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Patient's appraisal of mental health care in five European countries: findings from the COFI study

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ABSTRACT

Background

Patient satisfaction with mental health care has gained considerable attention as a construct to assess in research and in routine practice as evidence suggests it has a relationship with factors such as treatment adherence and engagement with services, as well as being an indicator of quality of care. However, lack of clarity exists about methodological aspects of measuring satisfaction and on understanding factors associated with higher or lower satisfaction level.

Aims

1) To update the state of the art about measures and concepts of patient satisfaction with mental health care and individuate established scales to assess it
2) To assess which patient factors are associated with satisfaction with inpatient mental health care and whether there are differences in patient satisfaction across five European countries
3) To assess which service configuration and patient factors are predictors of patient satisfaction with community mental health care after 1 year from a psychiatric hospital admission and whether there are differences across five European countries

Methods

For the aim 1, we carried out a systematic literature review of electronic databases to identify studies that used a measure of patient satisfaction with care in mental health services. Data on the characteristics of scales were extracted and a content analysis was performed.

For the aim 2 and 3, data were collected as part of the COFI project (*Comparing policy framework, structure, effectiveness and cost-effectiveness of functional and integrated systems of mental health care*). Patients admitted in psychiatric hospital across services in Belgium, Germany, Italy, Poland and United Kingdom and with

an ICD-10 diagnosis of psychotic (F2), affective (F3) or anxiety (F4) disorder were included.

For the aim 2, satisfaction with inpatient care was measured in a cross-sectional study with the Client Assessment of Treatment Scale (CAT) during the baseline (BL) admission.

For the aim 3, satisfaction with community mental health care was measured in a longitudinal study after one-year follow-up (FU) from the BL admission on a sub-sample of patients using the Verona Service Satisfaction Scale (VSSS-32).

Results

Regarding the 1st aim, 28 scales to assess satisfaction were identified and only few of them have been used extensively in research to be regarded as more established. Scales vary substantially in terms of structure, length, focus and quality. The most consistent contents covered across scales were related to relationship with staff.

Regarding the 2nd and 3rd aim, several factors concerning patients' demographic, clinical and social characteristics have been identified to influence satisfaction with in-patient and with community mental health care. Most of these factors were consistent across in- and out- patient settings and across countries. Service configuration did not show an effect on satisfaction even if a trend favoring continuity of care was observed. In both studies, there were significant differences in satisfaction scores across the five countries with patients in the UK significantly less satisfied, especially compared to patients in Italy and Germany.

Conclusion

This thesis contributes to the literature on patient satisfaction. It may inform researchers and clinicians to select the best scale to assess satisfaction and to identify the different factors that can influence it at different stages of care.

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PART 2 - RESEARCH PART

INTRODUCTION

This doctoral thesis focuses on the construct of patient satisfaction with mental health care, which has gained increasing attention in mental health research over the last decades (Ruggeri, 1994). In details, this work refers to the construct of satisfaction with care as rated by patients. Indeed, when rating satisfaction, patients evaluate various aspects of care on the basis of their unique experience and subjectivity. While the evaluations of symptoms remain of great importance in the treatment of mental disorders, it is now well recognized that it does not reflect all the facets that patients consider important in their care (Zendjidjjan et al., 2015). Giving importance to patient satisfaction distances the patient from a passive role in care and underlines his involvement as a key to the success of treatment (McCabe et al., 2007). Patient satisfaction has been related to important factors in the process of care such as treatment adherence and engagement with services as well as being considered an indicator to evaluate and to improve services structures and quality (Woodward et al., 2017). Indeed, patients have a unique perspective on care, and their views can be successfully integrated to ensure high quality of care and to avoid evaluations biased towards providers or clinicians views (Larsen et al., 1979; Smith et al., 2014). Knowledge about the determinants of mental health care satisfaction has the potential to benefit both patients receiving services and mental healthcare providers. However, despite the availability of a body of research on patient satisfaction with mental health care, there is still a lack of clarity regarding how satisfaction should be measured, its conceptualisation, as well as inconsistent or poor quality data regarding factors that may influence it at patient and at service level in different stages of care.

Thesis aims

Based on these premises, the three studies that constitute the main body of this thesis aim to overcome the limits of the current research described in Chapter 1 and to respond to three main research objectives (ROs), hereafter presented:

1) Update the state of the art about measures and concepts of patient satisfaction with mental health care and individuate established scales to assess it

2) Assess which patient factors are associated with satisfaction with inpatient mental health care and whether there are differences in patient satisfaction in mental health service belonging to five different European countries

3) Assess which service configuration and patient factors are predictors of higher patient satisfaction with community mental health care after 1 year from a psychiatric hospital admission and whether there are differences in patient satisfaction across five European countries

In this thesis, these three main aims are divided into specific sub-aims that will be presented in their corresponding thesis chapter.

Structure of the thesis and personal contribution

To address the research aims stated above, this thesis is divided into two main parts: a *theoretical part* and a *research part*.

The *theoretical part* is composed of two chapters: the first chapter provides an overall theoretical framework about the construct of patient satisfaction with care, its relevance, its complexities and the limits of the current research. The second chapter presents a systematic review which focuses on scales to assess patient satisfaction with mental health care and addresses the first aim of the thesis. The review constitutes a published paper where the candidate worked as first author (Miglietta et al.,2018).

The *research part* of the thesis presents two different research studies. An introductory chapter (Chap. 3) sets the framework in which these researches have

been developed and carried out: the COFI study (Comparing policy framework, structure, effectiveness and cost-effectiveness of functional and integrated systems of mental health care [COFI]). Chapter 3 provides detailed information on the study design, procedures, measures used to assess patient satisfaction and a brief excursus on mental health systems in the countries participating in the study.

After the description of the COFI study, two research chapters are presented. Each research chapter is introduced by a brief introduction and concluded with a brief discussion strictly related to the chapter itself.

Chapter 4 addresses the second aim of the thesis and presents a cross-sectional research focusing on factors associated with satisfaction with in-patient care across 5 European countries participating in the COFI study. This study represents a draft of a final research paper which has as main leader the Queen Mary University of London, the candidate contributed among the authors to the data collection and manuscript preparation.

Chapter 5 addresses the third thesis aim and presents a longitudinal study on predictors of patient satisfaction with community mental health across 5 European countries. Particularly, this chapter analyses services configuration and patient factors that may affect satisfaction after one year from a psychiatric hospital admission. This study, conducted in the frame of the COFI, has had as main leader the Section of Psychiatry of the University of Verona and represents a preliminary set of research data, where the candidate has worked as main researcher for the COFI and worked on data analysis and manuscript preparation. Finally, the thesis is concluded with an overall conclusion, where results presented in the different chapters are integrated and commented, paying attention to potential practical implication and future research directions.

Part 1 – THEORETICAL PART

Chapter 1 - Patient satisfaction: the theoretical framework

Before proceeding with the complete presentation of the three works that will address the aims of the thesis, this first chapter introduces an overview of patient satisfaction literature with a focus on: (i) the patient satisfaction's concept, its importance and complexity (ii) determinants and factors associated with patient satisfaction (iii) limits of current literature on patient satisfaction.
All these issues are the basis to understand scientific efforts in the field of patient satisfaction and constitute the conceptual framework of this PhD thesis.

1.1. Patient satisfaction: a complex construct

Patient satisfaction with mental health care is a subjective construct and it refers to a personal evaluation of the care received from the patient's view which "attempts to capture a personal evaluation of care that cannot be known by observing care directly" (Ware et al., 1983). According to Linder-Pelz (1982) patient evaluation of care involves two psychological processes: a cognitive evaluation of the structure, process, and outcomes of care, and an affective response (or emotional reaction) to the structure, process and outcome of care.
Literature reports that mental health patients have different expectations, needs and perceptions about what is important in their care when compared with somatic patients (Boyer et al., 2009), suggesting the need to specifically address studies on satisfaction to the mental health settings. Patient satisfaction with mental health care has raised considerable attention as an important subjective construct to consider since 1960 (Ruggeri, 1994; Mccabe et al., 2007). Past concerns of clinicians and

researches that mentally ill patients are not able to provide valid self-reported outcomes because of a lack of insight have been disconfirmed from a body of evidence (Ruggeri, 1994). The main reason for this prejudice was the thought that a patient who lacks awareness of his or her mental illness would have difficulty grasping the purpose and necessity of psychiatric care and self-assessing treatment effects accurately. Even if such difficulties should not be underestimated, self-reported satisfaction ratings in this patient population have consistently proved to be reliable and valuable measures (Awad et al., 1995; Awad and Voruganti, 2000). Researchers, in fact, have demonstrated that most psychiatric patients are able to focus on questions about satisfaction with the care received, to distinguish the quality of providers behaviours and to express their inner feelings and their level of satisfaction in a valid manner (Ruggeri, 1994). Since then, research on patient satisfaction with mental health care has grown importance and different studies were carried out to better understand this construct, with efforts from authors to summarise the state of the art and refining the concept of patient satisfaction as well as developing scales to assess it.

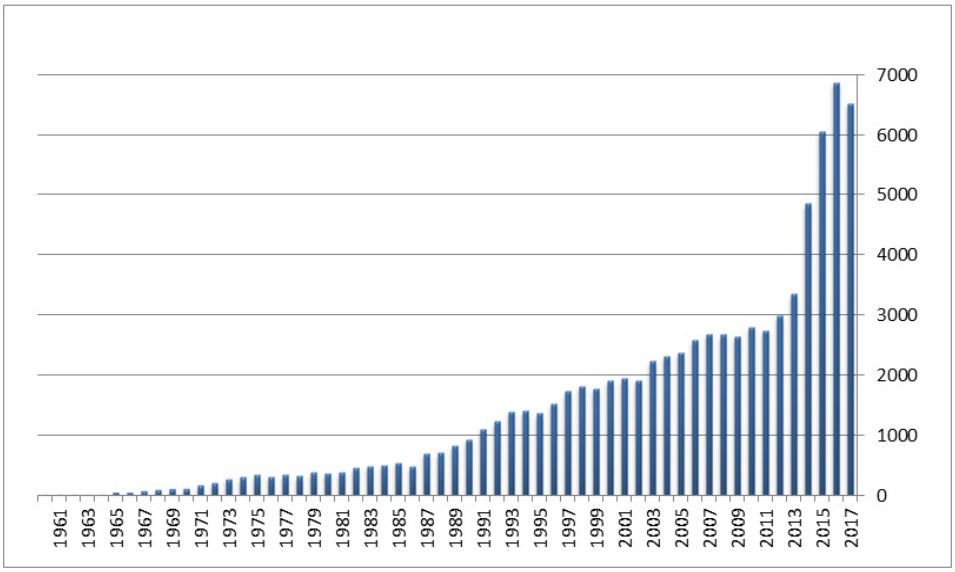

Fig 1.1 PubMed results of a search for "care satisfaction" OR "treatment satisfaction" OR service satisfaction" AND "mental health" or "psychiatric care" AND "patient" OR "client" OR "consumer" (1960-2017)

Despite its large use, attempts to identify a common definition of satisfaction raises one first complexity linked to the construct itself as there is no a universally

accepted definition of it (Woodward and al., 2017), neither a common conceptual basis regarding what satisfaction includes and what not includes. Different definitions have been advanced from authors. Lebow et al. (1982) defined satisfaction as the "extent to which treatment gratified the wants, wishes and desires of the client for services". In 1983 Pascoe described patient satisfaction as a "response of the recipient of health services to the most important aspects of the treatment process and the experience of the staff". He explained that satisfaction reflects the cognitive and emotional estimate of the medical service received. Other authors, when trying to define satisfaction, put the accent on the concept of expectation. According to them satisfaction is the psychological state that results from the degree of congruency between patients' expectations of ideal care and their perceptions of real care received, thus from the confirmation or disconfirmation of expectations with reality (Thompson et al., 1995; Weingarten et al., 1995; Jackson et al., 2001). On the other hand, other (Carr-Hill,1992) argued that there is no point to look for a unified definition of satisfaction, as it is broad and likely to have different meaning to each patient or even differ for one patient at different times.

Lack of clarity exists also regarding the terminology used to refer to the construct. Satisfaction with care has been defined in the literature interchangeably with overlapping terms as "satisfaction with services" and "satisfaction with treatment" (Reininghaus et al., 2012) and related constructs, such as "experience" or "perception of care" have also frequently been used to refer to satisfaction, without a clear conceptual distinction between them, and probably reflecting different theoretical background, traditions and lines of research.

Along with this, ambiguity regarding a common conceptual basis and on what area should be covered when assessing satisfaction exist across studies. While some authors agree that satisfaction is a multidimensional construct including different aspects of care (Ware, 1983; Ruggeri., 1994; Barker, 1996), for others, investigating satisfaction as a global construct is sufficient to provide reliable information (Larsen et al.1979; Reininghaus 2011) and using a multi-domain concept may risk providing a non-specific and over-inclusive definition.

Despite these ambiguities related to the patient satisfaction concept, it may be advanced that many authors, also from other medical settings (Pascoe, 1983;

Ruggeri, 1984) agree that satisfaction can be considered a multidimensional concept covering a personal evaluation of care services, care treatment and care providers from the patient point of view. Particularly, Ware (Ware et al. 1978) proposed a taxonomy of satisfaction which has been widely cited by satisfaction research. Ware taxonomy stated that any definition of satisfaction should encompass six major dimensions:

1) Interpersonal manner: an aspect of provider conduct, pertains to the way in which providers interact personally with patients (friendliness, patience, caring attitude, kindness)

2) technical quality of care: still an aspect of provider conduct, it pertains on skills and competence in terms of providing care with adherence to high standards (ability, accuracy, experience)

3) accessibility/convenience: includes the aspects involved in arranging to receive care (time and effort to get an appointment, to get to the site of care, opening hours)

4) availability: whether there are enough resources for the patient (enough clinicians, nurses, hospital facilities)

5) continuity: regularity of care from the same facility, location, clinician or providers

6) efficacy/outcomes of care: perception regarding the helpfulness/usefulness of care providers and treatment received in improving or maintaining health

This taxonomy derives from the author's observation that "different characteristics of providers and medical care services influence patient satisfaction, and that patients develop distinct attitudes toward each of these characteristics" (Ware, 1978; Ware, 1983)

1.2 Patient satisfaction: a salient construct

We mentioned above that satisfaction is a complex construct to define. However, only a minority of studies on satisfaction reserved conceptual and empirical attention to the meaning of the construct. In a critique of satisfaction theories, Linder-Pelz (1982) asserted that the construct had mainly been described and examined in two distinct ways: as an outcome measure (dependent variable)

determined by patient and service characteristics, or as a process measure (independent variable) which is predictive of subsequent behaviours.

As an outcome in its own right, satisfaction has been described as the result of different factors, both at patient and service level, such as patients' expectation of services, service characteristics, perception of the need for psychiatric care, and the patient-clinician relationship, as well as reflecting service users' experience with psychiatric services and the type of treatment received (Henderson et al., 1999; Ruggeri et al., 2003; Woodward et al., 2017). Allen et al. (1993) hypothesised that levels of patient satisfaction may also be dependent on the subject's attitudes to life in general, self-esteem and illness behaviour, as well as on the system of care received. Studied as an outcome, patient satisfaction has been also described as one of the most commonly assessed patient-reported outcome (PROs) in psychiatry, widely used in research to assess treatment benefit for patients (McCabe et al., 2007; Reininghaus et al., 2012)

As a process measure, studies have shown that patients' satisfaction level can affect outcomes and predict key future patient's behaviours such as their patterns of service utilization, intent to return for care and promptness of follow-up as well as treatment adherence over the course of their illness. Evidence suggests that satisfied patients are more likely to engage with services and adhere to therapy, while dissatisfied patients are at higher risk of dropping out of treatment and facing adverse trajectories of care (Spensley et al., 1980; Attkisson et al., 1982; Lebow, 1983; Woodward et al., 2017). Moreover, data also show that a more positive initial assessment of care predicts better outcomes after hospital discharge such as lower symptoms level and less social disability (Priebe et al., 2011).

Finally, satisfaction is considered a precious source of information about quality of care and service delivery as it often reveals how well a care system is operating and can stimulate important insights into the kind of changes needed to close the gap between care provided and care that should be provided. Measuring patient satisfaction have been recommended for informing quality improvement initiatives within community and has been used for quality assurance initiatives within psychiatric units (Karterud et al., 1998, Wilberg et al., 1998). Results produced by satisfaction questionnaires have been found to be more useful measures of the

quality of care than standard measures including clinician and referrer indicators (Wilberg et al.,1998). Thus, high satisfaction ratings are increasingly pursued by healthcare professionals and service managers as an indicator of good service organization and delivery (Shipley et al., 2000; Edlund et al., 2003).

In addition, including the patient perception through instruments scored by himself/herself without any interpretation by clinician or researcher provides a more comprehensive and valid assessment (McCabe et al., 2007). Indeed, patients provide a unique perspective on the care received and improvements or deteriorations in clinical measures rated by clinicians may not necessarily correspond to how the patient feels or to what is important to him/her. Incorporating subjective outcomes reflects the role of the patient as the "consumer" of care, an active and participative partner whose views and opinions matter, and not just a passive recipient of clinicians' decisions.

1.3 Factors associated with satisfaction with mental health care

The current state of the art about factors associated with patient satisfaction with mental health care is made by several studies – we saw above how research in this field has increased in the last decades. Many researchers have included a measure of satisfaction in their studies and some even used it as a primary outcome (McCrone et al., 2009, Canuso et al., 2010).

Particularly, we can distinguish two main categories of factors examined in relation to patient satisfaction with mental health care: patients-related factors and services-related factors. Indeed, Aday and Andersen (1974) suggested that the perception of satisfaction is related both to individual patient characteristics and to the medical care system they enter.

Concerning patients-related factors, several studies examined patient characteristics and how they are associated with reported level of satisfaction. Most of them considered the relationship between demographics and satisfaction but consideration was also given to clinical or subjective variables such as diagnosis, admission status in psychiatric hospital, time in therapy, perception of need of psychiatric care, perceived quality of life.

Fewer studies were focused on service-related factors and most of them were conducted in in-patient settings (Woodward et al., 2017). These factors broadly related to type of service, type of interventions provided, environment, restrictions on freedoms.

Table 1.1 shows the main results from different studies according to the most commonly assessed variables in relation to satisfaction. It should be underlined that a systematic approach was not used to search into literature for this paragraph so this overview is far to be comprehensive of the available evidence and does not include a comparison of the methodological quality of cited studies. For a deep understanding we suggest to see Woodward et al., 2017.

Variables	**Main findings from literature**
Age	While some studies found no relationship (Alexius et al., 2000; Howard et al., 2003; Boydell et al., 2012; Kohler et al., 2015; Smith et al., 2014) other found a positive association between age and satisfaction – with older age as a predictor of higher satisfaction (Lehman et al., 1983; Hansson et al., 1989; Greenwood et al., 1999; Ito et al., 1999; Gjerden et al., 2001; Gigantesco et al., 2002; Olusina et al., 2002; Kousmanen et al., 2006; Ford et al., 2013)
Gender	The majority of studies reported no effect (Alexius et al., 2000; Howard et al., 2003; Cleary et al., 2009; Boydell et al., 2012;; Gebhart et al., 2013; Smith et al., 2014; Kohler et al., 2015) while others reported a gender effect but with mixed findings between them – three found men more satisfied than women (Greenwood et al., 1999; Kousmanen et al., 2006; Bener et al., 2013) while other found the opposite (Olusina et al., 2002; Bjørngaard et al., 2007; Zahid et al., 2010; Sohn, 201; Robillos et al., 2015) and one reported female generally more satisfied with the exception of the communication subscale, where male resulted more satisfied (Holikatti et al., 2012).
Level of education	Most studies suggested no effect of the level (Howard et al., 2003; Kohler et al., 2015, Yimer et al., 2016) or length (Zahid et al., 2010) of education on reported satisfaction while other found that satisfaction scores significantly increased with higher education

Variables	Main findings from literature
	(Corrigan, 1990; Bener et al., 2013). On the opposite, one found less educated patients being more satisfied, especially for dimension related to the access to care (Holikatti et al., 2012).
Diagnosis	Studies differed in diagnoses examined but most of them focused on psychotic patients. Some reported no differences between diagnosis (Blenkiron et al., 2003; Howard et al., 2003; Ruggeri et al., 2007; Boydell et al., 2012; Gebhardt et al., 2013; Smith et al., 2014; Paludetto et al., 2015). Other found patients with psychosis rating their care more negatively compared to other diagnostic categories (Perreault et al., 1996; Barker et al., 1996; Gigantesco et al., 2002; Krupchanka et al., 2017) while some found psychotic patients more satisfied (Kelstrup et al., 1993; Holikatti et al., 2012). Many studies reported patients with personality disorders or with a personality disorder in comorbidity expressing significantly less satisfaction that patients without a personality disorder (Kelstrup et al., 1993; Ito et al., 1999; Horn et al., 2007; Kohler et al., 2015; Gebhart et al., 2016).
Length of hospitalisation	Most studies reported no effect of the length of hospitalization (Howard et al., 2003; Kohler et al., 2015; Smith et al., 2014) while other found longer length of stay associated with greater satisfaction (Rosenheck et al., 1997; Berghofer et al., 2001).
First/repeated admission	Some studies reported no effect (Cleary et al., 2009; Smith et al., 2014) of previous admission on satisfaction. Other found that satisfaction was lower when participants had previous admissions (Howard et al., 2003; Ruggeri et al., 2003) while other revealed a positive association between previous admissions and service satisfaction (Eytan et al., 2004; Zendjidjian et al., 2014).
Working status	Most reported no effect of the employment status on satisfaction (Zahid et al., 2010; Smith et al., 2014; Zendjidjian et al., 2014). Studies which found an effect reported patients employed being more satisfied (Holcomb et al., 1998; Ruggeri et al., 2003). Another found that being employed had an effect in increasing satisfaction in specific domain such as communication (Holikatti et al., 2013)

Variables	Main findings from literature
Quality of life	Most of the studies found a positive association between quality of life and care satisfaction (Ruggeri et al. 1998, 2002, 2003; Rohland et al. 2000; Berghofer et al. 2001; Druss et al. 2001).
Marital status	One study reported no effect of the marital status (Kohler et al, 2015;) another found higher satisfaction in divorced participants compared to those married, (Zahid et al., 2010) while other (Gigantesco et al., 2002;; Holikatti et al., 2012; Zendjidjian et al. 2014) reported higher satisfaction in married patient.
Length of contact with psychiatric services	Some studies reported that chronic patients express less satisfaction with their treatment as compared to non-chronic patients (Ruggeri et al., 2007) Other that patients with longer time in therapy showed a higher level of satisfaction (Holcomb et al., 1998)
Admission status	Most studies found that satisfaction was significantly higher in those admitted voluntarily (Barker et al., 1996; Greenwood et al., 1999; Howard et al., 2003; Smith et al., 2014; Soergaard, 2008; Zendjidjian et al., 2014), few found no effect at all (Gjerden, 2001; Boydell et al., 2012).
Community based vs hospital psychiatric services	Most studies found patients more satisfied in community-based services vs. hospital-based psychiatric services (Marks et al. 1994; Leese et al. 1998; Boardman et al. 1999; Henderson et al., 1999; Berghofer et al., 2001; Ruggeri et al., 2003).
Care needs	Most studies reported that higher numbers of unmet needs for care tend to be associated with lower service satisfaction (Leese et al., 1998; Boardman et al. 1999; Ruggeri et al., 2003).
Coercion	Most studies reported that higher levels of experienced coercion were related to lower satisfaction (Svensson et al., 1994; Middelboe et al., 2001; Smith et al., 2014 Greenwood et al., 1999; Katsakou et al., 2010; Zendjidjian et al., 2014).

Variables	Main findings from literature
Open vs. closed ward.	Most studies reported that that satisfaction was higher on open wards, when less restrictions were placed on free movement (Kuosmanen et al., 2006; Muller et al., 2002; Rose et al., 2015), one reported no effect (Middelboe et al., 2001).

Table 1.1 Factors associated with patient satisfaction across studies

For most of the variables considered conflicting results were found. Relevant differences exist among these studies in terms of measures used, patient population, setting and procedures. Most consistent variables across studies were age – with older patients generally more satisfied than younger patients; admission status – with involuntarily patients admitted less satisfied; service characteristics – with patients treated in community-based mental health services expressing higher levels of satisfaction; experienced coercion - with less level of satisfaction for patients who experienced coercion in the ward; and perceived quality of life – with a positive correlation between patients' rated quality of life and satisfaction.

1.4 Limits of current research

Current research on satisfaction presents a number of limitations which make difficult comparing the results of different studies and to develop a clear view on how to characterize services and care delivery to prevent patient dissatisfaction. Limitations mainly concern the lack of one –or more- gold standard measure(s) used to assess satisfaction, the sample size adopted in the studies as well as the studies design and their setting.

The absence of a solid conceptual basis of satisfaction led authors to use heterogeneous and often not standardized measures to assess it. Indeed, in this field there has been a proliferation of measures created by individual researchers to local situations, with a lack of attention to the rational basis of which areas were chosen to be explored, the questions and the content of questionnaires and their psychometric properties (Ruggeri et al., 1994; Boyer et al., 2007).

In terms of sample, most of the available evidence is based on studies with a small sample of patients (Ruggeri et al., 1994; Boyer et al., 2007; Woodward et al., 2017)

conducted locally or on an individual country. Therefore, these studies may have lacked statistical power to detect significant association and the reduced sample sizes may have limited the number of factors tested within the analyses. In addition, current evidence is not sufficient to determine whether certain patient factors that have been found linked to satisfaction may differ across countries with different mental health systems, or whether the same factors are consistent across different countries. When more than one country was involved in studies, the sample was still not large enough to allow for the statistical testing of interaction effects of associated variables with countries, i.e. whether the direction of the association of a given variable was similar or significantly different across countries (Ruggeri et al., 2003; Krupchanka et al., 2017).

Regarding the study design, most studies used a cross-sectional approach to explore satisfaction rather than adopting a longitudinal design. As a result, there is a lack of knowledge about patient and service factors that may predict patient satisfaction. Even if absolute satisfaction level can provide information about outcome quality independently of previous ratings (Hansson et al., 2007), exploration of potential characteristics of services, care, and providers that may affect satisfaction on a long-term should be warranted.

Finally, most of the studies focused on satisfaction with inpatient care (Boyer et al., 2007; Woodward et al., 2017) which do not reflect the changes in mental health services happened in the last decades across Europe. Inpatient care is certainly a critical part of the care process but much effort has been made to shift away from institutional to community-based mental health care (Priebe et al. 2003, Shen et al., 2014). Indeed, mental health care has been increasingly concentrated on a range of community services, which provides care to patients into the community to address effectively and efficiently the challenges associated with the burden of mental disorders and promotion of mental health in the population.

Chapter 2 - Scales for assessing patient satisfaction with mental health care: A systematic review

As stated in the introduction, the first aim of this thesis is to update the state of the art about measures and concepts of patient satisfaction with mental health care and to individuate established scales to assess it. The present chapter addresses this aim by providing a systematic review of scales for assessing patient satisfaction in different mental health settings, describing their characteristics and the contents of care that they cover.

2.1 Introduction and aims

Since the 1960s, patient satisfaction with care has increasingly been recognised as an important construct to assess in mental health care (Ruggeri, 1994). Both as a process measure and as an outcome criterion in its own right it needs to be assessed with appropriate scales and the question arises what scale should be used in different settings. A wide range of different scales have been developed, with many authors developing their own ad hoc scale instead of relying on a standardized one, even this tendency was strongly discouraged by the literature on satisfaction research (Ruggeri, 1994).

This proliferation of scales may reflect the complexity of the construct of satisfaction itself, with an ongoing lack of consensus regarding its precise definition and conceptualization (Woodward et al., 2017) and a lack of clarity regarding what aspects of care should be covered when assessing satisfaction.

The mentioned complexities can make the selection of a scale a challenge for clinicians and researchers. In this context, a systematic and comprehensive review on established satisfaction scales that can be used with patients treated in adult

mental health services seems needed to inform the choice of the most appropriate scale for research and clinical purposes.

An early review of satisfaction scales in mental health was published in 1994 and included scales used up to 1993 (Ruggeri, 1994), thus more than 20 years ago. A more recent systematic work published in 2009 by Boyer et al. (Boyer et al., 2009), was restricted to scales for assessing satisfaction with inpatient care. To our knowledge, an up-to-date, comprehensive review of satisfaction scales, including those suitable for use outside inpatient settings, is therefore warranted. This is particularly timely in view of the increasing concentration of mental health care in community-based services over the last decades (Shen & Snowden, 2014). A description of the characteristics, structure and settings of scales available can provide a guide for researchers, clinicians, and service managers when selecting a scale for patient satisfaction. Furthermore, a description of the contents of each scale will also contribute to the current literature on satisfaction by describing how satisfaction has been conceptualized in recent decades.

