Turun yliopisto
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OPPORTUNITIES FOR SELF-MANAGEMENT IN COMMUNITY-BASED MENTAL HEALTH SERVICES FOR PATIENTS WITH SCHIZOPHRENIA

Anu Vähäniemi

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To All my close ones

ABSTRACT

Anu Vähäniemi

OPPORTUNITIES FOR SELF-MANAGEMENT IN COMMUNITY-BASED MENTAL HEALTH SERVICES FOR PATIENTS WITH SCHIZOPHRENIA

University of Turku, Faculty of Medicine, Department of Nursing Science, Doctoral Programme in Nursing Science

Annales Universitatis Turkuensis, Turku, Finland, 2018

As the role of patients in disease management has grown, chronic disease long-term follow-up care and continuity of care between services pose challenges for the health care sector. This study focusses on describing and evaluating opportunities for self-management among patients with schizophrenia in community-based services. The study was carried out in four phases from the perspectives of mental health policy, guidelines and health care personnel. The data was collected between 2012 and 2016.

Quantitative and qualitative methods were used to analyse the data. Mental health strategy documents (n=63) were gathered from all municipalities in mainland Finland (n=320) and evaluated with a WHO instrument (Phase I). The documents with the contents related to schizophrenia or psychotic disorder (n=55) were analysed according to topics from the Finnish Current Care Guideline for Schizophrenia (Phase II). Nurses' attitudes and factors associated with patients with mental illness in community-based services (n= 218) were evaluated with questionnaires (AQ-27) (Phase III). The quality and utilisation of the Finnish Current Care Guideline for Schizophrenia was analysed using the AGREE II instrument by health care personnel (n=49) (Phase IV).

Mental health strategy documents were found to have been written, were in the process of being written or were being updated in 223 municipalities. The content and structure of strategies varied and were formulated in different ways. The topics of *patient psychosocial rehabilitation* and *organisation of care* were described broadly, but the topics of *adherence to treatment*, *preventive work*, *physical health*, *medication* and *antistigma activities* were missing. Positive attitudes of nurses were recognized as enabling mental health work at that level. Being older and having continuing vocational education in mental health training were found to influence the level of positive attitudes. The Current Care Guideline for Schizophrenia can be assumed to utilise planning of care and treatment because the guideline was found to clearly include scope and purpose, various options for management, and evidence-based recommendations. The overall assessment of the guideline by health care personnel was good (72,94%), which supports the utilisation of the guideline.

Opportunities for self-management among patients with schizophrenia can be found in community-based services. The guideline for schizophrenia is of high quality, but there is a need for systematic development of self-management implementation, and a reconsideration of all treatment content. The attitudes of nurses were positive toward people with mental illness, but continuing vocational education in mental health issues is still needed. These factors should be stated in the mental health strategies by municipalities regarding the opportunities of self-management.

Keywords: mental health, guideline, self-management, schizophrenia, attitudes

TIIVISTELMÄ

Anu Vähäniemi

SKITSOFRENIAPOTILAIDEN ITSEHALLINNAN MAHDOLLISUUDET PERUSTERVEYDENHUOLLOSSA

Turun yliopisto, Lääketieteellinen tiedekunta, Hoitotiede, Terveystieteiden tohtorikoulutusohjelma

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Viime aikoina terveydenhuollon haasteiksi ovat nousseet kroonisten sairauksien pitkäaikaisseuranta, hoidon jatkuvuus palveluiden välillä sekä potilaiden kasvanut rooli sairauden hallinnassa. Tämän tutkimuksen tavoitteena oli kuvaamalla ja arvioimalla tuottaa tietoa skitsofreniaa sairastavan potilaan itsehallinnan mahdollisuuksista perusterveydenhuollossa. Tutkimus toteutettiin neljässä vaiheessa ja sen näkökulmina olivat mielenterveyspolitiikka, hoitosuositukset ja hoitohenkilökunnan asenteet. Tutkimusaineisto kerättiin vuosina 2012-2016.

Väitoskirjassa käytettin sekä maarällisiä että laadullisia aineiston analysointimenetelmiä. Ensin analysoitiin kaikkien mannersuomen kuntien (n=320) mielenterveysstrategiat (n=63) WHO:n mittarin avulla (Vaihe I). Tämän jälkeen kuvattiin, missä määrin skitsofrenian käypä hoito-suosituksen sisältö esiintyi kuntien mielenterveysstrategioissa (n= 55) (Vaihe II). Perusterveydenhuollossa työskentelevien hoitajien (n=218) asenteita mielenterveyspotilaita kohtaan sekä asenteisiin yhteydessä olevia tekijöitä selvitettiin kyselyllä (AQ-27) (Vaihe III). Lisäksi arvioitiin skitsofrenian käypä hoito-suosituksen laatua ja käytettävyyttä terveydenhuollon henkilöstön (n=49) näkökulmasta AGREE II –mittarin avulla (Vaihe IV).

Yhteensä 223 kunnasta joko löytyi mielenterveysstrategia, sellainen oli tekeillä, tai sitä päivitettiin tutkimushetkellä. Strategioiden rakenne ja sisältö kuitenkin vaihtelivat ja ne oli laadittu eri tavoin. *Psykososiaalinen kuntoutus* ja *hoidon organisointi* oli kuvattu laajasti, kun taas *hoitoon sitoutumista, ennaltaehkäisevää työtä, fyysistä terveyttä, lääkehoitoa* ja *stigman vähentämistä* koskevat aiheet puuttuivat strategioista. Hoitajien valmiudet toteuttaa mielenterveystyötä perustasolla olivat hyvät, sillä heidän asenteensa mielenterveyspotilaita kohtaan olivat positiivisia. Hoitajien iällä ja mielenterveyteen liittyvillä lisäkoulutuksilla havaittiin yhteys hoitajien positiivisiin asenteisiin. Skitsofrenian Käypä hoito -suositusta voidaan hyödyntää hoidon suunnittelussa ja toteutuksessa, koska suosituksen käyttötarkoitus ja erilaiset hoitovaihtoehdot kuvataan siinä selkeästi ja koska se perustuu tutkittuun tietoon. Myös henkilökunnan mahdollisuudet soveltaa suositusta ovat olemassa, sillä henkilökunnan yleisarvio hoitosuosituksesta oli hyvä (72,94%).

Tutkimuksen tulokset osoittavat, että perusterveydenhuollosta löytyy skitsofreniaa sairastavien potilaiden hoitoon liittyviä itsehallinnan mahdollisuuksia. Skitsofrenian hoitosuositus oli laadukas, mutta tulevaisuudessa itsehallinnan käyttöönottamiseksi tarvitaan systemaattista kehittämistyötä. Lisäksi hoidossa tarvitaan suosituksen kaikkien osa-alueiden huomioimista. Hoitajien asenteet mielenterveyspotilaita kohtaan olivat positiivisia, mutta mielenterveyteen liittyvää lisäkoulutusta edelleen tarvitaan. Itsehallinnan mahdollistamiseksi nämä asiat tulisi olla kirjattuina kuntien mielenterveysstrategioissa.

Avainsanat: mielenterveys, hoitosuositus, itsehallinta, skitsofrenia, asenteet

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ABBREVIATIONS

APA	American Psychiatric Association
EU	European Union
EUR	Euro
ICD-10	The International Classification of Diseases-10
IMR	The Illness Management and Recovery program
Kela	The Social Insurance Institution of Finland
mhGab	Mental Health Gap Action Programme
mHealth	Mobile Health
MSAH	Ministry of Social affairs and healthy
NICE	National Institute for Health and Care Excellence
NGOs	non-governmental organisations
OECD	The Organisation for Economic Co-operation and Development
PDF	Portable Document Format
SIGN	Scottish Intercollegiate Guidelines Network
SMS	Self-management support
SPSS	Statistical Package for the Social Sciences
WHO	World Health Organization

LIST OF ORIGINAL PUBLICATIONS

This doctoral thesis is based on the following publications, which are referred to in the text by their Roman numerals I–IV:

I	Vähäniemi A, Warwick-Smith K, Hätönen H, Välimäki M. A national evaluation of community-based mental health strategies in Finland. International Journal for Quality in Health Care, 2017, 30(1):57–64.
II	Vähäniemi A, Hätönen H, Välimäki M. The Guideline for Schizophrenia in current clinical practice in Finnish municipalities: an analysis of policy documents. Submitted.
III	Ihalainen-Tamlander N, Vähäniemi A, Löyttyniemi E, Suominen T, Välimäki M. Stigmatizing attitudes in nurses towards people with mental illness: a cross-sectional study in primary settings in Finland. Journal of Psychiatric and Mental Health Nursing, 2016, 23(6-7):427–37.
IV	Vähäniemi A, Välimäki M, Pekurinen V, Anttila M, Lantta T. Quality and utilization of the clinical practice guideline in schizophrenia: evaluation using AGREE II and the vignette approach. Submitted.

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1 INTRODUCTION

Mental health problems are a worldwide phenomenon (WHO 2013a). Over 450 million people are affected by mental, neurological, or behavioural problems (OECD 2014). Schizophrenia is a severe mental illness with positive and negative symptoms that include cognitive deficits and difficulties in social skills (Rössler et al. 2005, Hüfner et al. 2015, Temmingh & Stein 2015). It is characterized by distortions in language, thinking and perception, (Rössler et al. 2005), and by inconvenience in emotions and behaviour (Tandon et al. 2015). About 21 million people worldwide are diagnosed with schizophrenia (WHO 2017a). The prevalence of schizophrenia among the general population is about 1% (Leucht et al. 2007). The mortality risk of people with schizophrenia has increased (Suvisaari et al. 2013), and life expectancy is lower than that of the general population (Laursen 2011). Suicides are 10% more common among people with schizophrenia (Nielsen et al. 2013).

Schizophrenia presents challenges for a variety of mental health services. Typically, the illness is one of long duration, characterized by frequent relapses, nonadherence to antipsychotic medication and side effects of medication (Schennach et al. 2012, Elis et al. 2013, Haddad et al. 2014, Sendt et al. 2015, Spaniel et al. 2016). There is an evident economic impact of schizophrenia on societies (Dlouhy 2014). Patients with schizophrenia are high-cost users of community health care services (da Silva et al. 2012), and rehospitalization also generates significant costs (WHO 2014b, Wang et al. 2017). The need for improvement and strengthening of mental health services in primary health care has been globally recognized (Khenti et al. 2017), and a deinstitutionalizing process is currently in progress (Samele et al. 2013).

Mental health policies, strategies and plans are needed to put forth options for health care systems and content of treatment. Such documents can describe ways to manage organisations and economies, but can also highlight the priorities of evidence-based treatment, valuable interventions, and structural collaborations (WHO 2007, Dlouhy 2014). In Finland, the first shared political commitment to mental health and substance abuse work, The National Plan for Mental Health and Substance Abuse Work 2009–2015, has brought to light the main proposals for development. The central principle in the plan is the focus on community care and primary services. Also, mental health strategies for municipalities are represented in the proposals. The first priority proposal targets the reinforcement of the status of service users and patients’ consumer role (MSAH 2014). In Finland, patient organisations in the mental health sector have operated side-by-side with the public health care sector for a long time, and cooperation between the two institutions is very common (Toiviainen et al. 2010). An overall evaluation of the progress of the proposals shows that a majority of them have begun to be implemented. However, a certain amount of development is still planned (MSAH 2014).

Over the past decades, the understanding of people with schizophrenia, as well as the treatment methods for these patients, have changed (Mueser et al. 2013). The recommendations for treatment are continually updated based on the latest evidence-based research (Graham et al. 2011, Sandström et al. 2014). Current care guidelines assist in choosing appropriate treatment methods (Gaebel et al. 2011, Girlanda 2013, Van Duin et al. 2013, Vallgårda 2014, Bighelli et al. 2016). In Finland, the evidence-based Current Care Guideline for Schizophrenia was published by the Finnish Medical Society and was last updated in 2015. According to that guideline, the aims for treatment and rehabilitation of schizophrenia is to reduce symptoms and relapses among patients, to increase quality of life with psychosocial support and to teach the skills needed to manage with the disease (Duodecim 2015).

Public discrimination, social isolation and stigma hinder the success of rehabilitation of people with schizophrenia (Fresán et al. 2017, Ho et al. 2017). Therefore, it is important to identify the attitudes of nurses toward people with mental illness in community-based services (Harangozo et al. 2014) as health care professionals have an essential role in treatment (Björkman et al. 2008). It is critical that the primary care staff have sufficient mental health knowledge and training for the treatment of persons with the various kinds and severities of mental health problems (WHO 2015).

Self-management is one of the common support elements used in the chronic care model for primary health care settings (Davy et al. 2015). The self-management approach encourages patients to take responsibility for their own treatment process, manage their illness in cooperation with health care professionals, and improve self-efficacy, life skills and quality of life (Crepaz-Keay 2010, Chan et al. 2014). It significantly reduces relapses and improves medication adherence (Zhou & Gu 2014). Earlier studies have investigated support for self-management of patients with mental illness in inpatient settings (Hätönen 2010, Zhou et al. 2013b), but the specifics of how self-management of patients with mental illness has been realized in community-based services has remained unknown.

In this study, the dimensions for opportunities of self-management in community-based services are based on a modified theoretical model by Deccache and Aujoulat (2001). For self-management in community-based services among people with a mental illness like schizophrenia to be effective at the organisational level, political guidance is needed (WHO 2007). Further, guidelines for treatment should be of high quality (Gaebel et al. 2011) and implemented (Bighelli et al. 2016) in mental health policies. The attitudes of health care personnel should be positive toward people with mental illness (Harangozo et al. 2014), and updated mental health training for health care personnel should be provided (Drake et al. 2009).

Currently, little is known about of the mental health policies of municipalities in Finland. The policies should prioritize an action plan (WHO 2012a) and standards for used methods (Sandström et al. 2014) to support self-management among patients. There is also a lack of knowledge on how mental health policy documents are implemented in the treatment of patients with serious mental disorders such as schizophrenia. This knowledge would be important because the guidelines support the self-management approach (Jonkman et al. 2016) and coherent treatment (Girlanda et al. 2013), and we need to know what kind of guidance the municipalities need for successful implementation. Until now, the status of guideline utilisation in the treatment of schizophrenia in Finland has also been missing. Furthermore, insight into the attitudes of health care personnel toward patients with mental illness (Harangozo et al. 2014) in community-based services is needed to improve the opportunities for self-management.

This study adds knowledge to how the opportunities for self-management among patients with schizophrenia in community-based services can be developed. The results aim to provide guidance for policy makers, direction for mental health services, and support for health care professionals in recognizing the factors that influence the opportunities of self-management for people with schizophrenia in community-based services.

2 BACKGROUND

2.1 Schizophrenia patients and self-management

The patient group in focus in this study is people with schizophrenia. Schizophrenia is among the ten leading causes of disability and one of the major psychotic disorders in the world (WHO 2008a). The prevalence of schizophrenia is about 1% (Leucht et al. 2007). Schizophrenia is a severe and complex mental disorder. It is characterized by various positive and negative symptoms which present themselves in a range of ways (Insel 2010, Keshavan et al. 2011, Tandon et al. 2013, Temmingh & Stein 2015). Furthermore, schizophrenia creates fundamental disturbances in emotions, perception and thinking (Rössler et al. 2005). It influences cognitive capacity, social functioning and relationships, and the ability to study and work (Rabinowitz et al. 2012, Raghavan et al. 2017). Patients with schizophrenia may have difficulties with solving problems that arise in daily life or stressful events (Xia & Li 2007), and many of these patients also have social anxiety disorders (Temingh & Stein 2015).

