASE I	Systematic review	Integrative method of qualitative and quantitative research
PHASE II	Ethnographically oriented workplace study	Fieldwork and focus group interviews
IIa		
IIb	Qualitative descriptive study	Electronic Delphi study
PHASE III	Qualitative descriptive study	Document analysis of secondary data (patient documentation)

4.2 Settings, sampling and sample

Common to all study phases was limitation of the research to adult patients only (18 years or older). This decision was done since it has been suggested that psychotherapeutic interventions, which nurses use in the care of children and adolescents differ from those used for adults (Sampaio et al., 2015). In Phase I, most of the 60 studies included in the literature review were quantitative studies using a randomized clinical trial (RCT) design or feasibility studies using a longitudinal or a non-randomized design. In the qualitative studies, methods included interviews, observations, focused ethnography and analyses of patient documentation. Four studies used mixed methods, which included a clinical trial and a qualitative design to study nurses' and/or patients' experiences. The most common patient group in the 60 studies were patients diagnosed with schizophrenia or schizophrenia spectrum disorder followed by bipolar disorder and depression. In four studies the patient group included all patients treated at the clinic. In ten studies, the focus was in nurses working in different psychiatric outpatient settings. Generally, the quality of studies was good. Similarly, the quality of the 19 RCT studies was good. Detailed description of the studies and the quality assessment can be found in Paper I, Table 2.

The study Phases II-III were conducted in psychiatric outpatient settings that are a part of specialized health care services. The services are part of a hospital system that serves a population base of approximately 1.8 million people. The psychiatric outpatient clinics are located both in major cities and in more remote areas in Finland. Most of the patients are referred to the clinics from primary health care or occupational or school health care. Patients being treated in the specialized health care services could be described as suffering from more severe mental health problems such as severe depression or psychotic disorders, whereas patients with

milder mental health problems receive treatment in the primary health care settings. The hospital system's psychiatric unit consists of 120 different units, including eight hospitals (five in 2018) that have both inpatient and outpatient units. The psychiatric outpatient services are offered additionally in four major psychiatric outpatient clinics as well as in units located in primary health care clinics in different cities. The number of outpatient visits in the psychiatric clinics was 326 316 in 2018.

In Phase IIa and in Phase III, four psychiatric adult outpatient units from the hospital system were chosen with the help of nursing directors. The selection was made in order to represent different geographical locations as well as patients suffering from different types of psychiatric problems. Three of the four units were specialized in the care of a specific psychiatric patient group (patients with early psychosis, mood disorders or dual diagnosis) and one unit was an acute unit focusing on the assessment of patient care needs and care planning. The four units had multidisciplinary teams consisting of nurses, physicians, occupational therapist, social workers, psychologist and in some units a physiotherapist. Nurses were the largest group of staff members in all four units. All four units were located in major cities in Finland.

The study sample in Phase IIa and Phase IIb consisted of nurses who were recruited to participate in the study using an open enrolment. The ethnographically oriented field work in Phase IIa, included working actively with the primary researcher (MA) as she observed and spent entire working days with the nurses. A good relationship between the researcher and the study participants and the study participants' willingness to share their views are essential in ethnographic studies and in qualitative studies in general (Råheim et al., 2016). We do not believe that other methods in the selection of study participants would have supported this. In Phase IIa three to five nurses from each unit took part in the study (total n=17).

We invited all registered nurses (N=380) from all psychiatric outpatient units in the hospital system, with more than one year of post-graduate working experience to participate in the study in Phase IIb. Altogether, 49 nurses and five nurse managers participated in the first round and 22 nurses and four nurse managers in the second round. Typically, the selection of participants in the Delphi panel can be based on identified experts or an open invitation (Keeney et al. 2006). The decision not to use a predetermined expert panel but to send the request to all nurses and nurse managers was made in order to emphasize and to enhance the nurses' active role in this study. Detailed characteristics of the study participants are described in the original publications (Paper II, Paper IV Table 4). The enrolment processes are described in detail in the next section.

The study sample in Phase III consisted of patient journals of 79 different patients. In all, the data consisted of 17 nursing care summaries and 1150 progress notes entries. The progress notes described contacts or contact attempts with patients,

family members, other health care providers and social services. Before the analysis MA removed entries made by other professionals than nurses, such as physicians, occupational therapists, and psychologists. Then MA anonymized the data by removing all personal details of patients, family, and staff members. Only the profession of the staff member (e.g. nurse, physician,) and the relation to the patient (e.g. mother, friend) was included.

4.3 Data collection

In the integrative literature review, in Phase I, data was collected from five electronic databases: PubMED (Medline), CINAHL, Scopus, ISI Web of Knowledge and PsycINFO. The search strategy was built together with an information specialist, an expert in psychiatric databases, and it included both controlled vocabulary Medical Subject Headings (MeSH) terms, data base specific terminology and free text. An additional manual search was made in three journals focusing on mental health nursing and in three general nursing journals. In addition, the reference lists of the included studies were screened to find possible additional studies. The use of at least two search strategies is important when conducting an integrative review (Whittemore & Knafl, 2005). Detailed description of data collection is described in Paper I.

The search was conducted in 2016 and updated in April 2017. The review followed the guidelines of a systematic literature review and the data selection was reported according to PRSIMA guidelines (Moher et al., 2009). This is described in Paper I, Figure 1. We had predetermined inclusion and exclusion criteria which are described in Paper I. No inclusion criteria for the quality of the studies was set, since even studies with methodological difficulties can provide important insight into the studied phenomena (Whittemore & Knafl, 2005). All of the included studies were published between January 2005 and December 2016, in English language. The selection of the studies was made independently by two researchers (MA & RK).

In Phase IIa, the data was collected in two parts. The primary data collection method consisted of a fieldwork period that took place in the four units during January - March 2018. During this period MA spent four full working days, approximately 28-35 hours, in each unit, observing nurses' work and making field notes. In each unit, MA followed one nurse during one to two working days, taking field notes in patient meetings (n=13) and also during the time in between, when nurses often started to explain and describe their activities. Additionally, unstructured interviews were used, which were sometimes spontaneous, when for example sitting in a car on the way to meet a patient together with a nurse working in a mobile team. Unstructured interviews were also used in cases where nurses or patients preferred to hold the care meeting without the presence of the researcher

(n=5). Additionally, telephone calls with patients (n=9) and interdisciplinary care meetings (n=9) were observed. Table 1 in Paper II describes the ethnographic fieldwork periods and types of data collection used.

The four focus groups took place after the fieldwork period in March – April 2018. Altogether 17 nurses participated in the four focus groups. Background and characteristics of the nurses are described in Paper II. Nurses from one unit formed one focus group. We held two pilot focus group interviews, which led to some changes in the translations of the intervention labels and the layout of the tables that presented the primary findings. The presentations of the analyses tree were given to the nurses at the beginning of each focus group. An example of the analysis tree is described in Table 2, Paper II. The focus groups discussed four questions: the descriptiveness of the terminology, missing interventions, corrections to the analysis and the identification of core interventions. The interviews lasted from 56 to 97 minutes and were voice recorded and transcribed by the primary researcher.

We used the Delphi-method to study how descriptive the NIC labels and intervention definitions are and to define the core interventions in the psychiatric outpatient care setting. In Phase IIb data were collected between March and October 2019 using an online survey tool (WebPropol 3.0). The link to the questionnaire was sent to nurse managers, who were asked to forward it to the nurses working in the adult psychiatric outpatient units. The questionnaire was piloted by six nurses working in the same organization, but not included in the study group, and by two doctoral students in nursing science. Some changes to the intervention labels were made on the basis of the pilot. The questionnaire included 101 labels describing nursing interventions, including a definition for each intervention. The 101 terms consisted of the interventions identified in the earlier phases of this research (Phases I-IIa) and consisted of 93 existing NIC interventions and non-NIC interventions. The interventions were organized by NIC domains and at the end of each domain there was an opportunity to suggest a new intervention.