This chapter addresses the first thesis aim and it is supported by three specific sub-aims: 1) to identify scales that have been used to assess patient satisfaction with mental health care since 1990 2) to describe the structure and contents of established scales 3) to compare the emphasis and contents of these scales in a qualitative analysis.

2.2 Methods

We carried out a systematic review of studies that used scales to assess patient satisfaction with mental health care, identifying the structure and the content of the most widely used scales to assess patient satisfaction with mental health care from 1990 onwards. To perform a robust systematic review and limit inclusion bias, we followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to identify the studies (Moher et al., 2009).

2.2.1 Data sources and search strategy:

A literature search was performed on the MEDLINE, EMBASE and SCOPUS databases using the followings terms: (treatment satisfaction OR care satisfaction

OR service satisfaction) AND (mental health care OR psychiatry care) AND (measure OR instrument OR questionnaire OR test OR measurement OR scale) AND (patient OR client OR consumer). We also carried out a hand-search of the reference lists of relevant articles for potential studies not detected during the electronic search, which have been included where appropriate. The search was restricted to papers published from 1990 onwards and included papers up until March 2017.

2.2.2 Eligibility criteria

We included studies published in peer-reviewed journals that involved the use of any scale, including one-item scales, to assess patient satisfaction with psychiatric care. Since the term satisfaction has been used to describe a broad range of concepts, we were inclusive in our search and considered all the scales that were used in studies as a measure of satisfaction with care, even if they adopted slightly different but related terms (e.g. satisfaction with services, with treatment, perception or experience of care). As regards study participants, we included studies on all patients who were being treated or had been treated in adult mental health services, regardless of their gender, nationality or psychiatric diagnosis. We included studies of all designs and written in the Latin alphabet. As we aimed to describe scales of satisfaction with mental health care from the patient's prospective and capturing the broad concept of satisfaction we excluded the following studies:

- Studies that used scales which only examined satisfaction with a specific aspect of care (e.g. satisfaction with a specific medication, satisfaction with a specific intervention)
- Studies collecting only qualitative data on satisfaction
- Studies where satisfaction was not rated by patients (e.g. where satisfaction was reported by staff or carers)
- Studies carried out outside of adult mental health services (e.g. in primary care, children and adolescent services)
- Studies that did not describe or provide a reference to the scale used

2.2.3 Selection of studies

All potential studies were entered into a reference citation manager and duplicates were removed. The author checked the abstracts of remaining studies to identify those potentially eligible. A random selection of 25% of the abstracts were checked by a second author, achieving a concordance rate of 95%. Selected full texts were retrieved for a final screening carried out by two independent reviewers and disagreements were resolved by consulting a third author. For each selected study we extracted data on authors, years, setting of care, and scale used to assess satisfaction

2.2.4 Selection of Satisfaction Scales

In order to focus the review on established scales used since 1990 and avoid including mere ad-hoc instruments (Ruggeri, 1994), in a second stage, we identified scales that had been used in at least two or more of the included studies. We extracted the following information for each scale: 1) authors; 2) country of origin; 3) year of development of scale; 4) aim of the scale; 5) subscales; 7) number of items; 8) response option; 9) target care setting; 10) completion time; and 11) psychometric properties assessed. When the original scale was not reported in available publications, authors were contacted directly. When the original version was not in English, we analysed the English version of the scale when available; if not available, the original language version was analysed. If authors did not respond, we gathered relevant information based on the description of the included papers. If the authors did not respond and there was not enough or misleading information on the scale on the papers, scales were not included in this review- as a result of insufficient information on relevant papers, one scale – the Consumer Assessment of Behavioural Health (CABHS) (Eisen et al., 1999)- could not be included. All extracted data were tabulated and analysed descriptively.

2.2.5 Qualitative analysis of scales

To understand the contents captured by the identified scales, a qualitative content analysis of their items was performed. We used an inductive approach which allowed the authors to identify categories of contents from the data without being driven by a predetermined theoretical framework. We chose this approach to reduce

potential bias associated with focusing on predetermined aspects of satisfaction and to describe the raw contents of the scales comprehensively (Elo & Kyngäs, 2008). Firstly, initial codes were generated for items in each scale. Secondly, we looked for potential patterns of meaning across codes, creating categories of contents and sorting codes into them. Thirdly, we reviewed the contents, naming and refining them in relation to the entire data set. In order to depict the content of the scales, we also chose to analyse the emphasis given to contents, defined as the absolute frequency in which contents were detected in each scale.

2.3 Results

A total of 6774 records were yielded in the electronic search and additional 161 records were added as results of reference checking of relevant articles. After the removal of duplicates (N=1288) and a first screening for eligibility criteria on titles and abstracts, 4773 records were excluded. The full-texts of the remaining 874 articles were assessed against the defined exclusion/inclusion criteria. Thus, a total of 479 studies which used a scale to assess satisfaction in mental health care were included in the first stage of data extraction. Of these, 339 used a scale twice or more and were then included for the second stage of the analysis. Fig 1 shows the study PRISMA flow chart with the complete details of the study selection process and the list of reasons for exclusion at the stage of eligibility assessment.

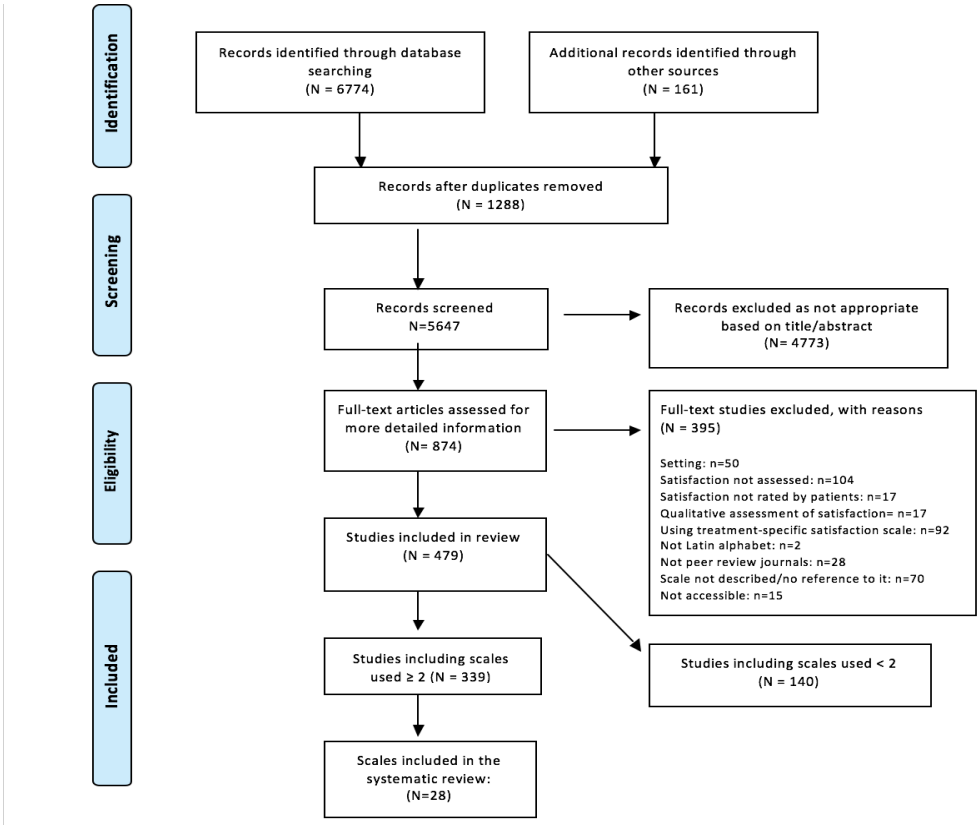

Fig 2.1 PRISMA flow chart of selecting included papers and scales

2.3.1 General characteristics of scales

We found 28 different scales to assess psychiatric care that were used in at least two of the included studies. For 11 scales different versions exist. The versions vary for different types of mental health services, for different patient groups and in the number of items, i.e. providing shorter and longer versions of the same scale (Tab. 2.1). We reviewed the general characteristics, psychometric properties and contents of the version most frequently detected in our search. Where the full copy of this version was not available, we described the version we could obtain (Greenfield & Attkisson, 1989; Huxley & Mohamad, 1992). The general characteristics of the scales are summarised in Table 2.1. Ten of the scales are from the United States, eight from the United Kingdom, two each from Italy, Germany and Sweden, and one each from France, Norway, The Netherlands and Brazil. The number of items across scales range from 3 to 60. The majority of the scales were Likert-type (using between 4 and 10 rating points), two use dichotomous ratings (Webb et al., 2000; Lelliott et al., 2001), while three use a mix of Likert-scale and yes/no answers

(Ruggeri et al., 1996; Eisen et al., 2002; Kerzman et al., 2003). Twenty-two scales include between two and eight subscales, for each of which a sub-score could be obtained in addition to a global satisfaction score calculated by summing the subscale scores. In some of these scales global satisfaction represents a distinct subscale that can be calculated by its own as well as contributing to the total score (table 2.1). The remaining 6 scales provide a global score without any subscales included (Larsen et al., 1979; Schmidt et al., 1989; Priebe and Gruyters, 1995; Nabati et al., 1998; Pellegrin et al., 2001; Priebe et al., 2007) Time for completing scales varies from 2 to 30 minutes but for most of them this was not formally reported. For two scales, a diagnosis-specific version was developed: the VSSS-AD for affective disorders (Kessing et al., 2006) and the CSS-PTSD, for post-traumatic stress disorder (Frueh et al., 2002). For all the scales detected an English version was available apart for the SATIS-BRA (Bandeira et al., 2000) and the ZUF-8 (Schmidt et al., 1989) which are in Portuguese and in German respectively.

Table 2.1 General Characteristics of Scales

Scale name	Reference	Country	Subscales	Items	Response option	Completion time, min	Target Mental Health service(s)	Psychometric properties assessed[a]	Other version(s) available
Client satisfaction questionnaire (CSQ-8)	Larsen et al. (1979)	USA	N/A	8	4 points Likert	3 to 8	Across service	Internal Consistency[b]: (0.93) Item-total correlation: (.77) Predictive Validity Content Validity Face Validity Convergent validity[c]: (r= 0.66, p<0.001) Structural Validity[d]: One Factor Attkisson and Greenfield, (1996); De Wilde and Hendriks (2005)	According to number (n.) of items: CSQ-3, CSQ-4, CSQ-18, CSQ-31
Service satisfaction scale (SSS)-15	Greenfield and Attkisson (1989)	USA	Practitioner manner and skill, perceived outcome, office procedures, access	15	5 point Likert	Not reported	Across service	Internal Consistency: scale (0.93-0.96) subscales (0.67-0.88) Convergent Validity: (r=0.70, p not reported) Structural Validity: 4 Factors	According to n. of items: SSS-30 According to services: SSS-RES
Inpatient Consumer satisfaction scale– (I-CSS)	Holcomb et al. (1989)	USA	Satisfaction with respect and dignity shown to patient, hospital environment, overall satisfaction	33	5 point Likert	Not reported	Inpatient services	Internal consistency: subscales (0.70-0.92) Structural validity: 3 factors	N/A
Zurich psychiatric care Satisfaction Questionnaire (ZUF-8)	Schmidt et al. (1989)	Germany	N/A	8	4 points Likert	2-3	Inpatient services; outpatient/community services	Internal Consistency (0.90) Structural Validity: One Factor Kriz et al. (2008)	N/A
General Satisfaction Questionnaire (GSQ-20)	Huxley and Mohamad (1992)	UK	Access to services, acceptability of services, effectiveness of help given, general satisfaction	20	4 point Likert, 7 point Likert		Outpatient and community services	Structural Validity: 4 Factors Internal Consistency: subscales: (0.70-0.90)	According to n. of items and services: GSQ-8, GSQ-10, GSQ-9
Patient satisfaction questionnaire-18 (PSQ-18)	Marshall and Hays(1994)	USA	General satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctors, accessibility and convenience	18	5 point Likert	3 to 4	Outpatient and community services	Internal Consistency: subscales (0.66-0.77)	According to n. of items: PSQ-50

Table 2.1 General Characteristics of Scales

Scale name	Reference	Country	Subscales	Items	Response option	Completion time, min	Target Mental Health service(s)	Psychometric properties assessed[a]	Other version(s) available
Self-rating patient satisfaction questionnaire (SPRI) - inpatient version	Hansson and Höglund, (1995)	Sweden	Ward environment , staff-patient relationships, information and influence , treatment design, treatment program as a whole, restriction and compulsory care	48	5 point Likert and one item 7 point Likert	About 30 minutes	Inpatient services	Internal Consistency: scale (0.87) Split-half reliability [e]: (0.79) Content Validity	According to services: SPRI-outpatient version (SPRI-O)
Client Assessment of treatment (CAT)	Priebe and Gruyters (1995)	Germany	N/A	7	Visual analogue scale, 11 points marked	5	Inpatient services	Internal Consistency: scale (0.90) Face Validity Predictive Validity Structural Validity: One Factor Richardson et al. (2011)	According to services: CAT-SA
Psychiatric care satisfaction questionnaire (PCSQ)	Barker et al.(1996)	UK	General satisfaction and views of general quality of service; attitudes towards psychiatric doctors	26	5 point Likert	Not reported	Inpatient services; outpatient/community services	Internal Consistency: scale (0.82-0.89) Test-Retest Reliability [f]: scale (0.53-0.80) Face and content Validity Consensual Validity Convergent Validity (r=0.72, p <0.05) Barker and Orrell (1999)	N/A
Verona Service Satisfaction Scale (VSSS) – 54 (EU version)	Ruggeri et al. (1996)	Italy	Overall satisfaction, professionals skills and behaviour, information, access, efficacy, types of intervention, relative's involvement	54	items 1-40: 5-point Likert scale items 41-54: yes/no and 5 point-Likert scale	20-30	outpatient and community services, inpatient services	Internal Consistency: scale (0.96), subscales (0.72-0.91) Test-Retest Reliability: scale (0.82), subscales:(0.56-0.78) Content Validity Sensitivity, Acceptability Structural Validity: 7 Factors Ruggeri et al. (2000)	According to n. of items: VSSS-82, VSS-32 According to service: VSSS-Methadone treatment According do diagnosis: VSSS-Affective disorders
Satisfaction index - Mental Health (SI-MH)	Nabati et al. (1998)	USA	N/A	12	5 point Likert	Not reported	Inpatient services; outpatient/community services	Internal Consistency: (0.90) Test-Retest Reliability:(0.79) Sensitivity to change Structural Validity: One Factor	N/A

Table 2.1 General Characteristics of Scales

Scale name	Reference	Country	Subscales	Items	Response option	Completion time, min	Target Mental Health service(s)	Psychometric properties assessed[a]	Other version(s) available
Mental health statistics improvement program (MHSIP) consumer survey	Ganju (1999)	USA	Overall Satisfaction, access, outcomes, quality/appropriateness of care, perception of participation in treatment planning, perception of outcome of services, perception of social connectedness, perception of functioning	36	5 point Likert	Not reported	outpatient/community services	Internal Consistency: scale (0.95), subscales: (0.81-0.91) Item-total correlations: factors (0.39-0.73) Structural validity: 3 factors Discriminant validity Eisen et al. (2001)	According to n. of items: MHSIP-20
Patient Satisfaction with Mental Health Services Scale (SATIS-BR)	Bandeira et al. (2000)	Brazil	Professional competence and understanding , help from professionals, physical conditions of service	13	5 point Likert	Not reported	outpatient/community services	Internal Consistency: scale : 0.88, factors: (0.61-0.85) Item-Total Correlations: (0.87-0.88) Convergent Validity : (r =0,41; p < 0.01) Structural Validity: 3 Factors Bandeira and De Silva (2010)	N/A
Your treatment and care questionnaire (YTC-Q)	Webb et al (2000).	UK	Care plan, relationship with key worker, relationship with psychiatrist, overall impression of care	24	yes/no/ (plus don't know option)	Not reported	Inpatient services; outpatient and community services	Internal Consistency: subscales (0.80-0.89)	N/A
Treatment perception questionnaire (TPQ)	Marsden et al (2000)	UK	perception of staff, perception of treatment program	10	5 points Likert	Not reported	Substance abuse services	Internal Consistency,: scale (0.83), subscales (0.71-0.76) Test-Retest Reliability: (0.57) Discriminant Validity Structural Validity: 2 Factors	N/A
Carers' and Users' Expectations of Services--User version (CUES-U)	Lelliot et al. (2001)	UK	quality of interactions with mental health workers, sense of alienation, finance, daytime activities and social relationship	16	Yes/no (plus unsure option)	15-30	Outpatient and community services	Test-Retest Reliability: subscales (0.53-0.78) Structural validity: 3 factors	N/A
Charleston psychiatric outpatient satisfaction scale (CPOSS)	Pellegrin et al (2001)	USA	N/A	15	5 points Likert	Not reported	Outpatient and community services	Internal Consistency: (0.87) Convergent Validity: (r=.19-.63, p<0.05)	According to diagnosis: CPSS-Post Traumatic Stress Disorders version (CPSS-PTSD)

Table 2.1 General Characteristics of Scales

Scale name	Reference	Country	Subscales	Items	Response option	Completion time, min	Target Mental Health service(s)	Psychometric properties assessed[a]	Other version(s) available
Kentucky Consumer Satisfaction Instrument (KY-CSI)	Howard et al. (2001)	USA	Environment, Affiliation/esteem, Growth/self-actualization	19	5 points Likert	Not reported	Inpatient services	Internal Consistency: subscales (0.69-0.82) Structural Validity: One Factor	N/A
Perception of care survey (PoC)	Eisen et al. (2002).	USA	information received, interpersonal aspect of care, continuity/coordination of care, global evaluation of care	18	depending on items: 10 point Likert scale, 4 point Likert scale, yes/no	5	Inpatient services	Internal Consistency: subscales (0.58-0.83) Structural Validity: 4 Factors	N/A
Mental Health Care Thermometer (GGZ)	Kerzman et al. (2003)	Holland	Information, Decision Making, Appreciation of the Health Care Worker, Treatment Results, overall satisfaction	16	YES/NO and final answer on a 10 points Likert scale	Not reported	Outpatient and community services; Substance abuse services	Internal Consistency: scale (0.70-0.86)	N/A
Rome opinion questionnaire for psychiatric wards-(ROP-PW)	Gigantesco et al (2003)	Italy	professional qualities of staff, information received, physical environment	12	5 point Likert	12	Inpatient services	Internal Consistency: scale (0.82), subscales (0.35-0.71) Test-Retest Reliability: items (0.6-0.9) Structural Validity: 3 Factors	According to service: ROP-Outpatient Version (ROP-OV)
Psychiatric Out-Patient Experiences Questionnaire (POPEQ)	Garratt et al. (2006)	Norway	Outcomes, clinicians interaction, information	11	5 point Likert	Not reported	Outpatient and community services	Internal Consistency: scale (0.91) subscales: (0.81-0.87) Test-Rest Reliability: scale (0.90), subscales (0.75-0.89) Content Validity Structural Validity: One Factor	According to service: Psychiatric In-Patient Experiences Questionnaire (PIPE-Q)
Quality in Psychiatric Care-Inpatient (QPC-IP)	Schroder et al. (2007)	Sweden	Encounter, participation, discharge, support, secluded environment, secure environment	30	4 point Likert	Not reported	Inpatient services	Internal Consistency: scale (0.96), subscales: (0.75-0.96) Face Validity Structural Validity: 6 Factors	According to service: QPC-daily activities (QPC-DA) QPC-forensic services (QPC-FS): QPC-Outpatient Services (QPC-OS) Schroder et al (2010)

Table 2.1 General Characteristics of Scales

Scale name	Reference	Country	Subscales	Items	Response option	Completion time, min	Target Mental Health service(s)	Psychometric properties assessed[a]	Other version(s) available
DIALOG satisfaction scale (DIALOG SS)	Priebe et al. (2007)	UK	N/A	3	7 point Likert	not reported	Outpatient and community services	Internal Consistency: (0.57) Convergent Validity: (r = .33, p <.001) Sensitivity To Change Priebe et al. (2012)	N/A
Forensic Satisfaction Scale (FSS)	MacInnes et al. (2010)	UK	Staff interaction, rehabilitation ,milieu, communication, finance , safety ,overall satisfaction	60	5 point Likert	not reported	Outpatient and community services	Internal Consistency: scale(0.91) subscales(0.50-0.95) Convergent Validity (r=0.80; p<0.01) Structural Validity: 7 Factors	N/A
Inpatient consumer survey (ICS)	Ortiz et al. (2012)	USA	Outcome, dignity, rights, participation, environment, empowerment	28	5 point Likert	not reported	forensic inpatient services	Internal consistency: scale (0.94), subscales (0.73-0.87) Convergent Validity: (0.31-0.58., p <0.01) Predictive Validity Content and Face Validity Structural Validity: 6 Factors	N/A
View on Inpatient Care (VOICE)	Evans et al. (2012).	UK	admission, environment, diversity, care and treatment, medication, staff, therapy and activities	19	6 point Likert	5 to 15	Inpatient services	Internal Consistency: (0.92) Test-Retest Reliability: (0.81–0.95) Convergent Validity: (r = 0.82, p < 0.01) Discriminant validity Content and Face Validity	N/A
Satisfaction with Psychiatry Care Questionnaire-22 (SATISPSY-22)	Zendjidjian et al. (2014).	French	staff, quality of care, personal experience, information, activity, food	11	5 point Likert	less than 5	Inpatient services	Internal Consistency: subscales (0.70 - 0.95) Convergent Validity (r=0.23-0.52, p < 0.01.) Item Discriminant Validity	N/A

[a] References reported in this section where psychometric properties where found in different papers papers compared to those cited in the references section
[b] Internal consistency measured by Cronbach's alpha at the scale level (all items of the scale) or at the subscales/factors level (all items into subscale or into factors as resulted by factor analysis)
[c] Convergent validity measured by Pearson's or Spearman's Correlation Coefficient and refers to correlations with existing scales to assess satisfaction or correlations with anchor items
[d] Structural validity measured by factor analysis or principal component analysis
[e] Split-half reliability measured by Pearson's Correlation Coefficient
[f] Test-re-test reliability measured by Kohen's K coefficient

2.3.2 Psychometric properties

Table 2.1 provides the available information about the psychometric properties of the scales. Internal consistency was the most commonly reported indicator of reliability – reported for all but one scale (Lelliott et al., 2001) and mostly with good co-efficients. Test-retest reliability was reported for seven scales (Barker and Orrell, 1999; Nabati et al., 1998; Marsden et al., 2000; Ruggeri et al., 2000; Gigantesco et al., 2003; Kerzman et al., 2003; Garratt et al., 2006a; Evans et al., 2012), showing intermediate to good reliability for most scales (Table 2.1). Structural validity was the most commonly investigated type of validity, assessed in 19 scales through confirmatory factor analysis or principal component factor analysis analysis (Holcomb et al., 1989; Huxley and Mohamad, 1992; Awad et al., 1995; Attkisson and Greenfield, 1996; ; Ruggeri et al., 1996; Nabati et al., 1998; Marsden et al., 2000; Eisen et al., 2001; Howard et al., 2001; Eisen et al., 2002; Gigantesco et al., 2003; Garratt et al., 2006a; Schroder et al., 2007; Kriz et al., 2008; MacInnes et al., 2010; Richardson et al., 2011; Bandeira and da Silva, 2012; Ortiz and Schacht, 2012). For ten scales (Attkisson and Greenfield, 1996; Pellegrin et al., 2001; De Wilde and Hendriks, 2005; Evans et al., 2012; Bandeira and da Silva, 2012; Ortiz and Schacht, 2012; Priebe et al., 2012; Zendjidjian et al., 2015) convergent validity was tested. This showed mainly positive and significant correlations with other satisfaction scales or with anchor items of scales (Table 2.1).

2.3.3 Target mental health service

Most of included scales (25 out of 28) were developed to be specifically used in mental health care while three of them were not created with an explicit focus on mental health but for general medical care (Huxley and Mohamad, 1992; Larsen et al., 1979; Marshall and Hays, 1994). Table 2.2 provides an overview of the target mental health service according to each version of included scales. Even though some scales were initially created to be employed in a specific type of service, we have reported the type of services in which we have found them to be used in the studies included in our review. Six scales were developed and used in in-patient services (Holcomb et al., 1989; Howard et al., 2001; Eisen et al., 2002; Evans et al., 2012; Ortiz and Schacht, 2012; Zendjidjian et al., 2015) and five in outpatient and

community services (Ganju, 1999; Bandeira et al., 2000; Lelliott et al., 2001; Pellegrin et al., 2001; Priebe et al., 2007). For seven scales, a version-specific was available according to the target service of interest while eight scales used the same version across settings (Tab. 2.2). One setting-specific scale for forensic services and one for substance-abuse services were also found (Marsden et al., 2000; MacInnes et al., 2010).

Measure		**Mental Health Service of applicability**				
Name	**Version(s) available**	**Inpatient services**	**Outpatient/ Community services**	**Supported accommodation**	**Substance abuse services**	**Inpatient forensic services**
Client satisfaction questionnaire (CSQ)	CSQ-3, CSQ-8, CSQ-4, CSQ-18, CSQ-31	✓	✓	✓	✓	✓
Service satisfaction scale (SSS)	SSS-3, SSS-15	✓	✓	✓	✓	✓
	SSS-*Residential Facilities* (RES)			✓		
Inpatient Consumer satisfaction scale– (I-CSS)	-	✓				
Zurich psychiatric care Satisfaction Questionnaire (ZUF-8)	-	✓	✓			
General Satisfaction Questionnaire (GSQ)	GSQ-8	✓				
	GSQ-10, GSQ-9, GSQ-20		✓			
Patient satisfaction questionnaire (PSQ)	PSQ-18; PSQ-50		✓			
Self-rating patient satisfaction questionnaire (SPRI)	SPRI-*Inpatient* (I)	✓				
	SPRI-*Outpatient* (O)		✓			
Client Assessment of treatment (CAT)	-	✓				✓
	CAT-*Supported Accommodation* (SA)			✓		
Psychiatric care satisfaction questionnaire(PCSQ)	-	✓	✓			
Verona Service Satisfaction Scale (VSSS)	VSSS-82, VSS-32;VSSS-EU, VSSS-*Affective disorders (AD)*	✓	✓			
	VSSS-*Methadone Treatment* (MT)				✓	
Satisfaction index - Mental Health (SI-MH)	-	✓	✓			
Mental health statistics improvement program (MHSIP)	MHSIP-36; MHSIP-29		✓			
Measure		**Mental Health Service of applicability**				

Name	Version(s) available	Inpatient services	Outpatient/ Community services	Supported accommodation	Substance abuse services	Inpatient forensic services
Patient Satisfaction with Mental Health Services Scale (SATIS-BR)	-		✓			
Your treatment and care questionnaire (YTC-Q)	-	✓	✓			
Treatment perception questionnaire (TPQ)					✓	
Carers' and Users' Expectations of Services--User version (CUES-U)	-		✓			
Charleston psychiatric outpatient satisfaction scale (CPOSS)	CPSS; CPSS-*Post Traumatic Stress Disorder* (PTSD)		✓			
Kentucky Consumer Satisfaction Instrument (KY-CSI)	-	✓				
Perception of care survey (PoC)	-	✓				
Mental Health Care Thermometer (GGZ)	-		✓		✓	
Rome opinion questionnaire	ROP-*psychiatric wards* (PW)	✓				
	ROP-*outpatient* (O)		✓			
Psychiatric Patient Experiences Questionnaire (PPEQ)	P(O)PEQ - *outpatient*		✓			
	P(I)PEQ - *inpatient*	✓				
Quality in Psychiatric Care (QPC)	QPC- *inpatient* (I); QPC- *daily activities* (DA)	✓				
	QPC-*outpatient (O)*		✓			
	QPC - *forensic services* (FS)					✓
DIALOG+ satisfaction scale (DSS)	-		✓			
Forensic Satisfaction Scale (FSS)	-					✓
Inpatient consumer survey (ICS)	-	✓				
View on Inpatient Care (VOICE)	-	✓				
Satisfaction with Psychiatry Care Questionnaire-22 (SATISPSY-22)	-	✓				

Table 2.2 Scale, versions and mental health services of applicability

2.3.4 Contents captured by scales

A total of 204 codes were generated by the qualitative content analysis and sorted into 19 different contents. Table 2.3 shows the number of codes created per each content and examples of related codes across scales. An item could be coded into different contents at the same time e.g. "*have you received enough information for your medication?"* could fit in the content "*medication*" and "*information*" simultaneously. Table 2.4 illustrates the contents of each satisfaction scales and provides a global view on the variability in conceptualising patient satisfaction across scales. While some scales, such as the VSSS-EU (Ruggeri et al., 2000), the SPRI (Hansson & Höglund, 1995)or the FSS (MacInnes et al., 2010), incorporated almost the entire set of contents (respectively 17, 16 and 16 contents) - ranging from more specific (i.e. satisfaction with physical environment or physical health) to broader ones (i.e. general satisfaction or relationship with staff) - some scales, like the CSQ-8 (Larsen et al., 1979), the ZUF-8 (Schmidt et al., 1989) or the DIALOG SS (Priebe et al., 2007), had less variability in terms of contents captured. However, all scales covered more than one singular content, and there was a general tendency across scales to explore satisfaction with different aspects of care. The most frequently covered content across all the scales was the one referring to "*overall satisfaction"*, captured by 25 scales. Contents like "*staff competence"* and "*relationship with staff"* also showed consistency and were both detected in 24 scales. Some contents, like "*security"* and "*respect and dignity"* were more often included in scales used in inpatient settings. Furthermore, we detected a difference in the frequency in which the same content came up across scales, with some scales focusing more items on a particular area of care compared to others, suggesting a variety across scales in the emphasis given to different contents (Table 2.4).