Schizophrenia typically onsets during adolescence (Keshavan et al. 2011), and the etiology of schizophrenia is complex (Réthelyi et al. 2013). The incidence of schizophrenia is 8–40/100,000 persons/year (McGrath et al. 2008, Tandon et al. 2008), and it varies by age, sex, geographic location and migration status (Kirkbride et al. 2012, O'Donoghue et al. 2015). Environmental factors may influence the morbidity rate (Misiak et al. 2017). The risk for schizophrenia may be increased by large income gaps between the rich and poor in society (Burns et al. 2014). Evidence has shown that schizophrenia may have genetic causes as well (Lichtenstein et al. 2009), but diagnostic association with one’s family history is not prognostically relevant (Tandon et al. 2013).

The impacts and consequences of mental health problems are considerable. Mortality is one mental health indicator used to evaluate the efficacy of mental health policy and the quality of health care (Salmela et al. 2013); the mortality risk is two to three times higher for people with schizophrenia (Saha et al. 2007, McGranth et al. 2008, Suvisaari et al. 2013). The average age of death for these patients is 11 to 18 years lower than it is among the general population (Laursen 2011, Nielsen et al. 2013). Schizophrenia has a high rate of somatic comorbidities that also lead to high mortality rates (Hüfner et al. 2015). Smoking and Type 2 diabetes increase mortality among people with psychosis (Suvisaari et al. 2013), and excess cardiovascular morbidity and mortality have also been associated (Ösby et al. 2014). Regarding cardiovascular diseases, there is an overall risk for people with several mental illnesses to develop a metabolic syndrome, which is defined by obesity, high blood pressure, low high-density lipoprotein (HDL) cholesterol, elevated triglycerides and hyperglycemia (Vancampfort et al. 2015b). According to death records, the mortality rates for people with schizophrenia, particularly from involving deaths from natural causes, has remained at the same level or even increased in recent years (Piotrowski et al. 2017). One unnatural cause for mortality among schizophrenia patients is suicide (Nordentoft et al. 2015). Suicide rates are high in Europe among people who suffer from psychiatric diseases (15.1 per 100,000 population) (WHO 2008b), when compared to globally reported suicide rates (11.4 per 100,000 people) (WHO 2014a, Eurostat 2017). For people with schizophrenia, suicide makes up 10.3% of common causes of death, whereas for the general population, the figure is 1.9% (Nielsen et al. 2013). The lifetime risk for suicide for people with schizophrenia is reported to be about 5% (Hor & Taylor 2010).

The general well-being and quality of life for patients with schizophrenia need more attention (Rantanen et al. 2009). These subjects are important because schizophrenia is such a comprehensive disease, and nonadherency to treatment is typical (Marder 2013). Negative symptoms often continue throughout the lives of patients (Elis et al. 2013), and several relapses are expected (Tandon et al. 2013). Schizophrenia patients also typically show poor commitment to medical treatment (Haddad et al. 2014, Keller et al. 2014), which can be damaging because treatment using antipsychotic drugs is associated with lower mortality than going without medicine (Tiihonen et al. 2009). With chronic illnesses, the care planning and treatment methods should be person-centred and empowering, and patients should be supported in managing their health while being given a degree of responsibility (Pulvirenti et al. 2014).

Self-management was developed at the end of the 1980s and during the 1990s to increase ways for patients to manage their own illnesses and to create a way to track activity in treatment (Marks et al. 2005). It was first used with patients with somatic chronic diseases, like diabetes, asthma or heart disease (Barlow et al. 2002). Nowadays, self-management is a well-established and evidence-based approach, and it is commonly used in chronic care models in primary health care (Davy et al. 2015, Moore et al. 2017). *Self-management* (Moore et al. 2017) essentially refers to a patient’s ability to participate in their treatment and management of medication, behaviour, emotion and their role. It includes the processes of self-efficacy and skill building, and the possibility to influence outcomes for chronic conditions (Moore et al. 2017). In its definition, self-management is closely related to psychoeducation. One difference, however, is that psychoeducation offers information, whereas self-management teaches problem-solving skills (Bodenheimer et al. 2002). The terms *self-help* and *self-regulation* are sometimes interchangeably used to mean the same thing as self-management (Moore et al. 2017).

Self-management is extensively supported by contemporary guidelines and health care systems. There are self-management policies for improving the quality of life and increasing functional capacity for various chronic illnesses. Several studies on self-management have been done, including the construction of a model of self-management support (SMS) for various chronic ilnesses (Glasgow et al. 2003) and the development of self-management education (Skinner et al. 2003). There are also studies focussing on the development of self-management interventions for people with schizophrenia, such as group therapy (Vauth et al. 2005), a peer-led self-management programme (Chan et al. 2014), a smartphone system (Ben-Zeev et al. 2013), and a rewiev of the self-management approach in psychiatry (Kemp 2011, Zou et al. 2013b, Jonkman et al. 2016). However, because of the heterogenous nature of the studies, further research on the value of self-management programmes is needed (Trappenburg et al. 2013, Jonkman et al. 2016).

When aiming for self-management among patients with a chronic illness, partnerships between service users and health care professionals are a priority (Kemp 2011). For a patient to be successful in self-management, they must have sufficient knowledge of their disease and treatment, the ability to cope with the psychosocial problems related to disease, and the skills to monitor their own condition (Barlow et al. 2002). Further, problem-solving and decision-making skills are included in self-management (Jonkman et al. 2016). The goal is also to promote positive lifestyle changes (Kemp 2011).

The self-management approach in the treatment of schizophrenia may offer a satisfactory solution to several problems associated with traditional mental health care: disempowerment, stigma and lack of resources (Schneider 2006). Self-management has a beneficial influence on overall symptoms because it increases the skills needed to manage psychotic symptoms or distress related to positive and negative symptoms (Shepherd et al. 2012, Scott et al. 2015). It focusses on the implementation of coping strategies (Mueser et al. 2006) and enhances the ability to cope with problem solving and goal setting (Clarke et al. 2009). Self-management programmes have been developed, where the patients and their families have active roles during the treatment and rehabilitation process, and the goal is for the patient to be in recovery, (Mueser et al. 2006). These can be professional-led or peer-led programmes (Chan et al. 2014). The programmes target medication adherence (Yamada et al. 2006) and relapse prevention strategies, and give hope for improving the condition (Muesar et al. 2013). They help identify early warning signs of weakening health, and allow for a reaction to these signs before involving intervention by the service system (Crepaz-Keay 2010). Self-management can support the transition of psychiatric care from institutions to community services (Davidson et al. 2006, Hätönen et al. 2010) and is associated with decreasing rehospitalisations (Zou et al. 2013b).

Different types of interventions are available to families, including peer-led programmes, where trained family members are connected to other family members, but each family's needs should be carefully investigated (Glynn 2012). Support can be in the form of a brief family intervention, where the person with schizophrenia and his/her family receive information about the illness from a mental health professional (Okpokoro et al. 2014). For improving family members' coping ability and knowledge, psychoeducation has been found to be an effective intervention, particularly in group format, and should be routinely offered (Sin & Norman 2013). Also, family therapy increases the ability to cope with negative symptoms and the ability to focus on relationships between family members (Elis et al. 2013). The approach, where family is a resource for patients with schizophrenia, needs collaborative and informed decision-making on treatment involving the patient, family and health care personnel (Mistler & Drake, 2008).

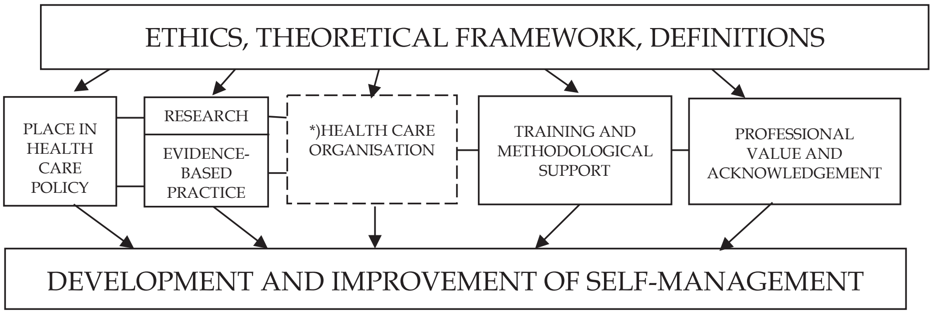
Another aim of self-management is for people with serious mental illnesses to have the knowledge to make informed decisions about their treatment, and for the interventions to provide facilities where the patients can become capable of taking responsibility for managing their own lives (Davidson et al. 2008). In addition, self-management helps patients take on an active expert role and change the reputation of people with a psychiatric disease by helping them to be self-reliant citizens and manage their own illness (Mueser et al. 2006, Thornicroft 2006, Eaton & Agomoh 2008, Dixon et al. 2010). One form of stigmatization is self-stigma, which involves negative attitudes and is associated with poor quality of life and poor treatment outcomes (Corrigan & Rao 2012). Social contacts and empowerment have been found to significantly influence the reduction of self-stigma (Brohan et al. 2010). Self-management has a positive impact on patients' self-efficacy. It gives patients hope, reduces depression, improves quality of life and has positive impacts on attitudes and health behaviour (Du & Yuan 2010). It may further encompass nurses' abilities to monitor patients' conditions and needs for a satisfactory quality of life (Schneider 2006, WHO 2010).

A few self-management programmes have been developed and empirically validated for people with mental health problems, for example, in Barcelona (2004), a programme involving psychoeducation for bipolar disorder; in Japan (2003), a self-management intervention for patients moving from institutional care to community care; in Europe (2005), a self-management programme for patients with eating disorders using computer-based cognitive behavioural therapy; and in Wales (2009), self-management training for people with a range of psychiatric diagnoses, such as those listed in the WHO report by Crepaz-Keay (2010). Self-management and skills training were recommended as important psychosocial treatments for schizophrenia by The Schizophrenia Patient Outcomes Research Team (PORT) (Dixon et al. 2010). Currently, guided interventions of self-management are being developed and analysed to use for psychoses (Scott et al. 2015). The Illness Management and Recovery programme (IMR) was developed to teach self-management strategies to patients with schizophrenia (Mueser et al. 2006, Kemp 2011). In IMR, the active collaboration between patients and clinicians in mental health care requires five elements. First, self-directed care means that the patient can select the needed treatment and pay for it with a 'direct payment', which is publicly budgeted. This is also called a 'personal budget'. Second, illness management and recovery involve a programme where patients are helped to achieve the knowledge and skills needed to manage their illness effectively and make personal recovery goals. Third, in shared decision-making the patients and clinicians make decisions together about treatments. Fourth, joint crisis planning, taking place when patients and treatment are not in an acute phase, prepares those involved for any future crises. Fifth, wellness planning includes patients' strengths and wellness strategies (Kemp 2011).

A recent study (Fortuna et al. 2017) has found that peer-delivered and technology-supported interventions in self-management programmes improve skills for medical management, increase the patient's ability to manage chronic health conditions, bring hope and enhance quality of life. These interventions are associated with feasibility, acceptability and empowerment (Fortuna et al. 2017).

Facilitators and barriers that influence self-management have been investigated by Zou et al. (2014). Three facilitators were found: first, a positive relationship between health care professionals and patients; second, family and peer support; and third, positive attitudes toward self-management. Four barriers were identified: financial constraints, uncoordinated mental health services, a lack of knowledge and skills, and social stigma (Zou et al. 2014). In 2002, WHO published a report stating that health care solutions should meet the rising burden of chronic conditions, and recommendations were given for the support of self-management and the organisation of health care, but also for legislative framework, policies and strategies (WHO 2012b).

According to the modified model by Deccache and Aujoulat (2001) presented in Figure 1, the opportunities for self-management among people with schizophrenia demands several components: policies based on legislation (MSAH 2014) that are available and implemented (Liddy & Mill 2014, Kapul et al. 2016), research and evidence-based practice guidelines (Gaebel et al. 2011), health care personnel with supportive attitudes (Schneider 2006), and training and methodological support (Drake et al. 2009) for treatment of people with schizophrenia.



*) In this study the dimension of 'Health care organisation' was not included in the empirical section.

Figure 1. Five dimensions of the development of self-management (modified from Deccache & Aujoulat 2001)

2.2 Mental health policies, strategies and services related to schizophrenia

Mental health policies are needed to set a vision for the future. They include the priorities of an action plan for ensuring high-quality mental health services (WHO 2007, 2012a). Mental health policy and practice have posed challenges for many countries regarding the well-being of their citizens (WHO 2008b, Samele et al. 2013). Globally, over two-thirds (69%) of WHO member states have independent mental health policy or plans, and half of these countries have a stand-alone mental health law. In Europe, 79% of 48 countries have mental health policies, and one-fourth of these countries have updated their mental health legislation in the last five years (WHO 2015). The global target is that a comprehensive amount of countries (80%) would develop or update their mental health policy/plan by the year 2020 (WHO 2013b). The development would be carried out in line with international and regional human rights instruments. In Table 1, examples of global mental health policies from 2005 to 2013 are listed.

Table 1. Global mental health policies during 2005-2013

Name of policy	Publisher	Year	Policy target
Health Declaration for Europe Facing the Challenges, Building Solutions, 'Helsinki Declaration'	Ministers of the Member States in the WHO European Region	2005	1. Promoting mental well-being 2. Tackling stigma, discrimination, social exclusion 3. Preventing mental health problems 4. Providing care, comprehensive and effective services and interventions for people with mental health problems, offering involvement and choice to service users and carers 5. Rehabilitation and social inclusion for people with serious mental health problems
Green Paper – Improving the Mental Health of the Population: Towards a Strategy on Mental health for the European Union.	European Commission	2005	'There is no health without mental health' 1. Promoting mental health of all population through preventive actions 2. Addressing mental health through preventive action, (prevent depression and suicide, reduce substance use disorders, drugs and alcohol) 3. Improving the quality of life, reducing stigma, protecting rights and dignity through social inclusion (e.g., deinstitutionalization of mental health services) 4. Developing mental health information, research and knowledge on mental health in the EU
mhGAP: Mental Health Gap Action Programme: scaling up care for mental, neurological, and substance use disorders.	WHO	2008c	1. Developing mental, neurological and substance use disorders management 2. Recommended treatment for schizophrenia with antipsychotic medicine, family therapies, community-based psychosocial services and rehabilitation 3. The global challenge of developing mental health integrated services in primary care
Mental Health Action Plan 2013-2020, The European Mental Health Action Plan 2013-2020	WHO	2013 b,c	1. Strengthening effective leadership and governance 2. Providing comprehensive, integrated and responsive mental health and social care services in community-based settings 3. Implementing strategies for promotion and prevention in mental health 4. Strengthening information systems, evidence and research for mental health

Each global policy target has been measured by the WHO Mental Health Atlas in 2001, 2005, 2011 and 2014 (WHO 2015). The Mental Health Atlas includes global reporting on crucial mental health indicators, the management of the mental health system, financial and human resources, the availability and appearance of mental health services, promotion and prevention, and comparisons to previous versions of the Mental Health Atlas. Data collection for the 2017 Mental Health Atlas is currently underway (WHO 2017b).

