

Satisfaction related to community treatment team for child and adolescent with severe psychiatric disorders: Assessment from multiple informants and relationships to clinical outcomes

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Abstract

Introduction: Community treatment (CT) teams in Switzerland provide care to patients who are unable to use regular child and adolescent mental health services (i.e. inpatient and outpatients facilities). No study has considered patients' self-rated satisfaction alongside with staff members' perspectives on patient satisfaction. **Method:** Using a cross-sectional survey design, we collected patients' satisfaction using the Client Satisfaction Questionnaire (CSQ-8), rated by multiple informants (patients, fostercarers in foster homes and professional caregivers from CT teams). Professional caregivers assessed clinical outcomes using the Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA). **Results:** The results indicated that all informants were satisfied with the community treatment teams. The satisfaction scores were not correlated across informants; however, the alleviation of emotional symptoms was correlated with patient's satisfaction. **Discussion:** This study indicated that the use of a combined approach including the views of service users and professionals gives important complementary information. Finally, in our sample, lower emotional symptoms were linked to enhanced patient satisfaction. **Implications for practice:** This study demonstrated the importance of considering multiple perspectives to obtain the most accurate picture of patients' satisfaction. Second, focusing on the reduction of emotional symptoms might lead to a higher degree of patients' satisfaction.

Keywords: clinical outcome; community treatment team; CSQ-8; HoNOSCA; multiple informants; satisfaction.

Accessible summary

What is known on the subject?

- Patients' satisfaction is scarcely studied within the context of community treatment for adolescents.

What does this paper add to existing knowledge?

- This study adopts a multiple perspective on patients' satisfaction (including service users as well as staff members).
- The results highlighted that all informants (patients, fostercarers in foster homes and professional caregivers from CT teams) perceived the patients to be satisfied, with fostercarers reporting the highest patient satisfaction rate.

What are the implications for practice?

- Considering the patient satisfaction rate from multiple perspectives provides complementary understandings.
- Clinical outcomes and, specifically, a reduction in emotional difficulties were related to patient's satisfaction, but only from the patients' perspective.

Introduction

Often, adolescents with psychiatric disorders lack the ability or the motivation to attend regular outpatient facilities, which presents a challenge for the way in which care is typically delivered. In this context, community treatment (CT) teams offer care for patients in a familiar environment or home. Because the CT model has become standard for treating young patients with serious mental illness (for a review see Graap *et al.*, 2014), we must consider patient's opinion of the treatment.

From this perspective, Gerber and Prince (1999) measured the satisfaction of adults with severe mental disorders who were treated by CT. Their findings indicate that most patients have positive perceptions of the care-relationship and of the treatment plan but are dissatisfied with the medication's side effects and with the information professionals provide about treatment options.

Specifically, the perceived satisfaction of young patients (i.e., children or adolescents) concerning the care they receive has often been ignored (Naar-King, *et al.*, 2000). However, it is crucial to assess patients' satisfaction with the care they receive because their opinions might explain their subsequent use of services (Fitzpatrick, 1993). Therefore, such information can be used to guide efforts to improve quality of care (Stüntzner-Gibson, *et al.*, 1995).

In this context, multiple measures of patient symptoms and functioning are commonly employed to assess the clinical benefit of treatments provided by mental health services (Lambert, *et al.*, 1998). Clinical outcomes and satisfaction of parents and patients (in cases involving child or adolescent care) can be considered important information to assess the quality of child and adolescent mental health services (CAMHS) (Shapiro, *et al.*, 1997). In particular, previous studies of community-based outpatient care (Garland, *et al.*, 2003; Garland, *et al.*, 2007; Godley,

et al., 1998) and of CAMHS offering inpatient and outpatient care (Barber, *et al.*, 2006; Lambert *et al.*, 1998; Rey, *et al.*, 1999; Turchik, *et al.*, 2010) demonstrate that there is minimal overlap between parents' and patients' satisfaction. In particular, the findings of several studies (Garland *et al.*, 2003; Garland *et al.*, 2007; Kaplan, *et al.*, 2001; Lambert *et al.*, 1998; Rey *et al.*, 1999; Turchik *et al.*, 2010) on the relationship between CAMHS outcomes and parents' and patients' satisfaction suggest that outcomes and satisfaction are minimally related. Specifically, Garland *et al.* (2003) reported that satisfaction with CAMHS was minimally associated with clinical change and that this association only held from the patients' perspective. In contrast, parents' satisfaction and clinical changes were not associated with patients' satisfaction. Thus, the authors conclude that there is an important ambiguity regarding the degree to which satisfaction is related to other types of clinical outcomes such as changes in symptoms (Garland *et al.*, 2007).