The preliminary questionnaire included two questions per intervention definition, the first one asking how well the term describes the intervention and the second one the frequency of use of the intervention in the daily work. The evaluation of the descriptiveness was made using on a Likert scale from 1 to 5, where 1 was defined as ‘I do not recognize the term’ and 5 ‘The term describes the intervention very well’. The scale for the frequency of use included the options: several times a day, daily, weekly, monthly or less, not at all. Only 14 answers were received, despite several reminders. Since there was a consensus on the descriptiveness (median of 3 or higher) in all intervention labels, we simplified the questionnaire by only asking for the frequency and adding an option of “I do not recognize the intervention”. A similar scale was used earlier in a study on the applicability of the NIC in the Island hospital context (Thoroddsen, 2005). An additional 40 answers were received in this

way. The request to take part in the second round was sent directly in an email to the nurses who took part in the first round. We received 26 answers for the second round. The questionnaire for the second round included the NIC definition of a core intervention and the participants were asked to determine whether the interventions were core interventions or not. The questionnaire is described in detail in Appendix 1, Paper IV.

In Phase III the hospital's IT department delivered the data in electronic form, based on computer-generated randomly selected patient numbers. For each of the four units, these included 10 patients whose care period started and 10 patients whose care ended during the study period (years 2016-2017).

4.4 Data analysis

In Phase I, the data analysis was performed in four parts. The first three parts included all types of studies and the fourth included studies that examined the effects of a treatment or described a specific treatment in detail. First, we extracted descriptive characteristics of each study in order to provide an overall picture of the identified studies and to identify possible gaps in the research literature. Second, a quality appraisal of the included studies was carried out using the Mixed Methods Appraisal Tool (MMAT) (Pluye et al, 2011). The MMAT was developed for complex reviews that include qualitative, quantitative, and mixed method studies (Pace et al., 2012), covering all the study types in the review. The evaluation was carried out by two researchers (MA & NT-I) independently. Third, we extracted descriptions of nurses' activities from qualitative studies and from the intervention protocols and mapped them into the NIC (Bulecheck et al., 2013). Fourth, in order to provide a more detailed description and to better understand the background and delivery of the treatments, the content of the 46 papers describing a specific treatment was extracted and analysed using the TIDieR checklist (Hoffmann et al., 2014). The 16 studies not included in the fourth analysis were studies describing nurses' work or patient perspectives of nursing interventions in general and did not provide sufficient details of specific treatment(s). The detailed descriptions of the studies included in the review are described in Paper I.

In Phase IIa, data analysis in the ethnographically oriented study, took place during and after the fieldwork. During the fieldwork period MA made notes about potential interventions in her field notebook. These observations were organized by mapping the observed interventions into the NIC using tables. This was done directly after each observation and further developed by returning to the field notes several times before the focus group interviews. The tables were discussed in four focus-groups with nurses. Group analyses of this type are used in workplace ethnographies, describing work processes in different settings (Szymanski & Whalen, 2011). To

understand the factors supporting and limiting the applicability of the NIC, we analyzed the focus group interviews using thematic analysis, following the process described by Braun & Clarke (2006). During this process we identified and coded text parts describing possibilities and challenges and summarized these into themes, which were organized into subcategories and categories (Braun & Clarke, 2006). The qualitative data analyses program Nvivo12 pro was used. MA conducted this first after which RK confirmed and commented on the findings.

In Phase IIb, the data was analyzed after each Delphi round. The interventions (n=49) that were used weekly or more often by 50% or more of the nurses were included as core interventions in the second round. After the first round, the four suggestions for new interventions were added on the basis of the open answers. To determine the core interventions, we set a pre-determined level of consensus for the second round of 2/3 or 67%.

In Phase III, the free text-based nursing documentation was analyzed by content analysis. This analysis was made in three steps by two researchers (MA & HL). In the deductive analysis we followed the guidelines of Elo & Kyngäs (2008). Since the data included very little descriptions of nurses' activities that could be directly mapped into an NIC intervention, a data extraction matrix was used to keep track of ideas and questions arising during the analysis process. First, MA & HL mapped the first 180 progress notes and the 17 nursing care summaries blindly. Second, the mappings were compared, and differences were discussed. Based on the discussion categories were created that were used to group text extractions describing similar actions and described on a more abstract level. These categories were used in the rest of the analysis process. MA analyzed the remaining (n=970) progress notes and HL confirmed the analysis. HL made suggestions to 202 entries that were then discussed, and consensus was achieved.

The challenges identified during the analysis process were further analyzed by grouping them into categories inductively. The categories were abstracted further to describe two main categories and two sub-categories. The notes in the analysis table were used in the creation of the categories. Table 4 summarizes the Research methods, sample, materials setting and analysis.

Table 4. Summary of methods, sample, materials, setting and analysis.

RESEARCH PHASE	METHODS	SAMPLE AND MATERIAL	SETTING	ANALYSIS
PHASE I	Systematic literature review, integrative design	60 studies		Deductive content analysis
PHASE II **IIa**	Ethnographic workplace study/ observations and focus group interviews	Field notes (from 123 hours of observations) and four focus group interviews with nurses n=17	Four psychiatric outpatient units from one hospital system	Deductive, participatory analysis of field notes and thematic analysis of focus group interviews
IIb	Delphi study	E-questionnaire round 1 n=54 round 2 n=26	All psychiatric outpatient units in the Hospital system	Consensus based on % level of agreement
PHASE III	Qualitative descriptive study of patient documentation	Nursing progress notes from four units including documentation from 1150 contacts or contact attempts and 17 nursing care summaries	Four psychiatric outpatient units from one hospital system	Deductive content analysis of nursing documentation and inductive analysis of analysis process notes

4.5 Ethical considerations

Good ethical research practice and careful reporting of findings were followed throughout the research. Ethical approval for research Phases II & III was granted by the ethical committee of the hospital system. Additionally, research permission was granted by the psychiatric department of the hospital system in which the study took place. We followed Finnish legislation (Personal Data Act 523/1999) and after 1.1.2019 the new Data Protection Act (Data Protection Act 1050/2018) that supplements the General Data Protection Regulation (GDPR) in the collection and storage of data. The ethical principles of the World Medical Association (WMA) Declaration of Helsinki (WMA, 2013) and the ethical principles of research with human participants in Finland (TENK, 2019) were followed in the data collection and storage. The data was saved and handled in an anonymous form and stored digitally in a computer protected with a username and password. The data will be destroyed by the research team two years after the publication of the research.

Given that patients were involved in fieldwork in Phase IIa, careful planning was made together with nurses at the units. MA, with background in anthropology, recognized the ethical guidelines of the America Anthropological Association. The first guideline is not to do harm to participants of the study (American

Anthropological Association, AAA 2012; also, TENK, 2019). In this study, these included both the nurses and other staff members of the multidisciplinary team as well as the patients who received treatment in the study units. To ensure that participation in the study was voluntary MA, who did the fieldwork (observations and focus group interviews) contacted the nurse mangers of the units beforehand and visited the units, meeting the nurses before the implementation of the study. In these meetings, the outline of the entire research project was discussed and the methodological decisions for Phase IIa were explained. Additionally, an email describing the study process was sent to all members of the multidisciplinary team one week before the fieldwork. All patients, family members and staff members were informed of the study and of the possibility to decline the presence of the researcher in care and staff meetings. Voluntariness was emphasized several times during the field work periods. In some cases, nurses had already informed the patients of the research beforehand and explained the study methods and aims.

In all situations that involved patients, MA contacted them in the waiting room before the meeting with the nurse with whom they had the appointment. The patients were informed about the voluntary nature of participation in this study as well as their right to leave the study at any time (i.e. to ask for the researcher to leave the meeting room). This was done before the meeting, in order to give the patient enough time to think through their decision. The patients to whom nurses would phone during the observation were also informed by the nurse about the researcher's presence and were asked for an oral approval for the observation and given the possibility to refuse this. Informed consent was given by all persons who were present at the meetings. Since the focus of this study was on nursing interventions, no notes about the patient characteristics were made to ensure the anonymity of the patients.