Contents	n° of codes	Example of codes
Accessibility of services	12	Easy making appointments
		Office hours
Continuity of care	6	Knowledge of where to seek help after discharge
		Continuity of care by the same mental health staff
Environment	8	Aspect and comfort of physical spaces
		Location of mental health service
Information received	13	Information about treatment
		Information about illness
Medication	7	Perceived helpfulness of medication
		Help received in dealing with side effects
Staff skills	17	Staff knowledge
		Staff reliable
Overall satisfaction	14	Recommendation of service to someone else
		Overall satisfaction with service
Perceived care outcomes	18	Social situation improved
		Improved mental health condition
Physical health	4	Attention to physical health problems by mental health staff
		Access to physical health care
Practical support	11	Satisfaction with practical help received from services
		Support with benefit
Rules and procedures	12	Information from staff about rules or procedures
		Satisfaction regarding rules of treatment
Patients involvement in care and decision making	10	Consideration of patient's view
		Patient's choice of treatment options
Recreational opportunities	6	Opportunity to socialise with other patients
		Views on leisure activities offered by services
Relation with mental health staff	21	Feeling listened to by staff
		Feeling comfortable/able to talk with staff
Rights and dignity	11	Respect of confidentiality
		Feeling respected
Security	4	Feeling secure
		Safe environment
Perception of tailored care	7	Perception of right amount of time for care
		Perception of right treatment
Views on services and treatment received	16	Views on individual sessions
		Views on group psychotherapy
Relatives involvement	7	Family involvement in care
		Improved family understanding of mental health problems

Table 2.3 Contents identified from content analysis, number of codes for each content and codes' examples

	CSQ-8	SSS-15	I-CSS	ZUF-8	GSQ-20	SPRI	PSQ-18	CAT	PCSQ	SI-MH	MHSIP-36	SATIS-BR	YTC-Q	TPQ
Accessibility of services			+		+	+	++		+	+	+		+	+
Continuity of care		+							+				+	
Information received		+	+			++	+		+	+	+	+	++	+
Involvement in care & in care decision-making		+	+			+			+		+		+	+
Medication		+				+					+		+	
Overall satisfaction	++	+	+	++	++	+	+	+	+	+	+	+	+	+
Perceived care outcomes	+	+	+	+	+					+	++			
Perception of tailored care						+		+	+					+
Physical Environment			+			+					+	+		
Physical health			+							+				
Practical support						+								
Recreational opportunities						+								
Relationship with staff		+	+		+	+	++	+	+	+	++	+	+	+
Relatives involvement						+								
Rights and dignity		+	+			+		+		+	+	+		
Rules and Procedures		+				+	+		+	+			+	+
Security			+											
Staff skills and competence		+	+		+	++	+	+	+	+	+	+	+	+
Views on services and treatment received			+			+								+

Table 2.4 Contents covered by scaled and representation of conceptual emphasis

[1] Blank = content not covered by the scale; '+'= content covered by the scale (1-5 times); '++' = content strongly covered by the scale (> 5 times)

	VSSS-EU	CUES-U	CPOSS	KY-CSI	PoC	GGZ	ROP-PW	POPE-Q	QPC-IP	DIALOG-SS	FSS	ICS	VOICE	SATIPSY-22
Accessibility of services	+	+	++	+	+		+	+	+		+		+	+
Continuity of care	+	+			+		+		+			+		
Information received	++	+	+	+	+	+	+	+	+		+	+		+
Involvement in care & in care decision-making		+	+	+	+	+	+	+	+		+	+	+	
Medication	+	+		+	+		+			+	+	+	+	+
Overall satisfaction	+		+	+	+	+	+	+			+	+	+	+
Perceived care outcomes	++	+		+		+		+	+		+	+	+	+
Perception of tailored care	+		+			+	+							+
Physical Environment	+		+	+			+		+		+	+		
Physical health	+	+		+								+		
Practical support	++	+							+	+	+			
Recreational opportunities	+	+		+			+				+		+	+
Relationship with staff	++	+		+	+	+	+	+	+		++	++	+	+
Relatives involvement	++			+	+						+	+	+	
Rights and dignity	+	++	+	+	+	+			+		++	+	+	+
Rules and Procedures	+		+		+						+			+
Security		+		+					+		+	+	+	+
Staff skills and competence	++	+		+	+	+	+	+	+		++	+	+	+
Views on services and treatment received	++						+	+		+	++	+	+	+

Table 2.4 Contents covered by scaled and representation of conceptual emphasis [1]

[1] Blank = content not covered by the scale; '+'= content covered by the scale (1-5 times); '++' = content strongly covered by the scale (> 5 times)

While some scales, such as the VSSS-EU (Ruggeri et al., 2000), the SPRI (Hansson & Höglund, 1995) or the FSS (MacInnes et al., 2010), incorporated almost the entire set of contents (respectively 17, 16 and 16 contents) - ranging from more specific (i.e. satisfaction with physical environment or physical health) to broader ones (i.e. general satisfaction or relationship with staff) - some scales, like the CSQ-8 (Larsen et al., 1979), the ZUF-8 (Schmidt et al., 1989) or the DIALOG SS (Priebe et al., 2007), had less variability in terms of contents captured. However, all scales covered more than one singular content, and there was a general tendency across scales to explore satisfaction with different aspects of care. The most frequently covered content across all the scales was the one referring to "*overall satisfaction"*, captured by 25 scales. Contents like "*staff competence"* and "*relationship with staff"* also showed consistency and were both detected in 24 scales. Some contents, like "*security"* and "*respect and dignity"* were more often included in scales used in inpatient settings. Furthermore, we detected a difference in the frequency in which the same content came up across scales, with some scales focusing more items on a particular area of care compared to others, suggesting a variety across scales in the emphasis given to different contents (Table 4). For example, in the MHSIP (Ganju, 1999)the content "*perceived care outcomes*" was detected several times while in the SI-MH (Nabati et al., 1998) the same content was detected with less frequency but still captured.

2.3.5 Most frequently used scales

Of the 28 scales detected to assess satisfaction, four were used in more than 15 studies, (Larsen et al., 1979; Hansson & Höglund, 1995; Priebe & Gruyters, 1995; Ruggeri et al., 2000) and may therefore be seen as more established.

The CSQ (Larsen et al., 1979), the most frequently used scale, is a brief, unidimensional scale, not specifically created for mental health care and with a strong focus on questions about overall satisfaction rather than with different aspects of care. The scale shows good reliability and validity and was used across a range of services, from inpatient to forensic services, without a specific target setting of care. Of all included scales, it has been available for the longest period of time, being developed in 1979. There are several versions of different lengths

(Table 1), with the 8 item version being the most widely used and providing one global score of satisfaction.

The unidimensional structure of the CSQ differs from the VSSS. Conceptually, the items in VSSS cover seven subscales (Table 1), five in line with Ware's taxonomy of satisfaction (Ware et al., 1978), and two on domains specifically developed for the VSSS: 'types of intervention' and 'relative's involvement'. Items of the VSSS are presented with alternate directionality and focus on staff skills and relationship. The VSSS also covers contents less considered by other scales, like the family involvement and the patient's view on specific services and interventions provided, e.g. individual session, group psychotherapy or family session. The VSSS was originally designed in Italian for community-based mental health services that are assumed to have various treatment options (hospitalisation, day-care, rehabilitation, psychotherapy, home help, outpatient visits, etc.) available in the same provider organisation or provided by different, but closely collaborating organisations. It has been translated and used in various countries (Ruggeri et al., 2000; Ching, 2011; Mory et al., 2001; Corbiere et al., 2003; Henderson et al., 2003) as well as tested for reliability and validity. Like the CSQ, different versions exist with different numbers of items with the 54 item version being the most often used. It takes around 30 minutes to complete providing a global score and subscales' scores.

For in-patient settings the CAT (Priebe & Gruyters, 1995)was most frequently used. It has only 7 items, providing a global score and focuses on the patient's assessment and perception of the appropriateness of care. It has been found to have good predictive value for different later outcomes like hospitalisation rates and level of psychopathology (Priebe & Gruyters, 1994, 1995; Priebe et al., 2011). The unidimensionality and its structural validity across languages have been demonstrated in a factor analysis study (Richardson et al., 2011). A modified version of the CAT exists for residential facilities (Sandhu et al., 2016).

The SPRI (Lars Hansson & Höglund, 1995) was developed in 1995 in Sweden by Hansson in cooperation with the Swedish health authorities with different versions for inpatient and outpatient services. It has been mainly used in studies carried out in Scandinavian countries and adopts a multidimensional concept of satisfaction, being based on six subscales exploring different areas. A broad set of contents are

covered by this scale, with a strong focus on staff skills and information received by the patient. It has been tested for reliability and content validity and provides final separate scores for each subscale as well as a global score.

2.4 Discussion

Patient satisfaction with care has been widely assessed in mental health research since 1990, as evidenced by the high number of studies included in our review. Many scales have been developed and used to capture this construct with many authors developing their own ad-hoc scale. We found a total of 28 scales used at least twice in 339 studies with different designs and in different services. Included scales presented a considerable variation in terms of characteristics, formats and contents measured. Four of these scales were found to be relatively established and in frequent usage across studies, while others were less established or rarely used.

2.4.1 Strengths and limitations

This review used a systematic methodology to search the literature for relevant studies and extract the findings. It is the first systematic review done since 1993 assessing scales to measure satisfaction with care across different types of services. To our knowledge, the review is the first one that analysed their contents using an inductive content analysis, in addition to considering the characteristics and psychometric properties. Furthermore, we based our search on a comprehensive definition of satisfaction, including studies with scales that used labels or terms other than 'satisfaction', allowing us to capture the complexity of this construct.

The review also has some limitations. Firstly, we combined different languages and studies from different countries without considering potential differences in connotations according to language, cultural background and local health-care systems. However, most of the questionnaires were developed in English or an English version was accessible, and including studies of different languages was felt to be essential to gain a comprehensive view of available scales. Secondly, we limited our search on studies published from 1990 onwards and on scales used more than once. Thus, we may have missed relevant scales used frequently before 1990 but rarely or not at all since, and other recently developed scales that have not yet

featured in more than one published study. Thirdly, for quantifying the emphasis that scales put on each content we used a new approach, potentially with limited reliability.

2.4.2 Comparison with literature

This review updates and builds on the findings of Ruggeri (Ruggeri, 1994). More than 20 years since her review, we still found a high number of very different scales to assess satisfaction, with many authors still using study-specific ad hoc scale despite the availability of established scales. However, compared to the state of the art in satisfaction research described in 1994, some progress has been made. Our review shows that, despite the wide use of study-specific ad hoc scales, an increasing number of authors have chosen to adopt established scale. In some cases, their widespread and international use with translated versions have facilitated cross-country comparisons of satisfaction (Ruggeri et al., 2003; Richardson et al., 2011). Boyer et al. (Boyer et al., 2009) found in their review 15 scales with substantial differences in terms of structures, contents and psychometric properties. We considered some but not all of these scales as Boyer et al included scales used in only one study. However, we considered satisfaction with care in all types of mental health services, and not just in-patient services, so that the review was more comprehensive. Based on the literature Boyer et al pre-determined five domains of satisfaction to which items were assigned: *quality of care*, *non-medical services*, *interpersonal care*, *costs of care*, and *global satisfaction*. They found that three of the domains (*quality of care*, *non-medical services* and *interpersonal care*) were most represented across the scales. While the first two were different from ours, the domain referring to relationships (interpersonal care), which we termed *relationships with staff,* was also one of the most common contents detected in our study. This may suggest that the caring relationship constitutes an important element of satisfaction with care, as demonstrated by this finding in both our own than Boyer's review, despite using different qualitative approaches.

2.4.3 Implications and future directions

This review may inform researchers and mental health professionals when selecting a scale to assess patient satisfaction in different settings. A gold standard scale to assess patients' satisfaction with care has not been established. The choice of the best scale depends on a number of factors, most notably the exact purpose of the assessment, the setting, and the available resources such as the time patients can spend on their assessment.

Previous research suggested that different PROs tend to be inter-correlated (Hansson et al., 2007). Thus, subscales capturing satisfaction with different aspects of care are likely to be correlated and not to provide independent findings. If satisfaction is used as an outcome in trials, then one global score should usually be measured. If there is a more specific hypothesis regarding satisfaction or if the aim is to investigate particular aspects of satisfaction, a more specific scale with subscales may be preferable, but the use of several scores or even more than one scale should usually be seen as inappropriate. Whilst the content analysis of scales has shown that different aspects are covered, using a scale for a specific aspect should be considered with caution. The scales rarely cover satisfaction with very specific aspects sufficiently to use the scores for aspect specific interpretations. For providing directly actionable information on specific aspects of care, hardly any of he included scale provides sufficient information. Scores should rather be seen as indicator of satisfaction levels, whilst the specific reasons need to be explored with more in-depth methods. Whilst there is no evidence suggesting different scales for different diagnostic groups, the setting of the assessment appears important and should influence the selection of the best scale. If the aim is to assess changes in patients who over time are treated in different services, then a scale is required that can be used in these different services.

Finally, the time that patients can spend on the assessment is a very pragmatic factor which however may be important for selection both in research as well as in routine care. The higher precision that more items can provide might be balanced against the time saved with shorter scales, particularly when only mean scores in larger samples are of interest.

Regarding direction for future research, it is still not well documented how satisfaction can be measured so that it does not overlap too much with other patient-

reported outcomes and self-rated symptom scores (Fakhoury et al., 2002; L. Hansson et al., 2007; Reininghaus et al., 2011) and new developments such as computer adapted testing have not yet been incorporated. Therefore, improvements in these aspects may be a challenge for future research. Further, for interpreting data of satisfaction scale in routine care and research, comparison with other data are helpful. Such comparisons would be easier if more services used similar scales and – most importantly – made the anonymous aggregate scores publicly available.

Whatever the limitations of existing scales may be, there should be little doubt that patient satisfaction should be assessed. Scales with reasonable qualities exist and this review will hopefully help researchers and clinicians to select the most appropriate one for their purpose.

PART 2 - RESEARCH PART

Chapter 3 – Research framework: the COFI study

The research part of the present PhD thesis is composed by two different studies. However, before proceeding with their presentation, is important to provide a comprehensive introduction on the project that constitutes the framework within both researches have been carried out: the COFI project (*COmparing policy framework, structure, effectiveness and cost-effectiveness of Functional and Integrated systems of mental health care*), a European Commission Framework Programme 7 funded study being conducted in Belgium, Germany, Italy, Poland and the UK.

3.1 Background of the research project

Mental disorders are a leading cause of disability in Europe with huge economic and social impact as high health-care costs and loss of productivity (World Health Organisation, 2003). Optimal organisation of mental health services is a key aspect to reduce this burden and maximize the effects of mental health care. Throughout Europe, countries are seeking to improve the organization of mental health care, proposing radical reforms that are associated with changes for the national health care systems and consume a considerable amount of funding. A central question of these reforms is whether to prioritise a care approach that pursues *specialisation* of clinicians and clinical teams or a *personal continuity of care* approach (Giacco et al., 2015). According to the specialisation approach, mental healthcare should be provided by different clinicians and teams in inpatient and outpatient settings. In this system of care, the patient has different main clinicians, according to the distinct service that provides his/her care. Thus, there is no personal continuity in the treatment of the patient across in-patient and out-patient care. Once discharged, other clinicians are in contact with the patient for outpatient treatment and the transition between services is coordinated through a network of regulated referrals. This approach adopts the tendency in medicine toward specialization of services, with each services providing a limited but specialised range of interventions. On the other hand, according to personal continuity approach, mental health care should be provided by the same primary clinician across different mental health

services. Thus, there is a continuity in the treatment of the patient which has one primary clinician who provides care in different services and co-ordinates the interventions. This approach pursues the principle of comprehensive provision, global care, coordination and continuity of different interventions. Expected benefit of each of the two systems of care are various, may change according to the level considered and are summarised in Table 3.1

	Personal continuity of care	Specialisation of care
Service Level	No fragmentation of services Smooth transition of pts from one setting to another Increased engagement with services of groups who are less likely to actively seek treatment (i.e. patients with schizophrenia)	Quick clinical decision making Positive risk management Simplify the practical organisation of service
Clinical level	Ensuring continuity of care may be particularly important for patients with complex needs (coexistence of, physical illnesses and/or social problems) Simplify clinical communication	Better adherence to guidelines and evidence-based practices Promote an expertise in setting specific aspects of treatment
Routine Care level	Establishment of a stronger and enduring therapeutic relationship	Improvement in clinical leadership and specialised expertise

Table 3.1 Expected benefit of personal continuity vs. specialisation of care (Giacco et al., 2015)

Discussions on which of the two systems is more effective have led to on-going debates and inconsistent re-organizations of systems. Such reforms are inconsistent not only across countries but even within the same country and are made in the absence of any clear research evidence. Omer et al. (2014) systematically reviewed the available studies which compared continuity of care vs. specialisation approach in mental health care. They found a general tendency favouring continuity of care in terms of increasing recovery, social outcomes, length of stay and for being preferred by patients and staff. However, they underlined a number of limitations across the available literature. Indeed, most of the studies were conducted in local settings, using samples not large enough to detect small differences in outcomes between care approaches and assessed only a limited range of outcomes, most of which were not relevant for policy makers. In addition, most studies failed to

control for confounders or did not even consider potential confounders. Furthermore, different level of continuity was considered across studies, and, finally, the authors of the review observed a tendency for which the novel/experimental system always showed favourable outcomes, regardless of the system of care, suggesting the risk of a "novelty bias". Thus, authors of the review pointed out that available evidence is insufficient to draw any definitive conclusions. They concluded suggesting the need in future research for larger, multicentre studies with high statistical power, able to control for potential confounders, with a clear definition of continuity vs. specialisation of care and with a range of outcomes to test which are relevant for policy decision-makers.

3.2 The COFI study

The COFI study (Giacco et al., 2015) is a natural experiment that has been designed to address the limitations of the current evidence by comparing approaches favouring either specialisation or personal continuity of care in five European countries (Belgium, Germany, Italy, Poland and UK). In all the participating countries, both approaches to care exist within routine practice, thus the study allowed comparisons of the two approaches without altering usual provision of care. Each included patient in the study could only be treated within either a 'specialisation' or 'personal continuity' care approach, and the exposure of patients to either approach was outside of the control of investigators. COFI is coordinated by the Unit for Social and Community Psychiatry, Queen Mary University of London (QMUL). Collaborating academic centres responsible for data collection in the remaining four countries are: (1) University of Louvain (Belgium); (2) Technische Universität Dresden (Germany); (3) University of Verona (Italy); (4) Institute of Psychiatry and Neurology of Warsaw (Poland). (Fig 1). The hospitals in which patients were recruited are spread throughout the participating countries.

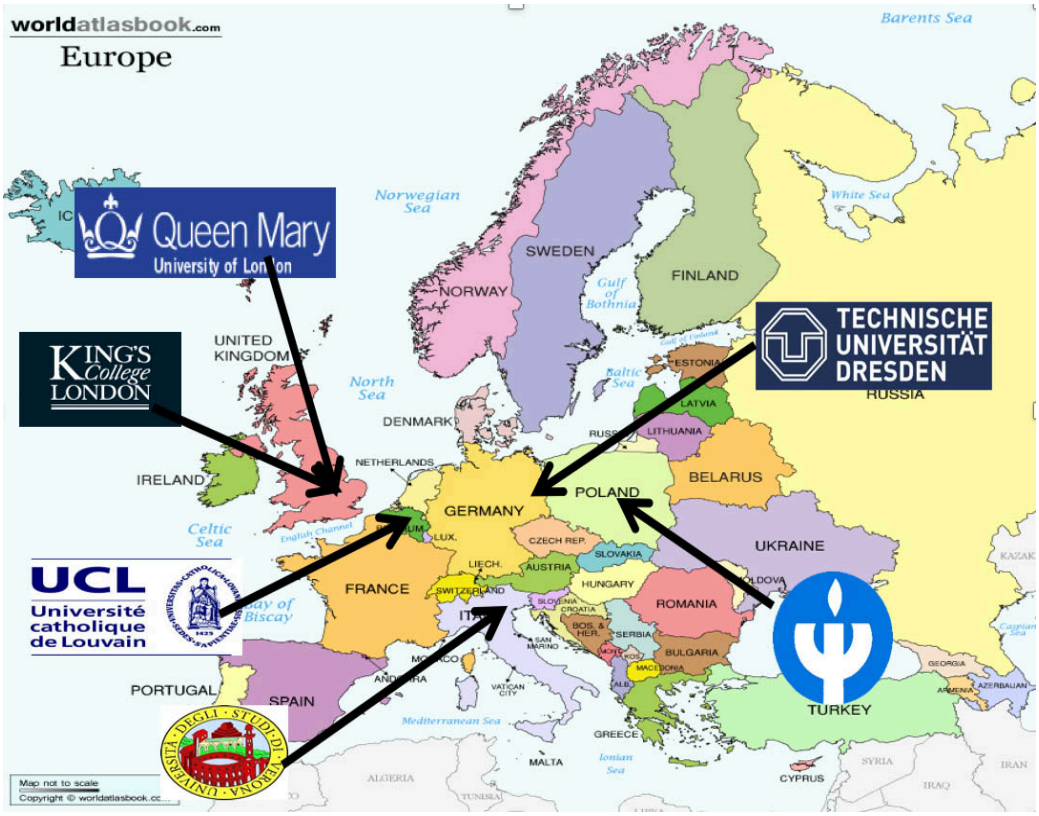

Fig 3.1 COFI Participating countries and academic centres

3.2.1 Ethical Approval

Ethical approval was obtained in all five participating countries before starting the data collection. Belgium: Comité d'Ethique hospitalo-facultaire des Cliniques St-Luc; Germany: Ethical Board, Technische Universität Dresden; Italy: Comitati Etici per la sperimentazione clinica (CESC) delle provincie di Verona, Rovigo, Vicenza, Treviso, Padova; Poland: Komisja Bioetyczna przy Instytucie Psychiatrii i Neurologii w Warszawie; and UK: National Research Ethics Committee North East—Newcastle & North Tyneside (ref: 14/NE/1017).

3.3 Study design

Data for the COFI study have been collected at two time-points: Baseline (T1) and 1-year follow up (T2) (Fig. 3.2).

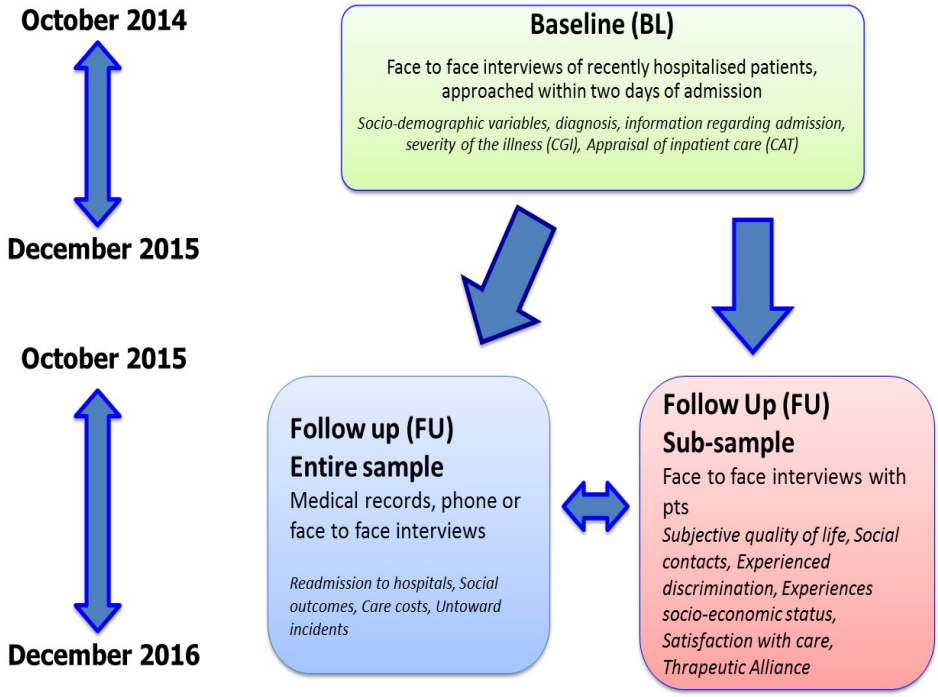

Fig 3.2 COFI study design

3.3.1 Baseline (T1)

Baseline (BL) recruitment started in October 2014 when patients admitted to adult psychiatric units within 57 hospitals of participating countries have been consecutively screened (from 1st October 2014 to 31st December 2015) for fulfilment of the following eligibility criteria:

Inclusion Criteria:

- ✓ 18 years of age or older;
- ✓ Primary diagnosis of schizophrenia or a related disorder (F20-29), affective disorder (F30-39) or anxiety disorder (F40-49) according to ICD-10 (World Health Organisation,1992)
- ✓ Being hospitalised in a psychiatric inpatient unit;
- ✓ Sufficient command of the language of the host country to provide written informed consent and understand the questions in the research interviews;

✓ Capacity to provide informed consent.

Exclusion Criteria

- Diagnosis of organic brain disorders
- Too severe cognitive impairment for providing meaningful information on the study instruments.

Individuals without a clinical diagnosis of F2-F4 at the point of admission were included in the study if they had a working clinical diagnosis or a clinical impression consistent with F2-F4. Those individuals who did not go on to receive a clinical diagnosis of F2-F4 were then retrospectively excluded from the study.
Researcher usually approached patients within two working days from the admission but it could be postponed if the patient wishes and if he/she is deemed to be too unwell by clinician in charge. In any case, before the first contact of the patient with the researcher, a clinician asked the patient for his/her assent to participate in research. If assent was obtained, the clinician introduced the researcher which discussed face to face the study with the patients, providing detail information and obtaining a written informed consent to participate.
Patients who consented to take part in the study have been interviewed face to face and the following set of variables have been collected through the interview or by clinical records or by asking treating clinicians :

- *Socio-demographic variables*: Age; Gender; Marital status; Highest completed level of education; Country of birth; Employment; Accommodation; Living situation; Benefit received
- *Information about friendship*: Not meeting a friend within the last week/Meeting at least one friend in the last week; Having a close friend/Not having a close friend (Items 4 and 5 of the Manchester Assessment of Quality of Life – MANSA [Priebe et al., 1999])
- *Clinical information*: Main psychiatric diagnosis (ICD-10); Other psychiatric and not-psychiatric diagnosis (ICD-10), Severity of the illness rated by treating clinician (Item 1 of the Clinical Global Impression scale – CGI [Guy, 2000])

- *Admission information* (First/Repeated admission, Voluntary/Unvoluntary admission)
- *Satisfaction with inpatient care* (Client Assessment of Treatment Scale-CAT [Priebe & Gruyters, 1995])

3.3.3 *Follow up (T2)*

After one year from the BL interview, all patients have been contacted by phone or personal contact (in case they did not have a phone) or their clinical records have been accessed (in case routine documentation systems of outpatient services were available) for collecting current information on:

- *Clinical outcomes*: readmissions in the 12 months following index, number of readmission, type of readmission, inpatient bed days
- *Social outcomes*: employment status, accommodation, living situation (items 3.1, 2.2, 2.1 CSSRI-EU [Chisholm et al., 2000])
- *Friendship*: (items 4,5 MANSA [Priebe et al., 1999])
- *Untoward incidents*: death, completed suicides, attempted suicide, serious assaults committed by patients (item 9, MANSA), physical violence experienced by patients (item 10, MANSA), Serious side effects from pharmacological treatment requiring hospitalisation
- *Indicators of care costs*: in-patient bed days in the 12 months following incident admission (item 4.1, CSSRI-EU); Use of outpatient services, day centres and other community services in the 12 months following index admission *(*items 4.1, 4.2, 4.3, 4.4, CSSRI-EU)

Additionally, a subsample of patients has been randomly selected to participate in face to face interviews with COFI researchers. Patients selected for the subsample were 18-65 years of age and have been stratified based on diagnostic group (ICD-10 codes: F20–29, F30–39, F40–49) and on whether the index admission was their first one or not. In these subsample interviews, additional data have been collected to gather information on:

Social outcomes:

- *Number of social contacts*: for each contact: a) Type of relationship with contacts, b) Frequency, c) Intimacy of the relationship, d) Directionality of the relationship (Ad hoc scheduled adapted from Social Network Schedule [Dunn et al., 1990])
- *Experienced discrimination*: ad hoc items, adapted from Discrimination and Stigma Scale – DISC-12 (Brohan et al., 2013)
- *Perceived socio-economic status*: MacArthur Scale of Subjective Social Status (Goodman et al., 2001)

Patient reported outcomes:

- *Subjective quality of life*: MANSA mean score (items 2,3,6,7,8,11,12,13,14,15,16) (Priebe et al., 1999)
- *Satisfaction with care:* Verona Service Satisfaction Scale-32 (VSSS-32) (Ruggeri et al., 1996)

Indicators of quality of care:

- *Therapeutic alliance*: Helping Alliance Scale (HAS) (Priebe & Gruyters, 1993)
- *Experienced Continuity of care:* ad hoc questions exploring whether patients, following discharge, have met any clinicians that they saw in hospital; number and type of clinicians; how long was in weeks between hospital discharge and first outpatient contact and whether patients feel this duration too long, too short or right
- Contacts with outpatient services, day centres and other community services in the 12 months following index admission. *(*items 4.1, 4.2, 4.3, 4.4, CSSRI-EU)
- *Decision making style, satisfaction with communication and involvement in clinical decision making*: 2 modified items from Clinical Decision Making Involvement and Satisfaction questionnaire – Patient version (CDIS-P) (Puschner et al., 2010)

3.4 Scales to assess Satisfaction with care in the COFI study

The outcome of interest for this dissertation - satisfaction with mental health care - have been assessed in the COFI study at two time points: at BL and after 1 year FU. Satisfaction was assessed at BL on the entire sample of patients, usually within 48 hours from the hospital admission using the CAT scale. At FU it was assessed on a randomly selected subsample of patients with the VSSS-32. This paragraph provides a description of both scales.