The focus of mental health policies is on improving mental illness prevention and the promotion of well-being and mental health. These subjects have been pointed out by European Union policy makers (Samele et al. 2013). Important topics in mental health policies include reducing stigma, processing lifestyle factors, taking action regarding mental health in workplaces, promoting socialisation, promoting a healthy ageing population and improving mental health awareness through public education (Kalra et al. 2012, Matrix Insight 2012). Digital technologies strongly affect how individuals access mental health information (Hayes et al. 2016). It is the role of public health leaders to speak out about the need for mental health promotion (Dickens 2011) to ensure collaboration with actors outside of the mental health sector, such as those in the social welfare sector, those who deal with alcohol availability, and other policy makers. In addition, family support programmes are needed (Wahlbeck & McDaid 2012). Many countries have special programmes to promote mental health, for example, suicide prevention strategies (WHO 2014a). However, a study on mental health policy in Eastern Europe shows that military history still burdens society in terms of mental health, and this should be considered in the relavant policy making (Dlouhy 2014).

In Finland, the first integrated national plan for mental health and substance abuse was published in 2009 by the Ministry of Social Affairs and Health: the Plan for Mental Health and Substance Abuse Work. It highlights a need for the local authorities to be more effective in coordinating the services in their area, together with the public, private and third sectors. It consists of 18 proposals, divided into four areas: 1) strengthening the status of service users, 2) prevention and promotion, 3) organisation of mental health and substance abuse services, and 4) development of steering tools. This national plan has been found to have an influence on the roles of patients and service users, such as on proposals for equal treatment and access to services. The plan clearly points out the roles of user experts and peers in mental health care, but also describes the need for reinforced work resources and coordination of mental health and substance abuse services, as well as developmental needs for education and training. At the municipal level, the plan proposes that the topics of mental health and substance abuse work should be included in their strategies. In 2014, a progress review was reported as well as further actions to be taken toward implementation (MSAH 2014).

Recommendations for policy actions regarding treatment and outcomes for people with schizophrenia have been listed in a report by Fleischhacker et al. (2014). The report is a conclusion of a discussion by an international group of specialists on schizophrenia treatment, researchers, patients and carers. The following recommendations based on research evidence, stakeholder consultation, and best practice worldwide target policy makers and stakeholders at the local, regional and national levels: (1) mental and physical health care should be integrated in the national health care system, (2) people with schizophrenia should be supported in entering and staying within communities with a guide for dealing with complex benefit and employment systems, (3) concrete support for family members and carers living with people with schizophrenia should be provided in the form of information and guidance through educational programmes, (4) policy on the management of schizophrenia treatment should be updated and improved upon regularly by all stakeholders with consulting health care professionals, (5) support for research and progress for new treatments of schizophrenia should be provided, and (6) regular, ongoing and sufficiently funded campaigns aimed at reducing stigma should be established, and those campaigns should include information to increase the public's understanding of and positive attitudes toward schizophrenia and mental illness and should be an integral part of the usual action plans (Fleischhacker et al. 2014).

National *legislation* regarding mental health in Finland consists of several laws. The main laws for mental health care services are The Constitution of Finland 731/1999, the Health Care Act 1326/2010, the Mental Health Act 1116/1990, the Primary Health Care Act 66/1972, and the Act on Specialized Medical Care 1062/1989. According these laws, a treatment model for Finland should focus on cooperation between hospital districts and municipalities (MSAH 2014). The law on status and rights of patients is entitled the Act on the Status and Rights of Patients 785/1992. In Finland, voluntary patient organisations typically operate side-by-side with national social and health political organisations (Toiviainen et al. 2010). The legislation that covers the professional standards of social and health care personnel includes the Act on Qualification Requirements for Social Welfare Professionals 272/2005 and the Act on Health Care Professionals 559/1994 (Finlex 2017). The Mental Health Act, the Act on Welfare for Substance Abusers and the Temperance Work Act (MSAH 2014) are all in the process of being updated.

Health care funding in Finland is organised by the national tax system. Municipalities have the right to collect their own taxes (65%), state subsidies provide part of the funding (30%), and about 5% is covered by client fees (MSAH 2017). In 2015, Finland's health expenditure was EUR 19.8 billion, and per capita expenditure was EUR 3,803. The funding was divided into specialised medical care (EUR 6.9 billion) and primary health care (EUR 3.7 billion). Public funding for health care expenditure covered 74.6% of the health care costs, and private financing, such as households, private insurance, employers and assistance funds, accounted for 25.4% (National Institute for Health and Welfare 2017a). In Finland, Kela (The Social Insurance Institution of Finland) provides some reimbursement for medicines, travel coasts, doctors' fees, examinations and treatment (Kela 2018).

A large part of the funding for mental health services is directed to inpatient care at mental hospitals, an average of more than 70% in low- and middle-income countries (WHO 2014b). In Finland in 2015, EUR 750 million was spent on psychiatric specialised care, EUR 352 million of which was used for inpatient psychiatric treatment, a total that was 6.9% less than that of the previous year. On the other hand, EUR 391 million was used for outpatient psychiatric treatment, which was 7.2% more than in 2014 (National Institute for Health and Welfare 2017a). The monetary cost of schizophrenia is significant because of underused medical treatment (Millier et al. 2014) and frequently-used inpatient treatment (da Silva et al. 2012). In Finland, 1.8% of the total population was entitled to refunds on medicines for psychosis in 2016 (National Institute for Health and Welfare 2017b). In 2011, mental health problems were the most common cause for rehabilitation that was financially supported by Kela (35,200 people). This included a significant expenditure on rehabilitative psychotherapy. In 2011, the cost of rehabilitative psychotherapy was EUR 28 million in Finland, and it involved 18,200 patients (Kela 2012).

In the European Union, treatment options and *mental health services* have recently undergone great changes (Samele et al. 2013). Balancing between equality rights, family rights and community rights has drastically changed the mental health system (McKenzie 2008). Mental health care organisations in Finland, as in most European countries, have policies on improving community-based services and decreasing the use of psychiatric hospitals (Harjajärvi et al. 2006, Hyvönen 2008, WHO 2008b, Hickey 2010, Samele et al. 2013). Evidence suggests that the majority of mental health treatment should be primarily offered in an outpatient setting (Duodecim 2015). In Europe, especially in the high-income countries, the number of mental hospital beds is still high (41.8 per 100,000 persons), although it has decreased (WHO 2015). In Finland, adult mental health outpatient visits have increased in recent years (from 438 per 1000 persons in 2011 to 485 per 1000 persons in 2015), and the number of psychiatric inpatient care days has decreased (National Institute for Health and Welfare 2017b).

It is necessary for community and hospital services to be in balance, but the possibilities of several treatment methods in community services depends on available recourses (Thornicroft & Tansella 2004). Population size in Finnish municipalities correlates with variation in mental health services (Ala-Nikkola et al. 2014). The development of community mental health services faces several barriers. Some development is occuring at the policy level, such as working on the lack of mental health policies and legislation, and insufficient budgets. At the health system level, barriers can include difficulties in redirecting resources, a lack of integration and coordination between mental health services and other community services, and a lack in training of staff (Caldas de Almeida & Killaspy 2011, Khenti et al. 2017). Community-based rehabilitation has difficulties regarding differing goals of treatment between professionals and patients. Further, the lack of political will for developing care, as well as the ineffective use and unsuitable allocation of resources, are barriers to development (Rössler & Drake 2017).

Deinstitutionalisation has challenges as well (WHO 2014b). Rantanen et al. 2009 focus on the changes in mortality and causes of death among people with schizophrenia during and after the deinstitutionalisation process in Finland. They found a reduction in suicide mortality in males after the deinstitutionalization process (Rantanen et al. 2009). On the other hand, in a study by Weiser et al. (2015), male schizophrenia patients in Israel showed risk for suicide, particularly within a year of discharge from hospital (Weiser et al. 2015). Pirkola et al. (2009) analysed the connection between mental health services and suicide rates. It was shown that well-developed community mental-health services are linked to lower suicide rates (Pirkola et al. 2009). While et al. (2012) show that having 24-hour crisis care teams working in community services is associated with lower suicide rates. Kapur et al. (2016) found that several changes in services, for example, enhanced community services, mental health training for health care personnel, and implementation of guidance and policies, can reduce suicide rates.

Despite the improvements in mental health policies in recent years, further development and commitment are needed (Fleischhacker et al. 2014). In Finland, the knowledge of how mental health issues are been realised in mental health policies in municipalities is still missing.

2.3 Evidence-based practice to support the treatment of schizophrenia

Evidence-based guidelines play a key role in maintaining consistent care (Girlanda et al. 2013, Bighelli et al. 2016). Further, guidelines improve health care quality (Gaebel et al. 2011, Van Duin et al. 2013) and provide assistance in planning health care systems (Grimshaw et al. 2004, Turner et al. 2008). They can encourage service use (Eaton & Agomoh 2008) and challenge clinicians to develop practices (Cohn et al. 2009). Guidelines help clients, clinicians, health care leaders and policy makers to choose fair and evidence-based treatments for patients (Francke et al. 2008, Mueser et al. 2013, Vallgårda 2014). High-quality treatment recommendations support rational and realistic solutions when updating legislation and developing policy, as well as when health care professionals and family members make health care decisions or daily choices in support of the patient (Francke et al. 2008, Yang et al. 2013).

It is essential that guidelines be of good quality in order to effectively implement their contents (Gaebel et al. 2011). Therefore, they should be evidence-based and include recommendations for appropriate health care interventions. Methodological support can enhance the quality of treatment in community-based services (WHO 2003, Graham et al. 2011). Several guides have published information on how to develop guidelines (Woolf et al. 2012), how to implement them in practice and how to use them in health policy planning (Thornicroft et al. 2010, Sandström et al. 2014). Methods for systematically developing and implementing guidelines have been formulated; these methods are presented in the form of development handbooks (Turner et al. 2008), an approach to develop new clinical practice guidelines (Dizon et al. 2016), and an eight-step framework for implementing a clinical practice guideline (Fischler et al. 2016).

Low quality guidelines are thus prevented or limited in their effectiveness in routine treatment (Grol & Grimshaw 2003, Forsner et. al 2010, Van Duin et al. 2013, Bighelli et al. 2016). Also, effective implementation strategies are needed to increase the usability of guidelines (Grimshaw et al. 2004, Weinmann et al. 2007, Gagliardi et al. 2011, Girlanda et al. 2013, Sinclair et al. 2013, Fiscler et al. 2016, Armstrong et al. 2017). For the implementation of guidelines, team leadership is needed for the identification of target indicators, but also methods to facilitate the implementation process are needed (Gifford et al. 2011).

Guidelines for the treatment of schizophrenia have been developed around the world since the 1990s, e.g., in the UK, the USA, Canada, Singapore, New Zealand and Australia (Canadian Psychiatric Association 2005, McGorry 2005, Dixon et al. 2010, Verma et al. 2011, NICE 2014, APA 2016). In Finland, the Guideline for Schizophrenia was published for the first time in 2001. It has since been reviewed in 2008, 2013 and 2015. The existence, the quality and the implementation of guidelines for schizophrenia have been investigated around the world (Gaebel et al. 2011, Fiscler et al. 2016). Gaps in quality have been identified between recommendations and daily treatment, including a lack of evidence of effective services, difficulties in clinical adherement to guidelines or failure to implement guidelines (Drake & Essock 2009), limited use of evidence-based rehabilitation interventions (van Weeghel et al. 2011), and low-quality guidelines (Oxman et al. 2007). Although Current Care Guidelines generally seem to be accepted in clinical nursing practices, their implementation styles vary (Alanen 2009).

Current requirements for mental health care, including the treatment of schizophrenia, are very similar to the challenges of actual treatment in the model for the development and improvement of patient education (Deccache & Aujoulat 2001), listed in Table 2.

According to clinical guidelines for schizophrenia, the treatment and recovery processes consist of primary care, specialised care, housing and other rehabilitation functions, and includes psychiatric inpatient and outpatient settings (NICE 2014, WHO 2008b, Duodecim 2015, OECD 2014). The Finnish evidence-based Current Care Guideline for Schizophrenia describes that treatment and rehabilitation aim to prevent or diminish patient symptoms and new psychotic episodes and increase patient psychosocial functioning and quality of life (Duodecim 2015). A successful treatment process is the pathway to care (Temmingh & Oosthuizen 2008), and knowledge about the course of illness helps in the use of effective interventions (Austin et al. 2015). The continuing of care with inpatient

Table 2. Challenges for actual treatment in patients' education and mental health care

	Challenges for actual treatment in patients' education and mental health care	References by mental health care
1	chronic disease long-term follow-up	an der Heiden & Häfner 2015
2	continuity between services	Sanatinia et al. 2016
3	patients increased role in the management of disease	Zou et al. 2013b
4	patients need for more information (e.g., lifelong adherence to medication and lifestyle changes	Zou et al. 2013b
5	interest in health care practice with psychological and social dimensions	Caldas de Almeida & Killaspy 2011
6	ethical dimensions, e.g., patients' participation	Beitinger et al. 2014
7	the increased role of politics, such as citizens' rights to influence to services	Raffard et al. 2013
8	health care quality and effectiveness from the aspect of economy	Kennedy et al. 2014
9	the changing role of health care institutions: shortened lengths of stays in hospital, patients with more complex and multiple problems, movement to outpatient follow-up treatment	Rössler & Drake 2017
10	growing need for training for health care professionals, which includes the perspectives of social and public health	Brown & Wissow 2011
11	too low compliance and adherence to treatment	Bright 2017
12	patients' satisfaction in health care is insufficient	Sanatinia et al. 2016

and outpatient units is important for the recovery process and for reducing rehospitalisation (Wang et al. 2017). Treatment by outpatient units with mental health teams in collaboration with community-based services in the patient's own environment is recommended most (Keller et al. 2014, OECD 2014, Duodecim 2015, Stein et al. 2015).

The treatment of schizophrenia can be divided into four parts: the acute period, the balanced period, the stable period and prevention of relapses (Duodecim 2015). The acute phase presents positive and negative symptoms and cognitive difficulties. Because first episodes of psychosis usually affect young adults, families play an important role in seeking help for the patient (Qiu et al. 2017). It is important to recognize the need for careful consideration of the alternatives for interventions (Austin et al. 2015, O'Donoghue et al. 2015). Psychoeducational interventions with antipsychotic medication were preferred as treatment by adolescent patients (Welsh & Tiffin 2014). The Finnish guideline recommends antipsychotic medication with the lowest possible dosage for this period (Duodecim 2015). Positive treatment outcomes in the acute phase and improvements in social functioning have been reported as results (Raghavan et al. 2017).

Following the acute period, the treatment process begins with recovery-oriented services. This phase includes respect-of-autonomy and right-to-choose interventions (Mueser et al. 2013, Rössler & Drake 2017). A plan for treatment and psychosocial rehabilitation should be used (Duodecim 2015). Long-lasting therapeutic relationships with nurses or other health care personnel is common. Out of the different therapy options, cognitive behavioural therapy and family interventions are relevant treatment methods for patients with schizophrenia (Ince et al. 2016, McFarlane 2016, Degnan et al. 2017, Hartmann et al.

2017). For good outcomes of treatment, adherence to medications is important (Tiihonen et al. 2009, Haddad et al. 2014, Heres et al. 2014). Patients with schizophrenia are often given long-acting injectable antipsychotics, and for that, clinicians have an important role in motivating their patients (Samalin et al. 2016). Participation in self-help groups brings positive outcomes in community-based rehabilitation (Chatterjee et al. 2009). The patients often need support for housing and help with learning skills for daily living in their own environment (Rössler & Drake 2017). In addition, patients' active participation in social life and person-oriented models, such as shared decision-making, has been emphasised (Mueser et al. 2013, SIGN 2013). However, recovery from psychotic disorders varies greatly among individuals (Norman et al. 2017).