The same nurses who took part in the observations were invited to take part in the focus group analysis, again emphasizing the voluntariness to participate in the study. In the beginning of each focus group the study process and aim were recalled and the nurses taking part in the study were encouraged to voice their opinions freely. MA emphasized that she did not have any affiliation to the classification. The transcription of the voice-recorded interviews was made with pseudonyms and reporting was carried out anonymously. The voice recordings of the focus group were deleted after the literation. Direct quotations were chosen so that individual nurses could not be recognized. At the end of each focus group nurses were given the chance to reflect on the study process and express their thoughts and feelings of the field work that had taken place.

Another ethical aspect of research is to the be honest and open about the work (AAA, 2012). This was emphasized in the meetings and by writing a research blog before and after the fieldwork that was published in the intranet of the hospital

system. The findings were summarized and made accessible (AAA, 2012) to nurses and other staff members in staff meetings in the units after the analysis process.

Similarly, voluntariness of participation was emphasized in Phase IIb. Although the requests to take part in the study was sent through nursing managers, information of who participated was not handed out to persons outside of the research team. Nursing directors or nurse managers were not provided with this information. Anonymous data reporting is part of the Delphi process and the email addresses of the nurses and nurse managers taking part in the study were collected separately from the answers. All data was analyzed and reported anonymously. To avoid extra stress, the participants were allowed to answer during working time. One of the challenges of the Delphi method is the attrition rate between the rounds (Keeney et al., 2006). This was also seen in our study as well. The researcher needs to balance between the pressure of having enough participants and the ethical demand not to pressure the participants to take part in the study (TENK, 2019). After sending three reminders, of which the last one included the promise of this being the last one we decided to be satisfied with the results of having 26 participants in the second round. The small number of participants did not allow us to make subgroup analyses.

In Phase III the data was received in plain text format. To enhance the integrity of patients, family members and staff, MA removed all names of patients before the data analysis. Only the connection to the patient was described (e.g. mother, friend or occupational physician). The data was reported anonymously, and the extractions used in the research report were chosen so that individual patients or staff members could not be recognized.

5 Findings

This section is divided into two parts, based on the study aims. In the first part we describe the identified interventions. The second part describes the factors supporting and limiting the applicability of the NIC in the adult psychiatric outpatient care setting.

5.1 Description of the identified interventions

Altogether 105 different nursing interventions were identified in the different phases of the study. The number of identified interventions varied between the different phases. Of the 105 identified interventions, 95 could be mapped into the NIC and 10 could be not. The majority of the interventions belonged to the domain Behavioral, followed by interventions in the domain Health System. The most common class in study phases I, II and III was Coping Assistance, followed by Behavior Therapy. Table 5 describes the number of interventions identified in each phase of the research and the NIC class and domain.

Table 5. Number of identified interventions in different phases.

RESEARCH PHASE	NUMBER OF INTERVENTIONS IDENTIFIED	MOST FREQUENT DOMAIN	MOST FREQUENT CLASS
PHASE I INTERVENTIONS IN RESEARCH LITERATURE	68	Behavioral	Coping Assistance
PHASE II INTERVENTIONS IN THE FIELD	Sub-study IIa: 93 Sub-study IIb: 105/53*	Behavioral	Coping Assistance
PHASE III INTERVENTIONS IN NURSING DOCUMENTATION	71	Health system	Risk Management

*53 were identified as core interventions, 105 was the number of interventions in total

Identified interventions in the research literature

In the analysis of 60 studies, we identified 68 NIC interventions from 17 classes and six domains. The most common NIC domain was Behavioral, covering more than half of all the identified interventions. Of the extracted phrases, 70% were placed in this domain, the most common class being Coping Assistance. The class covered one quarter of all the interventions identified and 32% of the identified activities were placed in this class. Four of the single interventions were identified clearly more often than the others. Teaching: Disease Process, Medication Management, Coping Enhancement, and Complex Relationship Building.

Most of the studies described an intervention with several aims. These included for example improvement of self-efficacy and self-awareness and caregiver support. The majority of the interventions lacked a clear theoretical background. The most common rationale for the intervention was that earlier research had shown the intervention to be effective or that a similar intervention had been shown to be effective for another target group or in another cultural setting. The theoretical background for the interventions in the cases in which it was mentioned included cognitive or cognitive behavioral (n=7), nursing theory (n=3) and psychodynamic (n=2).

Group was the most common delivery method, followed by individual face-to-face meetings, telephone calls and/or using text messages/automatic telephone systems or a combination of face-to-face meetings and telephone calls. Nurses delivered the interventions alone in most cases (72%). In 13% of the studies the intervention was delivered with another nurse or with another health care professional. In six studies, the nurse delivering the intervention was an advanced nurse practitioner (APN).

Interventions identified in the clinical setting

In Phase IIa, 61 NIC interventions were identified during the fieldwork period and 32 were added during the focus groups. Thus, a total of 93 different nursing interventions were identified, of which almost half (45%) were assigned to the NIC domain Behavioral, followed by the Health System domain covering 25% of the interventions. The class Coping Assistance was the most common, covering 20% of all identified interventions.

The findings of the focus groups suggested lack of the following interventions in the NIC: Skills Group Training, Diagnostic Data Collection, Home Visits, Acupuncture, Care Need Assessment, Support Network Mobilization, Drug Screening, Care Plan, and also Collaboration Enhancement, which was already included in the seventh edition of the NIC (Butcher et al., 2018). Interventions that according to our findings needed modification were: Anticipatory Guidance,

Normalization Enhancement and Anxiety Reduction. These were used by nurses, but the context or content was different from that described in the NIC.

In Phase IIb, 53 interventions were defined as core interventions from the list of altogether 105 different interventions. Of the core interventions, 2/3 were in the domain Behavioral. Most of the interventions belonged to the classes Coping Support (17/53) and Behavioral Therapy (9/53). Of the core interventions, 50 were existing NIC interventions. The non-NIC interventions were Anxiety Reduction: Long Term, Skills Training Group and Care Coordination.

Interventions in nursing documentation

The nursing documentation consisted mainly of free text narration. For the most part, the entries consisted of descriptions of what patients had said during the contact. The progress notes describing a contact with other professionals were often described in detail. The 17 nursing care summaries were semi-structured. They were written to a note template including nationally determined headings describing the nursing process. The headings included care needs, nursing interventions and care outcomes. Two of the four units actively used nursing care summaries. In one unit, the summary mainly consisted of an account of the patients' substance abuse history and recommendations concerning medical treatment. In the other unit, which used nursing care summaries, nurses described the nursing care process. The use of passive voice made the identification of nurses' activities even more difficult

In all, 71 different interventions were identified in the progress notes and nursing care summaries. Of these, 64 could be mapped into the NIC and seven could not. Six of the seven interventions that were not mapped into the NIC could be mapped into an intervention label that had been identified in the earlier phases of this study (Phases I-II). Additionally, entries describing a group intervention were simply mapped under the name of Group Interventions. Interventions per entry varied from no interventions up to six, both in the progress notes and in the nursing care summaries. In 79 entries, no interventions were described. In 47% of the progress notes, only one intervention was recognized. The number of interventions per entry is described in Paper III, Figure 1. Comparing the interventions at the domain level, interventions in the domain Health System were most frequently identified, followed by the domains Safety and Behavioral.

Surveillance was the most common intervention in nursing documentation (identified 47% of the entries), followed by Care Coordination (identified in 21% of the entries). Surveillance was mapped into the written descriptions of patients' mental status by capturing patients' narration or by documenting observations of the patient during the contact in the clinic or by telephone. Documented activities of

coordinating care inside the unit, such as booking an appointment with another professional on behalf of the patient were mapped into Care Coordination.

The division of interventions according to domains is described in detail in Paper III, Figure 2.