3.4.1 Client assessment of treatment scale (CAT)

The CAT scale was developed at the Department of Social Psychiatry at the University of Berlin (Priebe & Gruyters, 1995) and it is used to assess patients' appraisal of treatment. The CAT is particularly suitable for hospitalized patients with severe mental illness. It is composed by seven items which investigate the patient's perceptions of appropriateness of treatment with regards to different aspects of the inpatient care : "Do you believe you are receiving the right treatment/care for you?", "Does your therapist/case manager/key-worker understand you and is he/she engaged in your treatment?", "Are relations with other staff members pleasant for you?", "Do you believe you are receiving the right medication for you?", "Do you believe the other elements of treatment/care here are right for you?", "Do you feel respected and regarded well?", and "Has treatment/care here been helpful for you?". Patients select an answer on a horizontal line with 11 points, where the extremes are labelled as 0 (=not at all) and 10 (=entirely). It combines the simplicity of a visual analogue scale with the qualities of a Likert type rating scale. Conceptually, items of the scales cover a single factor, thus, it provides a final mean score ranging from 0 to 10 (Richardson et al., 2011). The CAT has been translated in many languages and widely used even in large scale studies (Kallert et al., 2007; Priebe et al., 2011). In terms of psychometric properties CAT demonstrated good factorial validity and factorial invariance (Richardson et al., 2011), good internal consistency – a large study showed an alpha value of 0.90 (Priebe et al., 2009)- and good predictive validity – indeed it proved to predict relevant outcomes such as global psychopathology and social disability independently from initial level of symptoms, expectation of treatment success, socio-demographic and clinical characteristics (Priebe & Gruyters, 1994), Furthermore, higher CAT score was also linked with lower involuntary admission

rates (Priebe et al. 2009). A specific version of the CAT has been developed for patients treated in supported accommodation (CAT-SA) (Shandu et al., 2016).

3.4.2 Verona Service Satisfaction Scale

The VSSS was designed at the Section of Psychiatry of the University of Verona (Ruggeri et al., 1993). With this scale, patients are asked to express their overall feeling about their experience of the mental health service they have been using during the past year with the aim of measuring their satisfaction with mental health care. The VSSS has been developed by adding a set of setting-specific items for mental health services, and particularly community-based psychiatric services, to a well validated, multidimensional instrument for health services, the *Service Satisfaction Scale (SSS-30)* (Greenfield & Attkisson, 1989). The latter group of items involves aspects meant *a priori* to be relevant across a broad array of both medical and psychiatric settings while the former group of items involves aspects relevant specifically in mental health settings, particularly in community-based services (e.g. admissions, psychotherapy, rehabilitation). In VSSS, subjects are asked to express their overall feeling about their experience of the service in the last year. Satisfaction ratings are on a 5-point Likert scale (1=terrible, 2=mostly dissatisfactory, 3=mixed,4=mostly satisfactory, 5=excellent), presented with alternate directionality to reduce stereotypic response. Conceptually, the items in VSSS cover seven dimensions:

1) the "*Overall Satisfaction*" dimension covers general aspects of satisfaction with psychiatric services

2) the "*Professionals' Skills and Behaviour*" dimension covers various aspects of satisfaction with the professionals' behaviour such as technical skills, interpersonal skills, cooperation between service providers, respect of patients' rights, etc.

3) the "*Information*" dimension covers aspects related to satisfaction with information on services, disorders and therapies;

4) the "*Access*" dimension covers aspects related to satisfaction with service location, physical layout, and costs;

5) the "*Efficacy*" dimension is constituted by items which cover aspects related to satisfaction with overall efficacy of the service, and service efficacy on specific

aspects such as symptoms, social skills and family relationships;

6) the "*Types of Intervention*" dimension cover various aspects of satisfaction with care, such as drugs prescription, response to emergency, psychotherapy, rehabilitation, domiciliary care, admissions, housing, recreational activities, work, benefits, etc.

Each item in the "type of intervention" dimension consists of three questions: first the subject is asked if he/she has received the specific intervention (*Question A*: "Did you receive the intervention x in the last year?"). If the answer is "yes" he/she is asked his/her satisfaction on a 5 point Likert scale (1=terrible; 5=excellent) (*Question B*). If the answer is "no", he/she is asked *Question C*: "Do you think you would have liked to receive intervention x?" (6=no, 7=don't know, 8=yes). These questions allow measurement of the subjects' satisfaction both on interventions provided and on the professionals' decision not to provide an intervention. The latter one may be considered a measure of underprovision of care from the patient's point of view.

7) the "*Relative's Involvement*" dimension is constituted by items which cover various aspects of patient's satisfaction with help given to his/her closest relative, such as listening, understanding, advice, information, help to cope with the patient's problems, etc.

The original scale constitutes of 82 items, and after a factor analysis (Ruggeri et al., 1996), two shorter versions have been developed: the *intermediate version*, with 54 items (VSSS-54) and the *short versions*, with 32 items (VSSS-32), used in the present study. The European Version of the VSSS (VSSS-EU) has been developed in 2000 from the VSSS-54 (Ruggeri et al., 2000). All the versions of the scale cover the 7 dimensions described above.

The VSSS has been used in several studies, translated in different languages and adapted if needed to the specific cultural context of interest (Mory et al. 2001; Henderson et al., 2003; Ching et al., 2011; Prot et al., 2011;). The scale has been tested for psychometric properties and showed good acceptability, content validity, test-retest reliability and internal consistency (Ruggeri et al., 1996; Ruggeri et al., 2000). Particularly, the VSSS-32 used in the COFI study allowed a good balance between brevity and multidimensionality.

3.5 Mental health care in participating COFI countries

Participating countries in the COFI study differed by a variety of funding mechanisms, policies and clinical arrangements as well as for traditions and practices for mental healthcare (Giacco et al., 2015). This variety constitutes a strength of the study, as it allows to generalise findings from the countries involved in the COFI to a higher number of countries with similar characteristic. However, it also adds complexity to the study procedure and to the interpretation of the results since it is plausible that some of these cultural and system differences may be reflected in patients' answers about satisfaction with care.

To better understand the present research part, this paragraph aims to provide an overview about mental health care organisation in the five EU-countries participating in the COFI study. However, as mental health policies are complex and include many aspects, a complete presentation of them goes beyond the aim of this thesis and this section mainly focus on three dimensions characterising health systems that may be relevant to focus the setting of the study: 1) the *health system financing and social insurance coverage*, the 2) *freedom of choice and providers* 3) the *continuity of care vs. specialisation* organisation

3.4.1 Health system financing and social insurance coverage

The first dimension regards *health system financing and social insurance coverage* arrangements. In this dimension, we can distinguish three groups of social insurance coverage: those that are based on automatic coverage, those that are based on voluntary health insurance and those that are based on a compulsory social health insurance scheme. In systems based on automatic coverage, care is usually provided mainly by public organisations and funded from taxes in the entire population and are named as *"national health systems" (NHS).* In NHS countries, care is free at the point of delivery, and co-payments may exist for drugs prescriptions. Within the COFI study, Italy and UK belong to this group (Nicaise et al., in preparation).

In systems based on voluntary health insurance, care provision relies on private health providers and insurers. This is, for example, the case of the USA. However, no country included in this study is based on such a system.

Finally, in systems based on a compulsory social health insurance scheme, care is usually provided by private for-profit or non-for-profit organisations and practitioners, receiving funds from the public authorities on income-related contributions. Such systems are called "regulated-market systems" (RMS) (Nicaise et al., in preparation). Within the COFI study, Belgium, Germany and Poland belong to this group, even with significant variation among them, i.e. in Germany about 15% of health coverage is however based on voluntary coverage, particularly for individuals with higher incomes (Busse et al. 2017).

Compared to NHS countries, share of out-of-pocket payments (direct payments made by patients to health care providers at the time of service use) are higher In RMS countries and includes doctors' visits and drugs. Part of these out-of-pocket payments are covered and reimbursed to patients by the social insurance scheme, however, what is covered and in which level differs across the three COFI countries. I.e. share of out-of-pocket payments is lower in Poland, particularly the one dedicated to care providers. In Germany, it has been gradually increased to represent 36.6% of the total out-of-pocket payment (Busse & Blümel, 2014), while Belgium has the highest share of out-of-pocket payments, as a consistent percentage of doctors' visits are charged on patient (Nicaise et al., in preparation).

3.4.2 Freedom of choice of providers

The second dimension regards the extent to which the patient has a liberty of choice of health providers. Traditionally, NHS countries have a restricted freedom of choice of health providers, although several mechanisms have been introduced to extend it (Nicaise et al., in preparation). In COFI NHS countries (UK and Italy), care is organised on a geographical basis: local trusts organise and provide care for delimited catchment areas. Accordingly, a registration with a GP is required within a delimited catchment area and the choice for specialists and hospitals is free within a catchment area. In both countries, a patient can be admitted in any psychiatric ward across the country when he/she stands outside his/her own geographical area, although a referral to a ward serving this area will be planned as soon as possible. Therefore, a patient is admitted to a psychiatric ward and assigned to a clinician

pertaining to his/her catchment area of residence (Boyle et al., 2011; Ferrè et al., 2014).

Conversely, RMS countries tended to have an extensive freedom of choice of providers, although some countries introduced mechanisms to limit it. In COFI RMS countries (Belgium, Germany, Poland), the choice for GP, outpatient specialists and hospitals is basically free although variations exist. For instance, social insurance companies may offer special features or incentives when using specific providers, or, as in Germany, psychiatric hospital may give priority to patients from their serving area even this does not impede a patient to get access to a hospital outside his/her own catchment area or, as the case for Belgium, prices may differ between clinicians and this may interfere the freedom of choice (Gerkens et al., 2010; Sagan et al., 2011; Busse et al., 2014).

3.4.3 *Continuity of care vs. specialisation organisation*

The third dimension of care organisation that we consider is how personal continuity or specialisation are implemented in practice in the COFI participating countries. In NHS countries, continuity of care is basically an organisational decision made at the level of the local health provider (Trusts in the UK, in negotiation with local Commissioners; and *'Azienda Sanitaria Locale'* –ASL, Local Health Authority – in Italy). Local health providers are responsible for different types of services, including inpatient wards and outpatient services, and this may easily decide to organise the personal continuity of care or specialisation of service. However, despite this organisation, several variations may appear in practice and some situations may lead to deliver a different type of care compared to the intention of the system. Basically, this may happen with (i) out-of-area patients, (ii) when there are changes in staff, (iii) when the patient complains about a specific clinician, and (iv) when multiple care pathways are available (Nicaise et al., *in preparation*).

In RMS countries, the variation at the organisational level is much higher and the allocation to personal continuity of care or specialisation systems depend on different variables such as patient and clinicians individual choice (i.e. psychiatrists and patients may decide to organise by themselves the stay in the hospital and the

subsequent outpatient care), social insurance arrangements (some of them may offer integrated care contracts in their package), or even the establishment of one system of care in local and pilot initiatives, i.e in the Hamburg model (Lambert et al., 2014; Karow et al., 2014).

Thus, for patients in NHS systems the main clinician(s) for in-patient and out-patient care is established at system level and, even with some variations, the clinician that will follow the patients after the hospital discharge is already established during the admission. On the contrary, for patients in RMS countries, the main clinician(s) is not established at system level and before the hospital discharge there may be different agreements according to the single case.

Chapter 4 - Factors associated with satisfaction of inpatient psychiatric care: A cross country comparison in the frame of the COFI study

This research chapter will address the second aim of the thesis by assessing factors associated with satisfaction with inpatient mental health care in five European countries. It represents a preliminary draft of a paper in preparation. As for the

research paper, the chapter is divided into introduction, methods, results and discussion. However, less space will be given to the introduction part in order to avoid repetitions within the thesis of concepts previously exposed (Chap. 1).

4.1 Introduction and aims

Inpatient care involves an overnight or longer stay in a psychiatric hospital or psychiatric unit of a general hospital where treatments are provided for patients experiencing serious episodes of mental illness who cannot be adequately supported in the community environment. Patient satisfaction with inpatient setting is a key indicator of inpatient care quality and is associated with outcomes following admission, trust end future engagement with the mental health system (Shields et al., 2017). Particularly, initial satisfaction with inpatient care, e.g. as measured within the first week of admission, has been shown to be a reliable indicator of clinical outcomes including readmission rates one year following discharge and, for those admitted involuntarily, longer hospitalisations (Wykes et al, 2017). Patients who are more satisfied with the admission after a few days, are likely at discharge to see the involuntary admission as necessary while patients who perceive inpatient mental health care negatively are more likely to require a further admission (Priebe et al., 2009). Furthermore, previous research has shown a link between initial treatment satisfaction and global psychopathology in different groups of psychiatric patients, with higher satisfaction associated with more favourable outcomes (Broker et al., 1995; Priebe et al., 1994; Priebe et al., 1995; Priebe et al., 2009; Richardson et al., 2011; Vermeulen et al., 2018). Thus, understanding which factors are associated with satisfaction with inpatient care may be of particular interest to favour patients' prognosis. A recent systematic review of factors associated with inpatient care satisfaction identified a number of key patient characteristics across different studies (Woodward et al., 2017). However, most of them have been inconsistently linked with satisfaction within previous research (Tab 1.1, Chap. 1) and limits of current literature have been discussed above in this dissertation (Chap. 1). At present, associations between patient characteristics and satisfaction are not clear and the evidence is insufficient to determine whether certain patient factors are linked to satisfaction and if they may differ across countries with different

mental health systems, or whether the same factors are consistent across different countries. In order to address the second aim of the thesis, the three specific sub-aims of this chapter are to assess a) which patient factors are associated with initial satisfaction with inpatient mental health care across five European countries (Belgium, Germany, Italy, Poland, United Kingdom [UK]). b) whether there are differences in patient satisfaction across five European countries and c) whether there is an interaction between any patient characteristics and country.

4.2 **Methods**

4.2.1 Study design and participants

The present study was conducted in inpatient units across five different European countries (Belgium, Germany, Italy, Poland, United Kingdom [UK]). Data were collected as part of the COFI project (Chap. 3). Within each country, the hospitals which took part in the COFI study were purposively selected to include a range of rural, urban or semi-urban locations. Hospitals also varied with regards to the organisation of mental health care across in and outpatient services.

4.2.2 Procedure

Patients admitted to adult psychiatric wards within 57 hospitals between 1st October 2014 and 31st December 2015 were screened to determine eligibility for the study (see Chapt 1 for details on eligibility criteria and study procedures). All eligible patients with an ICD-10 diagnosis of psychotic (F2), affective (F3) or anxiety/somatisation (F4) disorder were initially approached by a researcher within 48 hours of admission. The researcher provided information about the study and obtained written informed consent prior to completing the questionnaire containing the study measures. The questionnaire was completed in a face-to-face interview with the researcher and included data on socio-demographic characteristics, social situation, and satisfaction with inpatient care as measured by the Client Assessment of Treatment (CAT) (Priebe & Gruyters, 1995). Additional information relating to psychiatric and non-psychiatric diagnoses (according to ICD-10) at admission, severity of illness as measured on the Clinical Global Impression Scale – Severity

Scale (CGI-S) (Guy, 2000), and details of the admission including length of stay and formal status were obtained from medical records (where available) or from the treating clinician. See para. 3.3., Chap.3 for details on data collected at BL in the COFI study.

4.2.3 Outcome variable

The primary outcome of interest within the present paper was initial satisfaction with inpatient care as measures on the Client Assessment of Treatment Scale (CAT) (Priebe & Gruyters, 1995), a 7-items, 10 point-likert scale to assess initial satisfaction with inpatient care. Details on the CAT scale have been provided above in this dissertation (Chap. 3)

4.2.4 Predictor variables

Variables tested within the analysis were selected based on the available evidence highlighted in an existing review (Woodward et al., 2017). Thus, the following variables were included: age, gender, marital status, migrant status, education, homelessness, living alone, unemployment, diagnosis of psychotic disorder, comorbid diagnosis of personality disorder, comorbid diagnosis of substance misuse, CGI score indicating symptom severity, first admission versus repeat admission, and legal status of the admission. To measure social isolation, patients were asked to record whether a) they had met a friend in the previous week and b) whether they had anyone they would call a close friend.

4.2.4 Statistical analysis

The mean for the CAT was calculated for each person. As data was collected at the time of recruitment, missing data was minimal. Where more than 20% of the data was missing for the CAT, cases were excluded from the statistical analysis. Where 20% of the data or less was missing, the means of the non-missing items were used to replace missing values. Descriptive statistics were calculated for the other socio-demographic variables, mean and standard deviation or frequencies were used as appropriate. Associations between individual patient-level variables and

satisfaction were tested using mixed effects linear regression models with a random intercept for hospital. Each variable with a univariate association with satisfaction that was significant at $p \leq 0.1$ level was then simultaneously entered in a mixed effect multivariable regression model with a random intercept for hospital. The multivariable model was adjusted for country effects as a fixed factor. Following this, we estimated mean and standard deviation for satisfaction in each country, adjusted for significant predictors in the multivariable model. In a second step, an interaction term was fitted between any variable showing a significant association in the multivariable model ($p<.05$) with satisfaction and country, adjusted for all other significant predictors, including a random intercept for hospital. The statistical analyses were conducted using STATA version 14.0.

4.2 Results

4.3.1 Sample Characteristics

In total, 24776 participants were screened within the study period. Of these, 14359 were eligible for inclusion and 7665 recruited, giving an opt-in rate of 54% (Figure 4.1). Of the recruited participants, 359 individuals (4.6%) were retrospectively excluded at the point of discharge as the working diagnosis of F2-F4 was not confirmed. Thus, 7306 eligible individuals made up the final sample recruited and were included in the analysis.

Of the 7306 patients recruited in the study 1045 were recruited in Belgium, 1060 in Germany, 1118 in Italy, 1374 in Poland, and 2709 in the UK. The socio-demographic and clinical characteristics of the total sample and of participants in each country are shown in Table 4.1. Patients differed significantly in terms of socio-demographic variables across countries.

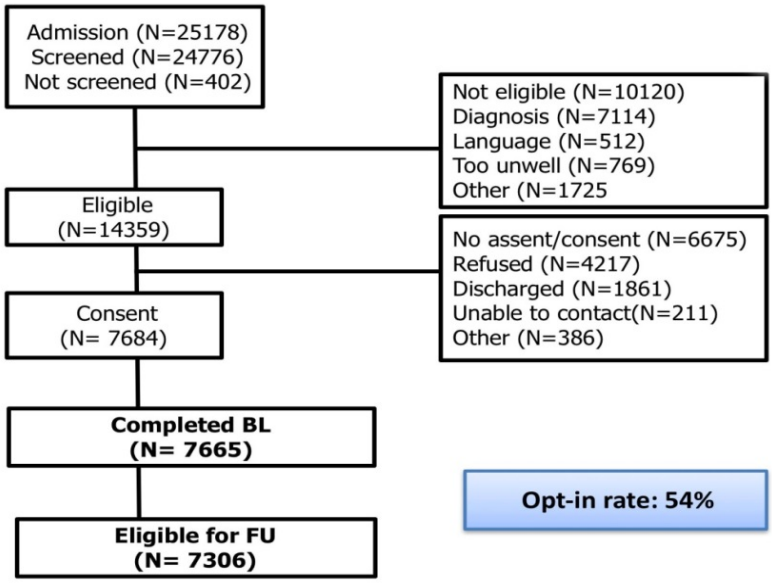

Fig 4.1 *COFI Consort diagram of recruited patients at BL*

Mean age was 42.4 age (14.3 sd) across sites, with the oldest patients in Italy and the youngest in UK; more men were admitted in UK compared to other countries (58.7%), especially Belgium, where more women were likely to be admitted (56.9%); patients in Italy and Poland were more likely to be married or co-habiting then those in UK and Germany and this is also reflected in the significant difference in the living situation among countries. Education level also differed: patients in UK and in Italy had received the highest level of education while those in Belgium and in Poland the lowest. UK had the greatest percentage of migrant patients (20.8%), especially compared to Poland, which had the lowest (1.5%). More individuals in UK were homeless (8.4%) compared to the other countries, especially Italy (0.6%). Most patients were unemployed and this was especially so in UK (66.1%). Across countries, most of the patients recruited were admitted with a diagnosis of mood (49.3%) or psychotic (40.1%) disorders while the percentage of those admitted with a diagnosis of anxiety was lower (18.3%). For most of the patients, the BL admission was not the first admission to a psychiatric hospital (66.6%).

	Belgium (n 1045)	Germany (n 1060)	Italy (n 1118)	Poland (n 1374)	UK (n 2709)	Total Sample (n 7306)
Age, mean (SD)	43.3(14.3)	41.4 (15)	47.0(14.0)	42.3(14.8)	40.6(13.5)	42.4 (14.3)
Gender, male, N (%)	450 (43.1)	558 (52.6)	547 (48.9)	674 (49.1)	1584 (58.7)	3813 (52.2)
Marital status, N (%)						
married or co-habiting	251 (24.5)	158 (14.9)	373 (33.5)	450 (32.8)	556 (20.8)	1838 (25.4)
single	492 (48.0)	626 (59.2)	519 (46.7)	628 (45.8)	1657 (62.5)	3922 (54.2)
separeted/divorced	237 (23.2)	197 (18.6)	169 (15.2)	214 (15.6)	404 (15.1)	1221 (16.9)
widow	44 (4.3)	26 (2.5)	51 (4.6)	80 (5.8)	57 (2.1)	258 (3.6)
Born in the same country, yes, N (%)	912 (87.3)	909 (85.7)	980 (87.7)	1353 (98.5)	2146 (79.2)	6300 (86.2)
Education level						
Primary education or less	206 (19.7)	198 (18.7)	102 (9.1)	457 (33.3)	297 (11.0)	1260 (17.2)
Secondary education	498 (47.7)	376 (35.5)	481 (43.1)	583 (42.4)	1046 (38.7)	2984 (40.9)
Tertiary/further education	280 (26.8)	464 (43.7)	524 (46.9)	329 (23.0)	1310 (48.3)	2907 (39.8)
Other	41 (4.0)	21 (2.0)	8 (0.8)	4 (0.2)	42 (1.5)	116 (1.5)
Accommodation, N (%)						
Homeless,	48 (4.6)	41 (3.9)	7 (0.6)	36 (2.6)	226 (8.4)	358 (4.9)
Supported accommodation	72 (7.0)	69 (14.2)	49 (4.5)	31 (2.3)	264 (9.8)	485 (6.7)
Independent accommodation	910 (88.3)	946 (89.6)	1025 (94.8)	1295 (95.1)	2191 (81.7)	6367 (88.3)
Living alone, yes, N (%)	384 (36.8)	517 (48.8)	259 (23.2)	287 (21.1)	1202 (45.0)	2649 (36.5)
Employment, N (%)						
None	528 (50.6)	406 (38.5)	415 (37.3)	715 (52.2)	1782 (66.1)	3846 (52.9)
Voluntary/protected	17 (1.6)	26 (2.5)	55 (4.9)	5 (0.4)	67 (2.5)	170 (2.3)
Paid employment	232 (22.2)	344 (32.6)	347 (31.1)	451 (32.9)	619 (23.0)	1993 (27.4)
Retired	97 (9.3)	221 (20.9)	274 (24.6)	274 (24.6)	155 (5.8)	930 (12.8)
Other	169 (16.2)	58 (5.5)	23 (2.1)	23 (2.1)	71 (2.6)	338 (4.6)
Receiving benefits, yes, N (%)	653 (62.7)	419 (39.5)	337 (30.2)	630 (45.8)	1826 (67.4)	3865 (52.9)
Having met friend, yes, N (%)	610 (58.4)	624 (58.9)	614 (54.9)	940 (68.4)	1581 (58.4)	4369 (59.8)
Have a close friend, yes, N (%)	703 (67.3)	826 (77.9)	687 (61.4)	1032(75.1)	1965 (72.5)	5213 (71.4)
Diagnosis at admission, N (%)						
F2- Psychotic disorders	329 (31.5)	347 (32.7)	425 (38.0)	737 (53.6)	1155 (42.6)	2993 (40.1)
F3- Mood Disorders	606 (58.0)	674 (63.6)	541 (48.4)	407 (29.6)	1371 (50.6)	3599 (49.3)
F4- Anxiety Disorders	211 (20.2)	278 (26.2)	157 (14.0)	264 (19.2)	427 (15.8)	1337 (18.3)
Psychiatric comorbidity, yes N (%)	461 (44.2)	642 (27.5)	91 (8.1)	317 (23.1)	826 (30.5)	2337 (32.0)
First admission, yes, N (%)	367 (35.1)	355 (33.5)	342 (30.6)	460 (33.5)	915 (33.8)	2439 (33.4)
Voluntary admission, yes, N (%)	869 (83.4)	986 (93.0)	1023 (91.5)	1238 (90.1)	1551 (57.3)	5667 (77.6)
Clinical Global Impression score, mean (SD)	3.2(0.9)	4.8(0.9)	4.6(0.8)	4.2(1.0)	4.4(1.4)	4.3 (1.2)

Table 4.1 Socio-demographic and clinical characteristics of the sample at the admission

4.3.2 Satisfaction with inpatient care

In total, 6024 patients completed the CAT (<20% missing items). There were not significant differences in terms of socio-demographic variables and clinical/admission characteristics between CAT respondents and not respondents. Mean CAT for the total sample was 7.3 (2.2 sd) and significantly differed across countries (One-way Anova, p< 0.00). A Bonferroni post-hoc test showed that mean satisfaction was significantly lower in UK compared to the other countries (p<0.001) (Table 4.2)

	Belgium N=969	Germany N=1023	Italy N=1031	Poland N=1296	UK N=2547	Total sample N=6204
CAT (mean,sd)	7.8(1.6)	7.5(1.7)	7.5(2.1)	7.6(2.1)	6.8(2.4)	7.3 (2.2)

Table 4.2 mean CAT score across COFI countries

4.3.3 Variables associated with satisfaction with care

In univariate associations variable as gender, migrant status, being homeless, receiving benefit and having a comorbidity substance misuse did not show an association at p≤0.1 level with satisfaction (Table 4.3). Thus, they were excluded from the subsequent multivariate model. This meant that 12 variables ('age', 'being married', 'education', 'living with others', 'employment', 'seen a friend', 'seen a close friend', 'CGI score', 'comorbidity personality disorder at admission', 'psychosis at admission', 'first admission' and 'admission status') were entered into the multivariate mixed linear regression to test their association with satisfaction with care. The results of the multivariable regression analysis are shown in Table 4.3.