Mental health services should include support for physical treatment of people with schizophrenia (Leucht et al. 2007). Physical factors should be routinely screened (Vancampfort et al. 2015b), but patients with schizophrenia have experienced discrimination when being treated for physical health care problems (Harangozo et al. 2014). The treatment of schizophrenia should include multidisciplinary care focussing on improving physical fitness and reducing obesity (Vancampfort et al. 2015a, 2016). Physical activity has positive effects on quality of life and self-efficacy in general (Deenik et al. 2017), but exercise also has a positive impact on schizophrenia symptoms (Rosenbaum et al. 2014, Dauwan et al. 2016).

One goal in the treatment of schizophrenia is remission. It is in this stable phase that the patient can achieve functional recovery. However, relapses often slow recovery and may even make reverse progress and worsen the course of illness (Kane 2007, Schennach et al. 2012, Emsley et al. 2013a). Also, suicide is common among patients with schizophrenia (Nielsen et al. 2013), and this issue should be taken into account during the treatment process (Kapur et al. 2016). Therefore, the services for acute crises should be clear (Duodecim 2015). A risk for relapse may occur when treatment is reduced or discontinued; remission can then quickly change into a relapse (Emsley et al. 2013b). However, preventive strategies have been developed to assess the risk for relapses, such as monitoring early warning signs. Such signs can be self-reported weekly and include measurements of health, well-being, medication and symptoms (Spaniel et al. 2016). Basic symptoms may predict pre-relapses, and can be used through self-reported measures as part of routine clinical practice. Because those symptoms can vary between individuals, according to experiences, patients should be monitored individually and report on each symptom separately (Eisner et al. 2017). Early-warning-sign-interventions are associated with fewer relapses and lower rehospitalisations compared to that of usual care (Komatsu et al. 2013, Morriss et al. 2013), but more research about predictors for relapse in schizophrenia is still needed (Gaebel & Riesbeck 2014, Eisner et al. 2017).

Families need adequate information about the disorders their relatives with schizophrenia are facing and what kind of psychological supportive actions they can provide to help

(Wang et al. 2017). Families should be given a form of psychoeducation, including knowledge on the characteristics of the disease and the factors influencing the disease's development. In addition, receiving information about the prognosis, the social rights of the patient and how the disease will influence the patient's coping abilities with the activities of daily living can support carers of people with schizophrenia (Mueser et al. 2002, Macleod et al. 2011).

Despite the knowledge that evidence-based guidelines improve the quality of care, we do not know how the Guideline for Schizophrenia has been realised and implemented in mental health policies at the municipality level in Finland. Furthermore, while the quality of a guideline should be high to ensure its implementation in daily practice, the quality of the Finnish clinical practice Guideline for Schizophrenia has not previously been evaluated.

2.4 Professional values and acknowledgement of people with mental illness and mental health training of health care professionals in community-based services

The essential question of *how mental health interventions are delivered* can be explored in the mental health workforce (Kakuma et al. 2011, DeSilva et al. 2014). The number of mental health workers has increased worldwide. Globally, there is a median of nine mental health workers/100,000 persons, and in Europe, 43.5/100,000 persons. Nurses make up the biggest group of workers in mental health services across the world (WHO 2015). In community-based services, it is important that the nurses have sufficient mental health knowledge and skills as well as supportive attitudes toward people with mental illness (DeSilva et al. 2014, WHO 2015).

High levels of stigmatisation and discrimination toward people with symptoms of mental illness have been recorded across many cultures, including Europe and high-income countries (Angermeyer et al. 2004, Thornicroft 2006, Eaton & Agomoh 2008, Brohan et al. 2010, Krajewski et al. 2013, Zou et al. 2013a, Fresán et al. 2017, Ho et al. 2017). For example, in a study by Gerlinger et al. (2013), over two-thirds (64,5%) of patients with schizophrenia had perceived stigma, and almost half of those patients had reported self-stigma (Gerlinger et al. 2013). In a study by Lau et al. (2017), the prevalence of stigma among outpatients with psychiatric disease was over 80%.

Public stigma toward people with mental illness, referring to negative attitudes, has been analysed in previous studies (Alexander & Link 2003). Woman and older people have been found to be more empathetic toward people with mental illness. People with a personal life experience involving a mentally ill person have been found to have less negative attitudes than younger people. Females have been shown to express more feelings of fear and tendencies of avoidance than males. Higher levels of education are also protective factors against stigma (Ewalds-Kvist et al. 2013, Buizza et al. 2017). The public attitudes for help-seeking for mental health problems has changed in a positive direction in recent years, but individual attitudes and self-stigma are crucial to patients receiving help (Angermeyer et al. 2017).

Nursing students have both negative and positive attitudes in analysing different attitude factors toward mental illness. The most negative has been found to be separatism, and the most positive is less restrictive attitudes (Poreddi et al. 2014). Personal experiences with people with mental illness can reduce negative beliefs and attitudes toward mental disorders (Granados-Gámez et al. 2017). Mental health-focussed education and positive clinical experiences improve attitudes about mental illness among nursing students (Iheanacho et al. 2014, Vijayalakshmi et al. 2015, Choi et al. 2016, Moxham et al. 2016) and medical students (Poreddi et al. 2015). These positively affect the willingness to choose mental health nursing as a future career (Thongpriwan et al. 2015). Nursing students who have chosen mental health nursing as their specialty, have expressed feeling negative attitudes from other students and their families (Happell et al. 2013).

The attitudes in community-based services should be supportive toward patients' conditions (Harangozo et al. 2014). The attitudes of nurses toward mental illness in mental health services are mainly positive but differ across countries (Chambers et al. 2010). However, varying results on this have been reported. In a study by Hansson et al. (2011), beliefs and attitudes among mental health staff toward people with mental illness were negative. In a study by Björkman et al. (2008), when comparing the nursing staff attitudes in somatic care to those of staff in mental health care, the somatic staff had even more negative attitudes toward people with schizophrenia. The same outcome was found in a study by Harangozo et al. (2014), which investigated the experiences of people with schizophrenia in using health care services.

Prejudice attitudes toward patients with schizophrenia by health care staff may affect treatment and help-seeking (Harangozo et al. 2014). Mental illness stigma is associated with less treatment adherence (Fung et al. 2010) and has an influence on recovery from schizophrenia (Brohan et al. 2010). Stigmatisation has also been shown to affect finding or keeping a job (Thornicroft et al. 2009).

There are evidence-based strategies to reduce stigma, such as education, protest and advocacy, media campaigns and contact-based interventions (Committee on the Science 2016). In treatment, improving self-esteem and psychological health is recommended to increase stigma resistance among psychiatric outpatients (Lau et al. 2017). To implement the self-management approach in community-based services, staff should be fully informed of what the advantages and disadvantages of self-management might be for specific people with different diagnoses (Schneider 2006, Clarke et al. 2009, Harangozo et al. 2014). One approach for reducing stigma involves programmes led by social service providers and by peers. The focus with these is on empowering and encouraging individuals, and covering education about mental health, including cognitive behavioural strategies, communication techniques and family support (Corrigan & Rao 2012). The process for reducing stigma should also be addressed in policy formulation (Krajewski et al. 2013).

Health care personnel in community-based services should undergo *mental health training* (Drake et al. 2009). For example, in the study of Kapur et al. (2016), positive changes in suicide rates were associated with staff training. In a framework for training by Brown and Wissow (2011) the mental health skills needed for primary care personnel were defined: 1) the skill to build a therapeutic alliance with the patient, 2) to make brief interventions for mental health symptoms, and 3) evidence-based interventions for diagnoses with specific mental illnesses. These skills include the ability to support a patient's motivation, change process, hopefulness, and expectation about treatment, but also empathy, problem-defining, emotion-handling and communication. Knowledge about medication and patient functioning in monitoring for signs of side-effects and relapses are needed as well (Brown & Wissow 2011).

Several programmes for training for the treatment of mental illness in community-based services have been developed. In Canada, the mental health and addiction capacity-building programme for primary health care personnel in collaboration with mental health care providers was developed by Khenti et al. (2017). The key componenets of the programme were: 1) improving the knowledge and skills for front-line staff in community health centres, 2) interprofessional education for improving competencies, 3) learning modules including training, consultation and indepth instruction from the Centre for Addiction and Mental Health, 4) supporting participants with mentoring and follow-up, such as case consultation or an online platform, to integrate the training and daily practice, 5) development of organisational action plans and a primary health care resource manual for collaborative mental health. The programme lasted for four years, and the outcomes were significant. The participants were very pleased with the training, their competence improved and behavioural changes at the individual and organisational levels were perceived (Khenti et al. 2017).

In England, Killaspy et al. (2013) developed a staff training programme for the rehabilitation of schizophrenia and several other mental health problems. They analysed the outcomes from the perspective of service users, using a randomised control trial design. The GetREAL programme consists of three phases (predisposing, enabling and reinforcing), including needs and methods for change, identifying and removing barriers to change, maintaining changes, the development of skills, and team-actions. The preliminary outcomes after 12 months showed a better commitment of service users to activities, and their functioning had improved (Killaspy et al. 2013).

In Scotland, a pre-hospital course for health care practitioners in rural areas has been developed by mental health care experts. The course was implement through e-learning modules including 10 parts: content of risk and patient assessment, management of crisis and difficult situations, engagement of skills, principles of mental illness treatment, laws, medication and understanding one's network. In conclusion, the educational programme was seen as parallel to policy and strategy, based on national standards and the need of practitioners, but it also included the challenge of the continuity of development. For the future of the course, the trainers and staff should continue to develop the course and leadership (de Mello et al. 2013).

Previous studies have shown that, to reduce stigma toward people with schizophrenia, the attitudes of health care personnel should be supportive (Harangozo et al. 2014). In Finland, the attitudes of health care centre nurses toward people with mental illness have not been evaluated. Further, one of the strategies to reduce stigma is education (Committee on the Science 2016). The association between mental health training of health care personnel and attitudes needs investigating, as well as how continuing vocational education has been taken into account in mental health strategies.

2.5 Summary of the background

Schizophrenia is characterised by many symptoms that influence treatment (Keshavan et al. 2011). A patient's ability to participate in treatment and management may be improved with a self-management approach (Moore et al. 2017). Before treatment can utilise self-management programmes (Crepaz-Keay 2010) and high-quality mental health services, mental health policy and strategies are needed (WHO 2012a). In Finland, the Plan for Mental Health and Substance Abuse Work (MSAH 2014) proposes ways for municipalities to organise mental health services and formulate policies.

Evidence-based guidelines help carers choose appropriate treatment methods (Mueser et al. 2013) and focus the support in daily practice (Yang et al. 2013). However, the guidelines should be of sufficient quality for the implementation of the guidenline's content to effectively take place (Gaebel et al. 2011). The Finnish evidence-based Current Care Guideline for Schizophrenia describes treatment and rehabilitation and also focusses on patient psychosocial functioning, quality of life and family support (Duodecim 2015).

The treatment of schizophrenia includes community-based services, as well as specialised care (Stein et al. 2015). Therefore, it is important that the attitudes of nurses are supportive toward patients with mental health problems (Harangozo et al. 2014). Continuing vocational education of mental health issues should be part of training in community-based services (Brown & Wissow 2011).

3 AIMS OF THE STUDY

The overall aim of the present study is to describe and evaluate opportunities for self-management among patients with schizophrenia in community-based services. The study is based on a modified model by Deccache and Aujoulat (2001), which offers a theoretical framework. Based on the model, the study consists of four phases (Figure 2, page 35).

The research tasks were as follows:

1. To analyse the written mental health care policies of Finnish municipalities (Health care policy);
2. To describe the content of the evidence-based practice guideline for schizophrenia in community-based mental health policy documents (Research and evidence-based practice);
3. To describe nurses’ attitudes toward patients with schizophrenia and their associated factors in community-based services (Professional value and acknowledgement);
4. To evaluate the quality and utilisation of the Guideline for Schizophrenia and to describe mental health training in community-based services (Training and methodological support).

4 MATERIALS AND METHODS

4.1 Theoretical and methodological approaches of the study

In this study, the model for development and improvement of patient education was used as a theoretical approach (Deccache & Aujoulat 2001). The model has been developed by European countries during a discussion about patient education in evaluation and from the perspective of development. The model describes five identified dimensions that influence the development and improvement of patient education, and it points out the need for an ethical aspect, theoretical framework and definitions. In the present study, the patient education model was adapted (see Figure 1, page 18) to focus on opportunities for self-management and treatment of patients with schizophrenia in community-based services. The choice to adapt Deccache's and Aujoulat's model (2001) was based on several factors.

First, the model for the development and improvement of patient education (Deccache & Aujoulat 2001) describes the factors that answer the challenges of actual treatment. These factors include the increased role of patients in the management of their disease, the need for a new model for chronic disease follow-up, a new paradigm for health care to match the latest technological advances, and the increased funding and quality of health care at the political level; these are very similar to the current requirements for mental health care, including the treatment of schizophrenia (see Table 2, page 24). These issues give definitions and an ethical and theoretical framework for developing and improving patient education (Deccache & Aujoulat 2001). The theoretical framework and definitions are described in the Background chapter of this study, and the ethical perspective is included in the empirical part.

Second, the key contents of the concepts are very similar to those of patient education and self-management (Bodenheimer et al. 2002). In the model of development and improvement of patient education, the role of patients is at the centre of the discussion. Patient education should be part of the standard for quality care and should be formalised as an official part of the health care system (Deccache & Aujoulat 2001). The key to patient self-management of chronic disease in primary care is the partnership between the patient and professionals, which includes collaborative care and self-management education. The difference between self-managenet and patient education is that self-management includes support for patients in acheiving their best possible quality of life through teaching problem-solving skills, rather than only providing information or technical skills, as in patient education (Bodenheimer et al. 2002).

Third, education is needed for enabling self-management (Skinner et al. 2003). The aim of patient education is to empower patients to become more autonomous with their health, which is one of the main issues in self-management, as well (Jotterand et al. 2016).

The categories of the model were used to ensure a coherent framework for the study, and to broadly describe the opportunities of self-management. The five dimensions in the model (Deccache & Aujoulat 2001) are as follows:

1) Place in health care policy. National health care policy has an influence on health care arrangements and funding, for example, when it comes to the definition of resources or standards for used methods. It affects the quality of health care services, equality in providing treatment, ensuring optimal utilisation and reimbursement of activities. It also establishes the patient's or service user's role in health care (Deccache & Aujoulat 2001). In this study, in Phase I, the mental health plans and strategies of Finnish municipalities were examined to find out the current state of the national policy in Finland. The instrument used for this analysis (WHO tool) was chosen based on its wide range of content as well as on previous studies (Paper I). The instrument can analyse a wide range of subject, for example, mental health care service arrangements, the priorities of treatment, funding, and the role of patients and service users (WHO 2007).

2) Research and evidence-based practice. This dimension reviewed the standards and common guidelines for patient treatment based on research and evidence-based practice. Both viewpoints should be combined in practice and health care activities (Deccache & Aujoulat 2001). Phase II looks at the content of the evidence-based practice guideline for schizophrenia in community-based mental health policy documents as an example of research and evidence-based practice (Paper II).

3) Health care organisations. The implementation of patient care activities varies among countries (Deccache & Aujoulat 2001), as do mental health services among Finnish municipalities (Ala-Nikkola et al. 2014). The roles of patient organisations likewise vary (Toiviainen et al. 2010). A short description about Finnish mental health care organisations is located in the summary of the Background chapter (Chapter 2.2 Mental health policies, strategies and services related to schizophrenia). The specific study of mental health care organisation related to opportunities for self-management in community-based services among patients with schizophrenia was left out of this study, one reason being that health care and social services are going to be reformed in the short-term future at the organisational and regional government levels (MSAH 2017).