All the interventions identified throughout the different phases of this research are described in Table 6. The code used to identify the intervention in the NIC is included for interventions found in the classification.

Table 6. Identified interventions in different phases.

DOMAIN	CLASS	INTERVENTION (CODE)
Physiological: Basic	Activity and Exercise Management	*Exercise Promotion (0200)*
	Nutrition Support	Eating Disorders Management (1030) *Nutritional Counseling (5246)* Weight Gain Assistance (1240) Weight Management (1260) Weight Reduction Assistance (1280)
	Physical Comfort Promotion	Acupuncture† Progressive Muscle Relaxation (1460)
	Self-Care Facilitation	*Oral Health Promotion (1720)* *Self-Care Assistance (1800)* *Sleep Enhancement (1850)*
Physiological: Complex	Drug Management	Medication Management (2380) Medication Administration Intramuscular (IM) (2313) Medication Administration Enteral (2301)
	Thermo Regulation	Fever Treatment (3740)
	Tissue Perfusion Management	Hypertension Management (4162)§ Hypotension Management (4175)§
Behavioral	Behavior Therapy	*Activity Therapy (4310)* *Assertiveness training (4340)* *Behavior management: Self-harm (4354)* Behavior Modification (4360) *Behavior modification: Social Skills (4362)* *Commendation (4364)* *Impulse Control Training (4370)* *Limit Setting (4380)* *Mutual goal setting (4410)* *Patient Contracting (4420)* Smoking Cessation Assistance (4490) Substance Use Prevention (4500) Substance Use Treatment (4510) Substance Use Treatment: Drug Withdrawal (4514)

DOMAIN	CLASS	INTERVENTION (CODE)
	Cognitive Therapy	*Cognitive Restructuring (4700)* *Reality Orientation (4820)*
	Communication Enhancement	*Active Listening (4920)* *Complex relationship building (5000)* Conflict Mediation (5020) *Socialization Enhancement (5100)*
	Coping Assistance	*Anticipatory Guidance (5210)* *Anxiety Reduction Long Term†* *Coping Enhancement (5230)* *Counseling (5249)* Crisis intervention (6160) *Emotional Support (5270)* Grief Work Facilitation (5290) *Guilt work facilitation (5300)* Health Coaching (5305) Home Visit *†* *Hope Inspiration (5310)* *Life-Skills Enhancement (5326)* *Mood Management (5330)* *Presence (5340)* *Role Enhancement (5370)* *Self-Awareness Enhancement (5390)* *Self-Efficacy Enhancement (5395)* *Self-Esteem Enhancement (5400)* *Sexual Counseling (5248)* *Skills Group Training†* *Support System Enhancement (5440)* Support system Mobilization†
	Patient Education	*Health Education (5510)* *Normalization Promotion‡ (7200)* *Teaching: Disease process (5602)* Teaching: Group (5604)
	Psychological Comfort Promotion	*Anxiety Reduction (5820)* Meditation Facilitation (5960)
Safety	Crisis Management	*Risk Identification (6610)* *Suicide Prevention (6340)*
	Risk Management	Environmental Management: Safety (6486) Environmental Management: Violence Prevention (6487) *Surveillance (6650)*
Family	Childrearing Care	Parent Education: Adolescent (5562) Parent Education: Childrearing Family (5566) Parent Education: Infant (5568) Parenting promotion (8300)

DOMAIN	CLASS	INTERVENTION (CODE)
	Lifespan Care	Caregiver Support (7040) Family Involvement Promotion (7110) Family Integrity Promotion (7100) Family Mobilization (7120) Family Support (7140) Family Therapy (7150)
Health system	Health System Mediation	*Admission Care (7310)* *Case Management (7320)* Health System Guidance (7400) Patient Rights Protection (7460) Sustenance Support (7500)
	Health System Management	*Care Coordination†* Care Needs Assessment† *Collaboration Enhancement (7615)* Controlled Substance Checking (7620) Drug screening† Laboratory Data Interpretation (7690) *Staff Development (7850)* *Physician support (7710)* *Preceptor Employee (7722)* *Preceptor Student (7726)*
	Information Management	Care plan† Consultation (7910) *Documentation (7920)* *Multidisciplinary Care Conference (8020)* Health Care Information Exchange (7960) Referral (8100) Diagnostic Data Collection† Telephone Consultation (8180) Telephone Follow-Up (8190)
Community	Community Health Promotion	Community Health Development (8500)

§ Hypertension Management (4162) and Hypotension Management (4175) were one intervention 'Hemodynamic Regulation' (4150) in the sixth edition of the NIC.
†Intervention not included in the NIC
‡ Intervention included in the NIC but in a different class.
Core intervention

5.2 Factors supporting and limiting the applicability of the NIC

Factors supporting the applicability

The factors supporting the applicability of the NIC were broad coverage, descriptiveness of the interventions, ease of recognition of the intervention labels, taxonomical structure of the classification, and the NIC's ability to describe nurses' work.

The NIC covered 95% of the 105 interventions identified in our study and the **broad coverage** is one of the strengths of the taxonomy supporting its applicability and relevance in the psychiatric outpatient care setting. Another strength and one of the important aspects in the use of the classification is that nurses found interventions in the NIC to be **descriptive and easy to recognize** (Phase II). In Phase III, none of the intervention terms were considered to be difficult to understand according to the majority of the participants. Another strength of the NIC is **the taxonomical structure** in domains and classes. Instead of just listing intervention labels, it was possible to identify classes and domains that were frequent or found to be missing and to summarize and to describe our findings on a more abstract level.

The fourth factor supporting the applicability was identified as a theme in the focus group analysis (Paper II). We named it as **giving words to describe their work**. There were four sub-categories related to this, the first being **a feeling of empowerment**. This was described by nurses' positive reactions as the result of seeing their work analyzed and described. Nurses stated that this made them feel good or proud. The feeling of empowerment was connected to the large number of interventions identified or to one particular intervention. (Paper II.)

The second sub-category was **making work visible to others**. The common theme in this category was seeing the classification as a way to make nursing visible for other members of the interdisciplinary team. This was often with connection to a sense that other professionals did not understand the scope of nursing interventions, how autonomous the role of nurses was and how much responsibility their work included.

The third sub-category was **systematic use of interventions**. Nurses stated that the systematic analysis of their work made it possible for them to identify and outline their own work and to describe how they could analyze and evaluate their work by using the classification in the future.

The fourth sub-category described nurses' **expanded work role**, which the NIC made visible. Nurses were the most permanent staff members in most units and ended up supporting and at times even doing the work originally done by other members of the interdisciplinary team. This happened in two ways: first, there was

official task reallocation, such as Diagnostic Data Collection and Care Needs Assessment. Secondly, the task reallocations also occurred unofficially, which raised concern and criticism among nurses.

Factors limiting the applicability of the NIC

The factors limiting the applicability were the lack of semantic coherence with research terminology, the difficulty to map group interventions, and overlapping interventions. In Phase I, the **lack of semantic coherence with research terminology** created two type of challenges. One of them was the difficulty to find a corresponding intervention in the NIC for psychoeducation, which was the most used term in research literature describing nurse delivered interventions (Paper I). We ended up using a combination of different interventions. The didactic part of the interventions was mapped into the NIC intervention: Teaching: Disease Process. Additionally, the psychoeducation interventions often included NIC interventions: Teaching: Group, Support Group, Family Involvement Support (if family members were included), Coping Enhancement and Risk Identification or Anticipatory Guidance. In the studies included in the review (Phase I), the length of these programmes in research trials varied from four to 21 times and they were delivered individually or in a group form and either with or without family members. In the nursing documentation analysis (Phase III) we mapped the term psychoeducative discussion only to the NIC intervention Teaching Disease Process since the narrative texts did not include other information of additional nursing activities.

In the research literature, group was the most common delivery method of an intervention (Paper I). We found it **difficult to map the group interventions** into the NIC. The group interventions included in the NIC -Therapy Group, Support Group or Teaching: Group- did not correspond to the group interventions in the research literature, which often aimed at training new skills to cope with symptoms or psychoeducation interventions that included family members.