Variables	Univariate linear regression				Multivariate linear regression*			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Gender – Male[a]	0,063	-0,038	0,165	0,223				
Age	0,011	0,008	0,015	<0.0001	0,012	0,008	0,016	<0.0001*
Not married[b]	-0,288	-0,404	-0,172	<0.0001	-0,117	-0,253	0,019	0,093
Tertiary or further education[c]	-0,309	-0,414	-0,205	<0.0001	-0,305	-0,416	0,194	<0.0001*
Born in the country	-0,076	-0,228	0,077	0,331				
Homeless[d]	-0,105	-0,347	0,136	0,393				
Living with others[e]	0,203	0,096	0,309	<0.0001	0,203	0,079	0,327	<0.0001*
Paid employment[f]	0,152	0,037	0,266	0,010	0,117	-0,006	0,239	0,062
Receiving benefits	-0,032	-0,137	0,074	0,556				
Seen a friend	0,107	0,004	0,210	0,042	0,044	-0,071	0,159	0,451
Having a close friend	0,219	0,105	0,332	<0.0001	0,230	0,105	0,356	<0.0001*
Clinical Global Impression score	-0,170	-0,218	-0,122	<0.0001	-0,111	-0,162	0,060	<0.0001*
Substance misuse	0.012	-0,127	0,151	0,867				
Psychosis at admission	-0,129	-0,232	-0,026	0,014	0,118	0,001	0,235	0,049*
Personality Disorder Comorbidity	-0,165	-0,341	0,011	0,067	-0,205	-0,395	0,015	0,034*
First admission	0,161	0,054	0,267	0,003	0,125	0,008	0,242	0,036*
Voluntary admission	0,869	0,740	0,998	<0.0001	0,777	0,634	0,919	<0.0001*

**Adjusted for the effect of each country and hospital as random intercept*

[a] Reference category= female; [b] *Reference category= Married/Co-habiting;* [c1]*Reference category = secondary education or less;* [d 2]*Reference category = not homeless;*
[e] *Reference category= living alone*; [f] *Reference category = unpaid employment;*

Some of the variables tested in the multivariate model such as having a higher education, a higher CGI score, a personality disorder in comorbidity, a history of previous admissions and an involuntary legal status were all associated with lower satisfaction score. On the contrary, other variables such as having a diagnosis of psychotic disorder, being older, having a close friends and living with others were all significantly associated with higher satisfaction score.

4.3.5 Interaction effects of patient characteristics and country

When the means and standard deviations of satisfaction in each country were adjusted for the influence of all predictor variables that were significant in the multivariable model there was still a significant difference between country, with patients in UK significantly less satisfied: Belgium 7.8 (sd 0.4), Germany 7.5 (sd 0.4), Italy 7.6 (sd 0.4), Poland 7.9 (sd 0.4), UK 6.9 (sd 0.5) ($p<0.001$).

None of the variables included within the model were shown to have a significant interaction with country, thus the impact of each variable on satisfaction with care did not significantly differ across countries.

4.4 Discussion

Across a large sample of inpatients in five different European countries, several variables were found to be associated with initial satisfaction with inpatient mental health care. Variables concerning patients' social situation and that may indicate the presence of a social network, such as 'having a close friend' and 'living with others' where associated with higher satisfaction score, while indicators of clinical severity ('personality disorder comorbidity', 'multiple admissions' 'involuntary admission', 'lower CGI score') were associated with lower level of satisfaction. Socio-demographic variables such as 'age' and 'education level' were associated with satisfaction too, the first in a positive direction and the last in a negative direction. Finally, we found an effect of diagnosis, with patients with a diagnosis of psychosis at admission more satisfied. Impact of these variables on satisfaction did not vary across countries. However, patients in UK were significantly less satisfied with inpatient care compared to patients in the four other countries, even after adjusting for significant associated factors.

4.4.1 Strengths and limitations

The main strength of the present study relates to the large sample size of over 7000 patients, recruited from 57 hospitals across five European countries which vary in terms of service organisation and culture. Within each country more than 1000 patients were included, with a consistent methodology used to approach and recruit patients across the different hospitals and countries. This large sample size allowed us to test for a range of patient characteristics within a single multivariate model. Furthermore, the large sample allowed for interaction effects by country to be tested. Another strength of the study was that satisfaction with care was assessed as early as possible during the inpatient admission. Within most previous studies, satisfaction has been assessed without a clear time frame following the admission (Svensson et al., 1994; Alexius et al., 2000; Kousmanen et al., 2006; Boydell et al., 2010), just before the discharge (Paludetto et al., 2015) or retrospectively following discharge from hospital (Brunero et al., 2009; Gebhardt et al., 2013; Krupchanka et al., 2017). This may have led to a sample bias such that individuals admitted for only a short period or less than one week would not be included. Also, evidence suggested that appraisals of satisfaction typically change following discharge (Stevens et al., 2006).

However, the study also has three major limitations. Firstly, we approached all admitted patients but only 50% of them agreed to participate, and the effect of this selection is impossible to establish. However, recruiting people into research (rather than using anonymised data) allowed a deeper and detailed assessment of some variables. Secondly, the number of patients in the UK was much higher than in the other countries. In order to overcome this problem, we adjusted for country effect as a fixed variable in the multivariate model. However, different sample sizes across countries can still influence the statistical significance of interaction effects. Finally, we did not collect data on some factors linked to the service which have also been linked to satisfaction, especially within inpatient care, such as perceived freedom or physical characteristics of the ward. These latter variables about physical characteristics of the ward have been however assessed within the COFI study in a subsample of hospitals in UK and in Italy and results will be presented elsewhere (Jovanich et al., in preparation).

4.4.2 Comparison with literature

Our findings are largely consistent with the existing literature assessing the patient characteristics associated with satisfaction with inpatient care. However, unlike previous studies, we assessed the initial experience and appraisal of care during the first days after the admission, rather than retrospectively assessing it following discharge (Woodward et al., 2017). Particularly, our study confirmed the association of satisfaction with some variables for which the literature reports more consistent findings, like being involuntary admitted, being younger, having a personality disorders and indicators of greater severity of illness (Table 1.1) At the same time, this study may provide a contribution in clarifying the association between satisfaction and other variables for which results in literature are more inconsistent, like the education level, the diagnosis or the gender effect (Table 1.1) Furthermore, we considered variables less tested in previous research, such as having a close friend and living with others, which have a positive association with satisfaction and may be seen as indicators of having a social network (Palumbo et al., 2015). What this study adds to the current literature is that the value of the direction of these associations does not vary substantially across countries and that there are no interactions between factors and country. So, the factors that we identified show a positive or negative association with satisfaction independently from the country-specific context. Previous studies conducted in one country could not explore this nor studies conducted in more countries but with a limited sample size which does not allow for a reasonable testing of the interaction effects (Ruggeri et al., 2003; Krupchanka et al., 2017). However, even if no interactions were found between variables and countries, patients in the UK were significantly less satisfied with inpatient care compared to patients in the other four countries, and this was so even after adjusting means for patients' factors associated with satisfaction, such as being involuntary admitted, which was more likely for patients in the UK. These differences between countries may be interpreted as due to other site-specific factors such as cultural and economic factors, health service organisation factors, service provision and access factors, which are plausibly reflected in the reported level of satisfaction with care.

4.4.3 Implications and future directions

Understanding which patient factors are associated with satisfaction with care is important when planning and delivering mental health services. Findings of this research part offer valuable for developing and maintaining the quality of services and implementing client-centred care in psychiatry. Patients' individual characteristics, such as age, severity of the illness and the type of admission need to be taken into account when developing and planning psychiatric inpatient care. Indeed, mental health services should implement actions to be more targeted for young people and for complex clinical cases (patients with multiple diagnoses, severely ill patients, involuntarily admitted patients)

Also, as we found an association between indicators of social networks and satisfaction, action to promote social connectedness in patients should be implemented by mental health services across countries as literature suggest that enhancing patients' social networks can also improve symptoms, quality of life and treatment outcomes (Siette et al., 2015).

Regarding directions for future research, as country differences in satisfaction are not explained by different patient factors assessed in the present study, factors such as cultural contexts, clinical practices and differences in the organisation of care provision should be explored more carefully.

Chapter 5 – Service configuration and predictors of patient satisfaction with community mental health care across five European countries involved in the COFI study

This research chapter will address the third and last aim of the thesis by assessing which service configuration and patient factors are predictors of patient satisfaction with community mental health care after 1 year from a hospital admission and whether there are differences in patient satisfaction across five European countries. This chapter describes preliminary analysis from an on-going investigation on satisfaction data derived from the COFI study. As for the previous chapter, it is divided in a short introduction, methods, results and discussion.

5.1 Introduction and aims

Among economically developed European countries, between 1950s and 1990s, we assisted to a process of deinstitutionalization from psychiatric hospitals to a shift towards the provision of community-based services for people with mental illnesses. The exact time and process of de-institutionalisation varied a lot across countries as well as the resulting organisation of community mental health care that has been established in each country (Fakhoury & Priebe, 2007). According to Thornicroft et al., (2011) common features of community mental health care 'comprises the principles and practices needed to promote mental health for a local population by: 1) addressing population-based needs in ways that are accessible and acceptable; 2) building on the goals and strengths of people who experience mental illnesses; 3) promoting a wide network of supports, services, and resources of adequate capacity; and 4) emphasizing services that are both evidence-based and recovery-oriented.' Community mental health services have assumed a central role in the care of psychiatric patients and patients' satisfaction with these services is a key element to pursue and to assess (Ruggeri, 1994). We mentioned above how satisfaction is crucial for treatment adherence, to prevent early drop out and for the success of the care itself. It has been shown that those with mental illness have particularly high drop-out rates during the course of care, reflecting poor engagement with services (Mitchell & Selmens, 2007) and that this is linked to increased risk of relapse and hospital readmission (Novick et al., 2010). Therefore, attention to factors that may affect satisfaction with community mental health should be guaranteed. Limits of current research on this field have been discussed

before in this thesis and a lack of clarity exists about factors that may predict patients' satisfaction and if they may differ across countries. Particularly, the majority of the studies focus on patient-related factors linked to satisfaction rather than focusing on characteristics of the care system which may lead to higher satisfaction ratings and which also are potentially more modifiable. In addition, most of the studies regarding satisfaction with community mental health care have a small sample size or were conducted in a single country (Howard et al., 2007; Di Silva et al., 2012, Holikatti et al. 2012, Robillos et al., 2014, Sohn et al., 2014,). Where more countries were involved (Ruggeri et al., 2003; Henderson et al., 1999) the study design was cross-sectional and just a few studies analysed predictors of care satisfaction using a longitudinal approach (Prince et al., 2005, Ruggeri et al., 2007). Moreover, few studies used a quantitative methodology to assess if the service configuration – that is having the same clinician across in-patient and out-patient services (continuity of care systems) or having different clinician according to the service of care (specialization of care systems) - may lead to higher satisfaction with care (Puntis et al., 2015).

Thus, the specific aims of this last research chapter are to assess, after 1 year from a psychiatric hospital admission a) which patient characteristic may be considered predictors of satisfaction with community mental health care across five European countries; b) which service configuration (continuity of care vs. specialisation) may lead to higher satisfaction with community mental health care across five European countries c) whether there are differences in level of satisfaction across five European countries

5.2 Methods

5.2.1 Study design and participants

This is a longitudinal prospective study conducted across five different European countries (Belgium, Germany, Italy, Poland, United Kingdom [UK]) as part of the COFI study (see Chap. 3 for study details). In this study, we followed up for 1 year patients who, at the point of entry in the research, were hospitalised within care services adopting either a *specialisation* or a *personal continuity* approach. *Specialisation approaches* are defined as those in which different primary clinicians are responsible for the treatment of a patient, depending on whether the patient is in the inpatient or outpatient care, while *personal continuity approaches* are defined as those in which the same primary clinician is responsible for both inpatient and outpatient care of a patient (Giacco et al., 2015). Participant in the study were patients admitted to 57 psychiatric hospital with a diagnosis of psychotic disorder [F20–29], affective disorder [F30–39] or anxiety/somatisation disorder [F40–49] and with sufficient command of the language of the host country to provide written informed consent and to understand the questions in the research interviews. We excluded patients with a diagnosis of organic brain disorders or too severe cognitive impairment for providing information on the study instruments.

5.2.2 Procedures

Baseline data collection

Baseline (BL) data collection took part during the hospital admission, between 1st October 2014 and 31st December 2015, where a set of variables were collected in face to face interviews for patients who consented to participate in the study (Chap.3). Among these, socio-demographic variables, information on the admission, an index of clinical severity rated by the treating clinician (Clinical Global Impression Scale – CGI; [Guy, 2000]), whether the patient had a close friend or had met a friend and satisfaction with inpatient care measured with the CAT scale (Priebe et al., 1995), usually within 48 hours from the admission.

Follow up evaluation

After one year from the BL assessment, from 1st October 2015 to 31st December 2016, a randomly selected sub-sample of patients between 18-65 years and with a confirmed diagnosis of psychotic ([F20–29), affective (F30-39) or anxiety (F40-49) disorders at the time of hospital discharge, were re-approached from the COFI

research staff via phone or by asking treating clinician to do face to face follow-up (FU) interviews. If patient agreed to participate, an appointment was arranged and a set of variables were collected (Chap. 3). Among these, satisfaction with community mental health care measured with the VSSS-32 (Ruggeri et al., 1993).

5.2.3 *Outcome variable*

The primary outcome of interest within the present study was satisfaction with community mental health care assessed after one year from a psychiatric hospital admission and measures with the Verona Service Satisfaction Scale-32 (VSSS-32). Back-translations and cultural adaptations of the scale were available for the participating countries. The VSSS-32 provides 7 scores for seven dimensions of satisfaction with care (*Overall satisfaction; Professionals' skills and behaviour; Information; Access; Efficacy; Types of intervention;* and *Relative's involvement*) plus a total score. Subjects were asked to express their overall feeling about their experience of the mental health service they have been attending in the last year by rating their satisfaction on a 5-point Likert scale (1-terrible, 2-mostly dissatisfactory, 3-mixed, 4-mostly satisfactory, 5-excellent).

5.2.4 Predictor variables

Type of care was entered as a predictor variable following the intention-to-treat (ITT) principles, defined for the COFI study as the intended arrangement of care for participants, i.e. specialisation or personal continuity type of care. This is mandated at a service level in Italy and United Kingdom (where it is based on a catchment area) and at a participant-level in Germany, Belgium and Poland (where this is based on a clinical decision or regulated by insurance arrangements). Therefore, information on the allocation to a type of care was available in Italy and UK at the time of admission, while for the other countries it was available at admission or at discharge, depending on the patient.

Moreover, the following variables collected at BL were included as predictors on the basis of the existing literature and on the previous BL study (Chap.4): age, gender, marital status, migrant status, education, accommodation, living situation, employment status, benefits, diagnosis at discharge (F2, F3, F4), comorbid

psychiatric diagnosis at admission, CGI score indicating symptom severity, first admission versus repeat admission, legal status of the admission, length of hospital stay, measures of social networks recorded whether a patient a) had met a friend in the previous week and b) had anyone that would call a close friend). Social situation was also calculated using the SIX index (Priebe et al., 2008), which ranges from 0 to 6 on the basis of the data on employment, accommodation, living situation and friendships (whether the patient met a friend within the last week or not).

5.2.4 *Statistical analysis*

The mean for the VSSS total score and sub-scales was calculated for each person. Where more than 20% of the items pertaining a dimension was missing, that dimension was not calculated. Where 20% of the items or less was missing, the mean of the non-missing items pertaining that specific dimension was used to replace the missing items and to calculate the dimension mean score. The same procedure was adopted for the VSSS total score.

Descriptive statistics were calculated for the socio-demographic variables of patients who completed >20% of the VSSS items, mean and standard deviation or frequencies were used as appropriate. In order to explore representativeness of the sample, we compared socio-demographic and clinical variables of VSSS-respondents (20% or less missing items) and VSSS non-respondent (more than 20% missing items).

Analysis of variance and Bonferroni post hoc tests were performed to assess the significant differences in VSSS total score and subscales among countries.

To assess the difference on the basis of the type of care (continuity vs. specialization) analysis of variance was used to compare means on VSSS, both across countries than within the same country.

Associations between individual variables and satisfaction (VSSS subscales and total score) were estimated using mixed effects linear regression models with a random intercept for hospital and by including country and type of care as fixed effects. Variables with $p \leq 0.10$ were then simultaneously entered into a mixed effect multivariable regression model with a random effect for hospital and country and type of care as fixed effects.

The alpha level was set to 0.05 for all tests. The statistical analyses were conducted using STATA version 13.0.

5.3 Results

5.3.1 VSSS respondents and missing data

Out of 7306 pts who completed the BL assessment, 4199 patients were randomly selected for the face to face FU evaluation after one year. Of them, 4039 were approached from COFI researchers and 2181 accepted to be interviewed face to face and made up the final sub-group sample (Fig 5.1)

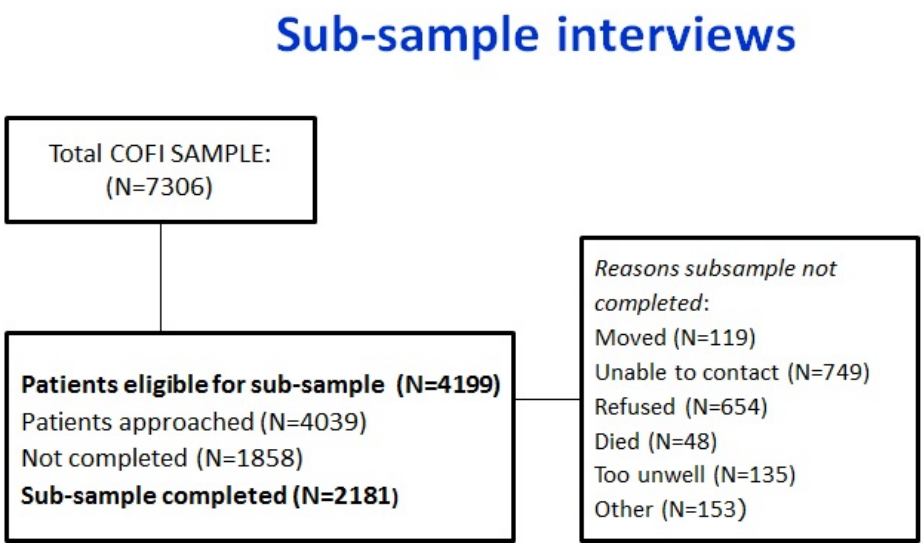

Fig 5.1 sub-sample consort diagram

Of the sub-group patients, 2169 completed the VSSS. Of them 245 were excluded from the analysis as they had more than >20% of missing items in the VSSS; it resulted in a total of 1936 cases that have been entered for the statistical analysis (Fig 5.2).

Comparison of characteristics between VSSS respondents and VSSS non-respondents and between cases with more than 20% of missing data and cases with less than 20% of missing data did not find significant differences.

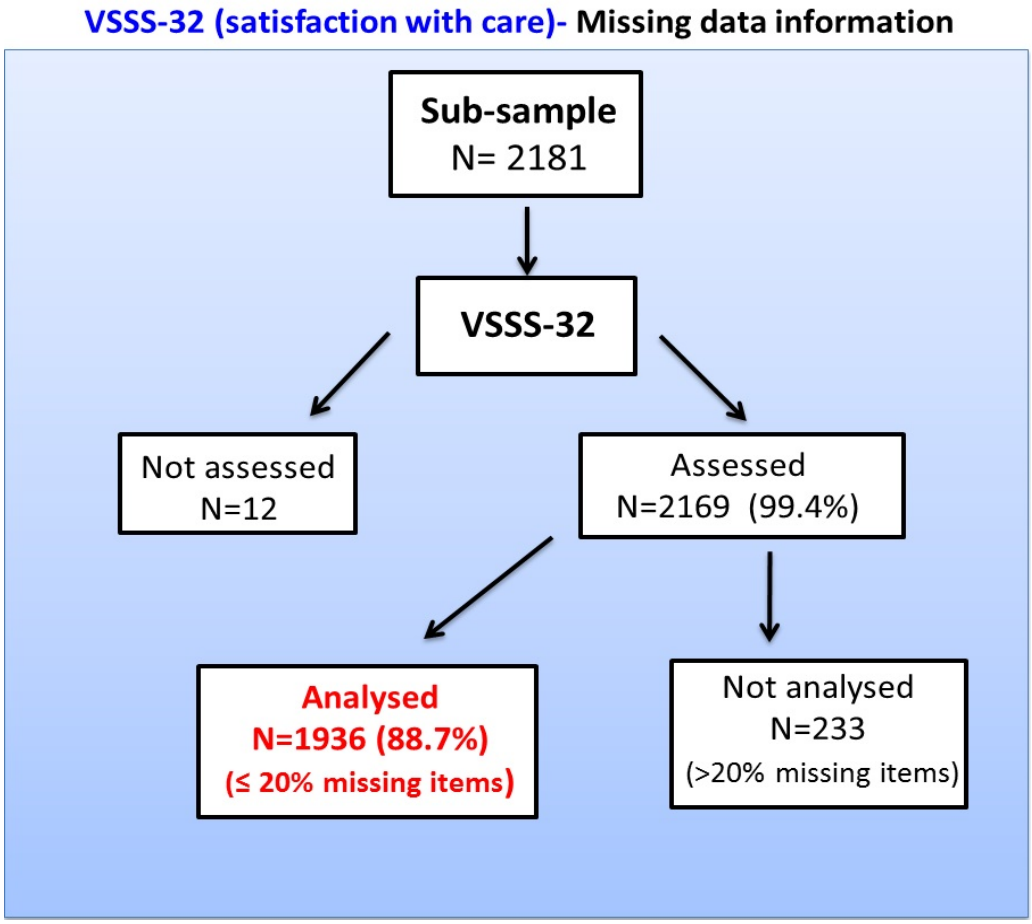

Fig 5.2 VSSS missing data flow-chart

5.3.2 Sample characteristics

Socio-demographic and clinical characteristics of patients which completed the VSSS (≤20% missing items) in the five COFI countries and in the whole sample are reported in table 5.1. There were significant differences across countries in terms of socio-demographic variables that mainly reflect the characterisation of the sample already described at BL (Chap.4). Still, most of the patients in the present sub-group were discharged with a diagnosis of mood (46.9%) or psychotic (36.6%) disorders while percentage of those with a diagnosis of anxiety was lower (16.5%). The average length of stay (LoS) in the total sample was 39.4 days (SD 49.9). Patients in Belgium had the longest LoS (mean 55.1, sd 62.4), while patients in Italy had the shortest LoS (17.9, sd 16.6). In terms of type of care (continuity of care vs. specialisation), the minority of patients were treated within a continuity of care system (36.7%).

5.3.3 Satisfaction with community mental health care across COFI Sites

Table 5.2 shows means in the various VSSS-32 dimensions and in the total score across COFI countries and in the whole sample.

In the whole sample, level of satisfaction for each dimension varies from 3.29 for *relative's involvement* to 3.81 for *overall satisfaction*. Between these extremes, the domains of care where patients were more satisfied were *professionals' skills and behavior* (3.76)*, access (3.68)*, *type of intervention* (3.61), *efficacy* (3.48) and *information (3.45)*.

Satisfaction along the various dimensions significantly differed across sites. In general terms, higher scores were observed in Italy and Germany and lower scores in UK and Poland. However, some peculiarities in these differences according to the specific subscale can be observed (Tab. 5.2). Indeed, satisfaction with *relatives' involvement* was highest in Italy compared to all the other countries; Poland showed significantly lowest satisfaction score in the dimension *access* while satisfaction with the *type of intervention* received was highest in Belgium compared to the other countries but patients in Belgium and in UK reported the lowest level of satisfaction with the *information* received.

	Belgium (N=268)	Germany (N=299)	Italy (N=332)	Poland (N=368)	United Kingdom (N=669)	Total Sample (N 1936)
Age, mean (SD)	40.8 (12.1)	38.8 (12.8)	43.3 (11.7)	40.7 (12.9)	40.6 (11.9)	40.8 (12.3)
Age, >40, N (%)	146 (54.5)	133 (44.6)	208 (62.8)	184 (50.1)	336 (50.6)	1007 (52.2)
Gender, male, N (%)	115 (42.9)	156 (52.2)	171 (51.5)	180 (49.0)	373 (55.9)	995 (51.5)
Marital status:						
Single, N (%)	121 (46.2)	172 (57.5)	177 (53.5)	162 (44.0)	380 (57.8)	1012 (52.8)
Married or cohabiting, N (%)	74 (28.2)	70 (23.4)	98 (29.6)	128 (34.8)	167 (25.4)	537 (28.0)
Separated or divorced, N (%)	63 (24.0)	54 (18.1)	51 (15.4)	64 (17.4)	103 (15.7)	335 (17.5)
Widowed, N (%)	4 (1.5)	3 (1.0)	5 (1.5)	14 (3.8)	7 (1.1)	33 (1.7)
Born in the same country, yes, N (%)	235 (88.0)	260 (87.0)	299 (90.1)	362 (98.4)	542 (81.0)	1698 (87.8)
Education level:						
Primary education or less, N (%)	39 (14.7)	51 (17.1)	15 (4.5)	117 (31.8)	52 (7.8)	274 (14.2)
Secondary education, N (%)	132 (49.6)	103 (34.4)	154 (46.5)	153 (41.6)	226 (33.9)	768 (39.8)
Tertiary/further education, N (%)	92 (35.0)	145 (48.5)	162 (48.9)	97 (26.4)	384 (58.0)	880 (45.8)
Accommodation:						
Homeless, yes N (%)	8 (3.0)	5 (1.7)	1 (0.3)	6 (1.6)	37 (5.6)	57 (3.0)
Supported, other N (%)	14 (5.3)	15 (5.0)	25 (7.5)	11 (3.0)	50 (7.5)	115 (6.0)
Independent, N (%)	244 (91.4)	278 (93.0)	306 (92.2)	351 (95.4)	576 (86.5)	1755 (90.8)
Living situation:						
Living alone, yes, N (%)	106 (39.7)	140 (47.1)	95 (28.6)	79 (21.8)	305 (47.0)	725 (38.0)
Employment:						
None, N (%)	141 (52.8)	104 (34.9)	186 (36.0)	208 (56.8)	411 (61.8)	1050 (54.5)
Voluntary/student/other(%)	60 (22.5)	71 (23.8)	27 (8.1)	18 (4.9)	74 (11.1)	250 (13.0)
Paid employment, N (%)	66 (24.7)	123 (41.3)	119 (35.8)	140 (38.3)	180 (27.1)	628 (32.6)
Receiving benefits, yes, N (%)	160 (60.6)	114 (38.6)	113 (34.1)	166 (45.4)	458 (69.4)	1011 (52.8)
Having met friend, yes, N (%)	166 (62.6)	206 (69.1)	206 (62.0)	270 (73.8)	394 (59.0)	1242 (64.4)
Have a close friend, yes, N (%)	195 (73.3)	239 (80.2)	224 (67.5)	287 (78.4)	504 (75.4)	1449 (75.1)
Primary diagnosis at discharge:						
F2, N (%)	75 (28.5)	79 (27.1)	121 (36.4)	153 (41.6)	272 (41.1)	700 (36.6)
F3, N (%)	128 (48.7)	173 (59.5)	151 (45.5)	124 (33.7)	323 (48.9)	899 (46.9)
F4, N (%)	60 (22.8)	39 (13.4)	60 (18.1)	91 (24.7)	66 (10.0)	316 (16.5)
Psychiatric comorbidity at admission, yes, N (%):	126 (47.0)	183 (61.2)	28 (8.4)	94 (25.5)	188 (28.1)	619 (32.0)
First admission, yes, N (%)	119 (44.7)	123 (41.3)	98 (29.5)	144 (39.3)	200 (30.0)	684 (35.5)
Voluntary admission, yes, N (%)	228 (85.1)	285 (96.0)	307 (92.5)	337 (91.6)	374 (56.0)	1531 (79.2)
Continuity of care system, yes, N (%)	136 (50.7)	76 (25.4)	117 (35.2)	124 (33.7)	257 (38.4)	710 (36.7)
Clinical Global Impression score, mean (SD)	3.2(0.9)	4.8(0.9)	4.5(0.7)	4.2 (1.0)	4.6(1.1)	4.4 (1.1)
Length of stay, mean (SD)	49.0 (54.0)	38.0 (29.0)	19.4 (18.2)	34.8 (29.6)	42.2 (48.1)	37.2 (40.5)
Rehospitalization: Yes/still in hospital, N (%)	109 (40.7)	103 (34.4)	155 (46.7)	145 (39.6)	196 (29.3)	708 (36.6)
Six score, mean (SD)	3.81 (1.27)	4.22 (1.26)	4.05 (1.32)	4.30 (1.25)	3.61 (1.42)	3.94 (1.35)
Cat, mean (SD)	7.95 (1.61)	7.58 (1.57)	7.49 (2.01)	7.67 (2.08)	6.75 (2.5)	7.35 (2.14)

Table 5.1 Socio-demographic and clinical characteristics of patients who completed the VSSS-32

VSSS-32 dimensions	Total sample	Belgium (n=268)	Germany (n=299)	Italy (n=332)	Poland (n=368)	UK (n=669)	ANOVA test p-value	Post-hoc Bonferroni test
Overall satisfaction	3.81 (0.96)	3.87 (0.97)	3.92 (0.81)	4.01 (0.89)	3.79 (0.75)	3.63 (1.11)	0.00	UK<IT, UK<GE , UK<BE, PL<IT
Professionals' skills and behaviour	3.76 (0.74)	3.81 (0.73)	3.84 (0.59)	3.98 (0.71)	3.64 (0.68)	3.65 (0.83)	0.00	UK<IT,UK<GE, UK<BE BE<IT PL<IT , PL<GE
Information	3.45 (1.16)	3.31 (1.26)	3.75 (0.97)	3.69 (1.02)	3.56 (1.04)	3.19 (1.25)	0.00	UK<IT,,UK<GE, UK<PL, BE<IT, BE <GE, BE<PL
Access	3.68 (0.86)	3.61 (0.87)	3.67 (0.74)	3.98 (0.73)	3.33 (0.83)	3.77 (0.92)	0.00	UK<IT PL<IT, PL<GE, PL<BE, PL<UK GE<IT BE<IT
Efficacy	3.48 (0.89)	3.51 (0.88)	3.59 (0.78)	3.69 (0.83)	3.34 (0.83)	3.41 (0.97)	0.00	UK<IT, UK<GE PL<IT, PL<GE
Relative's involvement	3.29 (1.21)	3.08 (1.34)	3.38 (1.04)	3.71 (1.06)	3.04 (1.19)	3.26 (1.23)	0.00	UK<IT BE<IT GE<IT PL<IT, PL<GE
Type of Intervention	3.61 (0.47)	3.89 (0.27)	3.74 (0.32)	3.68 (0.43)	3.45 (0.46)	3.44 (0.53)	0.00	UK<IT, UK<GE, UK<BE GE<BE, GE<PL IT<BE PL<IT, PL<GE, PL<BE
Total mean score	3.62 (0.54)	3.77 (0.45)	3.74 (0.38)	3.78 (0.51)	3.48 (0.48)	3.51 (0.62)	0.00	UK<IT ,UK<GE, UK<BE BE<GE, PL<IT, PL<GE, PL < BE

Table 5.2 Means (sd) in the VSSS Dimensions and total score across COFI sites (1=terrible; 5=excellent)

5.3.4 Service configuration and satisfaction with community mental health care

Table 5.3 shows descriptive statistics in satisfaction scores according to the continuity (N=710) or the specialisation (N=1126) type of care in the total sample. We can observe a general tendency for higher scores in the continuity of care group in the various subscales, which reached the level of significance in the dimension *access*, *type of intervention* and in the total VSSS score.