4) Professional value and acknowledgement. It is necessary that health care professionals are aware of their important role in health care. To ensure quality of care, a multidisciplinary approach and team work are needed, as well as patient coordinators and key persons for patient care (Deccache & Aujoulat 2001). In Phase III, nurses' attitudes toward patients with schizophrenia in community-based services, and the factors associated with them, were evaluated. The chosen instrument (AQ-27) had been previously used in an evaluation of attitudes (Paper III).

5) Training and methodological support. The credibility and abilities of health care professionals have been raised as issues in health care. Staff often have a lack of competencies and need more knowledge and training through education programmes for professionals. Also, permanent methodological support for good practice and use of research results is needed (Deccache & Aujoulat 2001). Phase IV evaluates the quality and utilisation of the Guideline for Schizophrenia because the quality of guidelines has an influence on the implementation of the guideline as methodological support in daily practice (Gaebel et al. 2011) (Paper IV). Further, the evaluation of mental health training in community-based services is one focus in the examination of the mental health plans and strategies (Paper I). The instrument used to evaluate the guideline (AGREE II) is broadly used (Paper IV), and the utilisation of the guideline was analysed using a vignette (Münzberg et al. 2015, Paper IV). The evaluation of education, training and skills development was included as a part of the document analysis in Phase I (Paper I).

In this study, a mixed methods study design was used (Fetters et al. 2013). The specific design was selected because the phenomenon investigated here is complex and multidimensional (Deccache & Aujoulat 2001), as is described in the aim of the study. Also, a mixed methods study design is suitable for the research tasks established here (Fetters et al. 2013). In a mixed methods study design, quantitative and qualitative research techniques and approaches are combined (Cresswell & Piano-Clark 2011). By investigating policies, guidelines and nurses' attitudes the dimensions of this study are national, local and personal (Lautier 2014). Mixed methods are used in health service research to improve and deepen the understanding of health services (Wisdom et al. 2012, Zhang & Creswell 2013) and investigate complex processes in health care (Fetters et al. 2013). Three main mixed approaches have been applied in this study: design, methods, and interpretation and reporting levels of research (Fetters et al. 2013).

First, in a convergent study design (Fetters et al. 2013), qualitative and quantitative data were collected and analysed during a similar timeframe (Phases II and IV) to provide a more comprehensive picture of the aim. In Phase I, a descriptive study design was used to provide a picture of the phenomenon using document analysis. Phase III sought explore to nurses' attitudes with a cross-sectional study design.

Second, the data was collected in multiple forms (Fetters et al. 2013)—documents (Phase I, II), questionnaires (Phase III and IV) and written answers (Phase IV)—because a single data source was not sufficient for understanding such a complex topic. Quantitative methods were used to analyse the documents (Phase I and II) and questionnaires (Phase III and IV). Qualitative methods were conducted to describe guideline content (Phase II) and to evaluate the utilisation of the guideline (Phase IV). In addition, mixed methods were used in single phases; in Phase II, data was analysed statistically, and the textual data qualitatively, to clarify the outcome.

Third, quantitative and qualitative data were analysed and are reported separately in the results and findings, but the data are combined in the conclusions (Fetters et al. 2013).

In this study, self-management is assumed to be able to be realised among patients with schizophrenia if mental health policy is available in municipalities (Liddy & Mill 2014, MSAH 2014), if the treatment follows evidence-based practice (Gaebel et al. 2011), if the attitudes of health care personnel toward patients with mental illness are positive in community-based services (Schneider 2006), and if health care professionals have efficient training and methodological support (Drake et al. 2009). The four phases of study are described in Figure 2.

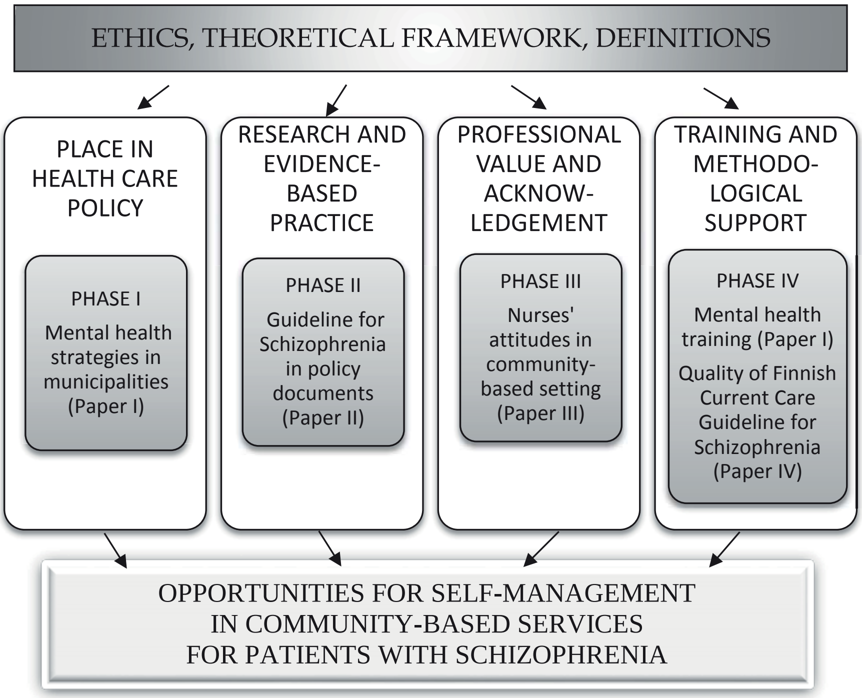


Figure 2. The summary of study phases and dimension of opportunities for self-management (modified according to theoretical model of Deccache & Aujoulat 2001)

4.2 Design

In Phase I, a descriptive design including document analysis (Dlouhy 2014) was used to analyse Finnish municipalities' mental health strategies according to characteristics and processes, operations, content, intrasectoral collaborations and intersectoral collaboration indicators (WHO 2007) (Paper I).

In Phase II, a descriptive design with a document analysis (Philips et al. 2016) was conducted to analyse the content of the evidence-based practice guideline for schizophrenia in community-based health policy documents (Paper II).

In Phase III, a cross-sectional study design with descriptive correlations (Mehta et al. 2015) was conducted to describe nurses' attitudes toward mentally ill patients and evaluate factors associated with the attitudes (Paper III).

In Phase IV, a descriptive study design with a deductive content analysis (Marques et al. 2011) was used to evaluate the Finnish Current Care Guideline for Schizophrenia prior to the questionnaire, with written answers (Paper IV) and document analyses (Paper I).

4.3 Population and sampling

In Phase I, the study population consisted of all Finnish municipalities in 2012 (N=336). The inclusion criterion for the municipalities was that they were located in mainland Finland. The exclusion criteria were being located in Åland, because of different legislation for health services (Act on the Autonomy of Åland 1991) and being a Swedish-speaking municipality. The inclusion criteria for documents were that they included mental health policy, were focussed on adults, were written in Finnish, were complete and were available online or provided by the municipality office. Documents focussing on children or adolescents, documents only relating to substance abuse problems, and those that were in the process of being written at the time of data collection were excluded (Paper I).

Phase II used the same basic population as Phase I. For Phase II, the inclusion criterion for documents was that they described the content of schizophrenia, psychotic disorder, or mental health rehabilitation for chronic and serious disease. The exclusion criterion for documents was missing content about schizophrenia or other serious and chronic mental illnesses (Paper II).

In Phase III, the study population consisted of nurses (N= 264) who worked in health care centres. A convenience population sampling (Brodaty et al. 2014) was used, and all relative nurses were invited to participate by head nurses of study organisations. The inclusion criteria were that participants were Finnish-speaking nurses, had a licensed nursing education (i.e. registered nurses including public health nurses, practical nurses including primary care nurses and enrolled nurses). The exclusion criteria were if nurses did not practice nursing daily (radiographers, laboratory scientists) or if one was a nursing student or a nurse on holiday or sick leave (Paper III).

In Phase IV, the study population consisted of the health care professionals from an inpatient ward and outpatient units who were on duty during the data collection period (N= 67). The inclusion criterion for units was that they offered treatment for patients with schizophrenia. All the staff members of one inpatient ward and nurses from seven outpatient units were eligible to participate in this study. The staff consisted of doctors, registered nurses, mental health nurses, psychologists, social workers and assistant personnel. The psychiatric ward's head nurse informed the staff of the possibility to participate in this study. The nurses in outpatient units were recruited by an informative email (Paper IV). For the study on continuing vocational education, the population consisted of all municipalities in 2012 (N=336) (Paper I).

4.4 Instruments

In Phase I, a structured data collection instrument was used to analyse mental health policy documents (WHO 2007, Funk & Freeman 2011). The specific tool used was a checklist for evaluating a mental health plan in table format on paper. The tool included instructions for evaluation. Because the rating scale was 1=yes/to a great degree, 2=to some extent, 3=no/not at all, and 4=not known, keeping detailed memos during the analysis process was required. The background for evaluating a mental health plan consisted of three kinds of indicators: the realisation of the strategic intent, the values and principles of the plan, and the collaboration between different stakeholders. The checklist was translated using back-translation, and a committee approach was used for the Finnish version to ensure a shared understanding of the terminology. Likewise, the translators discussed the back-translations and came to a group consensus on problematic items (Beck et al. 2003). Further information in the national context for descriptive analysis was identified regarding the data collection process, municipalities and documents (Paper I).

In Phase II, a tool specifically developed for categorising the data was used and served as an analytical matrix in the content of the evidence-based FinnishCurrent Care Guideline for Schizophrenia (Rawal et al. 2015). The tool is based on the Quality Criteria of Schizophrenia developed by a Finnish expert advisory group (Wahlbeck 2007). The tool had been used in related previous studies and had been written about in other guidelines for schizophrenia (Gaebel et al. 2011, van Weeghel et al. 2011, NICE 2014) (Paper II).

In Phase III, the AQ-27 instrument with a vignette approach was used to assess the nurses' attitudes regarding people with mental illness (Corrigan et al. 2003, 2004). The AQ-27 is a self-administered instrument. Three items in the dimension of 'avoidance' were reversed (de Sousa et al. 2012). In addition, some background information of the respondents was included. The instrument was translated into Finnish by using the standard translation-back-translation method with a four-step process (Grove et al. 2013) (Paper III).

In Phase IV, two types of instruments were used. First, a vignette was used to orientate the participants to the current guideline (Zadvinskis & Grudell 2010) and evaluate the utilisation of guideline. The vignette consisted of a narrative story about a boy who had been diagnosed with paranoid schizophrenia. The task was to seek answers to the boy's family's questions using the Finnish Current Care Schizophrenia Guideline. The answers were categorised according to eight key recommendations (Münzberg et al. 2015). Second, a structured questionnaire was used to evaluate the methodological quality of the Current Care Guideline for Schizophrenia. The AGREE II instrument included a User's Guide with a specific introduction for using the instrument. The assessing of the guideline was based on examples and the introduction was part of the AGREE II manual. The instrument was translated into Finnish using AGREE II Translation Protocol Instructions (The AGREE research Trust 2016). The User's Guide was translated using a bilingual technique with a committee approach (Råholm et al. 2010) (Paper IV).

A summary of the instruments used in all Phases (I–IV), including the content of the instruments, is presented in Table 3.

4.5 Data collection

In Phase I, the data was collected in the beginning of 2012 using a written search protocol for the internet (Paper I). Out of all the Finnish municipalities (N=336), 16 municipalities located in Åland were excluded (n= 320). The search was conducted using a list of all municipalities (The Association of Finnish Local and Regional Authorities 2012). The search terms of websites included 'mental health' or 'well-being' combined with 'strategy', 'plan', 'program' or 'development program' in the title. The search for the first ten documents took less than five minutes each. Therefore, a decision was made that the search time for each website was limited to ten minutes. In the first step, 44 documents out of 81 municipalities were found on the websites of municipalities. In the process, documents were found for 31 municipalities, and four municipalities informed on their website that they did not have a mental health policy document. If public policy documents were not mentioned on the website of a municipality, an email with an information letter was sent to the office of mental health services in the municipality to ask for the

Table 3. Summary of used instruments in Phases I-IV

Phase	Instrument	Author	Year	Questioners	Content of the instrument	Rating scale
I	WHO's checklist for evaluating mental health plan	WHO, Funk & Freeman	2007 2011	31 indicators: 7 process 10 operations 14 content	• development process of the plan, consistence to other documents and strategies, consultation process • priority areas, timing, definition of indicators, targets and activities, outputs, cost and funding • coordinating, funding and legislation, service, promotion and prevention, medication, quality assessment, support to consumer groups, education, training and skills development of personnel, research and evaluation, collaboration	1 - 4: 1 = yes/to a great degree 2 = to some extent 3 = no/not at all 4 = unknown
II	A data extraction sheet * based on the content of the Finnish Evidence-based Current Care Schizophrenia Guideline	Vähäniemi et al.*, based on Duodecim 2013	2014	16 topics	1. Medication 2. Therapy 3. Family intervention 4. Psychosocial rehabilitation 5. Home care 6. Acute care 7. Preventive work 8. Physical health 9. Adherence to treatment 10. Antistigma activities 11. Peer group 12. Care/rehabilitation plan 13. Case management 14. Organization of care 15. Education 16. Recourses	1 - 4: 1 = yes/to a great degree 2 = to some extent 3 = no/not at all 4 = unknown
III	Attribution Questionnaire (AQ-27)	Corrigan et al.	2003	9 dimension of stereotype attitudes, 27 items	1. blame 2. anger 3. pity 4. help 5. dangerousness 6. fear 7. avoidance 8. segregation 9. coercion	9-point Likert scale: 1 = 'not at all' or 'not likely' 9 = 'very much' or 'very likely'
	Vignette	Corrigan	2012		a hypothetical story for helping the answers	
IV	The AGREE II Instrument	Brouwers et al	2010	6 domain, 23 question	1. Scope and purpose of the guideline 2. Stakeholder involvement 3. Rigor of development 4. Clarity of presentation 5. Applicability 6. Editorial independence	7-point Likert scale: 1="strongly diasagree" 7 ="strongly agree"
	Vignette questions with recategorised*	modified Zadvinskis & Grudell, Münzberg et al.	2010, 2015	8 key recommendations	1. Outpatient care 2. Treatment relationship 3. Care plan 4. Medication 5. Psychosocial individual care 6. Family psychoeducation 7. Psychosocial rehabilitation 8. Occupational rehabilitation	8 = in agreement 5-7= minor variation 1-4= major variation 0= no statement

* Developed for the study

sought-after documents. An email was sent to 203 municipalities, and 16 documents out of 43 municipalities was sent to the researcher. Forty-five of the municipalities answered that a document was currently in the process of being developed, and 37 answered that they had no document. After three weeks, a reminder email was sent to 79 municipalities. After that, three more documents from five municipalties were sent to the researcher; 28 municipalities answered that a document was in the process of being developed and eight municipalities did not have document. For 38 municipalities, there was no reply, or the situation remained unknown. Mental health policy documents (n=63) were obtained from 129 Finnish municipalities (Paper I).

In Phase II, the data collected during Phase I were used. In the summer of 2014, two researchers chose, from all the mental health policy documents (n=63), those that described the content of schizophrenia, psychotic disorder, or mental health rehabilitation for chronic and serious disease. A total of 55 documents from 116 Finnish municipalities were chosen for analysis (Paper II).