We included this as a new intervention in Phase II, naming it “Skills Training Group” for the second Phase IIb Delphi panel and it was recognized as one of the core interventions (Paper III). Similarly, in phase III in the nursing documentation analysis, the group interventions identified were mostly skills training groups based on a specific training manual such as Dialectical behavioural therapy skills training group or the Neuropsychological educational approach to cognitive remediation group. In all, 55 entries described a group intervention in which nurses guided several different types of groups, together with another nurse, a psychologist, or an occupational therapist. The groups were documented using the specific name of the group, e.g. “*Patient and family took part in the multifamily group*”. This conveyed

very little other information about the intervention. In Phase III these were grouped simply under the name of Group Interventions (Paper III).

The second factor limiting the applicability were **overlapping interventions** in the classification. There were two types of overlapping. First was the finding that the **same nursing activity can be described using different intervention terms.** In Phase IIa this finding was made in the analysis of the focus group interviews. It emerged in the second round of discussion, when nurses were asked to make corrections to the analysis tree. Nurses described how one activity could be described using several different NIC interventions or a combination of different interventions. Nurses explained that many of the activities they perform include several aims. (Paper II). One such term in nursing documentation (Phase III) was "behaviour chain analysis". It can be mapped into several NIC interventions, such as Self Awareness Enhancement, Assertiveness Training, Coping Enhancement and Teaching Disease Process, or all of these, depending on the aim. After a discussion we mapped it into the NIC term Cognitive Restructuring (Paper III).

The second type of overlapping was **lack of clarity between action and intervention**. This was identified during the analysis of nursing documentation in Phase III. We found it difficult to map interventions such as Mood Management, Substance Abuse Treatment, Counselling or Case Management in a systematic way. The interventions include several other NIC interventions, such as Coping Enhancement, Medication Administration, Referral, Family Involvement Enhancement, in the list of actions. Nursing activities described in nursing documentation in the unit for dual diagnosis could be mapped into Substance Abuse Treatment, since this is the overall aim of the treatment delivered in the unit. However, the activities could also be mapped into several other more detailed interventions. Similarly, in the unit for mood disorders, nursing interventions can all be mapped into Mood Management, but could evenly be described using the more specific interventions such Self-Esteem Enhancement or Sleep Enhancement that are both listed as actions of Mood Management as well as being separate interventions in the NIC.

5.3 Summary of the main findings

In all, we identified 105 nursing interventions of which 53 were core interventions. The 105 nursing interventions consisted of 95 NIC interventions and 10 interventions that were not included in the NIC.

The identified interventions in the first two phases were similar when looking at the findings on a domain and class level. The interventions in the NIC domain Behavioral that is described as "*Care that supports psychosocial functioning and facilitates lifestyle changes*" (Butcher et al., 2018 p.112) were emphasized in the

three phases. By contrast, the most common interventions in nursing documentation were Surveillance and Care Coordination (Phase III).

The applicability of the NIC is supported by the fact that it covered the most (95%) of the interventions. The taxonomical structure made it possible to provide a description of the identified interventions by classes and domains. An additional factor supporting the applicability was the finding that it made nursing visible for both nurses and other staff members, creating a feeling of empowerment to nurses. Furthermore, it made it possible for the nurses to structure their own work. All these factors make classification applicable from the clinical perspective. The factors limiting the applicability were the lack of semantic coherence with the concepts used in research that made it difficult to map interventions such psychoeducation or group interventions into the NIC. An additional limitation were the overlapping interventions. Summary of the findings is presented in Table 7.

Table 7. Summary of the main findings.

CONTEXT AND *STUDY PHASE*	A) IDENTIFIED NURSING INTERVENTIONS IN THE PSYCHIATRIC OUTPATIENT CARE SETTING	B) APPLICABILITY OF THE NIC IN THE PSYCHIATRIC OUTPATIENT CARE SETTING
INTERVENTIONS IN RESEARCH ***PHASE I***	68 interventions identified Most frequent domain Behavioral and class Coping Assistance. Most frequent interventions: Teaching: Disease Process, Medication Management, Coping Enhancement, and Complex Relationship Building Interventions in intervention studies lacked a clear theoretical background, and were often developed to meet the growing needs of psychiatric services	+ Taxonomical structure made it possible to identify core domains and classes - Lack of semantic coherence with concepts used in research reports *e.g. psychoeducation* - Difficulty to map group-delivered interventions into the NIC
INTERVENTIONS IN CLINICAL SETTING ***PHASE IIa***	93 interventions identified, of which 84 were found in the NIC. Emphasis in interventions in the domain Behavioral and the class Coping Assistance.	+ NIC provides words to describe nurses' work *Feeling of empowerment* *Systematic use of interventions* *Makes nursing visible to other staff members* *Makes expanded work roles visible*
PHASE IIb	53 interventions were identified as core interventions. Of these, 50 were found in the NIC. Emphasis in interventions in the domain behavioral and in classes Coping Assistance and Behavioral Therapy	+ Interventions easy to recognize and descriptive according to nurses + Wide coverage of the identified interventions - Overlapping interventions *The same activity can be described using several NIC intervention labels*
INTERVENTIONS IN DOCUMENTATION ***PHASE III***	71 interventions identified, of which 70 found in the NIC Difficult to identify interventions in the free text narration Most common number of interventions per entry was one (47%) Most frequent domain Health System (37%), most frequent class Risk Management, most frequent interventions Surveillance (n=537) and Care Coordination (n=241)	- Overlapping interventions *Lack of clarity between actions and interventions* *Same activity can be described using several NIC intervention labels* - Difficulty to map group delivered interventions into the NIC

6 Discussion

6.1 Discussion of the findings

The aim of this research was to study the applicability of the NIC to describe nursing interventions in the psychiatric outpatient care setting in Finland. This included two study objectives, of which the first was to identify and to describe nursing interventions in the research literature (Phase I), in the clinical setting (Phase II) and in nursing documentation (Phase III). The second objective was to study the applicability of the NIC to the psychiatric outpatient care setting. This was done by studying the factors limiting or supporting the applicability of the NIC. We start this section by discussing the findings of the identified interventions in different phases of the study. The second part discusses the interventions in relation to previous research. Issues related to the applicability of the NIC are discussed in the last chapter.

The increasing demand for psychiatric outpatient care (THL 2018; OECD/EU, 2018) has challenged nurses to come up with new delivery ways and early interventions. The findings of the review (Phase I) showed that many new interventions were developed to help the delivery system cope with the increasing number of patients. These included early interventions delivered by APNs as well as many group interventions (Paper I) that were identified in other phases of this study.

We found the NIC to be highly applicable from the clinical nurses' perspective. The findings of our study imply that the use of a SNT could be helpful for the clarification of nurses' role by helping nurses to conceptualize the work they do. Further, the taxonomical structure made it possible to abstract, summarize and compare the identified interventions. At the class level, most interventions in Phases I & II belonged to the class Coping Assistance, defined as "*Interventions to assist another to build on own strengths, to adapt to a change in function, or achieve a higher level of function*" (Butcher et al., 2018 p. 116). The next most frequent was the class Behavior Therapy that is defined as "*Interventions to reinforce or promote desirable behaviors or alter undesirable behaviors*" (Butcher et al., 2018 p. 112). The emphasis on patients' strengths, which was also included in the definition of the most common class, (Phases I & II) brings us close to the recovery orientation. Recovery was not named as a background theory in the treatments included in the

studies in Phase I, but it has been suggested to be a guiding philosophy for community mental health nurses (Hemingway & Brimblecombe, 2018). Our findings support this suggestion from the perspective of nursing interventions in the psychiatric outpatient care.