VSSS 32 - dimensions	Type of care	Mean (sd)	p (t test)
VSSS Overall satisfaction	Continuity	3.82 (0.94)	0.43
	Specialisation	3.79 (0.98)	
VSSS Staff skills and behaviour	Continuity	3.79 (0.73)	0.17
	Specialisation	3.74 (0.76)	
VSSS Information	Continuity	3.49 (1.15)	0.31
	Specialisation	3.43 (1.16)	
VSSS Access	Continuity	3.74 (0.81)	**0.04***
	Specialisation	3.66 (0.89)	
VSSS Efficacy	Continuity	3.51 (0.88)	0.21
	Specialisation	3.46 (0.89)	
VSSS Relative's involvement	Continuity	3.31 (1.22)	0.65
	Specialisation	3.28 (1.21)	
VSSS Type of intervention	Continuity	3.63 (0.48)	**0.02***
	Specialisation	3.58 (0.46)	
VSSS Total score	Continuity	3.66 (0.55)	**0.03***
	Specialisation	3.62 (0.54)	

Table 5.2 Mean score by type of care in the VSSS Dimensions and total score in the whole COFI sample (1=terrible; 5=excellent)

When we analysed mean differences in satisfaction score according to the type of care within each country, higher scores in the continuity of care approach were still observed (Tab. 5.3). This tendency was observed in each single country, with the exception of the UK, where patients treated within a specialisation approach reported higher scores in various dimensions (Tab 5.3). These observed differences in satisfaction scores between the two type of care reached the significance level in

Germany, where patients treated within a continuity of care model reported significantly higher scores in the dimension *access* and *type of intervention,* and in Poland, where scores in the dimensions concerning *information*, *access*, *efficacy*, *relative's involvement* and *type of intervention* were significantly higher for the continuity of care group.

	Belgium (n=268)		**Germany (n=299)**		**Italy (n=332)**		**Poland (n=368)**		**UK (n=669)**	
Type of care[a]	PC (n=136)	S (n=132)	PC (n=76)	S (n=223)	PC (n=117)	S (n=215)	PC (n=124)	S (n=244)	PC (n=257)	S (n=412)
Overall satisfaction	3.92 (0.97)	3.81 (0.98)	4.01 (0.85)	3.89 (0.79)	4.06 (0.91)	3.98 (0.98)	3.89 (0.74)	3.74 (0.75)	3.58 (1.11)	3.66 (1.11)
Professionals' skills and behaviour	3.88 (0.70)	3.73 (0.77)	3.92 (0.53)	3.82 (0.61)	4.00 (0.67)	3.97 (0.73)	3.73 (0.62)	3.60 (0.70)	3.64 (0.84)	3.66 (0.83)
Information	3.33 (1.26)	3.26 (1.27)	3.88 (0.97)	3.70 (0.97)	3.73 (0.98)	3.67 (1.04)	**3.74* (0.87)**	**3.47* (1.10)**	3.21 (1.24)	3.17 (1.25)
Access	3.55 (0.89)	3.68 (0.86)	**3.85* (0.61)**	**3.60 (0.77)**	4.01 (0.72)	3.96 (0.74)	**3.56* (0.70)**	**3.21* (0.86)**	3.76 (0.88)	3.78 (0.94)
Efficacy	3.49 (0.89)	3.50 (0.87)	3.69 (0.71)	3.55 (0.80)	3.80 (0.79)	3.62 (0.85)	**3.47* (0.76)**	**3.28* (0.86)**	3.36 (0.98)	3.42 (0.96)
Relative's involvement	3.10 (1.36)	3.06 (1.32)	3.51 (1.07)	3.34 (1.03)	3.67 (1.07)	3.72 1.06	**3.25* (1.18)**	**2.94* (1.19)**	3.21 (1.22)	3.29 (1.24)
Type of Intervention	3.90 (0.28)	3.88 (0.27)	**3.81* (0.30)**	**3.72* (0.32)**	3.68 (0.46)	3.68 (0.41)	**3.25* (1.18)**	**2.94* (1.19)**	3.43 (0.56)	3.46 (0.52)
Total mean score	3.78 (0.46)	3.75 (0.44)	3.83 (0.36)	3.71 (0.38)	3.80 (0.50)	3.76 (0.51)	3.62 (0.44)	3.41 (0.48)	3.48 (0.64)	3.52 (0.61)

Table 5.3 Mean score by type of care in the VSSS Dimensions and total score within each COFI country (1=terrible; 5=excellent
[a] PC= Personal Continuity System, S= Specialisation System
***One-way Anova p< 0.05**

5.3.5 Predictors of satisfaction with care

Next pages present tables showing results from the univariate and subsequent multivariate regression model according to each dimension of the VSSS and to the total score (tab 5.4a-h)

Results from the multivariate regression models showed that some attributes of patients predicted satisfaction regardless of the type of care, which did not statistically predict satisfaction in any subscale of the present model, even if it showed a trend towards significance (p=0.06) in the dimension *information* and in the total score.

Among socio-demographic characteristics, higher age predict satisfaction with all the dimensions except *access* and with the total score; being male predicted higher satisfaction scores with the dimension *access* (b=0.10; p=0.003) and with the dimension *information* (b=0.14, p=0.006); being widowed predicted more satisfaction with the dimension *access* (b=0,35, p= 0.038) and with the dimension *intervention* (b=0.18, p=0.019); finally, having an higher level of education (secondary or further) predicted less satisfaction with the dimensions *efficacy* (-0.16, p= 0.012), *relatives' involvement* (b= -0,19,p=0.049; b=-0.32,p=0.001) and with the dimension *information* (b=-0.20; p=0.013).

As regards variables concerning social situation, living with others predicted higher satisfaction with all the dimensions except for that concerning *efficacy*; employed patients were less satisfied with the dimension *access to care* (b=-0.10, p=0,018) and patients who declared to have met a friend at BL were more satisfied at FU in the dimension *overall satisfaction* (b=0.09, p=0.032) and *staff skills and behaviour* (b=0.15, p=0.008).

Among clinical variables, patients with a diagnosis in the psychosis class (F20-29) were more satisfied in the dimension *relatives' involvement* compared to patients with mood (b=-0.27, p=0.001) or anxiety (b=-0.37; p=0.000) disorders, and with the dimension *intervention* compared to those with mood disorders (b=-0.06, p=0.004). Having a comorbid psychiatric diagnosis at admission was a predictor of lower satisfaction with all the subscales and the total score as well as having been involuntary admitted, except with regards to the dimension *access;* finally, higher CGI score predicted higher satisfaction with the dimension *relative's involvement* (b=0.00, p=0.002).

5.3.6 Differences between country

The multivariate models also showed a significant country effect in each dimension which confirmed what already observed in tab 5.2, where higher satisfaction scores in Italy and Germany and lower scores in UK and Poland were detected. Still, country differences changed according to the dimension of satisfaction. Specifically, compared to the UK as the reference category, patients in Italy and Germany were more satisfied in all the dimension except *access,* where no differences were found and *relatives' involvement*, where patients in Italy but not patients in Germany were significantly more satisfied than patients in the UK (b=0.29, p=0.008). Patients in Poland were less satisfied with the dimension *access* (b=-0.50, p=0.000), *efficacy* (b=-0.18, p=0.010), *relative's involvement* (b=-0.38, p=0.002) and more satisfied with the dimension *information* (b=0.26, p=0.002). Finally, patients in Belgium were less satisfied with *access* (b=-0.21, p=0.009) but more satisfied with the *type of intervention* received (b=0.42, p=0.000) with *overall satisfaction* (b=0.24, p=0.001) and with the total score (b=0.20, p=0.000).

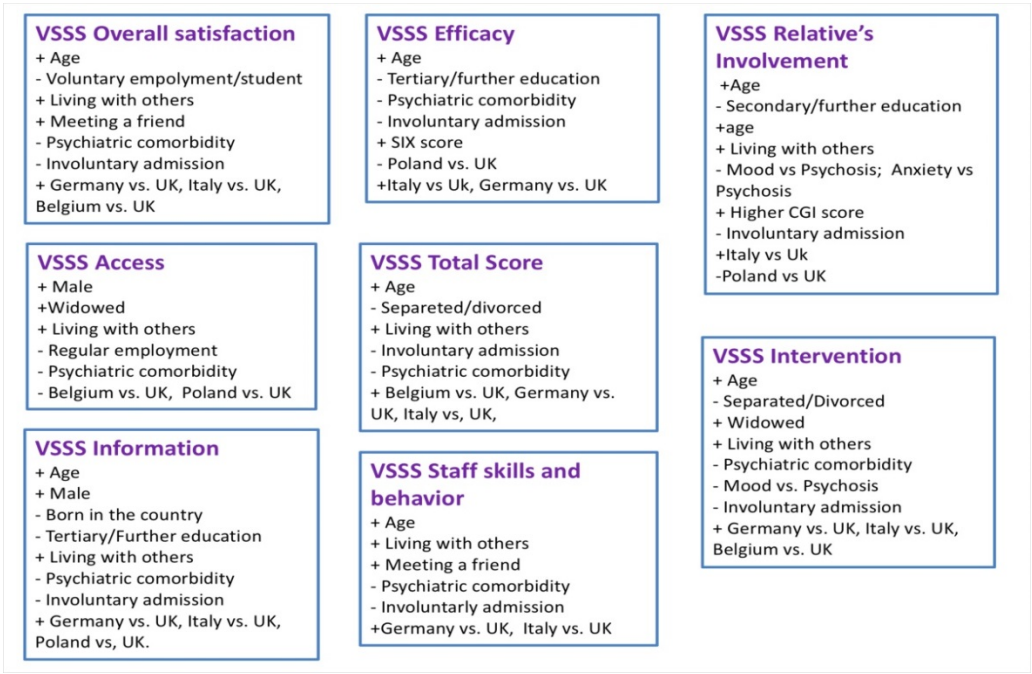

Fig 5.3. Multivariate Regression Results, p<0.05; '-' negative association, '+' positive association

Variables	Univariate linear regression				Multivariate linear regression			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country								
Belgium	0.24	0.11	0.38	0.000	0.13	0.10	0.38	**0.001***
Germany	0.29	0.16	0.42	0.000	0.24	0.15	0.44	**0.000***
Italy	0.38	0.25	0.51	0.000	0.18	0.10	0.37	**0.001***
Poland	0.17	0.04	0.29	0.007	-0.02	-0.08	0.17	0.477
Type of care- Continuity of care[b]	0.07	-0.03	0.18	0.174	0.03	-0.05	0.12	0.450
Age	0.01	0.00	0.01	0.003	0.01	-0.01	0.01	**0.016***
Accommodation[c]								
Supported/other	0.30	-0.01	0.61	0.054	0.28	-0.04	0.62	0.090
Independent	0.16	-0.09	0.41	0.218	0.08	-0.20	0.38	0.547
Living with others[d]	0.07	-0.01	0.16	0.103	0.10	0.01	0.19	**0.040***
Employment[e]								
Voluntary /Student	-0.16	-0.29	-0.02	0.023	-0.15	-0.29	-0.01	**0.028***
Regular	0.01	-0.09	0.10	0.872	-0.01	-0.10	0.08	0.865
Meeting a friend -yes	0.09	0.01	0.18	0.042	0.09	0.01	0.18	**0.032***
Psychiatry Comorbidity - yes	-0.17	-0.27	-0.08	0.000	-0.19	-0.29	-0.09	**0.000***
Involuntary admission	-0.25	-0.36	-0.15	0.000	-0.19	-0.31	-0.07	**0.001***

[a] Reference category= UK; [b] Reference category= specialisation; [c] Reference category= Homeless; [d] Reference category= living alone; [e] Reference category = no employment;

**p<0.05 in multivariate model*

Tab 5.4a *Univariate and Multivariate Regression results – VSSS OVERALL SATISFACTION*

Variables	Univariate linear regression				Multivariate linear regression			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country								
Belgium	0.12	-0.19	0.25	0.090	0.04	-0.08	0.16	0.085
Germany	0.23	0.72	0.40	0.005	0.16	0.03	0.29	**0.003***
Italy	0.33	0.25	0.20	0.460	0.17	0.05	0.29	**0.001***
Poland	0.01	-0.14	0.14	0.983	-0.17	-0.28	-0.04	0.164
Type of care- Continuity of care[b]	0.08	-0.01	0.1	0.101	0.06	-0.02	0.14	0.143
Age	0.01	0.00	0.01	0.001	0.01	0.00	0.01	**0.001***
Marital Status[c]								
Married/cohabiting	0.07	-0.01	0.15	0.067	-0.04	-0.13	0.04	0.323
Separated/divorced	0.01	-0.08	0.09	0.943	-0.08	-0.18	0.01	0.115
Widowed	0.23	-0.02	0.49	0.070	0.18	-0.07	0.44	0.166
Living with others[d]	0.11	0.03	0.17	0.004	0.22	0.08	0.35	**0.001***
Meeting a friend -yes	0.08	0.01	0.14	0.024	0.15	0.03	-0.27	**0.008***
Psychiatry Comorbidity - yes	-0.14	-0.22	-0.07	0.000	-0.13	-0.21	-0.05	**0.001***
Involuntary admission	-0.17	-0.26	-0.09	0.000	-0.14	-0.23	-0.05	**0.002***

[a] Reference category= UK; [b] Reference category= specialisation ;[c] Reference category=Single; [d] Reference category= living alone; [e] Reference category = no employment;
**p<0.05 in multivariate model*

Tab 5.4b *Univariate and Multivariate Regression results – VSSS STAFF SKILLS AND BEHAVIOUR*

Variables	Univariate linear regression				Multivariate linear regression			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country[a]								
Belgium	-0.20	-0.36	-0.05	0.010	-0.21	-0.38	-0.05	**0.009***
Germany	-0.14	-0.32	0.04	0.135	-0.09	-0.28	0.09	0.130
Italy	0.19	0.04	0.33	0.009	0.09	-0.05	0.24	0.198
Poland	-0.42	-0.58	-0.26	0.000	-0.50	-0.66	-0.33	**0.000***
Type of care- Continuity of care[b]	0.09	-0.02	0.20	0.109	0.01	-0.02	0.15	0.163
Age	0.01	-0.01	0.01	0.109	0.01	-0.01	0.01	0.109
Gender- Male [c]	0.07	-0.01	0.14	0.061	0.10	0.03	0.18	**0.006***
Marital Status[d]								
Married/cohabiting	0.04	-0.04	0.13	0.343	-0.01	-0.11	0.09	0.864
Separated/divorced	0.01	-0.09	0.11	0.846	-0.01	-0.12	0.10	0.919
Widowed	0.32	0.03	0.61	0.030	0.35	0.05	0.65	**0.019***
Living with others[e]	0.09	0.02	0.17	0.017	0.14	0.05	0.23	**0.002***
Employment[f]								
Voluntary/Sheltered/Student/	-0.05	-0.17	0.06	0.392	-0.05	-0.17	0.07	0.405
Regular	-0.07	-0.16	0.01	0.079	-0.10	-0.19	-0.01	**0.018***
Psychiatry Comorbidity – yes	-0.14	-0.22	-0.05	0.001	-0.12	-0.21	-0.04	**0.004***
Involuntary admission	-0.10	-0.20	0.01	0.052	-0.08	-0.18	0.02	0.117
Lenght of stay	-0.01	-0.01	0.00	0.030	-0.01	-0.01	0.01	0.161

[a] Reference category= UK; [b] Reference category= specialization, [c] Reference category=Female; [d] Reference category= Single, [e]Reference category = living alone; [f]Reference category = unpaid employment;
**p<0.05 in multivariate model*

Tab 5.4c *Univariate and Multivariate Regression results – VSSS ACCESS*

Variables	Univariate linear regression				Multivariate linear regression			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country[a]								
Belgium	0.08	-0.06	0.23	0.257	-0.05	-0.18	0.08	0.260
Germany	0.22	0.06	0.38	0.008	0.11	-0.03	0.24	**0.029***
Italy	0.31	0.16	0.43	0.000	0.11	-0.02	0.24	**0.032***
Poland	-0.02	0.17	0.12	0.724	-0.28	-0.41	-0.15	**0.010***
Type of care- Continuity of care[b]	0.05	-0.05	0.14	0.330	-0.05	-0.03	0.13	0.260
Age	0.01	0.01	0.02	0.003	0.01	-0.01	0.01	**0.008***
Education[c]								
Secondary	-0.02	-0.14	0.10	0.742	-0.06	-0.18	0.06	0.327
Tertiary/Further	-0.10	-0.23	0.01	0.087	-0.16	-0.29	-0.03	**0.012***
Accommodation[d]								
Supported/other	0.25	-0.02	0.53	0.073	0.21	-0.09	0.53	0.169
Independent	0.10	-0.13	0.33	0.394	-0.03	-0.32	0.25	0.794
Seen a friend -yes	0.08	-0.01	0.16	0.056	0.03	-0.05	0.12	0.472
Psychiatry Comorbidity - yes	-0.19	-0.27	-0.09	0.000	-0.19	-0.28	-0.10	**0.000***
Involuntary admission	-0.18	-0.29	-0.08	0.000	-0.17	-0.28	-0.06	**0.002***
SIX index	0.02	-0.01	0.05	0.083	0.04	-0.01	0.08	**0.016***

[a] Reference category= UK; [b] Reference category= specialization, [c] Reference category= primary; [d] Reference category= Homeless
**p<0.05 in multivariate model*

Tab 5.4d *Univariate and Multivariate Regression results – VSSS EFFICACY*

Variables	Univariable linear regression				Multivariable linear regression*			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country[a]								
Belgium	0.10	-0.06	0.27	0.238	-0.04	-0.12	0.22	0.573
Germany	0.56	0.39	0.74	0.000	0.57	0.39	0.74	**0.000***
Italy	0.50	0.34	0.66	0.000	0.37	0.21	0.53	**0.000***
Poland	0.38	0.22	0.54	0.000	0.26	0.09	0.42	**0.002***
Type of care- Continuity of care[b]	0.08	-0.05	0.22	0.219	0.10	-0.01	0.20	0.062
Age	0.01	0.01	0.02	0.000	0.01	0.01	0.10	**0.000***
Gender- Male [c]	0.10	0.01	0.02	0.048	0.14	0.04	0.25	**0.006***
Born in the country - yes	-0.15	-0.31	0.01	0.060	0.17	-0.33	-0.01	**0.031***
Marital Status[d]								
Married/cohabiting	0.10	-0.01	0.22	0.090	-0.01	-0.15	0.12	0.825
Separated/divorced	0.10	-0.03	0.24	0.156	-0.01	-0.17	0.14	0.876
Widowed	0.32	-0.08	0.73	0.120	0.25	-0.15	0.66	0.226
Education [e]								
Secondary	-0.09	-0.25	0.07	0.253	-0.08	-0.24	0.08	0.323
Tertiary/Further	-0.22	-0.38	-0.06	0.007	-0.20	-0.37	-0.04	**0.013***
Living with others[f]	0.11	0.01	0.22	0.043	0.14	0.02	0.27	**0.018***
Psychiatry Comorbidity - yes	-0.13	-0.25	-0.21	0.022	0.14	-0.25	-0.02	**0.019***
Involuntary admission	-0.24	-0.37	-0.10	0.001	-0.19	-0.33	-0.04	**0.009***

[a] Reference category= UK; [b] Reference category= specialization, [c] Reference category=Female; [d] Reference category= Single, [e] Reference category = primary; Reference category = living alone

**p<0.05 in multivariate model*

Tab 5.4e *Univariate and Multivariate Regression results – VSSS INFORMATION*

Variables	Univariable linear regression				Multivariable linear regression*			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country[a]								
Belgium	0.42	0.32	0.52	0.000	0.39	0.32	0.52	**0.000***
Germany	0.27	0.16	0.39	0.000	0.27	0.15	0.40	**0.000***
Italy	0.23	0.14	0.32	0.000	0.14	0.05	0.24	**0.001***
Poland	0.06	-0.03	0.16	0.225	-0.03	-0.11	0.10	0.968
Type of care- Continuity of care[b]	0.08	-0.05	0.22	0.219	0.01	-0.01	0.09	0.105
Age	0.01	0.01	0.02	0.002	0.01	0.00	0.01	**0.000***
Marital Status[d]								
Married/cohabiting	0.04	-0.03	0.06	0.542	-0.09	-0.05	0.01	0.063
Separated/divorced	-0.02	-0.07	0.03	0.418	-0.22	-0.07	-0.01	**0.023***
Widowed	0.19	0.04	0.34	0.012		0.18	0.34	**0.020***
Living with others[f]	0.04	0.01	0.08	0.025	0.07	0.01	0.14	**0.042***
Employment [e]								
Voluntary/Sheltered/Student	0.02	-0.05	0.07	0.731	0.01	-0.06	0.08	0.783
Regular	0.04	0.00	0.09	0.029	0.04	-0.03	0.13	0.274
Psychiatry Comorbidity - yes	-0.13	-0.25	-0.21	0.022	-0.08	-0.12	-0.03	**0.001***
Primary diagnosis at discharge [f]								
F3	-0.03	-0.08	0.01	0.096	-0.06	-0.11	-0.02	**0.004***
F4	-0.03	-0.09	0.02	0.287	-0.03	-0.09	0.02	0.267
SIX index	0.02	0.01	0.03	0.015	0.01	-0.03	0.03	0.992
Involuntary admission	-0.24	-0.37	-0.10	0.001	-0.05	-0.11	-0.01	**0.045***

*[a] Reference category= UK; [b] Reference category= specialization, [c] Reference category=Female; [d] Reference category= Single, [e] Reference category = primary; Reference category = living alone ; *p<0.05 in multivariate model*

Tab 5.4f *Univariate and Multivariate Regression results – VSSS INTERVENTION*

Variables	Univariable linear regression				Multivariable linear regression			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country[a]								
Belgium	-0.21	-0.44	0.02	0.083	-0.11	-0.28	0.24	
Germany	0.17	-0.10	0.45	0.215	0.05	-0.17	0.39	0.877
Italy	0.44	0.23	0.65	0.000	0.21	0.07	0.51	
Poland	-0.14	0.37	0.08	0.223	-0.43	-0.62	-0.13	0.444
								0.008*
								0.002*
Type of care- Continuity of care[b]	0.04	-0.11	0.19	0.630	-0.01	-0.14	0.13	0.974
Age	0.01	0.00	0.01	0.029	0.01	-0.01	0.01	0.050*
Education[c]								
Secondary	-0.10	-0.28	0.08	0.278	-0.19	-0.38	-0.01	0.049*
Tertiary/Further	-0.21	-0.39	-0.02	0.023	-0.32	-0.52	-0.13	0.001*
Living with others[d]	0.16	0.03	0.27	0.013	0.25	0.01	0.49	0.038*
Employment[e]								
Voluntary/Sheltered/Student	-0.23	-0.41	-0.05	0.011	-0.09	-0.35	0.15	0.444
Regular	0.05	-0.08	0.18	0.446	0.17	-0.19	0.54	0.351
Seen a friend -yes	0.11	-0.01	0.23	0.068	0.17	-0.03	0.38	0.110
Psychiatry Comorbidity - yes	-0.17	-0.30	-0.04	0.009	-0.13	-0.27	0.01	0.052
Primary diagnosis at discharge[f]								
F3	-0.19	-0.32	-0.05	0.005	-0.27	-0.41	-0.14	0.000*
F4	-0.32	-0.49	-0.14	0.000	-0.37	-0.55	-0.19	0.000*
CGI	0.11	0.05	0.17	0.000	0.09	0.03	0.16	0.002*
Voluntary admission- yes	-0.19	-0.34	-0.04	0.012	-0.20	-0.37	-0.04	0.013*
SIX index	0.44	0.01	0.08	0.049	-0.02	-0.18	0.14	0.794

*[a] Reference category= UK; [b] Reference category= specialization, [c] Reference category= primary; [d] Reference category= living alone; [e] Reference category =no employment; [f] Reference category= F2 ; *p<0.05 in multivariate model*

Tab 5.4g Univariate and Multivariate Regression results – VSSS RELATIVES' INVOLVEMENT

Variables	Univariable linear regression				Multivariable linear regression*			
	β	CI		p	β	CI		p
		Lower bound	Upper Bound			Lower Bound	Upper Bound	
Country[a]								
Belgium	0.23	0.13	0.34	0.000	0.23	0.12	0.33	**0.000***
Germany	0.24	0.12	0.37	0.000	0.25	0.13	0.38	**0.000***
Italy	0.27	0.18	0.37	0.000	0.19	0.09	0.29	**0.000***
Poland	0.02	-0.09	0.12	0.764	-0.05	-0.16	0.05	0.345
Type of care- Continuity of care[b]	0.06	-0.01	0.13	0.056	0.05	-0.01	0.11	0.067
Age	0.03	0.00	0.01	0.000	0.01	0.00	0.01	**0.000***
Marital Status[c]								
Married/cohabiting	0.04	-0.01	0.09	0.128	-0.05	-0.11	0.01	0.119
Separated/divorced	-0.01	-0.07	0.06	0.932	-0.07	-0.14	-0.01	**0.042***
Widowed	0.21	0.03	0.39	0.019	0.15	-0.02	0.33	0.098
Living with others[d]	0.07	0.02	0.11	0.005	0.07	0.01	0.13	**0.013***
Psychiatry Comorbidity - yes	-0.12	-0.17	-0.06	0.000	-0.11	-0.16	-0.05	**0.000***
Voluntary admission- yes	-0.11	-0.18	-0.55	0.000	-0.09	-0.15	-0.03	**0.004***
SIX index	0.02	0.01	0.03	0.015	0.01	-0.01	0.03	0.278

[a] Reference category= UK; [b] Reference category= specialization, [c] Reference category= single; [d] Reference category= living alone; [e]
**p<0.05 in multivariate model*

Tab 5.4g *Univariate and Multivariate Regression results – VSSS TOTAL SCORE*

5.4 Discussion

In this thesis chapter, several variables have been identified to be predictors of satisfaction. Some of them showed to predict satisfaction across various domains of care while others were found to be more specific and predicting some dimensions but no other. The most consistent variables that predicted higher level of satisfaction across subscales were 'living with others' and 'being older', while 'had been involuntary admitted' at BL and 'having a psychiatric comorbidity' at admission were common predictors of lower level of satisfaction.