The data collection period for Phase III was in May of 2014. Before the data collection, nurses met with the director of nursing and head nurses to receive information about the study and to design a timetable for data collection. Potential participants were informed by the head nurses of the organisations, and they were given an information letter, the questionnaires and return envelopes. Written informed consent was received from all participants (Nijhawn et al. 2013). After two weeks of response time, one reminder email was sent to all head nurses. The researchers picked up the sealed envelopes from the health care centres. In all, 264 blank questionnaires were sent to the centres, and 222 enclosing envelopes were returned (Paper III).

In Phase IV, the data to evaluate the quality and utilisation of guideline were collected from May to September 2016 with self-reported questionnaires and written answers by seven participant groups. Altogether, there were 67 participants: 21 from a hospital ward and 46 from outpatient units. Each research session took 90 minutes to complete, according to a defined time limit in the AGREE II manual (Browsers et al. 2010) and experience by Dans and Dans (2010). The research sessions were organised by head nurses. Those who were eligible and willing to participate in the study were informed of all aspects of the trial in paper and verbal format (Nijhawn et al. 2013). The participants received an information letter, a written consent form, a paper copy of the guideline, the vignette text with empty space for writing, and the AGREE II questionnaire. All participants signed the written informed consent. The study was formulated in two phases. First, the participants read the vignette individually and then answered open questions using the Finnish Current Care Guideline for Schizophrenia within a 20-minute time limit. In this study, the printed 27 pages of the PDF of The Finnish Current Care Schizophrenia Guideline (Duodecim 2013) was used. Second, the researcher introduced the AGREE II instrument with PowerPoint and each domain in a two to four-item cluster. The main principles of the User's Guide included an introduction to ensure the understanding of instrument contents (Jin et al. 2016). The assessments were done quietly as individual assessment (Paper IV). To evaluate the continuing vocational education, the data from Phase I were used (Paper I).

4.6 Data analysis

In Phase I, the data of the strategy documents were analysed by two researchers using standard approaches to quantitative statistical analysis according to the checklist for mental health plans (WHO 2007, Funk & Freeman 2011). Because the risk for error during data analysis was acknowledged, the process for data collection and analysis was carefully considered throughout. Two researchers created separate data categorisations and notes. Cross-checking was used to ensure a shared understanding of the content of the text and the used instrument. During the cross-cheking, if there were any discrepancies, the issues were discussed, and the researchers came to a consensus. Cross-cheking increased the objectivity and reliability for the use of rating scale alternatives: 1=yes/to a great degree and 2=to some extent. Descriptive statistics (search time, document availability, size of population in municipalities, distribution of municipalities, title and length of documents, integration of mental health and substance misuse and strategy collaboration) were performed with the Statistical Package SPSS, version 22, and included frequencies and percentages for the categorical data (Marques et al. 2011) (Paper I).

In Phase II, a deductive content analysis approach was used to analyse the documents (Krippendorff 2004). The documents included 2,435 pages of text, and two independent reviewers read through them for content about schizophrenia, psychotic disorders or mental health rehabilitation. Cross-cheking was used to ensure mutual understanding of the content. The selected texts were sorted for analysis by one researcher using the matrix for document analysis (Rawal et al. 2015). Throughout the analysis process, notes about decisions in categorisations were kept (Turner et al. 2008). The degree of existence of the topics (range 1–16) and a total sum of topics in each document was calculated (WHO 2007). Descriptive analysis with the Statistical Package SPSS, version 22, was used for the length and time periods of documents, strategy developing coalition of municipalities and integration between mental health and substance abuse in documents (Paper II).

In Phase III, nurses' described attitudes underwent statistical analysis by two researchers. Descriptive statistics (percentages, minimum, maximum, median with the interquartile range IQR) were used for counts of categorical variables. Other descriptions of participants (n, %, min, max, Med [IQR]) were about demographic characteristics: age, level of health care education, work experience in health centres, continuing vocational education for mental health issues and personal contact with mentally ill peoples outside work. The

AQ-27 was used for each stereotype to obtain the median score values, Med (IQR); the normal distribution assumption could not be used because of the skewness of distribution. A logarithmic transformation was applied to each stereotype (anger, dangerousness, fear and segregation), and a normal distribution assumption was achieved with the help of square root transformation. To analyse the association between nurses' demographic characteristics and nurses' attitudes regarding people with mental illness, a multiway covariance analysis was conducted. Also, interactions regarding age, personal contact, continuing vocational education for mental health and level of education were tested, but because not all had a significant level of 0.1, those were removed from the final model. The SPSS (version 22: IBM SPPS Statistics for Windows, Armonk, NY) and SAS software (version 9.3 SAS Institute Inc., Cary, NC, USA) were used for the analysis. P-values of < 0.05 were considered statistically significant (two-tailed) in all tests (Paper III).

In Phase IV, the vignette text was analysed by two researchers using qualitative content analysis (Krippendorff 2004), focussing on the questions: Where would the treatment take place, and what would it include? Two researchers rated the answers with eight key recommendations, and in the end, summed up the right answers (Münzberg et al. 2015). The results were categorised into four groups depending on the right answers: in agreement, minor variation, major variation, and no statement. The quality of the guideline was analysed using the AGREE II instrument instructions. For each of the six domains, a quality score was calculated by summing up all the scores of the two to eight individual items. The percentage score for domains was calculated as follows: (obtained score - minimum possible score) / (maximum possible score - minimum possible score) x 100. The highest maximum score was 100%, and a higher score suggested higher quality (Browsers et al. 2010) (Paper IV). The data of strategy documents for evaluation of continuing vocational education were analysed during Phase I (Paper I). For a summary of the methodological approaches of the study, see Table 4.

Table 4. Summary of the methodological approaches of the study

Phase	Design	Setting	Population N	Sample	Participants N	Instrument	Data collection, time frame	Data analysis
I	Document analysis	All municipalities in mainland Finland (n= 320)	320 municipalities	Total sample	63* 129**	Checklist for mental health strategies and policies	Web-sites and e-mail contact 24.1-27.3.2012	Descriptive statistics
II	Descriptive with document analysis	All municipalities in mainland Finland (n= 320)	320 municipalities	Total sample	55* 115**	A purpose designed instrument	Web-sites and e-mail contact 24.1-27.3.2012	Descriptive statistics, deductive content analysis
III	Cross-sectional and descriptive correlations	15 primary health care centres in southern Finland	264 public health nurses	Convenience sample	222 public health nurses	Structured questionnaire	Survey 14.5-28.5.2014	Descriptive statistics, multiway covariance analysis
IV	Descriptive	Psychiatric inpatient and outpatient unit in two cities in southern Finland	67 health care professionals	Sub-sample	49 health care professionals	Structured questionnaire and specific questions	Survey 05-09/2016	Descriptive statistics, deductive content analysis

* documents

** municipalities

4.7 Ethical considerations

To ensure ethical consideration in every phase (I–IV), research ethics guidelines were followed (Finnish Advisory Board on Research Ethics 2009, Resnik 2015). Ethical standards were adhered to throughout the study: accountability, accuracy, feasibility, propriety, usefulness and utility (Comstock 2013). No ethical permission was necessary in this study because the studies were not medical research, and they did not focus any particular patient group (Medical Research Act 488/1999, Finnish Advisory Board on Research Integrity 2012, Chiumento et al. 2017). However, in Phase III, study permission was handled by the involved health care organisations (ID 3277-2014, 19 March 2014; Decision date of permission 24 March 2014), and in Phase IV, study approval was granted by the two directors of the health care services (Decision dates April 4, 2016:49 and June 16, 2016).

Permission to use the questionnaires and instruments was given. In Phase I, permission was sought from WHO for mental health strategy documents according to WHO's checklist (WHO 2007). For the study of nurses' attitudes (Phase III), permission to use the questionnaire was requested from the developer of the instrument (Corrigan), and translation-back-translation was done as well. In Phase IV, permission to translate and use the AGREE II instrument was requested from an AGREE II team (The Appraisal of Guidelines for REsearch & Evaluation II instrument). During the translation or use of instruments, the original material was not reproduced or changed, as was a condition of the granted permissions. The permission for reprinting publications was sought from the copyright holders in every phase.

In the document analysis, a search protocol with specific key words was created and agreed upon so that the study could be reproduced by anyone, and the process would be transparent (Phase I and II). Data analyses were conducted by one researcher, a couple of researchers or a group. For example, in the document analysis (Phases I, II and IV), it was very important to write down the whole analysis process to ensure the objectivity of the study by showing that the allocated researcher had no association with the municipalities or health care professionals evaluated (Comstock 2013).

In considering possible conflicts of interest in this overall study, I state that this work was supported by the Finnish Nurses Association in travel costs and study leave from work, the City of Tampere through Tiederahasto supported the printing costs of this doctoral thesis, and a grant for completing the doctoral degree was given by the University of Turku. In addition, the hospital district of Pirkanmaa, the City of Hämeenlinna and the City of Tampere have been supportive of my study by permiting vacancy of duty and by paying my salary as a part of continuing vocational education. This funding has had no influence on my study aim, design or results. All parts of this study are supported by the University of Turku as a normal part of a research group. In addition, I received funding for language checking (Masic 2012). Other ethical issues are described in Table 4, modified from Gray (2014).

Table 5. Ethical issues in this study (modified according to Gray 2014)

Ethical issue	Description
Privacy	The staff were voluntary (Phases III and IV). It was explained in writing that they had the right to withdraw at any time.[1] The privacy of participants was protected in publications. Quantitative research results were reported statistically, which means there was no risk of identification.[2]
Promises and reciprocity	The researcher will give a general lecture about the issue of willingness in research organisations and a public link to the final report as part of the co-operation.
Risk assessment	1) Study participants avoided causing harm to themselves by answering in a certain way 2) The findings are reported in a respectful way,[2] because research results can affect individual patients' lives and treatment in the future, and can also be experienced as harmful.[4] 3) From a society perspective, the ethical aspects of any development of psychiatric services or implementation of changes must be considered.
Confidentiality	Confidentiality and anonymity have been maintained throughout (anonymisation of participants, data collection, data analysis, results, findings), and no individual municipality or persons can be identified.[2, 4]
Informed consent	The permission for Phases III and IV was handled by involved health care services organisations with permission forms.[1,4] In the data collection, participants were informed about all aspects of the study both orally and in writing. Contents of the information: 1) the researcher's contact details for additional information, 2) the research topic: aim and purpose, 3) the method for data collection, the estimated time of the study procedure, 4) the purpose for data collection, plan for secondary use and archiving, 5) the voluntary aspect of participation, right to withdraw from the study[5] After getting instructions for the study, the staff made the decision on participating in the study, then, if participating, they filled out a voluntary agreement and permission form prior to answering the questionnaire. Informed consent was used to verify confidentiality and autonomy.[2] In the document analyses (Phase I, II), an email was sent to mental health care offices in municipalities and the purpose was informed by letter.[1]
Data access and ownership	The researcher owns the data and has handled and stored it confidentially.[2] The access to the data is restricted to the research group only. The data will be archived for five years.[3]
Researcher's mental health	The data was gathered from documents online and with a questionnaire by health care professionals, not from patients or their families, therefore not affecting the researcher's mental health.
Advice	The researcher had two supervisors, a steering group, study groups and seminars for PhD students, the members of which served as confidants and counsellors during this study process.

Source: Modified from Gray, 2014, p. 91

[1]Nijhawan et al. 2013, [2]National Advisory Board on Research Ethics 2009, [3]the European Code of Conduct for Research Integrity, [4]Chiumento et al. 2017, [5]Comstock 2013.

5 RESULTS

5.1 Characteristics of study participants

In Phase I, the study participants consisted of the mental health policy documents obtained from municipalities in mainland Finland (The Association of Finnish Local and Regional Authorities 2012). Further, in Phase II, the study participants consisted of the mental health policy documents of 116 Finnish municipalities that described the content of schizophrenia, psychotic disorder, and mental health rehabilitation for chronic and serious disease. The characteristics of the study participants in Phases I and II are described in detail in Table 6 (Papers I and II).

Table 6. The characteristics of study participants in Phases I and II

Demographic characteristics	**Phase I**			**Phase II**		
	n	**%**	**min, max, mean, SD**	**n**	**%**	**min, max, mean, SD**
Included municipalities	320			320		
Participants						
municipalities	129			116		
documents	63			55		
Population in municipalities	5,346,823			3,187,833		
min			804			853
max			588,549			588,549
mean			16,708			27,481
SD			43,029			66,877
Distribution of municipalities in Finland						
Southern		30			21	
Western		31			45	
Eastern		19			12	
Northern		20			22	
Policy documents						
written in coalition with other municipalities		71			72	
integrated mental health and substance abuse		60			60	

In Phase III, most of the study participants (n=218) in primary health-care centres were female registered nurses, whose work experience in health centres was under 10 years and who were not involved in continuing vocational education for mental health. The age of participants was between 24 to 67 years, the median age was 48. Almost half of the participants had had personal contact with mentally ill people outside of work, and most of the contacts were friends. The response rate for this study was 84% (N=264) (Paper III).

In Phase IV, the study participants (n=47) were doctors, registered nurses, practical nurses (mental health nurses), psychologists, social workers and assistant personnel. The health care personnel included 21 from a hospital ward and 46 from outpatient units. The response rate was 73% (N= 67) (Paper IV).

5.2 Written mental health care policies in Finnish municipalities

Mental health policy documents (n=63) either existed (in 129 municipalities out of 320, 40%) or were in the process (in 104 municipalities, 33%) of being written or updated in most of the Finnish municipalities. No document was found for 49 municipalities (Paper I). From the documents, we can see that the municipalities were in cooperation with other municipalities (71%) when it came to the issues of mental health, and there was noticeable integration between mental health and substance abuse (60%). The websites of municipalities served as useful and quick ways to reach the mental health policy documents (65% found from the websites), but the form of documents varied greatly in length, duration and title (Table 7).

Table 7. Descriptive statistics of mental health strategy documents (modified according to Paper I)

Demographic characteristics	n	%	Min	Mean	Sd	Max
Pages in documents	63		4	47,16	26,52	127
Duration of strategy (years)	59		1	5	2,3	12
Title of documents	63					
Strategy		49				
Plan		27				
Development programme		12				
Programme		7				
Other		5				

In general, documents were mainly authorised by the official administrations of the municipalities (80%), and comprehensive consultation processes with several stakeholders were done (93%). The priority areas (73%) and targets for each strategy (74%) were defined, and the documents were based on a situation analysis (82%). However, a needs assessment (6% not at all, 51% unknown) and clear outputs (26%) were missing. Also, consistent with existing and up-to-date policies (45%), the integration of effective strategies (40%) remained ambiguous. The other missing information in documents included costs (14%) and funding (7%), user charges (0%), legislation processes (0%), essential drug lists (0%) and quality assessment (5% to a great degree and 20% to some extent). Evaluating information technology use (8% to a great degree) and the use of mental health data for developing mental health service systems (14%) or clinical practice (5%) was challenging (Paper I, WHO 2007).