There was a striking difference in the most frequent NIC classes and domains in nursing documentation (Phase III) compared with the findings of the other phases of the study. The narrative-free text notes included very little direct information about what nurses had actually done to help the patient, besides observing or surveilling and coordinating care (Paper III). Similar findings have been described in studies on nursing documentation in inpatient psychiatry (Myklebust & Bjørkly, 2019; Instefjord et al., 2014). In our study, seventy-nine entries (7%) included no interventions at all, and most (48%) entries included only one intervention. Both researchers (MA & HL), who conducted the analysis together, have worked as nurses in similar units, and yet found it difficult to identify how nurses had actually responded to patients' care needs. The identification of nurses' activities was further complicated by the lack of structured reporting and the use of a passive voice. One of the functions of the EHR is to transfer knowledge from one caregiver to another and to support the continuity of care (Saranto & Kinnunen, 2009; Kieft et. al., 2017). Our findings show that the current nursing documentation practice fails to do this at least on the part of nursing interventions.

The finding that Surveillance was the most frequent intervention in the documentation, identified in 47% of the entries, is similar to that of studies located in the psychiatric in-patient care setting. In a review of nursing documentation, Buus & Hamilton (2016) found a lack of nursing process, whereas detailed descriptions of surveillance and of patients' disruptive behavior were to be common. In another study Buus (2009) found that the stereotypical observational notes of patients and lack of nursing knowledge could be logical from the point of view of social organization in the wards. The informational prerequisites for the wards to run smoothly emphasized the need for detailed descriptions of patients' current mental state (Buus, 2009.) In order to better understand the documentation from nurses' point of view, Myklebust et al. (2018) interviewed nurses in acute psychiatric wards and discovered that nurses found patient contacts to be important in practice but less relevant to document. Since there is very little research on nurses' use of the EHR in psychiatric and mental health contexts (Strudwick & Eyasu, 2015), our findings suggest that more research is needed to support adequate documentation.

Somewhat contradictory in our findings is the importance of interventions aiming at improving the physical health of patients. Earlier research has criticized mental health nursing for not paying enough attention to patients' physical health (Happel et al., 2014; Gray & Brown, 2017). In our study, nurses claimed the interventions such as Nutritional Counseling, Weight Management and Exercise

Promotion to be an important part of their work (Paper II), and they identified the interventions Exercise Promotion, Nutritional Counseling and Oral Health Promotion as core interventions (Paper IV). It might of course be asked whether these are enough or should there be more comprehensive assessments and interventions to support the physical wellbeing of patients with mental health problems. Additionally, Sexual Counseling was seen as a core intervention in Phase III. This finding is interesting since sexual counselling has been said to be lacking in the work of mental health nurses (Hendry et al., 2018).

The fact that nurses did not include family interventions as core interventions in Phase IIb (Paper IV) is similar to findings from earlier research (McCardle et al., 2007; Wallace et al., 2005), but in contrast to the findings in other phases of this current study. In the research literature, interventions often included family members (Paper I). In Phase III, nurses had documented the presence of family members in care meetings, but the function of having family members to attend these meetings was unclear and we were not able to find corresponding NIC interventions. The fact that nurses did not perceive this as core needs to be studied in more detail, since the inclusion of family members is essential in psychiatric care (Eassom et al., 2014; Pharoah et al., 2010) and has been suggested to be one of the quality indicators in the national guidelines for depression and schizophrenia (Depression: Current Care Guideline, 2020; Schizophrenia: Current Care Guideline, 2020). More research is needed to understand how nurses work or do not work with families as well as to better support the inclusion of family members in the care process.

The third contradictory finding regarding the core interventions was the lack of interventions aiming at prevention or reducing substance abuse (Paper IV). This might be partly explained by the service structure in the study area, which allocates the treatment for substance abuse and other psychiatric disorders to separate service producers. The study took place in a hospital system that provides treatment for patients with dual diagnosis in three separate units. Care providers from primary health care and from the third sector organize the treatment of substance abuse problems. However, the comorbidity of substance abuse and mental health problems is high (Kessler et al., 1997; Merikangas et al., 1998) and nurses need to tackle substance abuse prevention and cessation with their patients.

The findings of the core interventions and most frequent classes and domains in our study in Phases I-II are for the most part in line with earlier studies that have used the NIC in adult psychiatric outpatient care settings (Wallace et al., 2005; Thomé et al., 2014; Boomsma et al., 1999). In a study using nurse interviews, Wallace et al. (2005) concluded that the NIC did not include all the indirect nursing interventions that nurses in the community teams use. According to our findings, most of the indirect care could be identified in the NIC, except for Care Coordination (care coordination that takes place inside the unit). The updates in the classification

that have taken place between this current study and the one by Wallace et al. (2005) might explain this difference. Interestingly there is a difference between the findings of interventions identified in nursing documentation. In our study on nursing documentation in Phase III**,** the most frequent interventions were in the domains of Safety and Health Care System, whereas Boomsma (1999) and Thomé et al. (2014) used data from patient health records and found an emphasis in the domain of Behavioral.

Comparing the findings with earlier research conducted in the psychiatric inpatient settings, the findings show a difference in interventions in these settings. The studies by Frauenfelder et al. (2013; 2018) and Taghavi Larijani & Staachi (2019) identifying nursing interventions in the acute psychiatric inpatient setting have shown an emphasis in the interventions focusing on safety and coordinating care. The emphasis in our study was in psychosocial interventions, similarly to the findings of Escalada-Hernandez et al., (2015) in a study on interventions in rehabilitative inpatient settings.

Studying nurses' work at the four units using the NIC as a framework revealed that nurses had extended their work role as tasks from other professionals had been transferred to nurses (Paper II). Whereas this finding is in line with studies conducted in other countries (Simpson, 2005; Elsom et al., 2005; 2007), it is something that requires more attention. In our study, nurses described taking over tasks from social workers, secretaries, and physicians (Paper II). In many countries, including for example the UK and the Netherlands, APNs have taken extended work roles taking over duties and tasks that formerly belonged to physicians (Hemingway & Brimblecombe, 2018). It is important to note that this has required formal training and the results of the task extensions need to be reported and followed (Hemingway & Brimblecombe, 2018).

The fact that nurses in our study described that the work roles had expanded unofficially is concerning from two perspectives. First, this implies that nurses are working outside their scope of practice as they have taken over some tasks such as Laboratory Results Interpretation, writing the multidisciplinary Care Plan and even providing advice for physicians undergoing specialization with different options in medical treatments. The shortage of psychiatrists, which is both a national and a global issue (Yle, 2018; Miller & Peterson, 2015; Drost, 2006; Social Styrelsen, 2019), might explain this but it does not eliminate the problem of lack of formal education for these tasks or lack of compensation for the expanded work role.

The second concern with task reallocations from other professionals has to do with the effects that this has on the nursing process. As Simpson (2005) described, there is a risk that nursing itself becomes limited. Our findings have emphasized the central role that nurses play in providing psychosocial care interventions. Loosing or diluting this role would be a loss for patients and for the service system. The

experience gained in countries such as the UK and the Netherlands show that if the widening/extending of the scope of practice is well planned, this can benefit patients (Hemingway & Brimblecombe, 2018).

One aspect of systematically naming and describing nursing interventions is the possibility to describe the level of education needed for a specific intervention. In the NIC the education needed to safely deliver interventions is divided into three levels, nurse assistant, registered nurse (RN) basic and RN post basic. (Butcher et al., 2018). We did not analyze the education level suggested in the NIC for identified interventions but our findings suggest that including the education level would be important in the future development of the classification and on a national level it could be important to describe the education up to the APN-level.

Applicability studies of SNTs have often used methods such as surveys (Thorodssen, 2005) or the Delphi-method (e.g. Palomar-Aumatell et al., 2017; Junttila et al., 2008) or studied the existing nursing documentation (e.g. Escalda-Hernandez et al., 2015; Frauenfelder et al., 2018; Thomé et al., 2014). We studied the applicability of the NIC in the psychiatric outpatient setting from different perspectives and used different methods from different methodological backgrounds. This provided insight and understanding of the factors supporting and limiting the applicability of the current classification.