Rationale and aims

Satisfaction of patients is one of the primary outcomes of CAMHS, as it is related to subsequent use of services (Fitzpatrick, 1993), as well as to clinical outcomes (Garland *et al.*, 2007). Thus, adopting perspectives from multiple informants concerning patients' satisfaction is of primary importance to understand the benefits of such a treatment. Nevertheless, to the best of our knowledge no previous study has considered patients' self-rated satisfaction in conjunction with staff members' perspectives on patient satisfaction in the context of CT. Such knowledge could bring important information about the work of CT teams with youths with severe psychiatric disorders.

Therefore, the specific aim of this project was to assess patients' satisfaction from multiple informants' perspectives after following an episode of CT care and to observe the relationships between satisfaction and clinical outcomes. Thus, patient satisfaction was assessed from the

patients' perspective and from that of the patient's staff members (either fostercarers or professional caregivers).

Method

Procedures

This study used a cross-sectional survey methodology. All adolescents residing in foster homes in the Vaud state of Switzerland (French-speaking region) and followed by the CT teams were asked to participate in the study on a voluntary basis (informed consent was thus obtained). The information about the study was given to patients by an independent researcher, in order to ensure anonymity and independency from the professional caregivers who were previously in charge of the patients. The adolescents were informed that refusal to participate in the study would not have any influence on further treatment. For patients under 12 years of age, only the clinical outcome was assessed. Regarding the complexity of the standardized satisfaction questionnaires, we supposed that patients under the age of 12 would not be able to complete them reliably. Thus, we decided to exclude patients who were younger than 12 years from the satisfaction part. Specifically, the satisfaction of patients and fostercarers in the foster home was collected by standardized telephone interviews after following a treatment with these CT teams. In addition, the professional caregivers rated the clinical outcomes and their assessment of the patients' satisfaction.

As the pilot project was limited in time (granted for a 2-year period between 2012 and 2013), for some patients, satisfaction was assessed at the end of the 2-year period (N=15). Thus, the assessment did not always correspond to the end of the treatment (due to clinical reasons, N=26). Nevertheless, all patients included in the analyses benefited from at least three months of CT.

Measures

Satisfaction

The CSQ-8 questionnaire is widely used to measure satisfaction related to care (Attkisson & Greenfield, 2004). This instrument allows the researcher to assess multiple aspects of care. The original authors have argued that parents or professional caregivers could complete the CSQ-8 (e.g., Attkisson & Greenfield, 2004). The raters completed the items on the CSQ-8 by selecting the most appropriate response to describe the patient's satisfaction using a 4-point Likert scale. A higher score represents greater satisfaction.

Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA)

Patients were assessed on admission (T1) and upon discharge or at the end of the project (T2). The assessments were completed by psychiatrists, psychologists or nurses using the French version of the HoNOSCA (Holzer, *et al.*, 2006). All professional caregivers were specifically trained in the use of HoNOSCA to provide reliable ratings with this instrument. Both assessments (at T1 and T2) were completed by the same professional caregivers. The HoNOSCA provides information on a variety of symptoms, as well as on social and physical functioning. The HoNOSCA comprises 15 items scored on a 5-point severity scale ranging from 'no problems' (0) to 'severe problems' (4). Section A of the HoNOSCA (first 13 items) was reported to have acceptable inter-rater reliability and face validity in inpatient and outpatient settings. The 2 last items (Section B) focus on the available information on the pathology and care system and their inter-rater reliability is subject to debate (Pirkis, *et al.*, 2005). Thus, in this study, only the first 13 items were considered, because they focus on adolescents' difficulties.

The measures provided by the HoNOSCA were as follows: first, we computed the *HoNOSCA Total score*. Note that the sum of the 13 items refers to the main score (Total score) proposed by the principal authors (Gowers, *et al.*, 1999) and is the most commonly used score in studies

assessing clinical outcomes using the HoNOSCA. Second, based on the factor structure proposed by Tiffin and Rolling (2012), we computed the mean score of the *behavioral problems* (Behav score) and of the *emotional symptoms* (Emo score). These scores were computed at T1 and T2. In addition, ratio scores between these two time points [(admission – discharge)/admission]) were computed to correlate them with satisfaction data. For all scores, higher scores represent greater difficulties at T1 and T2. However, higher ratio scores represent a higher positive treatment response regarding the difficulties of the patients. As such, a positive correlation between satisfaction and clinical outcome is expected.