Among variables that were predictors of only specific subscales we observed a gender effect on the subscales related to *information* and *access*, with male more satisfied; the effect of the diagnosis on subscale related to *relative's involvement,* where psychotic patients provided higher scores compared to patients with mood or anxiety disorders; the effect of the employment status on the dimension concerning *access to care,* where employed patients expressed less satisfaction compared to unemployed.

Data presented in this thesis chapter also show how satisfaction with care varied substantially across the five European sites and that the country of origin resulted to be a significant factor in predicting the level of patient satisfaction. Overall, the highest level of satisfaction was observed in Italy and in Germany and lowest in UK and Poland. However, this finding was not consistent across all the seven dimensions of satisfaction and peculiarities have been observed in the relation between country and specific subscales, which are likely to reflect health care system and cultural differences among countries.

This study also tested the impact of the service configuration (continuity vs. specialization of care) on satisfaction, which did not statistically predict satisfaction with mental health care after one year from a hospital admission. However, a tendency for higher satisfaction scores has been observed in the continuity of care group, especially in dimensions related to information and in the total score.

5.4.1 Strengths and limitations

To the best of our knowledge, this is the first study investigating satisfaction with such a large sample of patients with different diagnosis, using a longitudinal design and conducted in multiple countries. In addition, it adopted a consistent methodology to collect data across countries and used a standardized scale to assess satisfaction which has shown good psychometric properties and that has been previously used in other multi-center studies.

However, this study also presents some major limitations. Firstly, nearly half of patients who were approached for face to face FU interviews did not participate (because they declined, were unable to be contacted by researchers or were too unwell) and differences in characteristics between them and who accepted to participate in face to face interviews have not been analysed in the present work. Thus, it cannot be assumed that the views expressed by those interviewed are representative of the non-responders. However, we did not detect significant differences in clinical and socio-demographic characteristics between VSSS respondent and not respondent within the patients who agreed to participate in the face to face interviews.

Secondly, the difference in satisfaction among countries presented in this chapter constitutes a preliminary analysis of data derived from the FU study. In the present study, we did not explore these differences by adjusting mean satisfaction scores for the influence of predictor variables or by studying interactions with countries. So, results about differences in satisfaction across countries need to be interpreted with caution.

Lastly, type of care (continuity vs. specialisation) was analysed following the intention to treat (ITT) analysis, which refers to the intention of the care system and the allocation to one type of care given at baseline. However, it is plausible that the ITT does not correspond to what actually happened to patients during the year of FU or that it does not reflect the perception of patients of having been treated by one or more clinicians. Furthermore, we did not explore if the type of care predicts satisfaction within each single country.

5.4.2 Comparison with literature

The fact that satisfaction varies substantially across European countries confirm data from a previous multicenter study which used the VSSS scale to assess patient satisfaction (Ruggeri et al., 2003). Authors found *information* and *relatives' involvement* being the domains with the lowest satisfaction score in most centers and in the total sample of their study. Particularly, they found the highest score for the latter dimension in Verona and the lowest in London. Similarly, we found relative's involvement being the dimension with the lowest score and a significant difference between Italy and the other countries. Even if Ruggeri et al. (2003) analysed satisfaction only on psychotic patients and in different sites compared to the present research (specifically in services in Amsterdam, Copenhagen, London, Santander and Verona), we may hypothesize, considering results from both studies, that the involvement of relatives is one of the aspects in the process of care that should be seen as a key area for improvement by mental health professionals. Indeed, a considerable body of evidence stresses the importance of relative's involvement on the course of illness and emphasizes the need for professional, relatives, and patient collaboration to attain the best outcome (Pharoah et al. 2000; Prince et al, 2005; Eassom et al., 2014). The fact that we found the highest score in Italy for this dimension may reflect the peculiar Italian socio-cultural background in which family still represents the main social institution (Del Vecchio et al., 2015).

Regarding predictor variables detected in the present study, some of them such as 'age', 'involuntary admission' and a more complex clinical situation ('comorbidity psychiatric diagnosis'), have been also individuated in literature (Tab 1.1, chap. 1). However, to the best of our knowledge, most of the available evidence is limited to cross-sectional analysis on satisfaction rather than testing the effect of admission, demographic, clinical and social characteristics after one year from a hospitalisation. So, this study confirms that their effect on satisfaction may be also seen as a long-term effect.

Using a multidimensional scale, we found that there are variables which show a consistent effect in predicting satisfaction across the various subscales. As some authors advanced, they may affect a general attitude of the patients for positive or negative appraisal of the care (Rheininghaus et al., 2012). At the same time, we

found some "subscale-specific" predictors, which affect satisfaction with a specific dimension but not with other. For instance, having the highest level of education (tertiary/further) predicted a lower level of satisfaction with the dimension information – which covers aspects related to information on services, disorders and therapies. This result may be explained according to expectation theories on satisfaction (Linder-Pelz, 1992) and highly educated patients may be more likely to expect higher quality or quantity of information regarding their diagnosis, care and prognosis and thus be more difficult to satisfied. Another example is that we found that having a diagnosis of psychosis predicted more satisfaction in the dimension relative's involvement compared to the other diagnostic classes, this result may be interpreted as reflecting the emphasis given by literature (Eassom et al., 2014) and by international guidelines (Kuipers et al., 2014) on the importance of the involvement of family members in psychiatric care as a key to the recovery of persons with psychotic disorders.

For this set of "subscale-specific" predictors, there is a lack of clarity in literature about their association with satisfaction (Tab 1.1). Our results may suggest that this variability, besides reflecting differences in setting, methodologies and sample, may also reflect the different emphasis on content cover by each scale used to assess satisfaction – i.e. if a scale does not cover aspect related to the involvement of relatives in the care it may not detect the higher satisfaction in psychotic patient compared to other diagnostic categories.

5.4.3 Implication and future directions

Findings from this thesis research part offer valuable data to understand satisfaction with community mental health care and factors that may affect it broadly and with specific aspects of care. These results may inspire clinicians and policy makers about the domains where it is possible to increase the quality of care and on characteristics of patients on which paying attention when planning mental health care in order to positively influence their satisfaction.

Future research should aim to investigate better the role of the continuity type of care from the patients' view. Since satisfaction with care is a subjective construct it would be important to analyse data according to the patients' perception of whether

they received continuity of care or not. Another key point to address in future research is to better explore the influence of the type of care within a national context. Such national research should also explore more detailed and more specific predictor variables than considered in this study as well as examine the impact of the intensity of the care received during the year, the type of intervention or other mediators that are likely to affect satisfaction. Finally, more detailed descriptions and analyses of social and health care systems in different countries may lead to an understanding of the complex impact of the country on satisfaction with care. As stated above, many of this point will be addressed in future stages of the COFI study.

CONCLUSION

The three studies described in this doctoral thesis provides important insights to the current literature on patient satisfaction in mental health care, with interesting implications for clinicians, researchers and health policy-makers.

The systematic review presented in chapter 1 attempts to answer to the first research aim "*Update the state of the art about measures and concepts of patient satisfaction with mental health care and individuate established scales to assess it*" by individuating scales that have been used to assess patient satisfaction since the 1990 and by analyzing the contents covered by them.

The high number of included studies suggests an interest in the assessment of patient satisfaction in mental health care. Patient satisfaction is increasingly valued as an important criterion for service development and evaluation, and good measurement is essential. While we found no consensus on a gold standard scale to use, we identified some scales that can be seen as more established than other, with acceptable psychometric properties and which can be used depending on the aim of the assessment, the setting (i.e. inpatient, outpatient), the content that should be covered, and the time available for the assessment.

The second study analyses the factors associated with inpatient satisfaction in a large sample of patients across 5 countries and aims to answer to the second research aim "*Assess which patient factors are associated with satisfaction with inpatient mental health care and whether there are differences in patient satisfaction in mental health service belonging to five different European countries"*. By using a multivariate mixed-effect linear regression model, three groups of statistically significant factors associated with inpatient satisfaction have been identified: (i) patient characteristics ('age', 'education'); (ii) social situation variables ('having a close friend', 'living with others'); (iii) clinical and admission variables ('personality disorder comorbidity', 'multiple admissions to hospital', 'being involuntarily admitted', 'psychotic diagnosis', 'clinical global impression score'). Whilst the effect of these variables did not vary across countries, satisfaction scores across the five countries showed significant differences, with patients in the UK significantly less satisfied with inpatient care compared to patients in the four other countries.

A sub-sample of patients interviewed in this latter study has been followed up for 1 year to explore which factors may be considered predictors of patient satisfaction with psychiatric care received during the year in the community setting. These results have been described in the study presented in Chap. 4, which attempts to address the last research aim: "*Assess which service configuration and patient factors are predictors of patient satisfaction with community mental health care after 1 year from a psychiatric hospital admission and whether there are differences in patient satisfaction across five European countries*". By using a multidimensional scale to assess satisfaction we identified some factors which predicted satisfaction across various dimensions of care and other factors which predicted satisfaction only with specific domain(s). Interestingly, the majority of variables which predicted satisfaction across the various dimensions correspond to variables that were already identified as associated with satisfaction with inpatient care at BL. In details, in both study we found that younger patients, patients with multiple diagnosis and patients who had an involuntary admission were less satisfied with the care received, while patients who lived with others were more satisfied.

As regards other factors that were identified at BL as significantly associated with satisfaction, some of them showed their effect at FU only on specific subscale (i.e. in the FU study we found psychotic patients more satisfied but only in dimensions concerning intervention and relatives' involvement), while other did no longer show any effect on satisfaction (i.e. 'first admission vs. repeated admission' or 'having a close friend'). Since satisfaction at BL has been measured within 48 hours from the admission we may hypothesise a short-term effect of these variables, more related to the inpatient experience itself.

In both studies, we saw how satisfaction varies substantially across involved countries, suggesting that factors related to the organisation, culture and traditions of mental health care in a given country can all play a role in influencing this subjective construct.

Patient satisfaction in psychiatry is a complex issue with various influencing factors and the results of this thesis may help to identify relevant targets of intervention. In fact, if clinicians and mental health providers are aware of the factors associated

with treatment satisfaction, interventions could be implemented to enhance it and therefore improve treatment outcomes. In this we mainly identified patient-related factors linked to satisfaction. As regard to service-related factors, a system which favours continuity of care may seem advantageous in the interest of a higher patient satisfaction but this requires further investigations, even by integrating qualitative data for a deeper understanding.

While patient-related factors are generally not modifiable (gender, age, ethnicity, diagnosis) we may see as modifiable the strategies that mental health services adopt to deal with these factors.

For instance, our results suggest that particular attention should be paid to younger patients and to patients with mental health comorbidities as they tend to be less satisfied with the care received.

The generally lower level of satisfaction expressed by younger patients may indicate that mental health services are not being appropriately targeted towards younger generations or that they may have greater expectations about their care.

In this regard, some good practice points of model of interventions for young adults have been identified in the literature (Lamb et al, 2008; Birchwood et al, 2013) and may inspire clinicians. These points include the provision of a range of psychological, psychiatric and psychosocial interventions, an emphasis on supporting young people in getting on with their lives, the development of family-oriented approach, the access to peer support, social support and evidence-based interventions, and the implementation of links with other agencies involved with young people.

Regarding patients with comorbidity personality disorders, the lower satisfaction scores observed may be consistent with their common clinical presentation, which is likely to include dissatisfaction in interpersonal relationships, including the one with the clinician (Bender, 2005). Since clinical relationship is a key component of satisfaction with care (Chap. 2), these patients would benefit from trained clinicians able to develop and managing a complex therapeutic relationship and to provide specialised interventions such as dialectic behavioral therapy, schema therapy, mentalization-based therapy, transference-focused psychotherapy or acceptance and commitment therapy (Blenkiron et al., 2003).

Additionally, since we found that involuntary admitted patients were less satisfied with care both during the admission and even after one-year, action should be taken to prevent involuntary admission of psychiatric patients by running intervention programs that address the reduction of compulsory hospitalization (De Jong et al., 2016).

Finally, mental health providers should help patients to develop more social ties in their communities in order to enhance their social networks, which, along with previous data indicating their influence on patients' well-being and their use of mental health services (Pinto, 2010), also showed to positively influences patients' satisfaction.

Although patient satisfaction is an important criterion, it should be remembered that it cannot be seen as a substitute of other information provided by other types of variables such as psychopathology or functioning. Patient satisfaction "is only *one* evaluative perspective and it is reasonable to consider it a *necessary,* though not a *sufficient,* component in the assessment of quality and effectiveness of care" (Ruggeri, 1994). Its subjective nature, which causes problems in formulating a clear conceptualisation, represents at the same time a unique potentiality as measuring satisfaction allows to incorporate in the assessment a precious information that is the patients' perception of the care received, an evaluation that comes directly from them, recognizing the role that the patients have in their own care.

References

Adair, C. E., McDougall, G. M., Beckie, A., Joyce, A., Mitton, C., Wild, C. T., et al. (2003). History and measurement of continuity of care in mental health services and evidence of its role in outcomes. Psychiatr Serv, 54(10), 1351-1356.

Aday, L. A., & Andersen, R. (1974). A framework for the study of access to medical care. Health Serv Res, 9(3), 208-220.

Alexius, B., Berg, K., & Aberg-Wistedt, A. (2000). Patient satisfaction with the information provided at a psychiatric emergency unit. Patient Educ Couns, 40(1), 51-57.

Allen, H., Baigent, B., Kent, A., & Bolton, J. (1993). Rehabilitation and staffing levels in a 'new look' hospital-hostel. Psychol Med, 23(1), 203-211.

Attkisson, C., & Greenfield, T. K. (1996). The Client Satisfaction Questionnaire (CSQ) Scales and the Service Satisfaction Scale-30 (SSS-30). In L. L. Sederer & B. Dickey (Eds.), OutcomeS Assessment in Clinical Practice (pp. 120-127). Baltimore: Williams & Wilkins.

Attkisson, C. C., & Greenfield, T. K. (2004). The UCSF Client Satisfaction Scales: I. The Client Satisfaction Questionnaire-8. In M. Maruish (Ed.), The use of psychological testing for treatment planning and outcome assessment (3rd. Ed.). Mahwah: Lawrence Erlbaum Associates.

Attkisson, C. C., & Zwick, R. (1982). The client satisfaction questionnaire. Psychometric properties and correlations with service utilization and psychotherapy outcome. Eval Program Plann, 5(3), 233-237.

Awad, A. G., Hogan, T. P., Voruganti, L. N., & Heslegrave, R. J. (1995). Patients' subjective experiences on antipsychotic medications: implications for outcome and quality of life. Int Clin Psychopharmacol, 10 Suppl 3, 123-132.

Awad, A. G., & Voruganti, L. N. (2000). Intervention research in psychosis: issues related to the assessment of quality of life. Schizophr Bull, 26(3), 557-564.

Bandeira, M., & da Silva, M. A. (2012). Patients' Satisfaction with Mental Health Services Scale (SATIS-BR): Validation study. [Article]. Jornal Brasileiro de Psiquiatria, 61(3), 124-132.

Bandeira, M., Pitta, A. M. F., & Mercier, C. (2000). The brazilian mental health services' patients satisfaction scale: SATIS-BR. [Article]. Jornal Brasileiro de Psiquiatria, 49(8), 293-300.

Barker, D. A., & Orrell, M. W. (1999). The Psychiatric Care Satisfaction Questionnaire: a reliability and validity study. Soc Psychiatry Psychiatr Epidemiol, 34(2), 111-116.

Barker, D. A., Shergill, S. S., Higginson, I., & Orrell, M. W. (1996). Patients' views towards care received from psychiatrists. Br J Psychiatry, 168(5), 641-646.

Bener, A., & Ghuloum, S. (2013). Gender difference on patients' satisfaction and expectation towards mental health care. Niger J Clin Pract, 16(3), 285-291.

Berghofer, G., Lang, A., Henkel, H., Schmidl, F., Rudas, S., & Schmitz, M. (2001). Satisfaction of inpatients and outpatients with staff, environment, and other patients. Psychiatr Serv, 52(1), 104-106.

Birchwood, M., & Singh, S. P. (2013). Mental health services for young people: matching the service to the need. Br J Psychiatry Suppl, 54, s1-2.

Bjorngaard, J. H., Ruud, T., & Friis, S. (2007). The impact of mental illness on patient satisfaction with the therapeutic relationship: a multilevel analysis. Soc Psychiatry Psychiatr Epidemiol, 42(10), 803-809.

Blenkiron, P., & Hammill, C. A. (2003). What determines patients' satisfaction with their mental health care and quality of life? Postgrad Med J, 79(932), 337-340.

Boardman, A. P., Hodgson, R. E., Lewis, M., & Allen, K. (1999). North Staffordshire Community Beds Study: longitudinal evaluation of psychiatric in-patient units attached to community mental health centres. I: Methods, outcome and patient satisfaction. Br J Psychiatry, 175, 70-78.

Boydell, J., Morgan, C., Dutta, R., Jones, B., Alemseged, F., Dazzan, P., et al. (2012). Satisfaction with inpatient treatment for first-episode psychosis among different ethnic groups: a report from the UK AeSOP study. Int J Soc Psychiatry, 58(1), 98-105.

Boyer, L., Baumstarck-Barrau, K., Cano, N., Zendjidjian, X., Belzeaux, R., Limousin, S., et al. (2009). Assessment of psychiatric inpatient satisfaction: a systematic review of self-reported instruments. Eur Psychiatry, 24(8), 540-549.

Boyle S. (2011) United Kingdom (England): Health system review. Health Systems in Transition. Copenhaguen: WHO European Observatory on Health Systems and Policies,13(1), 1-486.

Brohan, E., Clement, S., Rose, D., Sartorius, N., Slade, M., & Thornicroft, G. (2013). Development and psychometric evaluation of the Discrimination and Stigma Scale (DISC). Psychiatry Res, 208(1), 33-40.

Broker, M., Rohricht, F., & Priebe, S. (1995). Initial assessment of hospital treatment by patients with paranoid schizophrenia: a predictor of outcome. Psychiatry Res, 58(1), 77-81.

Brunero, S., Lamont, S., & Fairbrother, G. (2009). Using and understanding consumer satisfaction to effect an improvement in mental health service delivery. J Psychiatr Ment Health Nurs, 16(3), 272-278.

Busse, R., Blumel, M., Knieps, F., & Barnighausen, T. (2017). Statutory health insurance in Germany: a health system shaped by 135 years of solidarity, self-governance, and competition. Lancet, 390(10097), 882-897.

Canuso, C. M., Grinspan, A., Kalali, A., Damaraju, C. V., Merriman, U., Alphs, L., et al. (2010). Medication satisfaction in schizophrenia: a blinded-initiation study of paliperidone extended release in patients suboptimally responsive to risperidone. Int Clin Psychopharmacol, 25(3), 155-164.

Carr-Hill, R. A. (1992). The measurement of patient satisfaction. J Public Health Med, 14(3), 236-249.

Ching, Y. C. (2011a). Translating and adapting mental health service outcome measurements for use in Taiwan. [Validation Studies]. J Nurs Res, 19(3), 190-198.

Chisholm, D., Knapp, M. R. J., Knudsen, H. C., Amaddeo, F., Gaite, L., & Van Wijngaarden, B. O. B. (2000). Client Socio-Demographic and Service Receipt Inventory--European Version: development of an instrument for international research. EPSILON Study 5. European Psychiatric Services: Inputs Linked to Outcome Domains and Needs. Br Journal Psychiatry (39)s28-33

Cleary, M., Hunt, G., & Walter, G. (2009). A comparison of patient and staff satisfaction with services after relocating to a new purpose-built mental health facility. Australas Psychiatry, 17(3), 212-217.

Cleary, P. D., & McNeil, B. J. (1988). Patient satisfaction as an indicator of quality care. Inquiry, 25(1), 25-36.

Corbiere, M., Lesage, A., Lauzon, S., Ricard, N., & Reinharz, D. (2003). [French validation of the Verona Service Satisfaction Scale-VSSS-54F]. [English Abstract Validation Studies]. Encephale, 29(2), 110-118.

Corrigan, P. W. (1990). Consumer satisfaction with institutional and community care. Community Ment Health J, 26(2), 151-165.

De Jong, M. H., Kamperman, A. M., Oorschot, M., Priebe, S., Bramer, W., van de Sande, R., et al. (2016). Interventions to Reduce Compulsory Psychiatric Admissions: A Systematic Review and Meta-analysis. JAMA Psychiatry, 73(7), 657-664.

De los Cobos, J., Valero, S., Haro, G., Fidel, G., Escuder, G., Trujols, J., et al. (2002). Development and psychometric properties of the Verona Service Satisfaction Scale for methadone-treated opioid-dependent patients (VSSS-MT). Drug Alcohol Depend, 68(2), 209-214.

De Wilde, E. F., & Hendriks, V. M. (2005). The Client Satisfaction Questionnaire: psychometric properties in a Dutch addict population. Eur Addict Res, 11(4), 157-162.

Del Vecchio, V., Luciano, M., Sampogna, G., De Rosa, C., Giacco, D., Tarricone, I., et al. (2015). The role of relatives in pathways to care of patients with a first episode of psychosis. Int J Soc Psychiatry, 61(7), 631-637.

Druss, B. G., Schlesinger, M., & Allen, H. M., Jr. (2001). Depressive symptoms, satisfaction with health care, and 2-year work outcomes in an employed population. Am J Psychiatry, 158(5), 731-734.

Dunn, M., O'Driscoll, C., Dayson, D., Wills, W., & Leff, J. (1990). The TAPS Project. 4: An observational study of the social life of long-stay patients. Br J Psychiatry, 157, 842-848, 852.

Eassom, E., Giacco, D., Dirik, A., & Priebe, S. (2014). Implementing family involvement in the treatment of patients with psychosis: a systematic review of facilitating and hindering factors. BMJ Open, 4(10), e006108.

Edlund, M. J., Young, A. S., Kung, F. Y., Sherbourne, C. D., & Wells, K. B. (2003). Does satisfaction reflect the technical quality of mental health care? Health Serv Res, 38(2), 631-645.

Eisen, S. V., Shaul, J. A., Clarridge, B., Nelson, D., Spink, J., & Cleary, P. D. (1999). Development of a consumer survey for behavioral health services. [Clinical Trial Randomized Controlled Trial Research Support, Non-U S Gov't Research Support, U S Gov't, P H S]. Psychiatr Serv, 50(6), 793-798.

Eisen, S. V., Shaul, J. A., Leff, H. S., Stringfellow, V., Clarridge, B. R., & Cleary, P. D. (2001). Toward a national consumer survey: Evaluation of the CABHS and MHSIP instruments. [Article]. Journal of Behavioral Health Services and Research, 28(3), 347-369.

Eisen, S. V., Wilcox, M., Idiculla, T., Speredelozzi, A., & Dickey, B. (2002). Assessing consumer perceptions of inpatient psychiatric treatment: the perceptions of care survey. [Article]. The Joint Commission journal on quality improvement, 28(9), 510-526.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. Journal of Advanced Nursing, 62(1), 107-115.

Evans, J., Rose, D., Flach, C., Csipke, E., Glossop, H., McCrone, P., et al. (2012). VOICE: Developing a new measure of service users' perceptions of inpatient care, using a participatory methodology. [Article]. Journal of Mental Health, 21(1), 57-71.

Eytan, A., Bovet, L., Gex-Fabry, M., Alberque, C., & Ferrero, F. (2004). Patients' satisfaction with hospitalization in a mixed psychiatric and somatic care unit. Eur Psychiatry, 19(8), 499-501.

Fakhoury, W., & Priebe, S. (2007). Deinstitutionalization and reinstitutionalization: major changes in the provision of mental healthcare. Community psychiatry, 6(8), 313-350.

Fakhoury, W. K., Kaiser, W., Roeder-Wanner, U. U., & Priebe, S. (2002). Subjective evaluation: is there more than one criterion? [Evaluation Studies Research Support, Non-U S Gov't]. Schizophr Bull, 28(2), 319-327.

Ferré F, de Belvis A, Valerio L, Longhi S, Lazzari A, Fattore G, et al. (2014) Italy health system review. Health Systems in Transition. Copenhaguen: WHO European Observatory on Health Systems and Policies, 16(4):1-172.

Ford, K. L., Bryant, A. N., & Kim, G. (2013). Age differences in satisfaction with and perceived benefit from mental health services: results from the collaborative psychiatric epidemiology surveys. Int J Geriatr Psychiatry, 28(8), 831-840.

Frueh, B. C., Pellegrin, K. L., Elhai, J. D., Hamner, M. B., Gold, P. B., Magruder, K. M., et al. (2002). Patient satisfaction among combat veterans receiving specialty PTSD treatment. J Psychiatr Pract, 8(5), 326-332.

Ganju, V. (1999). The MHSIP Consumer Survey: Arlington, VA National Association of State Mental Health Program Directors Research Institute.

Garratt, A., Bjorngaard, J. H., Dahle, K. A., Bjertnaes, O. A., Saunes, I. S., & Ruud, T. (2006). The Psychiatric Out-Patient Experiences Questionnaire (POPEQ): data quality,

reliability and validity in patients attending 90 Norwegian clinics. Nord J Psychiatry, 60(2), 89-96.

Garratt, A., Danielsen, K., Bjertnaes, O. A., & Ruud, T. (2006). [PIPEQ--a method for measurement of user satisfaction in mental health services]. Tidsskr Nor Laegeforen, 126(11), 1478-1480.

Gebhardt, S., Wolak, A. M., & Huber, M. T. (2013). Patient satisfaction and clinical parameters in psychiatric inpatients--the prevailing role of symptom severity and pharmacologic disturbances. Compr Psychiatry, 54(1), 53-60.

Gerkens S, Merkur S. (2010). Belgium: Health system review. Health Systems in Transition. Copenhaguen: WHO European Observatory on Health Systems and Policiesm 12(5):1-266.

Giacco, D., Bird, V. J., McCrone, P., Lorant, V., Nicaise, P., Pfennig, A., et al.(2015). Specialised teams or personal continuity across inpatient and outpatient mental healthcare? Study protocol for a natural experiment. *BMJ Open* 2015;5:e008996

Gigantesco, A., Morosini, R., & Bazzoni, A. (2003). Quality of psychiatric care: validation of an instrument for measuring inpatient opinion. Int J Qual Health Care, 15(1), 73-78.

Gigantesco, A., Picardi, A., Chiaia, E., Balbi, A., & Morosini, P. (2002). Patients' and relatives' satisfaction with psychiatric services in a large catchment area in Rome. Eur Psychiatry, 17(3), 139-147.

Gjerden, P., & Moen, H. (2001). Patient satisfaction and ward atmosphere during a crisis in an open psychiatric ward. Soc Psychiatry Psychiatr Epidemiol, 36(11), 529-532.

Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: development and evaluation of a new indicator. Pediatrics, 108(2), E31.

Greenfield, T. K., & Attkisson, C. C. (1989). Progress toward a multifactorial Service Satisfaction Scale for evaluating primary care and mental health services. evaluation and program planning, 12, 271-278.

Greenwood, N., Key, A., Burns, T., Bristow, M., & Sedgwick, P. (1999). Satisfaction with in-patient psychiatric services. Relationship to patient and treatment factors. Br J Psychiatry, 174, 159-163.

Hansson, L. (1989). Patient satisfaction with in-hospital psychiatric care. A study of a 1-year population of patients hospitalized in a sectorized care organization. Eur Arch Psychiatry Neurol Sci, 239(2), 93-100.

Hansson, L., Bjorkman, T., & Priebe, S. (2007). Are important patient-rated outcomes in community mental health care explained by only one factor? Acta Psychiatr Scand, 116(2), 113-118.

Hansson, L., & Höglund, E. (1995). Patient satisfaction with psychiatric services: The development, reliability, and validity of two patient-satisfaction questionnaires for use in inpatient and outpatient setting. Nordic Journal of Psychiatry, 49(4), 257-262.

Henderson, C., Hales, H., & Ruggeri, M. (2003). Cross-cultural differences in the conceptualisation of patients' satisfaction with psychiatric services--content validity of the English version of the Verona Service Satisfaction Scale. Soc Psychiatry Psychiatr Epidemiol, 38(3), 142-148.

Henderson, C., Phelan, M., Loftus, L., Dall'Agnola, R., & Ruggeri, M. (1999). Comparison of patient satisfaction with community-based vs. hospital psychiatric services. Acta Psychiatr Scand, 99(3), 188-195.

Holcomb, W. R., Adams, N. A., Ponder, H. M., & Reitz, R. (1989). The development and construct validation of a consumer satisfaction questionnaire for psychiatric inpatients. Eval Program Plann, 12(2), 189-194.