The content issues of mental health services (WHO 2007) had both positive and negative results. First, in municipalities, the need for coordination of mental health services had been recognised and mental health coordinating bodies were defined (79% to a great extent). However, systematic procedures, including infrastructure for meetings (21%) and reporting methods (39%), remained inadequate. Second, the parts of service development were different. The continuity in service provision was noticed (67% to a great degree), the concepts of promotion of mental health (82%) and prevention of mental disorders (87%) were defined, and activities for developing community services (74%) were in agreement. Activities for deinstitutionalisation were identified in parts of the documents (48%), but in almost one-third of the documents, it was not noticed at all. Also, the provisions for rehabilitation varied from abundant (31% to a great degree, 40% to some extent) to totally missing. Third, support for consumer groups, family groups and NGOs was noticed (44% to a great degree, 43% to some extent), however content about involving consumers and family was missing in some cases (not at all 40%). The structure for intrasectoral collaboration in municipalities, e.g., planning, pharmaceuticals, and HR development (28% to a great degree, to some extent 28%), was worse than the strategies for intersectoral collaboration, e.g., social services, education, housing, police, NGOs, consumer groups, or family groups (70% to a great degree, 21% to some extent) (Paper I).

5.3 The content of the evidence-based practice guideline for schizophrenia in community-based mental health policy documents

The Current Care Guideline for Schizophrenia had been implemented in 55 mental health policy documents, covering 115 municipalities (Paper II). According to the documents, the organisation of care and psychosocial rehabilitation were the most common topics in the content of the Guideline for Schizophrenia in the policy documents of municipalities. Alternative support for patients was provided by peer groups, but adherence to treatment, preventive work, physical health, medication and antistigma activities were missing in the documents. Detailed topics and frequencies are available in Table 8.

Table 8. The definition of topics and identified content of the Guideline for Schizophrenia in written mental health policy documents (N=55)

Topics	Definition	n	%
Psychosocial rehabilitation	Social skills training, psychosocial support to increase the quality of life, supported independent housing and employment	51	93
Organisation of care	Clinical pathways and cooperation between services and organisations, outpatient and inpatient care, community treatment	44	80
Peer group	The support of peer groups, social relationships	31	56
Education	Education and training for health providers and social sector employment	29	53
Care/rehabilitation plan	Care/rehabilitation plan designed by a multidisciplinary team	25	45
Resources	Adequate resources for health care professionals and comprehensive range of knowledge	21	38
Family interventions	Psychoeducation for family, family intervention	20	36
Acute care	Responsive crisis service, acute treatment during evenings and nights	18	33
Case management	Model of case management	10	18
Home care	Intensive psychiatric home care interventions	8	15
Antistigma activities	Support for patients' integration into society	5	9
Medication	Dealing with medication and symptoms	3	5
Therapy	Cognitive-behavioural therapy and therapeutic relationship	3	5
Physical health	Assessment of physical health, wellness training	3	5
Preventive work	Preventing psychosis and relapse	1	2
Adherence to treatment	Support for commitment of management	1	2

5.4 Nurses' attitudes toward patients with schizophrenia in community-based services and their associated factors

Nurses' attitudes toward patients with schizophrenia in community-based services were studied using nine stereotypes, and 27 questions (Paper III). The median scores for the stereotypes ranked between 1.7 and 7.0 (min 1 and max 9). It was understood that the higher the median score, the stronger the stereotype. The highest score related to attitudes about helping people with mental illness (7.0), which included questions about talking with a person about his problems and willingness to help him. The second highest score related to pity (5.3), which included nurses feeling pity, sympathy and concern toward a person with mental illness. Nurses did not feel much anger (1.7), as if they were in danger (2.0), or fear (2.3). However, nurses sensed coercion (5.3), which was revealed through questions about requirements to take medication, forcing a patient into treatment against his will and forcing a patient to live in a group home. Further, nurses had some attitudes relating to avoidance (4.3) and blame (4.3), but less to segregation (2.3), which was apparent in the questions about putting mentally ill patients in psychiatric hospital (Paper III).

The age of nurses was significantly associated with feeling fearful; older nurses were less frightened than younger nurses, they wanted less segregation of people with mental illnesses and more commonly felt that nurses themselves were safe. The nurses who had continuing vocational education in mental health felt more willingness to help people with mental illness and felt less fear than nurses who lacked this additional training. In addition, they did not want to segregate mentally ill patients and reported that nurses are safe. Further, the nurses who had had personal contact with people with mental illness felt pity less often than nurses who did not have any personal contact (Paper III).

5.5 The quality and utilisation of the Guideline for Schizophrenia and mental health training in community-based services

The overall quality of the guideline was at a good level (73% out of a maximum of 100%). The participants could recommend the use of the guideline to others (57%). The overall objective of the guideline and questions about health and population were evaluated most favourably. The guideline was considered to be clear regarding its presentation, recommendations and management options. The worst evaluation score went to the domain, Editorial Independence, but because the web version was not available during evaluation process, this score may be influenced by that matter (Paper IV). Detailed outcomes of evaluation are described in Table 9. The utilisation of the guideline was weak according to the analysis of the vignette answers, because only 18% (n=9) found all of the key recommendations from the guideline. Medication and psychosocial rehabilitation were the most commonly mentioned topics in the answers, and the least mentioned was occupational rehabilitation.

Continuing vocational education for mental health training and the development of the appropriate competencies in community-based services was evaluated using the mental health policy documents (n=63) (Paper I). In three-fourths of the documents, available personnel and competencies were assessed (8% to a great degree, 66% to some extent), but relevant management strategies for recruitment were missing in almost all of the documents (90%). Provisions for ongoing education, training and skills development were evident in almost half of the documents (44% to a great degree), and totally missing in one-fourth of the documents (25% not at all or unknown). Informal community services strategies for training health care workers to develop the adequate competencies were mentioned in 36% of documents, and community-based services in 68% of documents. However, in the evaluation of nurses' attitudes (Paper III), it was seen that only 9% of respondents (n=218) at health care centres had continuing vocational education in mental health. Strategies for curriculum development were not included in the documents. Strategies for training in general hospital care or specialist care were not included in the documents (Paper I).

Table 9. Quality assessment and main the definition of items in the AGREE II instrument (Brouwers 2010) of the Current Care Guideline for Schizophrenia (modified according to manuscript of Vähäniemi et al., Paper IV)

AGREE II domain	Definition of items	Mean score in %
Scope and Purpose	The overall objective of the guideline, health questions and target population	77,21
Stakeholder Involvement	Development process and target users of the guideline	50,58
Rigour of Development	Systematic literature search methods, evidence of selection criteria, strengths and limitations of the evidence, formulation of recommendations, consideration of benefits and harms, link between recommendations and evidence, external review and documented updating strategy	56,21
Clarity and Presentation	Specific and unambiguous recommendations, management options and clearly presented key recommendations	69,10
Applicability	Facilitators and barriers to application, advice or tool and resource for implementation and monitoring and/or auditing criteria	50,00
Editorial Independence	Funding body and competing interests	41,67[1]

[1] Competing interests are available in the web version, which was not used here.

5.6 Consideration of the results

In 73% of the Finnish municipalities, written mental health policies existed or were in the process of being developed. The obtained documents show that in their development process, comprehensive consultations with, e.g., the health sector, social welfare and housing, consumers and other NGOs were used. The policies show priority areas and targets for strategies. According to the documents, a mental health coordination body was named, which included description of continuity of service provision and activities to develop community services. The content of the Finnish Evidence-based Current Care Guideline for Schizophrenia appeared in 55 out of 63 municipality mental health policy documents. The most mentioned content topics related to patient psychosocial rehabilitation, and secondly, to organisation of care. The quality of the Guideline for Schizophrenia was evaluated by the AGREE II instrument, and found out that the overall quality was good, and the study participants could recommend the use of it to others.

Nurses’ attitudes toward patients with schizophrenia in community-based services were positive; nurses felt that they wanted to help people with mental illness, and they did not feel much anger, dangerousness or fear. Continuing vocational education involving mental health training increased positive attitudes.

6 DISCUSSION

6.1 Validity and reliability of the study

This study used a mixed methods design with qualitative and quantitative approaches (Fetters et al. 2013). As all methods have their weaknesses and strengths, multiple methods can be used to balance the potential weaknesses in each data collection (Gray 2014). In all phases (I–IV), a descriptive study design was used to describe the definition of the study focus and answer the questions of who, what, why, and when (Grimes & Schulz 2002). The theoretical framework for the research questions and aim of the study was explained as well in every phase (Tong et al. 2007).

The weakness of descriptive and cross-sectional studies relates to the question of how to ensure that the sample is representative and that the data collection time is the best one (Grimes & Schulz 2002, Sedgvik 2014). In this study, several sampling methods were used: total sample (Phases I and II), sub-sample (Phase IV) and convenience sample (Phase III) (Bartlett et al. 2001). Possible bias should be considered in convenience sampling when interpreting the findings (Brodaty et al. 2014). In these studies, sampling decisions were based on attempts to ensure, that the population covered the research question representatively (Sedgvik 2014). Inclusion and exclusion criteria were defined and clearly described in a protocol to avoid bias in each phase (McDonagh et al. 2013).

Response rates were quite high in every study, which supports the validity and content of the studies (Corchon et al. 2010). In Phases I and II, all the municipalities in mainland Finland were included, using an internet-based survey (Asch et al. 1997, Uhlig et al. 2014). If the strategy document was not found online, an email was sent to the municipality to ask for their document, and if we did not get any answer from the municipality within three weeks, a reminder email was sent. In the end, only 38 municipalities (12%) out of the 320 possibilities provided no document during the data collection period (Dillman et al. 2009). In Phases III and IV, the participants covered a representative sample of the population, which was made up of health care professionals and public health nurses. In both of these studies, relative health care units were invited to participate, and response rates were appropriate (84% and 73%) (Papers III and IV) (Bartlett et al. 2001).

There can be several limitations with the used instruments. First, in previous studies (Faydi et al. 2011, Corrigan 2012, Polus et al. 2012) the same instruments present in Phases I, III and IV were used, which increases the validity of those instruments. During this study process, no reliability measurements were done, but those instruments were evaluated in previous studies (Heale & Twycross 2015). In Phase I, the WHO checklist was signified to evaluate mental health plans with 31 different items, including subitems, altogether with 105 evaluated questions. The content validity of the instrument can be argued to be good because it covers the entire domain related to the variable (Heale &

Twycross 2015). In Phase III, the AQ-27 questionnaire was used to evaluate nurses' attitudes regarding people with mental illness (Corrigan 2003). Survey questionnaires are a widely accepted method for describing attitudes (Mehta et al. 2015), and the construct validity of the AQ-27 instrument has been evaluated in several previous studies and during the developing process (Corrigan 2012). This increases the validity of the chosen approach. In Phase IV the AGREE II instrument was used to evaluate the methodological quality of the Guideline for Schizophrenia. To increase the validity of the instrument, face validity was used (Heale & Twycross 2015) and respondents were asked to give comments about the used instrument (Corchon et al. 2010). According to participants, the questionnaires were mostly clear and understandable (Paper IV).

Second, the used instruments were developed in the USA and are thus based on that society, and the context of health care and mental health policy there differs from the Finnish context. During this study process, the contexts of the instruments were discussed with another researcher, and we tried to modify the instruments to a Finnish context, if needed. Further, the instruments were translated into Finnish to add understanding between researchers, but the question remains: Could it be translated directly into the Finnish health policy context and keep the concepts unchanged to ensure equivalence (Al-Amer et al.2015)? In Phase I, in the translation process, an expert analysis and the translation process were reported systematically to enhance the integrity and to confirm the validity of the translation (Al-Amer et al. 2015). In Phase III, the translation was done in a four-step process (Grove et al. 2013). To ensure the validity of the translation process, the instrument was pilot-tested to find out the clarity and intelligibility of the items, the instructions for participants in the data collecting sessions, and the evaluation of time required to complete the questionnaires (Corchon et al. 2010). In Phase IV, a double-translation process was carried out with the instrument, and a bilingual technique was used to translate the User's Manual (the AGREE Trust 2016).

Third, the criterion equivalence (Hox et al. 2015) in the used instrument was ensured by continuously cross-checking between the two researchers in Phase I. If a discrepancy was noticed, the issue was discussed, and a conclusion was made and documented.

Fourth, in Phase II, a purpose-designed descriptive instrument was developed, which measured different variables from the mental health policy documents at one point in time (Corchon et al. 2010). The reason for the self-developed instrument was the lack of suitable instruments to measure the specific Finnish guideline content for schizophrenia in mental health policies for the knowledge of evidence-based practice in health policies. The instrument development process was based on investigating the phenomenon by literature and the context of evaluation. The instrument was based on the model of the WHO checklist (WHO 2007) with a rating scale. The content was based on a literature review, specific earlier studies (Gaebel et al. 2005, van Duin et al. 2013, van Weeghel et al. 2011) and other national guidelines for schizophrenia. In addition, in this instrument development process there was no need for translation, which can affect the final results in health services research (Squires et al. 2013). The issues above increase the validity of this developed instrument (Corchon et al. 2010).

Fifth, in Phases III and IV, a vignette approach was used (Corrican et al. 2004, Zadvinskis & Grudell 2010, Münzberg et al. 2015), which can bring the patients' point of view to investigated issues and therefore increase the validity of studies. Vignettes are typically used in studies that investigate attitudes related to sensitive patient groups, such as patients with mental illness (Link & Phelan 2001). However, in the study of the quality of the guideline (Phase IV), a patient version of the guideline was not used, which could have increased the agreement and utilisation of the guideline's key recommendations.

Validity and reliability in analysing and reporting the data in quantitative and qualitative studies have strengths and weakness, as well (Tong et al. 2007). In all phases (I–IV) quantitative methods were used to analyse the documents, and in Phase IV, a qualitative method was also used. In Phase I, the data were analysed by two researchers using statistical analysis with SPSS, and cross-checking was done during the analysis process, which increased the validity of study (Marques et al. 2011). However, the analysis, and therefore results based on the evaluation of criteria, used a rating scale with 1=yes/to a great degree and 2=to some extent. Although two researchers discussed the scale, the evaluation of the huge amount of papers (over 2,400 pages of text) was challenging, and it can be argued whether the evaluation criteria were set to the correct limit.

In Phase II, multiple databases and websites were used as data sources, which increased the validity. Two researchers were selected to obtain the included documents, but the limitation is that only one researcher analysed them (Polisena et al. 2015). However, the analysis was done by a researcher who was familiar with the content of the Guideline for Schizophrenia because of a specialised registered nursing education and work experience.

In Phase III, a statistical analysis was used on the stereotypes and descriptive variables. This process was guided by statistical expertise to ensure the validity of analysis (Manamley et al. 2016). In Phase IV, the qualitative data were analysed with content analysis (Krippendorff 2004). The analyses were done by two researchers, and the researchers were not closely engaged with the participants during the research process, which increased the validity of analyses and findings (Tong et al. 2007). The research procedures were described, which increased the trustworthiness and rigour of the qualitative research (Golafshani 2003). Using the AGREE Reporting Checklist (Brouwers et al. 2016) in reporting the findings in Phase IV increases the validity of reporting guideline.

In every phase (I–IV) in analysing the studies and describing the findings, the main researcher was aware that the investigated phenomena are familiar to the researcher, and that she should maintain objectivity. The researcher is specialised in mental health nursing, and she has much work experience in a psychiatric hospital setting, outpatient units and projects, including working as a nurse, head nurse, project manager, and manager of mental and substance abuse services. The collaboration between hospital districts and municipalities is familiar to researcher. For the sake of objectivity, the studies have been conducted with other researchers, under supervision, and a team of doctoral candidates has also been employed (Tong et al. 2007). On the other hand, the researcher has credentials in nursing (RN) and a Master of Nursing Science degree in the field of the research topics, which increases the reliability for studies.

