CHILD AND ADOLESCENT PSYCHIATRIC INPATIENT CARE IN FINLAND

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ABSTRACT

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Child and adolescent psychiatric inpatient care in Finland
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The purpose of this national, cross sectional study was firstly, to describe the structure, staffing patterns and nursing ideology of child and adolescent psychiatric inpatient wards in Finland. Secondly, to investigate the use of psychosocial treatments, psychopharmacological, coercive treatments and involuntary treatment in child and adolescent inpatients wards. Thirdly, to exam the factors associated with the treatment forms.

The data was collected during 2000 from all child and adolescent psychiatric inpatients wards in Finland and analyzed by using basic quantitative statistical methods and by the mean of content analysis. The associations between explanatory and outcome variables were studied with univariate and multivariate logistic regression analysis. The impairment level of inpatients was evaluated by Children’s Global Assessment Scale (CGAS), the level of suicidality by Spectrum of Suicidal Behaviour and aggressivity by Spectrum of Assultative Behaviour.

Sixty-four wards of out total 69 responded. The sample consisted of 504 inpatients and 960 members of the staff.

The number of child and adolescent psychiatric inpatient beds is high in Finland, although there is a lack of day wards. All the members of staff were qualified professionals and the number of nursing staff and physicians are considered satisfactory, but there is a lack of social workers and psychologists. The most common ideological approaches guiding the nursing care were family centred care and individual care. Nursing theories or models were rarely cited in ward managers’ ideology descriptions. Inpatients had very low impairment level and they suffered with severe psychiatric disorders and had often committed suicidal and aggressive acts. The most commonly used psychosocial treatments were nurse-patient relationship and family negotiations. The use of psychopharmacological treatment was increased during the 1990 decade and second generation (atypical) neuroleptics and SSRI antidepressants were the most commonly prescribed medications. Nearly 30 % of all adolescent inpatients were in involuntary treatment, having an involuntary legal status. Psychosis, suicidality and aggressivity were associated with involuntary treatment.

In an international context, the large number of inpatients beds in 24-hour staffed wards indicates that Finnish child and adolescent psychiatric care was rather hospital centred at this time (2000). There was a lack of day wards and other forms of partial hospital care programmes. Guidelines for the staff/patient ratio, the staff skill-mix and number of inpatients beds are not available in Finland. The differences between child psychiatric and adolescent psychiatric wards in treatment modalities were small, illustrating the similarities of clinical practice between child psychiatry and adolescent psychiatry. Furthermore, neither diagnostically nor sosidemographical factors were associated with any treatment form offered to the inpatients, indicated the need for further research. Coercive treatment methods were rather frequently used and should be the topic of further research endeavours. Nursing ideologies of the inpatient wards were unclear and they were not based on nursing models or theories, which can be seen as a challenge for nursing research and education. Furthermore there was a potential need for post graduated nursing training in child and adolescent psychiatric nursing.

Key words: child and adolescent, psychiatry, inpatient, treatment, psychosocial, nursing, nursing science ideology, coercive treatment, involuntary legal status, psychopharmacology
TIIVISTELMÄ

Heikki Ellilä

Lapsi- ja nuorisopsykiatrisen osastohoito Suomessa

Lastenpsykiatrislan laitos ja hoitotieteenn laitos
Turun Yliopisto, Turku.
Annalen Universitatis Turkuensis, Ser. D, Medica-odontologica
Painosalama OY. Turku, 2002

Tutkimus tuottaa yleistettävää tietoa lastenpsykiatrisen ja nuorisopsykiatrisen osastohon tilasta Suomessa. Tutkimuksella selvitetään 1) osastojen potilas- ja henkilökuntarakennetta sekä sairaanstoijojen alueellista jakautumista, 2) erilaisten biopsikososialistien hoitomenetelmien käytön yleisyyttä sekä hoitomenetelmien käyttöä ennustavia diagnostisia ja psykososialisia tekijöitä, 3) tekijöitä, jotka ovat yhteydessä tahdonvastaisesti toteuttavaan hoitoon ja muihin potilastta rajoittaviin hoitoimpienpiiteisiin, 4) vastentahtoinen hoidon määrää ja alueellista jakautumista sekä osastohonhoitoideologisia periaatteita ja 5) hoitokäytäntöjen eroja lastenpsykiatristen ja nuorisopsykiatristen osastojen välillä sekä lastenpsykiatristen hoitomenetelmien kehitystä 1990-luvulla.


Avainsanat: Lastenpsykiatria, nuorisopsykiatris, osastohoito, psykososialinen, hoitoy, hoitotiede, hoitoideologia, pakkojuoto, psyykelääkehoito.
ABBREVIATIONS

AACAP = American Academy of Child and Adolescent Psychiatry
ADHD = Attention Deficit Hyperactivity Disorder
ADL = Active Daily Living
CAP = Child and Adolescent Psychiatry / Psychiatric
CBT = Cognitive Behavioural Therapy
CI = Confident Interval
DSM-III = Diagnostic and Statistical Manual of Mental Disorders version III
ICD-10 = International Classification of Disorders 10
LOS = Length of Stay
MTA = Multimodal Treatment of ADHD
OCD = Obsessive Compulsive Disorder
OR = Odds Ratio
RCP = Royal Collage of Psychiatrists (UK)
SSRI = Serotonin Selective Reuptake Inhibitor
STAKES = Finnish National Research and Development Centre of Welfare and Health
LIST OF ORIGINAL PUBLICATIONS


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1. INTRODUCTION

There has been a wide public discussion during recent years about the increasing number of the mental health problems among children and adolescents in Finland. Problems and shortages in delivery of psychiatric services to minors has been addressed by the health care authorities. Moreover, a report from Stakes, shows the number of child and adolescent psychiatric inpatients in Finland has doubled during the years 1995-2004, especially the number of inpatient girls has increased significantly and length of treatment periods has shortened. There are wide differences found in prevalence of the use of inpatient services and involuntary treatment between different hospital districts. (Tuori et al. 2006.)