Intervention

CT teams can provide different treatment options, namely (see Graap, *et al.*, 2014): (a) *Early intervention*, to help patients to follow a psychiatric treatment program, to introduce or maintain medications, and to work on daily life problems; (b) *Transition case management*, to support the transition after hospitalization, as the first week after a hospitalization represents a difficult period for patients and presents increased risks of readmission or suicide attempt (Bonsack, *et al.*, 2008); (c) *Assertive community treatment for patients* who are difficult to access or who are refusing *regular care*, to establish a therapeutic alliance with the patients, more precisely define the problems with and aims of the therapeutic objectives; and (d) *Assessment in the community*, to assess the clinical state and usefulness of or need for inpatient treatment. CT teams were susceptible to provide any one of these types of treatment.

Data analyses

SPSS program version 22 was used to perform the statistical tests. As the data did not conform to a Gaussian distribution, we computed non-parametric tests. First, we used Mann-Whitney tests for independent samples to assess the differences between the patients who were assessed at the

end of the CT or those assessed at the end of the pilot phase. Second, we determined the sample characteristics. Then, we descriptively analyzed the satisfaction data obtained from the multiple informants. Thereafter, Wilcoxon tests for paired samples were used to assess the differences between the satisfaction ratings of different informants. Spearman's rho (ρ) was computed to estimate the relationships between the multiple informants. Finally, we assessed the clinical outcomes using Wilcoxon tests for paired samples and used Spearman's rho (ratio scores) to correlate them with the satisfaction scores from multiple informants' perspectives. The p -value was set following convention at $p < .05$. To avoid Type I errors (false positive), we did not include the observed trends ($p < .10$). Type II error was also controlled. Indeed, using G*power 3.1, we computed the required sample size to observe large effect size (those with clinical significance) with a power of .80 ($1-\beta$), which can be considered sufficient (Cohen, 1992). Results for our main analyses indicate that the required sample size is of 26 for correlation analyses and 19 for Wilcoxon tests (paired samples) showing that our sample is sufficient to avoid Type II errors.

Results

First, we assessed the reliability of the mean score of the CSQ-8 with Cronbach's alpha. Results revealed satisfactory reliability indices for the patients ($\alpha=.839$), for the fostercarers ($\alpha=.746$) and for the caregivers ($\alpha=.818$). Second, Mann-Whitney tests revealed no significant differences with respect to satisfaction and clinical outcomes between the patients assessed at the end of their treatment or those assessed at the end of the pilot phase (all $Z_s < 1.6$, all $p_s > .11$). Thus, all of the data were combined for further analyses.

Participants

We obtained clinical assessments at T1 and T2 for 41 patients, from which we collected the patient satisfaction rate from the perspectives of the patients (N=20), fostercarers (N=19) and professional caregivers (N=39). Thus, for some adolescents, we were unable to collect the satisfaction rate following the CT treatment, primarily due to migration (N=1); being unable to contact them via telephone within 4 weeks, which was set as the maximum time period to collect the data (N=10); hospitalization (N=2); patients being too young to respond to the survey (N=7); and refusal to participate (N=1), which explains the response rate. Similarly, some fostercarers refused to participate; for others, we could not collect the satisfaction rate within the 4-week time limit. Figure 1 illustrates the flow chart.

<<INSERT FIGURE 1 ABOUT HERE>>

Table 1 describes the socio-demographic data of our sample. Patients suffered from disorders such as anxiety, depression, conduct disorder, substance use or psychosis. In table 1, disorders were grouped into three categories (emotional disorders, behavioral disorders and both components).

<<INSERT TABLE 1 ABOUT HERE>>

The patients were aged from 8.7 to 17.7 years (mean = 15.4, SD = 1.9). Most patients were male, did not attend school, had separated parents, and suffered from a combination of emotional and behavioral disorders.

Satisfaction

Table 2 summarizes patients' satisfaction scores provided by the multiple informants.