One limitation to this study is, that a systematic literature review was not used (Baker et al. 2014, McCrae et al. 2015). The focus in the Background and Discussion chapters of this study was on the latest research findings and identifying what is known and not known about the phenomena related to opportunities for the self-management of schizophrenia (Baker et al. 2014). In the Background chapter, the literature overview is based on the review of previous studies and PubMed searches related to the topics being investigated: schizophrenia, mental health policy, guidelines, attitudes toward people with mental health problems and continuing vocational education for mental health training. To describe the investigated phenomena, other references were used as evidence-based research, such as reports of projects, and some of the references were rather dated, which can be a limitation to overview. In addition, a few elements of investigated topic were missing, such as what is the role of health care policy documents among the other policy documents in Finnish municipalities.

Second, the key contents of the concepts are very similar to those of patient education and self-management (Bodenheimer et al. 2002). The key to patient self-management of chronic disease in primary care is the patient-professional partnership, which involves collaborative care and self-management education (Bodenheimer et al. 2002). Deccache’s and Aujoulat’s model (2001) was chosen for the framework as no other broad models for the self-management approach were found. Therefore, the reporting was done through the chosen model, it may be considered a limitation that no guidelines (for example, PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-analyses, etc.) were used during reporting (Baker et al. 2014, McCrae et al. 2015).

6.2 Discussion of the main findings

6.2.1 Written mental health care policies in Finnish municipalities

In this study, we found that mental health strategies were available in 40% of municipalities, and strategies were in the process of being written or updated in 33% of municipalities (Paper I). In other words, three out of four municipalities had a mental health strategy, but in turn, one in four municipalities did not, or we could not find it. In the evaluation of the progress of The Finnish Plan for Mental Health and Substance Abuse Work (MSAH 2014), the results were similar to this study: in dozens of Finnish municipalities, strategies are still under preparation. Because of this, we can ask: Do Finnish mental health documents guide municipalities toward a self-management approach if, out of 320 municipalities, 87 (27%) documents are still missing?

The content and structure of the existing policy documents varied widely (Paper I). This is a concern because it may reduce the implementation of policies into practice and treatment (Shankardass et al. 2015) or derive uncoordinated mental health services (Zou et al. 2014), and thereby hinder the opportunities for the self-management approach. In this study, most municipalities had named a mental health coordinating body (Paper I). In Finland, The Health Care Act requires that the coordination of mental health services be arranged by municipalities (Finlex 2017), but in previous studies, uncoordinated mental health services have been identified as a barrier for self-management among people with schizophrenia (Zou et al. 2014). However, politicians and mental health leaders may need assistance in formulating reform of policy documents and ensuring complete implementation (Laitila 2013). In Finland, the national mental health policy (MSAH 2014) guides the reform of mental health services. Some examples to increase implementation of policy documents can be found from almost 10 years ago, such as the Ostrobothnia project, the Sateenvarjo project, and mental health and substance abuse projects in Lapland (Kuosmanen et al. 2010).

During the development process of policy documents, a consultation process with several sectors was used with 98% of the documents (Paper I), which is one of the facilitators for the self-management approach (Zou et al. 2014). Cooperation between health care teams and local community agencies is important for policy developing, as well as for policy implementation (Chew-Graham et al. 2014). However, policy makers and researchers should also collaborate (Stroul et al. 2010), because for policy decisions or mental health reform implementation, evidence-based and up-to-date information is needed (WHO 2013c, Fleury et al. 2017). In this study, the use of information provided by research was not included in the policy documents (Paper I). That raises the need to improve the link between policies and research in municipalities.

6.2.2 *The content of the evidence-based practice guideline for schizophrenia in community-based mental health policy documents*

This study revealed that most of the main topics in the content of the Treatment Guideline for Schizophrenia were included in the written mental health policy documents (Paper II), but one topic, medication, was almost completely missing. This may be because it is considered self-evident by Finnish law and supervision for medication (Medicines Act and Decree 1987, Fimea 2015). However, a document entitled Medicines Policy 2020 (MSAH 2011) points out that pharmaceutical services are part of the social and health service system, and the goal is to provide safe, effective, appropriate, and economical medication to all clients. Therefore, it could be assumed that medical treatment could also be taken into account in municipal mental health policies. In addition, adherence to medication is one of the main priorities in the treatment of schizophrenia (Welsh & Tiffin 2014), and it is a goal in the self-management approach (Moore et al. 2017). There is evidence of the effectiveness of antipsychotic medication in reducing the symptoms and risk of relapse (Tandon et al. 2010, Emsley et al. 2013a, Heres et al. 2014), but poor commitment to medication poses a risk to treatment (Keller et al. 2014). Positive attitudes toward medication and illness, social support and therapeutic relationships seem to be factors related to medication adherence in schizophrenia (Sendt et al. 2015). Getting patients to follow their prescribed medication is a challenge for clinicians (Bright 2017). Again, the question may be raised asking whether the pharmaceutical system should also be taken into account in mental health strategies.

The other missing topic in the content of the Treatment Guideline for Schizophrenia in the documents was the consideration of physical health or wellness planning for people with mental illness (Paper II). However, we know that the people with mental illness often have problems with healthy eating and physical activity (Abdallah et al. 2016), and the problem usually manifests in patients being overweight (Dixon et al. 2010). Limited self-management skills and a knowledge deficit can affect the level of planned exercise or unhealthy eating habits (Knol et al. 2010). The support for lifestyle-related factors, as with physical activities, is positively associated with quality of life, global functioning and self-efficacy regarding the treatment of schizophrenia (Dauwan et al. 2016, Deenik et al. 2017, Piotrowski et al. 2017), as well as opportunities for self-management.

In this study, the perspective of families in the content of the guideline was mentioned in one-third of the policy documents (Paper II), which supports the opportunities of the self-management approach for patients with schizophrenia. Family interventions are included in self-management programmes (Zou et al. 2014). Having a person with schizophrenia in one’s family affects the whole family’s feelings, and the situation may bring psychological distress, including emotional conflicts, changing attitudes, long-lasting difficulties and bad experiences of the mental health care system (Mizuno et al. 2013, Kageyama et al. 2016, Wang et al. 2017). The family is challenged with taking care of the mentally ill member of family, and therefore the support of the family by nurses is extremely important (Olwit et al. 2015) and is one opportunity of the self-management approach.

The support from and collaboration with consumer groups, family groups and NGOs in municipalities were described in over 80% of the documents (Paper I), and peer-group support for patients with schizophrenia was found in over half of the documents (Paper II). The positive relationships between health care professionals, family and peer support may be based on the long-time cooperation offered by mental health patient organisations (Toiviainen et al. 2010). However, as one of the main facilitators of the self-management approach (Zou et al. 2014), this is an encouraging outcome for the future of peer-supported self-management programmes in Finland.

6.2.3 Nurses' attitudes toward patients with schizophrenia in community-based services and their associated factors

In this study, most of the nurses' attitudes toward patients with mental illness were positive (Paper III). Nurses wanted to help people with mental illness, and they felt sympathy toward them. This outcome is encouraging for opportunities of self-management in community-based services for people with schizophrenia. In a study by Olmo-Romero et al. (2018), the community health care personnel had more positive attitudes toward people with mental illness than personnel in hospitals (Del Olmo-Romero et al. 2018), a finding that supports our conclusion. We should remember that, despite the fact that there are many nurses in health care (WHO 2015), the attitudes of nurses and attitudes connected to equal access to services are significant factors for success in the treatment of people with mental illness (MSAH 2014). Attitudes should be positive and approving (Harangozo et al. 2014, Stuber et al. 2014). People with schizophrenia may, for example, have difficulties reaching services because of their symptoms or self-stigma (Quinn et al. 2015, Temmingh & Stein 2015).

Nurses who were older or had mental health training had more positive attitudes toward people with mental illness (Paper III). Previous studies have produced similar results; senior nurses' attitudes have been found to be more positive than others (Chambers et al. 2010), and educational interventions for students can decrease negative attitudes (Iheanacho et al. 2014). At the public level, the more higher education a nurse receives and the more personal contact a nurse has with people with mental illness, the less stigmatizing attitudes he or she will carry (Buizza et al. 2017).

6.2.4 The quality and utilisation of the Guideline for Schizophrenia and mental health training in community-based services

This study evaluated the Guideline for Schizophrenia as methodological support and found out that the guideline is of good quality (Paper IV). The overall assessment of the Finnish Current Care Guideline for Schizophrenia indicates good value, and over half of the study participants were willing to recommend the guideline to others. The ‘scope and purpose’ of the guideline were clear, but as for the ‘applicability’ and utilisation, there is room for improvement. Previous studies have shown that implementation programmes for primary care nurses improve the use of guidelines (Kuronen et al. 2011). Therefore, the guideline should be of high quality in contents and methodology (the AGREE Collaboration 2003, Gaebel et al. 2011).

In this study, training was evaluated by the continuing vocational education of mental health issues for health care personnel in community-based services (Paper I). According to the results, education, mental health training and skills development are being provided to health care personnel. This can be assessed as a positive signal for the opportunities of the self-management approach because health care professionals need knowledge and training for treating people with schizophrenia (Drake et al. 2009). Otherwise, because the curriculum development strategies were missing in almost all of the documents (Paper I), one can question the ability for municipalities to develop mental health training programmes.

6.3 Implications of the study

The current situation of mental health policies in municipalities, and the implementation of schizophrenia care guidelines in the policy documents were described (MSAH 2014, Duodecim 2013, Paper I and II). This information is valuable to politicians, mental health leaders, and mental health coordinating bodies (Francke et al. 2008, Yang et al. 2013). The results of this study can be exploited for development priorities, but also for principles of development areas for opportunities of self-management among patients with schizophrenia in community-based services. As we know now, Finland is drawing close to a large-scale social and health sector and regional government reform (MSAH 2017). It remains to be seen how the service system will change the reform and what the opportunities for self-management of patients with schizophrenia will be in future models of mental health services. Can self-management support be one answer to planning freedom of choice as part of the health and social services and regional government reform (MSAH 2017), as 'personal budget' was used in The Illness Management and Recovery programme (IMR), which was developed to teach self-management strategies to patients with schizophrenia (Mueser et al. 2006, Kemp 2011).

One of the assistance instruments for the treatment of schizophrenia is the Current Care Guideline (Fiscler et al. 2016), and in this study (Paper IV) the guideline was evaluated from the perspective of methodological support. The overall quality of guideline was good, but its utilisation needs improvement. However, we can recommend the use of the Finnish Current Care Guideline for Schizophrenia in developing and implementing treatment for people with schizophrenia in community-based services. The guideline includes the self-management approach, as well. Such elements of the self-management approach as shared decision-making, plans for possible crises or early warning signs (Paper II, Komatsu et al. 2013, Beitinger et al. 2014, Spaniel et al. 2016, Eisner et al. 2017) are already known in the treatment of schizophrenia. Still, health care personnel need support in utilising the guideline. Previous studies have had similar findings, which shows that, in the implementation of guidelines, leadership is essential to supporting the implementation process (Gifford et al. 2011, El-Mallakh et al. 2014).

According to the Guideline for Schizophrenia, in the future, there will be a need for the development of how to ensure antipsychotic medication, because it is one of the principal challenges in the treatment of schizophrenia (Emsley et al. 2013b, Heres et al. 2014) and success in self-management (Moore et al. 2017). Therefore, it is important to have guidelines and patients' support to follow a system and have organised mental health services for treatment or a self-management approach to schizophrenia (Samalin et al. 2016).

In this study, in the evaluation of the content of the guideline, physical health or wellness planning was not noticed in the strategy documents (Paper II). Because of poor physical activity and unhealthy habits among people with schizophrenia (Knol et al. 2010, Abdallah et al. 2016), as well as risks for physical diseases (Leucht et al. 2007, Piotrowski et al. 2017), physical health issues should be considered. Therefore, it would be natural to integrate the treatment of people with schizophrenia into community-based services, where the physical symptoms could be noticed and treated as common diseases (Patel et al. 2013), and intensive monitoring and intervention could be routine (Vancampfort et al. 2015b). The requirement for that would be, however, that the attitudes of health care providers would be positive toward people with mental illness (Corrigan et al. 2014). Monitoring physical health is one part of self-management for all people (Deenik et al. 2017), so the self-management approach could be one way to support the physical health of people with schizophrenia, as well.

The training of health care staff and implementation of policies and guidelines were noticed to be associated with suicide (Kapur et al. 2016). In this study, the education of health providers about mental health topics was described in over half of the documents (Paper I), which is a workable strategy for developing community-based service workers with the right skills in mental health topics (DeSilva et al. 2014). Mental health specialists are needed for supervisors to ensure the quality of mental health care at the community level (DeSilva et al. 2014), but in community-based services mental health nursing competence is also needed (Brown & Wilson 2011). Mental health training has a positive effect on nurses' attitudes (Paper III), which leads to the improvement of attitudes about social and public health by health care personnel (Deccache & Aujoulat 2001, Brown & Wissow 2011). This is important information for clinical practitioners, leaders and policy makers. The development of the treatment processes can benefit from many successful programmes responsible for training primary care workers in mental health skills (Kuronen et al. 2011, Brown & Wilson 2011, Greacen et al. 2012, de Mello et al. 2013, Killaspy et al. 2013, Chew-Graham et al. 2014, Shidhaye et al. 2016, Khenti et al. 2017). According to the results of this study, we can also suggest systematic mental health training programmes to Finnish health care centres.

6.4 Recommendations for the future

Based on the study, we can recommend the following:

1. After the health and social services and regional government reform (MSAH 2017), it will be essential to investigate the new mental health care organisations related to the opportunities for self-management in community-based services among patients with schizophrenia.

2. The concrete realisation, implementation and outcomes of self-management for people with schizophrenia in community-based services could be further researched in future. In previous studies, few evaluation systems have been published for the evaluation of self-management outcomes in patients with chronic diseases in health care, and health records about the actual treatment contents could also be used. The indicators in the evaluation were self-efficacy, health behaviour/attitude, health status, health service utilisation, quality of life and psychosocial indicators.

3. In the content of the Guideline for Schizophrenia, families are a significant part of the self-management approach. There should be research done from the perspective of the patients and their families about self-management in community-based services to provide more in-depth knowledge on the issue.

4. The experience and outcomes of peer-led self-management programmes are inspiring (Chen et al. 2014), and in Finland, it could be the next step to identifying and evaluating intersectoral collaboration with community-based services and schizophrenia patient consumer groups. The focus of those groups could be on reducing stigmatizations through group programmes in community-based services, and outcomes could be used for policy formulation.

5. There is a need to investigate how nurses can more actively participate in mental health patient treatment in community-based services in the future and how mobile health (mHealth) interventions could be used as a part of self-management.

7 CONCLUSIONS

This study shows that, in most Finnish municipalities, mental health policy documents are available or in progress, which is a good result from the perspective of mental health care arrangement, priorities and funding. Also, having a named coordinating body for mental health is a facilitator for opportunities for self-management among patients with schizophrenia in community-based services. On the other hand, the large variation in existing documents may be a barrier for the implementation of policy.

The Current Care Guideline for Schizophrenia is of good quality, and it can be followed as methodological support in developing mental health services for people with schizophrenia. However, the utilisation of the guideline needs more development. Most of the contents of the Guideline for Schizophrenia is found in policy documents, but for opportunities of self-management, adherence to medication and support of physical health, treatment would be better understood if considered in practice. On the other hand, the perspective of families or consumer groups in policy documents supports the self-management approach.

The attitudes of nurses in community-based services toward people with mental illness were generally positive, and the education of health care personnel was found to be at a high level. This offers a good foundation for self-management among patients with schizophrenia, but the continuing vocational education of mental health issues should be arranged regularly in the future as well. Further, the question of how self-management is actually realised in Finnish municipalities still needs to be urgently studied.

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