During the analysis process of Phase I, literature review, we found that SNTs are not used in nursing research literature describing nurse-delivered interventions. NIC was the only SNT that was used in the studies, and the only studies that used the NIC, were studies interested in the use of the classification. Other studies that described interventions and treatments did this without SNTs or other types of controlled vocabularies for interventions. There have been some exceptions since the literature review was conducted, such as the study by Sampaio et al. (2018). The development of SNTs has been criticized for being developed outside of the research community, creating a something that van Meijel & Pearson (2015) refers to as "quasi professionalism". The findings of a study by Dontje & Coenen (2011) in mapping evidence-based practise recommendations for adults with depression to ICNP were similar to our findings using the NIC. Dontje & Coenen (2011) concluded that there were several difficulties in the mapping process, which suggests that there is a need to define the SNT concepts more clearly. The fact that Coenen & Dontje (2011) used the ICNP in their study suggests that the problems identified in our study are not exclusive to the NIC.

One common term used in research and difficult to map into the NIC in our study was psychoeducation. Mapping psychoeducation interventions into the NIC illustrated how the content of the interventions varied. Some interventions emphasized didactic elements and teaching. Other included several NIC interventions, such as Anticipatory Guidance or Coping Enhancement and

Medication Management. Similar problems have been found in the current understanding of psychoeducation, which varies from a narrow didactic understanding to a more comprehensive, empowering patient training aimed at changes in behaviour and attitudes (Colom, 2011). Similar problems have been identified in the descriptions of Case Management in research literature that show a wide variety in the content of the interventions that use of the term (Lukersmith et al., 2016; Ziguras et al., 2002). This suggests that the difficulty of describing interventions (often referred to as psychosocial or psychotherapeutic) is not unique to nursing terminologies.

The finding that the same nursing activity can be described using different NIC intervention terms was to be problematic already in 1999 (Henry & Mead, 1999). Research suggests that the problem of overlapping terms is not unique to the NIC. Similar findings were found in the study on ICNP by Gonçalves et al. (2019). A research studying the FinCC, nurses found that the terms were overlapping which made it possible to use different terms to describe the same thing (Nykänen et al., 2010).

One way to start to solve the problem of overlapping interventions could be to separate the dimension of means, or delivery modes, from the intervention label, e.g. concluding that interventions can be delivered in a group form, by telephone, individually or including family members. This dimension could be an additional identifier. This type of separation into dimensions has been used in Finnish service codes for psychiatry. The codes consist of four separate components: one describing the main service and the other describing the delivery mode (e.g. telephone, mobile services, meeting at the clinic), profession of the service provider (e.g. nurse, physician) and the duration of the service (Koodistopalvelin, 2020). However, even in this classification the group is included in the component of the main service e.g. Psychoeducation, individual or Psychoeducation, group (Koodistopalvelin, 2020). The separation of the delivery method would also challenge the way in which NIC is constructed, which includes a list of actions describing the delivery process in detail for each intervention.

Another option would be to add a taxonomic level of treatments into the NIC. Treatment consisting of several interventions could be used to separate more comprehensive care interventions such as Substance Abuse Treatment or Case Management that include several more detailed interventions in the list of actions. The levels in the taxonomy would then consist of actions, interventions, treatments, classes and domains. Another option would be to define the difference between an action and an intervention more clearly and to study the possibility to standardize actions. Some activities such as Presence or Active Listening that are now defined as interventions but are often included as actions of other interventions, could be defined as actions.

The challenges of overlapping interventions are recognized by developers of the NIC, and in the section on choosing the right intervention they suggest that nurses need to make the decision (Butcher et al., 2018). We believe that this is problematic for several reasons. First, it makes the transfer of knowledge between different caregivers unreliable. Second, having the possibility to describe the same activity using different intervention labels would make the results unreliable for secondary uses of the data. If the data on nursing interventions were to be retrieved from EHR for quality improvement (Hardiker et al., 2019) or for research purposes on nurse-delivered to patient outcomes (Tastan et al., 2014;) the findings would not be consistent. Third, having the possibility to use one more comprehensive intervention label or several more detailed ones challenges the use of the NIC for administrative purposes. For example, NIC gives an average time for each intervention to describe the time resource needed to deliver the intervention. If the number of NIC interventions per patient is used to describe the time required to deliver nursing care per patient, as suggested in the NIC (Butcher et al., 2018), the difference in the number of interventions would mean that the time might be inconsistent between nurses. In all, giving time labels to more abstract interventions that were among the core interventions, such as Hope Inspiration or Self-Efficacy Enhancement seems challenging if not impossible.

The possibilities of using big data from EHRs in describing the impact of the nursing interventions to improve patient outcomes to improve the patient care process is a huge opportunity. For this to happen the language and the structure of the SNTs needs to support (nursing) theory building, research and evidence-based protocols or treatments. SNTs could provide a profound understanding between research and practice in order to improve patient outcomes. This requires that the larger (nursing) scientific community takes part in the development process of SNTs. If the concepts used in research would be coherent with the ones used in documentation, it would enable us to understand of how the interventions are transferred between research and clinical practice. The missing of this understanding was one of the findings in the literature review (Phase I).

The early development of the NIC was based on an inductively built list that distinguished between nursing interventions and actions. The list was sent to group of nursing researchers and nurses for comments (Bowker & Leigh-Star, 1999). The original classification included 336 interventions (Bulechek & McCloskey, 1995). Nursing knowledge has come long way since then. The results of our study show that we no longer need to inductively build lists but rather nursing terminologies need to be seen as a way to build the bridge between individual conceptualization and evidence- based practices in order to provide a more universal understanding of the nursing process.

Not only SNTs but also the EHRs need to be developed in order to better describe the nursing process. One of the future scenarios that will influence nursing documentation is further development of EHRs to include more patient-generated data to improve patients' self-management and control of care (Lee et al., 2006; Plastiras & O'Sullivan, 2018). Both are seen as central issues in the recovery orientation. This challenges the development of terminologies as the language needs to become more relevant for patients and their family members (Lee et al., 2006).

6.2 Validity and rigour

In this section, we discuss the validity, rigour and the strengths and limitations of this study. Since many of the issues related to validity are specific to the research methods this section discusses these issues according to the study phases (I-III). The last paragraph provides an overview of the entire research.

In Phase I the study selection was made following the PRISMA guidelines (Moher et al., 2009) to ensure the inclusion of all related studies and to make study selection process visible. However, it was possible that some studies were left out. To avoid this effect, we did a manual search in relevant journals and in the reference lists of the included studies. The collaboration of two reviewers and the use of pre-determined inclusion and exclusion criteria supported the systematic process of data collection. Similarly, the quality analysis was made by two researchers blindly. Paper I describes the study selection process and the quality analysis in detail. The interpretative process of mapping of the intervention descriptions (in the study articles) to the NIC was carried out by MA. This might have influenced the findings. Two persons doing the analysis together or blindly as was conducted in Phase IV could have strengthened the analysis in Phase I.

In Phase IIa, the capability to reflect the researcher's own views and expectations as well as to take into consideration the effect that the researcher has on the situation is an evident part of ethnographic methodology (Borbasi et al., 2005), and essential in qualitative studies in general (Cypress, 2017). The fact that MA had been working in a similar setting helped her to understand many of the institutional changes, which were taking place in the units and affecting nurses' work. She was familiar with the field (Cypress, 2017). Nurses also stated that knowing that the researcher had worked in similar settings made them feel more at ease during the fieldwork period and focus group interviews. This phenomenon has been recognized in participant observation studies conducted by nurses, and Borbasi et al. (2005) named this as 'fitting' in. It is important that the researcher is aware of her presuppositions and tries to let go of these (as far as it is possible) (Cypress, 2017).