<<INSERT TABLE 2 ABOUT HERE>>

In general, all informants reported high satisfaction (more than 3.0 on a scale of max =4.0), and the range was comparable to those observed in previous studies using this scale (e.g. De Wilde &

Hendriks, 2005; Howard, *et al.*, 2003). However, Wilcoxon tests revealed that the fostercarers' satisfaction was higher than the patients' ($z=2.14$, $p\leq.01$) and the professional caregivers' ($z=2.46$, $p<.05$). No significant differences were observed between patients' and professional caregivers' perspectives ($z=1.12$, $p>.10$).

Multiple informants' satisfaction

No significant correlations were observed among the CSQ scores of the multiple informants (all $\rho s<.257$, $ps>.10$).

Clinical outcomes

Table 3 summarizes the clinical outcomes.

<< INSERT TABLE 3 ABOUT HERE >>

Using Wilcoxon tests, significant differences were observed between T1 and T2 on the HoNOSCA total score ($z=3.15$, $p<.01$), the Emo score ($z=3.08$, $p<.01$) and the Behav score ($z=2.47$, $p\leq.01$).

Clinical outcomes and satisfaction

From the patients' perspective, the CSQ score is related to the outcome, as captured by the HoNOSCA Emo score ($\rho=.476$, $p<.05$) and the total score ($\rho=.444$, $p\leq.05$). No other significant relationship was observed between CSQ scores and HoNSOCA scores (all $\rho s<.399$, $ps>.09$).

Notice that Mann-Withney tests revealed no differences between the patients who rated the CSQ-8 and those who did not rate the CSQ-8 on the HoNOSCA ratio scores. The duration of treatment was not correlated with CSQ scores or with HoNOCSA scores (all $\rho s<.308$, $ps>.10$).

Discussion

This study is the first cross-sectional survey that includes the staff's point of view when studying satisfaction of youths with severe psychiatric disorders with their CT. Indeed, this study focuses

on assessments of patients' satisfaction from multiple perspectives and its relationships with clinical outcomes. In summary, the results of the present pilot study revealed that all informants perceived patients to be satisfied (independently of the duration of care) with the care provided by CT teams, with fostercarers reporting the most positive assessment. No relationship between multiple informants' satisfaction ratings was observed. Furthermore, clinical outcomes, particularly regarding emotional symptoms, are associated with patients' satisfaction.

Satisfaction rate

To ensure patients' satisfaction, consistency between expectations and perceptions of care is crucial (Vuori (1991). Thus, we can hypothesize that the patients' expectations and their perceptions were consistent, as we observed that patients reported high satisfaction. Furthermore, professional caregivers positively assessed patients' satisfaction, which could be related to the results of a qualitative study (Reid, *et al.*, 1999) suggesting that among mental health professionals working in community settings, contact with patients (i.e., the opportunity to develop relationships with patients) influences patient satisfaction. Specifically, the challenge of establishing a long-term therapeutic alliance with patients makes community work pleasant and gratifying for many professionals. Thus, when professional caregivers assess a patient's satisfaction, they will be influenced by their desire to develop a strong relationship with difficult-to-engage patients and thus infer that their patients should be satisfied when they are able to create a positive relationship with their patients.

Regarding the finding that the fostercarers' ratings of patient satisfaction were higher than those of the patients, we can hypothesize that the care provided by the CT teams within the foster home represents crucial assistance for the fostercarer. Moreover, the fostercarers live with the patients on a daily basis and can directly observe the positive changes induced by CT in the

patient's environment. A qualitative analysis of the reasons for seeking the assistance of the community treatment team (Urban, *et al.*, 2013) revealed that the fostercarer seeks the assistance of the CT team when a psychiatric perspective and intervention is necessary. Thus, according to their more positive assessment of patients' satisfaction, we can hypothesize that fostercarers believe that patients received the requested assistance.

Multiple informants

However, we did not observe any relationship between the informants' perspectives on the patients' satisfaction. This result indicates a complementarity of the various perspectives, which is consistent with previous studies on this aspect in CAMHS (Barber *et al.*, 2006; Garland *et al.*, 2003; Garland *et al.*, 2007; Godley *et al.*, 1998; Lambert *et al.*, 1998; Rey *et al.*, 1999; Turchik *et al.*, 2010). Thus, the different perspectives on patients' satisfaction with treatment could not be ignored, as these views are more complementary than overlapping (Shapiro *et al.* (1997)). Many previous studies of patients' satisfaction with the quality of the CAMHS have used patients' parents as informants (Bjørngaard, *et al.*, 2008; Christakis, *et al.*, 2002; Marriage, *et al.*, 2001; Riley, *et al.*, 2005), meaning that the patients' satisfaction with CAMHS care has typically been replaced by parental opinions (Chesney, *et al.*, 2005). However, the results of the present study, similar to those of other studies (Barber *et al.*, 2006; Garland *et al.*, 2003; Garland *et al.*, 2007; Godley *et al.*, 1998), suggest that the perspectives of various respondents differ in their satisfaction with CAMHS, and thus even between different staff members, and indicate the importance of considering multiple perspectives to obtain a more precise understanding of patients' satisfaction.