Holikatti, P. C., Kar, N., Mishra, A., Shukla, R., Swain, S. P., & Kar, S. (2012). A study on patient satisfaction with psychiatric services. Indian J Psychiatry, 54(4), 327-332.

Horn, K., & Martinsen, E. W. (2007). [Patient satisfaction after hospitalisation in a psychiatric institution]. Tidsskr Nor Laegeforen, 127(11), 1506-1509.

Howard, P. B., Clark, J. J., Rayens, M. K., Hines-Martin, V., Weaver, P., & Littrell, R. (2001). Consumer satisfaction with services in a regional psychiatric hospital: A collaborative research project in Kentucky.Archives of Psychiatric Nursing, 15(1), 10-23.

Howard, P. B., El-Mallakh, P., Kay Rayens, M., & Clark, J. J. (2003). Consumer perspectives on quality of inpatient mental health services. Arch Psychiatr Nurs, 17(5), 205-217.

Huxley, P., & Mohamad, H. (1992). The General Satisfaction Quesitonnaire. London: Whiting and Birch.

Ito, H., Shingai, N., Yamazumi, S., Sawa, Y., & Iwasaki, S. (1999). [Patient perceptions and satisfaction of psychiatric services at their discharge]. Seishin Shinkeigaku Zasshi, 101(2), 138-147.

Jackson, J. L., Chamberlin, J., & Kroenke, K. (2001). Predictors of patient satisfaction. Soc Sci Med, 52(4), 609-620.

Jenkinson, C., Coulter, A., Bruster, S., Richards, N., & Chandola, T. (2002). Patients' experiences and satisfaction with health care: results of a questionnaire study of specific aspects of care. Qual Saf Health Care, 11(4), 335-339.

Jerrell, J. M. (2006). Psychometrics of the MHSIP Adult Consumer Survey. J Behav Health Serv Res, 33(4), 483-488.

Jovanovic, N. et al., (2017) Understanding Patient Satisfaction with Psychiatric Inpatient Care: the Role of Hospital Built Environment. *Manuscript in preparation*

Kallert, T. W., Priebe, S., McCabe, R., Kiejna, A., Rymaszewska, J., Nawka, P., et al. (2007). Are day hospitals effective for acutely ill psychiatric patients? A European multicenter randomized controlled trial. J Clin Psychiatry, 68(2), 278-287.

Kalman, T. P. (1983). An overview of patient satisfaction with psychiatric treatment. Hosp Community Psychiatry, 34(1), 48-54.

Karow, A., Bock, T., Daubmann, A., Meigel-Schleiff, C., Lange, B., Lange, M., et al. (2014). [The Hamburg-model of integrated care for patients with psychosis: Part 2. Results of the clinical course over 2- and 4-years of treatment]. Psychiatr Prax, 41(5), 266-273.

Karterud, S., Wilberg, T., Pedersen, G., Friis, S., Irion, T., & Urnes, Ø (1998). Quality assurance of psychiatric day hospital treatment: III. Health care system level. Nordic Journal of Psychiatry, 52 (8), 431-439

Katsakou, C., Bowers, L., Amos, T., Morriss, R., Rose, D., Wykes, T., Priebe S. (2010). Coercion and treatment satisfaction among involuntary patients. Psychiatr Serv, 61(3):286-92

Kerzman, T., Kok, I., & Wijngaarden, B. V. (2003). De GGZ Thermometer Nader Onderzocht: De Evaluatie Van Een Vragenlijst Voor Cliëntwaardering in de Volwassenenzorg ([Studies on the mental health thermometer: Evaluaiton of an instrument for patient satifaction in adult mental health care]). Utrecht, the Netherlands.: Trimbos-institute.

Kessing, L. V., Hansen, H. V., Ruggeri, M., & Bech, P. (2006). Satisfaction with treatment among patients with depressive and bipolar disorders. [Article]. Social Psychiatry and Psychiatric Epidemiology, 41(2), 148-155.

Kriz, D., Nübling, R., Steffanowski, A., Wittmann, W. W., & Schmidt, J. (2008). Patients' satisfaction in inpatient rehabilitation. Psychometrical evaluation of the ZUF-8 based on a multicenter sample of different indications. [Article]. Zeitschrift fur Medizinische Psychologie, 17(2-3), 67-79.

Krupchanka, D., Khalifeh, H., Abdulmalik, J., Ardila-Gomez, S., Armiya'u, A. Y., Banjac, V., et al. (2017). Satisfaction with psychiatric in-patient care as rated by patients at discharge from hospitals in 11 countries. Soc Psychiatry Psychiatr Epidemiol, 52(8), 989-1003.

Kuipers, E., Yesufu-Udechuku, A., Taylor, C., & Kendall, T. (2014). Management of psychosis and schizophrenia in adults: summary of updated NICE guidance. Bmj, 348, g1173.

Kuosmanen, L., Hätönen, H., Jyrkinen, A. R., Katajisto, J., & Välimäki, M. (2006). Patient satisfaction with psychiatric inpatient care. J Adv Nurs, 55(6), 655-663.

Köhler, S., Unger, T., Hoffmann, S., Steinacher, B., & Fydrich, T. (2015). Patient satisfaction with inpatient psychiatric treatment and its relation to treatment outcome in unipolar depression and schizophrenia. Int J Psychiatry Clin Pract, 19(2), 119-123.

Lambert, M., Bock, T., Daubmann, A., Meigel-Schleiff, C., Lange, B., Lange, M., et al. (2014). [The Hamburg-model of integrated care for patients with psychosis: Part 1. Rationale, treatment concept and results of the pre-study]. Psychiatr Prax, 41(5), 257-265.

Larsen, D. L., Attkisson, C. C., Hargreaves, W. A., & Nguyen, T. D. (1979). Assessment of client/patient satisfaction: development of a general scale. Eval Program Plann, 2(3), 197-207.

Lebow, J. (1982). Consumer satisfaction with mental health treatment. Psychol Bull, 91(2), 244-259.

Lebow, J. L. (1983). Research assessing consumer satisfaction with mental health treatment: a review of findings. Eval Program Plann, 6(3-4), 211-236.

Leese, M., Johnson, S., Slade, M., Parkman, S., Kelly, F., Phelan, M., et al. (1998). User perspective on needs and satisfaction with mental health services. PRiSM Psychosis Study. 8. Br J Psychiatry, 173, 409-415.

Lehman, A. F., Postrado, L. T., Roth, D., McNary, S. W., & Goldman, H. H. (1994). Continuity of care and client outcomes in the Robert Wood Johnson Foundation program on chronic mental illness. Milbank Q, 72(1), 105-122.

Lehman, A. F., & Zastowny, T. R. (1983). Patient satisfaction with mental health services: a meta-analysis to establish norms. Eval Program Plann, 6(3-4), 265-274.

Lelliott, P., Beevor, A., Hogman, G., Hyslop, J., Lathlean, J., & Ward, M. (2001). Carers' and Users' Expectations of Services--User version (CUES-U): a new instrument to measure the experience of users of mental health services. Br J Psychiatry, 179, 67-72.

Linder-Pelz, S. U. (1982). Toward a theory of patient satisfaction. Soc Sci Med, 16(5), 577-582.

Lundqvist, L. O., Ivarsson, A. B., Brunt, D., Rask, M., & Schroder, A. (2016). Quality of community-based day centre services for people with psychiatric disabilities: psychometric properties of the Quality in Psychiatric Care - Daily Activities (QPC-DA). Scand J Occup Ther, 23(2), 91-96.

MacInnes, D., Beer, D., Keeble, P., Rees, D., & Reid, L. (2010). The development of a tool to measure service user satisfaction with in-patient forensic services: The Forensic Satisfaction Scale.
J Ment Health, 19(3), 272-281.

Marks, I. M., Connolly, J., Muijen, M., Audini, B., McNamee, G., & Lawrence, R. E. (1994). Home-based versus hospital-based care for people with serious mental illness. Br J Psychiatry. 165(2):179-94.

Marsden, J., Stewart, D., Gossop, M., Rolfe, A., Bacchus, L., Griffiths, P., et al. (2000). Assessing Client Satisfaction with Treatment for Substance Use Problems and the Development of the Treatment Perceptions Questionnaire (TPQ). Addiction Research, 8(5), 455-470.

Marshall, G. N., & Hays, R. D. (1994). The Patient Satisfaction Questionnaire Short Form (PSQ-18) (pp. 7865). Santa Monica, California: RAND Corporation.

McCabe, R., Saidi, M., & Priebe, S. (2007). Patient-reported outcomes in schizophrenia. Br J Psychiatry Suppl, 50, s21-28.

McCrone, P., Killaspy, H., Bebbington, P., Johnson, S., Nolan, F., Pilling, S., et al. (2009). The REACT study: cost-effectiveness analysis of assertive community treatment in north London. Psychiatr Serv, 60(7), 908-913.

Middelboe, T., Schjodt, T., Byrsting, K., & Gjerris, A. (2001). Ward atmosphere in acute psychiatric in-patient care: patients' perceptions, ideals and satisfaction. Acta Psychiatr Scand, 103(3), 212-219.

Miglietta, E., Belessiotis-Richards, C., Ruggeri, M., Priebe, S. (2017). Scales for assessing patient satisfaction with mental health care: A systematic review. Journal of Psychiatric Research, 100, 33-46

Mitchell, A. J., & Selmes, T. (2007). Why don't patients take their medicine? Reasons and solutions in psychiatry. Adv Psychiatr Treat. 13 (5) 336-346

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, P. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Med, 6(7), e1000097.

Mory, C., Matschinger, H., Roick, C., Kilian, R., Bernert, S., & Angermeyer, M. C. (2001a). [The German adaptation of the Verona Service Satisfaction Scale: an instrument for patients' satisfaction with mental health care]. Psychiatr Prax, 28(2), S91-96.

Muller, M. J., Schlosser, R., Kapp-Steen, G., Schanz, B., & Benkert, O. (2002). Patients' satisfaction with psychiatric treatment: comparison between an open and a closed ward. Psychiatr Q, 73(2), 93-107.

Nabati, L., Shea, N., McBride, L., Gavin, C., & Bauer, M. S. (1998). Adaptation of a simple patient satisfaction instrument to mental health: psychometric properties. Psychiatry Res, 77(1), 51-56.

Nicaise, P. et al. (2017). Care system conditions facilitating or hindering integrated personal continuity of care for SMI patients: A comparison of five European systems. *Manuscript in preparation*

Novick, D., Haro, J. M., Suarez, D., Perez, V., Dittmann, R. W., & Haddad, P. M. (2010). Predictors and clinical consequences of non-adherence with antipsychotic medication in the outpatient treatment of schizophrenia. Psychiatry Res, 176(2-3), 109-113.

Olfson, M., Mechanic, D., Boyer, C. A., & Hansell, S. (1998). Linking inpatients with schizophrenia to outpatient care. Psychiatr Serv, 49(7), 911-917.

Olusina, A. K., Ohaeri, J. U., & Olatawura, M. O. (2002). Patient and staff satisfaction with the quality of in-patient psychiatric care in a Nigerian general hospital. Soc Psychiatry Psychiatr Epidemiol, 37(6), 283-288.

Omer, S., Priebe, S., & Giacco, D. (2015). Continuity across inpatient and outpatient mental health care or specialisation of teams? A systematic review. Eur Psychiatry, 30(2), 258-270.

Organization., W. H. (1992). The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guideline. Geneva: World Health Organization.

Ortiz, G., & Schacht, L. (2012). Psychometric evaluation of an inpatient consumer survey measuring satisfaction with psychiatric care. [Article]. Patient, 5(3), 163-173.

Osborn, D. P., Lloyd-Evans, B., Johnson, S., Gilburt, H., Byford, S., Leese, M., et al. (2010). Residential alternatives to acute in-patient care in England: satisfaction, ward atmosphere and service user experiences. [Research Support, Non-U S Gov't]. Br J Psychiatry Suppl, 53(5), 081109.

Paludetto, M., Camuccio, C. A., Cutrone, F., Cocchio, S., & Baldo, V. (2015). Can we have routine measurement of patient satisfaction in acute psychiatric settings? A cross sectional study. Arch Psychiatr Nurs, 29(6), 447-453.

Palumbo, C., Volpe, U., Matanov, A., Priebe, S., & Giacco, D. (2015). Social networks of patients with psychosis: a systematic review. BMC Res Notes, 8, 560.

Pascoe, G. C. (1983). Patient satisfaction in primary health care: a literature review and analysis. Eval Program Plann, 6(3-4), 185-210.

Pellegrin, K. L., Stuart, G. W., Maree, B., Frueh, B. C., & Ballenger, J. C. (2001). A brief scale for assessing patients' satisfaction with care in outpatient psychiatric services. Psychiatr Serv, 52(6), 816-819.

Perreault, M., Rogers, W. L., Leichner, P., & Sabourin, S. (1996). Patients' requests and satisfaction with services in an outpatient psychiatric setting. Psychiatr Serv, 47(3), 287-292.

Pharoah, F., Mari, J., Rathbone, J., & Wong, W. (2010). Family intervention for schizophrenia. Cochrane Database Syst Rev. 8;(12):CD000088

Pinto, R. M. (2006). Using social network interventions to improve mentally ill clients' well-being. Clin Soc Work J, 34(1), 83.

Priebe, S., Barnicot, K., McCabe, R., Kiejna, A., Nawka, P., Raboch, J., et al. (2011). Patients' subjective initial response and the outcome of inpatient and day hospital treatment. Eur Psychiatry, 26(7), 408-413.

Priebe, S., Golden, E., McCabe, R., & Reininghaus, U. (2012). Patient-reported outcome data generated in a clinical intervention in community mental health care--psychometric properties. BMC Psychiatry, 12(113), 12-113.

Priebe, S., & Gruyters, T. (1993). The role of the helping alliance in psychiatric community care. A prospective study. J Nerv Ment Dis, 181(9), 552-557.

Priebe, S., & Gruyters, T. (1994). Patients' and caregivers' initial assessments of day-hospital treatment and course of symptoms. Compr Psychiatry, 35(3), 234-238.

Priebe, S., & Gruyters, T. (1995). Patients' assessment of treatment predicting outcome. Schizophr Bull, 21(1), 87-94.

Priebe, S., Gruyters, T., Heinze, M., Hoffmann, C., & Jäkel, A. (1995). [Subjective evaluation criteria in psychiatric care--methods of assessment for research and general practice]. Psychiatr Prax, 22(4), 140-144.

Priebe, S., Huxley, P., Knight, S., & Evans, S. (1999). Application and results of the Manchester Short Assessment of Quality of Life (MANSA). Int J Soc Psychiatry, 45(1), 7-12.

Priebe, S., Kaiser, W., Huxley, P. J., Röder-Wanner, U. U., & Rudolf, H. (1998). Do different subjective evaluation criteria reflect distinct constructs? J Nerv Ment Dis, 186(7), 385-392.

Priebe, S., Katsakou, C., Amos, T., Leese, M., Morriss, R., Rose, D., et al. (2009). Patients' views and readmissions 1 year after involuntary hospitalisation. Br J Psychiatry, 194(1), 49-54.

Priebe, S., McCabe, R., Bullenkamp, J., Hansson, L., Lauber, C., Martinez-Leal, R., et al. (2007). Structured patient-clinician communication and 1-year outcome in community mental healthcare: cluster randomised controlled trial. Br J Psychiatry, 191, 420-426.

Priebe, S., Watzke, S., Hansson, L., & Burns, T. (2008). Objective social outcomes index (SIX): a method to summarise objective indicators of social outcomes in mental health care. Acta Psychiatr Scand, 118(1), 57-63.

Prince, J. D. (2005). Family involvement and satisfaction with community mental health care of individuals with schizophrenia. Community Ment Health J, 41(4), 419-430.

Prot, K., Anczewska, M., Indulska, A., Raduj, J., & Palyska, M. (2011). [Patients' and families' satisfaction from services provided in community care--pilot study]. Psychiatr Pol, 45(6), 799-809.

Puntis, S., Rugkasa, J., Forrest, A., Mitchell, A., & Burns, T. (2015). Associations between continuity of care and patient outcomes in mental health care: a systematic review. Psychiatr Serv, 66(4), 354-363.

Puschner, B., Steffen, S., Slade, M., Kaliniecka, H., Maj, M., Fiorillo, A., et al. (2010). Clinical decision making and outcome in routine care for people with severe mental illness (CEDAR): study protocol. BMC Psychiatry, 10, 90.

Reininghaus, U., McCabe, R., Burns, T., Croudace, T., & Priebe, S. (2011). Measuring patients' views: a bifactor model of distinct patient-reported outcomes in psychosis.. Psychol Med, 41(2), 277-289.

Reininghaus, U., & Priebe, S. (2012). Measuring patient-reported outcomes in psychosis: conceptual and methodological review. Br J Psychiatry, 201(4), 262-267.

Richardson, M., Katsakou, C., & Priebe, S. (2011). Association of treatment satisfaction and psychopathological sub-syndromes among involuntary patients with psychotic disorders. [Research Support, Non-U S Gov't]. Soc Psychiatry Psychiatr Epidemiol, 46(8), 695-702.

Richardson, M., Katsakou, C., Torres-González, F., Onchev, G., Kallert, T., & Priebe, S. (2011). Factorial validity and measurement equivalence of the Client Assessment of Treatment Scale for psychiatric inpatient care - A study in three European countries. [Article]. Psychiatry Research, 188(1), 156-160.

Robillos, E., Lale, R., Wooldridge, J., Heller, R., & Sarkin, A. (2014). Gender and the relative importance of mental health satisfaction domains. Eval Program Plann, 43:9-15

Rohland, B. M., Langbehn, D. R., & Rohrer, J. E. (2000). Relationship between service effectiveness and satisfaction among persons receiving Medicaid mental health services. Psychiatr Serv, 51(2), 248-250.

Rose, D., Evans, J., Laker, C., & Wykes, T. (2015). Life in acute mental health settings: experiences and perceptions of service users and nurses. Epidemiol Psychiatr Sci, 24(1), 90-96.

Rosenheck, R., Wilson, N. J., & Meterko, M. (1997). Influence of patient and hospital factors on consumer satisfaction with inpatient mental health treatment. Psychiatr Serv, 48(12), 1553-1561.

Ruggeri, M. (1994). Patients' and relatives' satisfaction with psychiatric services: the state of the art of its measurement. Soc Psychiatry Psychiatr Epidemiol, 29(5), 212-227.

Ruggeri, M., Biggeri, A., Rucci, P., & Tansella, M. (1998). Multivariate analysis of outcome of mental health care using graphical chain models. The South-Verona Outcome Project 1. Psychol Med, 28(6), 1421-1431.

Ruggeri, M., & Dall'Agnola, R. (1993). The development and use of the Verona Expectations for Care Scale (VECS) and the Verona Service Satisfaction Scale (VSSS) for measuring expectations and satisfaction with community-based psychiatric services in patients, relatives and professionals. Psychol Med, 23(2), 511-523.

Ruggeri, M., Dall'Agnola, R., Agostini, C., & Bisoffi, G. (1994). Acceptability, sensitivity and content validity of the VECS and VSSS in measuring expectations and satisfaction in psychiatric patients and their relatives. Soc Psychiatry Psychiatr Epidemiol, 29(6), 265-276.

Ruggeri, M., Dall'Agnola, R., Bisoffi, G., & Greenfield, T. (1996). Factor analysis of the verona service satisfaction scale-82 and development of reduced versions. [Article]. International Journal of Methods in Psychiatric Research, 6(1), 23-38.

Ruggeri, M., Gater, R., Bisoffi, G., Barbui, C., & Tansella, M. (2002). Determinants of subjective quality of life in patients attending community-based mental health services. The South-Verona Outcome Project 5. Acta Psychiatr Scand, 105(2), 131-140.

Ruggeri, M., Lasalvia, A., Bisoffi, G., Thornicroft, G., Vazquez-Barquero, J. L., Becker, T., et al. (2003). Satisfaction with mental health services among people with schizophrenia in five European sites: results from the EPSILON Study. Schizophr Bull, 29(2), 229-245.

Ruggeri, M., Lasalvia, A., Bisoffi, G., Thornicroft, G., Vàzquez-Barquero, J. L., Becker, T., et al. (2003). Satisfaction with mental health services among people with schizophrenia in five European sites: results from the EPSILON Study. Schizophr Bull, 29(2), 229-245.

Ruggeri, M., Lasalvia, A., Dall'Agnola, R., Van Wijngaarden, B., Knudsen, H. C., Leese, M., et al. (2000). Development, internal consistency and reliability of the Verona Service Satisfaction Scale - European version. EPSILON study 7. [Article]. British Journal of Psychiatry, 177(SUPPL. 39), s41-s48.

Ruggeri, M., Lasalvia, A., Dall'Agnola, R., van Wijngaarden, B., Knudsen, H. C., Leese, M., et al. (2000). Development, internal consistency and reliability of the Verona Service Satisfaction Scale--European Version. EPSILON Study 7. European Psychiatric Services: Inputs Linked to Outcome Domains and Needs. Br J Psychiatry Suppl(39), s41-48.

Ruggeri, M., Lasalvia, A., Salvi, G., Cristofalo, D., Bonetto, C., & Tansella, M. (2007). Applications and usefulness of routine measurement of patients' satisfaction with community-based mental health care. Acta Psychiatr Scand Suppl(437), 53-65.

Ruggeri, M., Salvi, G., Perwanger, V., Phelan, M., Pellegrini, N., & Parabiaghi, A. (2006). Satisfaction with community and hospital-based emergency services amongst severely mentally ill service users: a comparison study in South-Verona and South-London. Soc Psychiatry Psychiatr Epidemiol, 41(4), 302-309.

Sagan A, Panteli D, Borkowski W, Dmowski M, Domanski F, Czyzewski M, et al. Poland health system review. Health Systems in Transition. Copenhaguen: WHO European Observatory on Health Systems and Policies, 2011;13(8):1-193.

Sandhu, S., Killaspy, H., Krotofil, J., McPherson, P., Harrison, I., Dowling, S., et al. (2016). Development and psychometric properties of the client's assessment of treatment scale for supported accommodation (CAT-SA). BMC Psychiatry, 16(43), 016-0755.

Schmidt, J., Lamprecht, F., & Wittmann, W. W. (1989). Satisfaction with inpatient care development of a questionnaire and first validity assessments. PPmP Psychotherapie Psychosomatik Medizinische Psychologie, 39(7), 248-255.

Schroder, A., Agrim, J., & Lundqvist, L. O. (2013). The quality in psychiatric care-forensic in-patient instrument: psychometric properties and patient views of the quality of forensic psychiatric services in Sweden. J Forensic Nurs, 9(4), 225-234.

Schroder, A., Ahlstrom, G., Wilde-Larsson, B., & Lundqvist, L. O. (2011). Psychometric properties of the quality in psychiatric care - outpatient (QPC-OP) instrument. Int J Ment Health Nurs, 20(6), 445-453.

Schroder, A., Larsson, B. W., & Ahlstrom, G. (2007). Quality in psychiatric care: an instrument evaluating patients' expectations and experiences. Int J Health Care Qual Assur, 20(2-3), 141-160.

Schroder, A., Larsson, B. W., Ahlstrom, G., & Lundqvist, L. O. (2010). Psychometric properties of the instrument quality in psychiatric care and descriptions of quality of care among in-patients. Int J Health Care Qual Assur, 23(6), 554-570.

Shen, G. C., & Snowden, L. R. (2014). Institutionalization of deinstitutionalization: a cross-national analysis of mental health system reform. Int J Ment Health Syst, 8(1), 47.

Shields, M. C., Borba, C. P. C., & Trinh, N. T. (2017). Quality of Inpatient Psychiatric Care and Consumers' Trust in the Mental Health Care System. Psychiatr Serv, 68(6), 642-643.

Shipley, K., Hilborn, B., Hansell, A., Tyrer, J., & Tyrer, P. (2000). Patient satisfaction: a valid index of quality of care in a psychiatric service. Acta Psychiatr Scand, 101(4), 330-333.

Siette, J., Gulea, C., & Priebe, S. (2015). Assessing Social Networks in Patients with Psychotic Disorders: A Systematic Review of Instruments. 10(12):e0145250

Smith, D., Roche, E., O'Loughlin, K., Brennan, D., Madigan, K., Lyne, J., et al. (2014). Satisfaction with services following voluntary and involuntary admission. J Ment Health, 23(1), 38-45.

Soergaard, K. W., Nivison, M., Hansen, V., & Oeiesvold, T. (2008). Treatment needs and acknowledgement of illness - importance for satisfaction with psychiatric inpatient treatment. BMC Health Serv Res, 8, 103.

Sohn, M., Barrett, H., & Talbert, J. (2014). Predictors of consumer satisfaction in community mental health center services. Community Ment Health J, 50(8), 922-925.

Spensley, J., Edwards, D. W., & White, E. (1980). Patient satisfaction and involuntary treatment. Am J Orthopsychiatry, 50(4), 725-727.

Stevens, M., Reininga, I. H., Boss, N. A., & van Horn, J. R. (2006). Patient satisfaction at and after discharge. Effect of a time lag. Patient Educ Couns, 60(2), 241-245.

Svensson, B., & Hansson, L. (1994a). Patient satisfaction with inpatient psychiatric care. The influence of personality traits, diagnosis and perceived coercion. Acta Psychiatr Scand, 90(5), 379-384.

Thompson, A. G., & Sunol, R. (1995). Expectations as determinants of patient satisfaction: concepts, theory and evidence. Int J Qual Health Care, 7(2), 127-141.

Thornicroft, G. (2011). Oxford textbook of community mental health. Oxford: Oxford University Press.

Vermeulen, J. M., Schirmbeck, N. F., van Tricht, M. J., & de Haan, L. (2017). Satisfaction of psychotic patients with care and its value to predict outcomes. Eur Psychiatry, 47, 60-66.

Ware, J. E. (1978). Effects of acquiescent response set on patient satisfaction ratings. Med Care, 16(4), 327-336.

Ware, J. E. (1981). How to survey patient satisfaction. Drug Intell Clin Pharm, 15(11), 892-899.

Ware, J. E., Davies-Avery, A., & Stewart, A. L. (1978). The measurement and meaning of patient satisfaction. Health Med Care Serv Rev, 1(1), 1, 3-15.

Ware, J. E., & Hays, R. D. (1988). Methods for measuring patient satisfaction with specific medical encounters. Med Care, 26(4), 393-402.

Ware, J. E., Jr., Snyder, M. K., Wright, W. R., & Davies, A. R. (1983). Defining and measuring patient satisfaction with medical care. Eval Program Plann, 6(3-4), 247-263.

Webb, Y., Clifford, P., Fowler, V., Morgan, C., & Hanson, M. (2000). Comparing patients' experience of mental health services in England: A five-Trust survey. [Article]. Int J Health Care Qual Assur, 13(6), 273-281.

Weingarten, S. R., Stone, E., Green, A., Pelter, M., Nessim, S., Huang, H., et al. (1995). A study of patient satisfaction and adherence to preventive care practice guidelines. Am J Med, 99(6), 590-596.

Wilberg, T., Karterud, S., Pedersen, G., Friis, S., Brabrand, J., Roar Falkum, L., et al. (1998)
Quality assurance of psychiatric day hospital treatment III. Health care system level Nord. J. Psychiatr., 52 (5), 431-439

Woodward, S., Berry, K., & Bucci, S. (2017). A systematic review of factors associated with service user satisfaction with psychiatric inpatient services. J Psychiatr Res, 92, 81-93.

Wykes, T., Csipke, E., Williams, P., Koeser, L., Nash, S., Rose, D., et al. (2017). Improving patient experiences of mental health inpatient care: a randomised controlled trial. Psychol Med, 1-10.

World Health Organization. Mental Health Policy and Service Guidance Package: the mental health context. World Health Organization, 2003.

Yimer, S., Yohannis, Z., Getinet, W., Mekonen, T., Fekadu, W., Belete, H., et al. (2016). Satisfaction and associated factors of outpatient psychiatric service consumers in Ethiopia. Patient Prefer Adherence, 10, 1847-1852.

Zahid, M. A., Ohaeri, J. U., & Al-Zayed, A. A. (2010). Factors associated with hospital service satisfaction in a sample of Arab subjects with schizophrenia. BMC Health Serv Res, 10, 294.

Zendjidjian, X. Y., Auquier, P., Lancon, C., Loundou, A., Parola, N., Faugere, M., et al. (2014). Determinants of patient satisfaction with hospital health care in psychiatry: results based on the SATISPSY-22 questionnaire. Patient Prefer Adherence, 8, 1457-1464.

Zendjidjian, X. Y., Auquier, P., Lançon, C., Loundou, A., Parola, N., Faugère, M., et al. (2015). The SATISPSY-22: Development and validation of a French hospitalized patients' satisfaction questionnaire in psychiatry. [Article]. European Psychiatry, 30(1), 172-178.