The fieldwork was performed by only one person, might have caused bias. An attempt to tackle this was made by including the nurses in the focus groups analyzing

the data when the primary analysis was further developed and discussed. The reflection with the research participants during the analyses process is part of ethnographically oriented work place studies (Szymanski & Whalen, 2011) and emphasize the participants' (in this case nurses') active role as experts in their own work, rather than merely as study objects. This was additionally emphasized in the beginning of each focus group by explaining that the observation periods were only the primary step in collecting and analyzing data and not sufficient as such. All focus groups suggested changes, new interventions, and some changes to the analyses, which implies that nurses felt confident enough to share their own views.

MA conducted the thematic analysis of the focus groups that focused on the applicability of the NIC first, after which the second researcher (RK) read the entire data and confirmed the themes making some suggestions. The themes were further developed with the entire research team until consensus was gained. This type of validation is found to be important in qualitative studies (Cypress, 2017).

In Phase IIb, to enhance the validity of the Delphi, we set a predetermined inclusion rate (2/3 or 67 %) for the second round, for the interventions to be defined as core interventions. There are two issues that could limit the validity. First is the recruitment process. The invitation to take part in the study was sent to nurse leaders (nursing directors and nurse managers) who were asked to forward it to clinical nurses. We have no knowledge of how many nurses actually received the invitation. The second aspect affecting the validity is the high drop-out rate between the rounds (only 26 of the original 56 nurses participated in the second round). Research has suggested that drop-out in Delphi is higher when the number of panelists is higher than 20 (Mullen, 2003). This might challenge the trustworthiness of the findings. However, the findings of the second round were similar to those of round one, and we believe them to be representative. One of the reasons for the high drop-out might be the organizational change and the lack of time that prevailed at the time of the second round. The hospital system was implementing a new EHR in the hospital system and this demanded nurses' time and effort.

In Phase III, to ensure that the data we analyzed would be descriptive and unbiased, the data collection was conducted by a person from the hospital's IT department. The period of data collection was chosen prior to the fieldwork so that the research project would not influence the documentation process and the findings would provide a reliable picture of the state of nursing documentation. The patients whose documentation was analyzed were chosen on basis of a computer-generated list of random numbers. The analysis process of extracting the interventions from the narrative, free text-based data, and the mapping of the interventions into the NIC was done by two researchers (MA, HL). This aimed to avoid the bias of having just one researcher making the analysis. Both researchers responsible for the analysis had

been working as nurses in similar settings, using the same EHR. Thus, they resembled the nurses who had performed the documentation.

The validity of this entire research comes from the design: using different types of materials and methods and methodological backgrounds to study the same thing: NIC in the psychiatric outpatient care setting. The findings from the different phases of this study bring new insight and on the other hand support the findings from other phases.

The biggest limitation of this study is that it was conducted in one university hospital system. This might affect the transferability of the results to other organizations. Second, the study was founded on qualitative methods meaning that it had a small sample size. Our findings of the applicability of the NIC suggest that classification would need to be further developed before the content validity of the individual intervention terms would be meaningful. Adding a more versatile research setting, by including a nationwide study sample would be important in the further development of the classification and the content validity study of the developed classification.

Another limitation, from the perspective of research on SNTs, is that we only focused on nursing interventions, excluding care needs or nursing diagnoses and outcomes. Both the need for the nursing intervention and the desired outcome affect the decision of which nursing intervention to use. We do believe and suggest that it would be important to study terminologies describing nursing diagnosis and patient outcomes in this care setting in the future. Similarly, we did not have the possibility to include a patient perspective on nursing documentation. This could be seen as a limitation, since patient documentation is increasingly becoming more open for patients to access.

6.3 Implications

Implications for nursing practice, management, education and research

To ensure the quality and continuity of care and to understand the nurses' work and contribution to patient care, the interventions that nurses use need to be described systematically. Nurses need a terminology to conceptualize the interventions they use and to make the work visible for other nurses and for other members of the multidisciplinary team. The NIC was highly applicable in describing nursing interventions in the psychiatric outpatient care setting from the clinical perspective. The NIC provides a good starting point for the development of a nursing interventions classification to describe nursing in the psychiatric outpatient care setting in Finland. From the perspective of the multidisciplinary team, understanding the core of nursing interventions in this care setting can help to plan the care of

individual patients in a meaningful way, acknowledging the unique contribution that each profession provides in the process. At the same time, task reallocation from other staff groups needs to be tackled and the development of advanced nursing careers in the psychiatric outpatient care setting needs to be evaluated to ensure that nurses receive the education and official recognition in order to perform the tasks they do.

Moreover, our findings revealed an urgent need to develop nursing documentation in the psychiatric outpatient care setting. The lack of documented psychosocial care interventions is a challenge for the continuity in patient care and the narrative, passive descriptions of nursing interventions do not support the secondary use of data that EHRs would make possible. With the growing demand for psychiatric services and nurses' central role in the delivery of the services, knowledge of the effects of interventions on patient outcomes is needed.

The emphasis in nurse-delivered care in the psychiatric outpatient setting is on interventions aiming at behavioral change, using psychosocial interventions that support the coping of patients and their family members by using a strength-based approach. Nurses need to be equipped with sufficient knowledge and skills to provide the psychosocial interventions identified in this study. The high proportion of group interventions suggests that nursing education would need to provide nurses with skills to guide groups. The group as a delivery method might also challenge the traditional understanding of the caring relationship in psychiatric and mental health nursing that has traditionally focused on the nurse-patient-relationship. The group delivery method changes this, as the focus shifts towards training or coaching skills needed to cope with symptoms and to support functioning.

Another implication for nursing education is the need to provide sufficient skills for the highly autonomous role that nurses have in the psychiatric outpatient care setting. On a national level, one option would be to implement post-graduate or advanced education for nurses who work in this care setting in order to ensure the level of education and competencies needed for the role. It is important that nurse managers and nursing directors support nurses to define the scope of practice and help them to tackle the unofficial task reallocations.

SNTs could serve as a bridge between nursing research, practice and education. The use of SNTs in documentation could provide information on the effects on patient outcomes in clinical settings. To achieve this, the following research is suggested.

1. The comparability of the NICs taxonomical levels, intervention labels and descriptions need to be studied with the intervention labels used in research and in practice guidelines to provide suggestions for the further development of the NIC.

2. Studies aiming to understand researchers' views on the applicability of SNTs in research reports and the development of the classifications based on the findings is suggested.
3. The problem of overlapping interventions needs to be studied in more detail on the level of interventions and suggestions to overcome this problem need to be developed based on the research.
4. After the research-based development of the classification, it needs to be validated on a national level. Since the EHRs are multidisciplinary and for the most part open for patients to access, the validation of the intervention concepts needs to include patients and other staff members of the multidisciplinary team.
5. To develop the EHR, more research is needed to study nurses' use of the EHR in the psychiatric outpatient care setting. The opportunities of including more patient-generated data and its meaning for nursing documentation need to be included in this research.
6. Additionally, our findings suggest that nurses have taken over tasks that originally belonged to other professionals. More research on the scope of nursing practice as well as on the need to create APN-roles in the psychiatric services in Finland is necessary.

7 Conclusions

The aim of the research was to study the applicability of the NIC in the psychiatric outpatient care setting in Finland. Our findings support findings from earlier studies that have found SNTs to be a way to make nursing visible. The NIC made nursing visible for nurses themselves, which was associated with a feeling of empowerment. NIC also made visible nurses' expanded work roles in the psychiatric outpatient care setting in Finland. Furthermore, using the NIC we found interventions supporting coping and psychosocial functioning to be emphasized in the clinical setting as well as in the research literature. This supports the recovery-oriented framework to describe nursing practice in the psychiatric outpatient care setting.

In relation to nursing documentation, we conclude that the current free text-based documentation does not support the systematic reporting of nursing interventions or the possibilities for secondary use of data retrieved from the EHR in the psychiatric outpatient care setting. The NIC could be a solution to improve nursing documentation but it does not support the systematic description of the identified nursing interventions, due to the lack of semantic coherence with concepts used in nursing research as well as the problem of overlapping interventions. We conclude that the NIC needs to be further developed before it can be further validated and implemented.

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