Regarding the abovementioned aspects of patients' satisfaction from multiple perspectives (patients, fostercarers and professional caregivers), the lack of correlation observed between the

multiple perspectives may be related to the respondents basing their assessments on different aspects. Patients' satisfaction increases when expectations and perceptions are consistent (Vuori, 1991). Fostercarers' assessments of patients' satisfaction improve when they believe that the patients receive appropriate psychiatric care (Urban *et al.*, 2013). Finally, professional caregivers' assessments of patients' satisfaction might increase with the quality of their relationships with patients (Reid *et al.*, 1999). Thus, we did not observe any relationship among assessments of patient satisfaction from multiple perspectives with respect to differences on the dimensions comprising the patient satisfaction measures.

Relationships with clinical outcomes

Furthermore, we observed that the patients' satisfaction was closely related to the clinical outcome, particularly to changes in emotional symptoms. The observation that only the patient's satisfaction was related to clinical outcomes is consistent with a previous study on this topic (Garland *et al.*, 2003). Specifically, emotional symptoms are those from which the patients suffer the most. From this perspective, Garland *et al.* (2007) suggest that one of the key components of patients' satisfaction with mental health services depends on the clinical outcome. Our study reported that the changes in emotional symptoms appeared to be an important and valued change for patients.

Integrative perspectives

More generally, Biering (2010) suggested that adolescents' satisfaction with psychiatric care depends on three universal components: the organization of CAMHS, the relationship between patients and professional caregivers, and the clinical outcome. Adopting this perspective could provide us with a broader framework for our results. First, the organization of mental health services represents an important aspect of the CT teams. Providing psychiatric care in the

community allows adolescents to remain in the community and is therefore less stigmatizing. In addition, among the numerous types of care that the CT team could provide, patients will likely receive the specific care they need. Second, the CT team is accustomed to work with patients who refuse all types of regular CAMHS. The CT approach provides caregivers with greater flexibility in their understanding of patient needs, for instance, that the creation of an optimal therapeutic alliance is one of the main goals. This could be achieved, for example, through informal interactions (e.g., having coffee together), thereby enhancing collaboration and the creation of good relationships with the adolescents, as informal interaction is less adversarial than traditional therapeutic settings. Third, the clinical outcome is important from the patient's perspective. In this regard, our findings indicate that helping adolescents minimize their emotional symptoms may help them increase their satisfaction with treatment.

New insights for scientific literature

This pilot study is the first to analyze patients' satisfaction as perceived by multiple perspectives, thereby including the perspectives of professionals (i.e., fostercarers and professional caregivers) in the attempt to understand the complex topic of young patients' satisfaction with CT. First, our results from combining service users' and professionals' views informed us that these perspectives are complementary and thus should not be ignored. Second, our findings made us think that alleviating emotional symptoms may be of primary importance for enhancing patients' satisfaction in the context of CT. Finally, our findings are a nice example and extend the definition of the three components of satisfaction with psychiatric care for adolescents proposed by Biering (2010) to CT teams.

Implication for clinical practice

This study was undertaken in the context of the implementation of CT teams in Switzerland, targeting patients in foster homes (for a detailed description see Urben *et al.*, 2013). The aim of this project was to improve collaboration between educational (i.e., foster homes) and child and adolescent psychiatry (i.e., CT) fields. The main practical goal was to allow patients with severe psychiatric disorders to remain in their foster homes and in the community with the assistance of CT teams. Regarding the result that fostercarers report the greatest satisfaction with the assistance provided to patients, we believe that CT care could represent a helpful intervention in this context. This finding legitimizes the intervention of CT teams in foster homes. Thus, this project enhances the collaboration between these two fields, which could provide a more integrated perspective on the difficulties faced by patients. Such multidisciplinary points of view about the patients enhance their understanding and thus the likelihood to help them effectively.

Furthermore, this study highlighted the importance of considering multiple perspectives when assessing and developing CAMHS. The lack of correlation observed among multiple perspectives (patients, fostercarers and professional caregivers) concerning patients' satisfaction indicates that this information should not be ignored. All of these perspectives provide useful information; thus, to obtain a more precise understanding of patients' satisfaction, it is crucial to consider all of them. For clinical practice, it implies that, when aiming at studying patient satisfaction, it is of primary importance to also consider satisfaction from staff's perspective in order to have a more precise picture of the situation.

Finally, we observed that there may be a link between emotional difficulties and patient satisfaction, which highlights the importance of patient's perspective in the relationship between satisfaction and clinical outcomes. In particular, emotional difficulties comprise self-injury, substance abuse, hallucinations, and emotional symptoms that represent difficult aspects for a

fostercarer living with patients on a daily basis. Thus, alleviating these symptoms improves the patients' ability to live more harmoniously in the foster home. Thus, if CT teams were to focus on alleviating such symptoms, patients' satisfaction would likely be enhanced, thereby increasing their potential to remain in their psychosocial environment.

Limitations

This study has several limitations regarding its pilot nature and its clinical background in a context of the implementation of a new treatment procedure. First, patient satisfaction was not always assessed at the end of treatment determined according to clinical reasons. However, we observed no differences between those patients who ended treatment for clinical reasons and those who ended treatment due to the end of the 2-year pilot phase period. Furthermore, all of the patients who were included in the study received at least 3 months of treatment from community teams, which could explain the lack of differences between the two groups of patients. Regarding the pilot nature of the analyses, we only reported correlational analyses that offer a clear interpretation of the direction of the relationships observed in the present study. A further analysis of the reliability of the professional caregivers' assessments of clinical outcomes could improve confidence in our results. Finally, the approximately 50% response rate is somewhat low but comparable to the response rates of previous studies in similar clinical contexts. If all patients and fostercarers had completed the questionnaires, the overall interpretation might have been slightly different.

Future researches

Further studies are warranted. Indeed, future work adopting this framework should be undertaken in the CT context. As our findings suggest that the different perspectives about the treatment satisfaction seem to differ between the various protagonists, future researches on treatment

satisfaction should not only take into account the patients' point of view, but could also consider putting their perceptions into perspective with those of the fostercarers and those of the professional caregivers. For instance, further studies should examine specifically, the experience or satisfaction of fostercarers with the support they are given by the team. Other works might focus on the experience of staff members working in the team, and with the care they have delivered for patients (in contrast to their perceptions of the patients' experience). Finally, further studies should specify the relationships between patients' satisfaction and their own perception of symptoms changes (by using self-rated instruments, like the self-rated HoNOSCA, for example (Gowers, *et al.*, 2002; Urban, *et al.*, 2014)).

Conclusion

In conclusion, this pilot study provides encouraging results that offer new insights into the patient satisfaction literature in CAMHS.

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Table 1. Socio-demographic data

Variable	Categories	n, %
Gender	Male	26, 63.4
Disorders	Emotional	9, 27.3
	Behavioural	8, 24.2
	Both	16, 48.5
Marital status of the parent	Together	13, 32.5
	Separated	24, 60.0
	Widow	3, 7.5
Schooling	no	21, 53.8

Table 2. Descriptives of the satisfaction (CSQ-8 mean score)

Informants	Median	SD	Range
Patient (n=20)	3.3	0.5	2.3-4.0
Foster-carer (n=19)	3.5	0.4	2.9-4.0
Professional caregiver (n=39)	3.0	0.5	2.0-3.9

Table 3. Descriptive data on the clinical outcomes

HoNOSCA	Time	Median	SD
Total ^a (n=41)	T1	21.0	6.5
	T2	15.0	8.3
Emo score ^b (n=41)	T1	16.0	4.8
	T2	11.0	5.9
Behav score ^b (n=41)	T1	6.0	3.2
	T2	4.0	3.5

Note. T1 : admission ; T2 : discharge ; ^a Scores represented the sum of the items1-13; ^b Scores represented the sum of the items 3, 4, 6, 7, 8, 9, 10, 12, 13 for the emotional symptoms score (Emo score) and the items 1, 2, 5 and 11 for the behavioural problems score (Behav score).

Figure 1. Flow diagram