Children and adolescents treated in psychiatric hospital wards are perhaps the most distressed minors in society. They suffer from severe psychiatric disorders, have serious neuro-psychiatric risk factors and furthermore, they have often faced traumatic life events and psychosocial difficulties in their families (Sourander 1995). Inpatient treatment is the most restrictive type of care in the continuum of mental health services for children and adolescents (Piha 2004). However, the efficacy of inpatient treatment has only limited research support (Romeo et al. 2005) although, it is consuming about half of child mental health resources of minors, being evidently the most expensive form of child and adolescent psychiatric treatment (Beecham et al. 2003, Martin & Leslie 2003). The efficacy and costs of child and adolescent psychiatric hospital treatment are important issues in the planning of specialised services for this population (Green et al. 2001).

However, child and adolescent psychiatric inpatient care can, indeed, help to alleviate stress or combat the exacerbation of illness, shape adaptive responses to life demands, and establish outpatient treatment (Delaney 2006). Existing research indicates that the majority of children and adolescent admitted to treatment show improvement at follow-up (Sourander 1995, Sourander et al 1996a, Sourander et al 1996b, Sourander & Piha 1998a, Sourander & Leijala 2002, Blantz & Schmidt 2004). Conversely, long term inpatients care might include a potential risk for hospitalisation and harm for children and adolescents especially in situations where inpatient behaviour is met with extreme methods of control, such as seclusion or restraint (Green & Jacobs 1998a, Delaney 2001).
Research suggests that in spite of the increased common interest for child and adolescent mental health problems and large theoretical literature about CAP treatment there is lack of research addressing the clinical work and treatment outcomes of this field (Sourander 1995). Furthermore, there are no common inpatient treatment guidelines and staffing norms available in Europe (Green & Jacobs 1998b, Remschimdt & Van Engeland 1999). There is likewise lack of nation-wide studies covering all CAP wards in any country. Additionally, nursing research on this field is rare in Finland (Ellilä et al. 1998, Friis et al. 2004).

My own interest in psychiatric inpatient treatment started when I worked as a nurse in acute adult psychiatric inpatients settings and as a student nurse in child psychiatric ward. Patients in acute wards suffered from severe mental health disorders accompanied by a large number of social, economical and physical problems. The families and other carers were often crucially influenced by the mental health problems of their family member. Clinical nursing, under those circumstances was very intensive, challenging and stimulating. It made me wonder whether the patterns of inpatient treatment really helped the patients and their families in coping with their mental health problems. Additionally, I begun to be curious about the content of every day inpatient treatment. On what basis were different psychosocial treatments being offered to inpatients and do they help patients to achieve better health? I was also interested in the ideological aspects of nursing and the position of psychiatric nurses in the multidisciplinary team. In summary, I was looking for evidence and principles on which I could base my work as a psychiatric nurse.

In the year 1999, I was offered the possibility to work as a researcher in a study covering all the CAP inpatient units in Finland, aiming to describe and explore child psychiatric and adolescent inpatients care. I collected the data in the beginning of 2000 and analysed it statistically and by the mean of content analysis later on the same year. The preliminary results of this survey were published in my Masters thesis “Child and Adolescent Inpatients Treatment in Finland” in department of nursing science in the University of Turku (Ellilä 2000). These results were promising and they also motivated me to carry on with my doctoral studies.
Definitions

In this study, *Child and adolescent psychiatric (CAP) inpatient treatment* is defined as the psychiatric interventions minors receive in special psychiatric hospital wards. *CAP inpatient ward* is defined as a 24-hour or day hospital ward of special health care, which offers psychiatric hospital treatment for minors. The term “*psychosocial treatment*” is defined as psychological or social intervention used as a tool of care in a CAP inpatient ward (Piha 2004). “*Involuntary treatment*” refers to the involuntary legal status of an adolescent inpatient treated as a psychiatric inpatient regardless of the inpatients’ own opinion about the need of treatment (The Finnish Mental Health Act 1116/1991). In addition, the term “*coercive treatment*” is defined as interventions by members of staff trying to prevent an inpatient from acting destructively, by using force (also psychical) against the inpatients will. (The Amendment of Mental Health Act in Finland 1423/2001). *Psychopharmological treatment* is defined as pharmacological interventions that act upon the central nervous system, aimed at reducing the symptoms of mental illnesses.

*Nursing* has been defined as science but also as craft highlighting the practical work such as hand-skills that nurses use to help their patients to achieve better health. On the other hand nursing has also been regarded as art pointing human understanding; the personal and interpersonal skills such as empathy, empowering and the therapeutic relationship (Barker et al. 1997). Furthermore, interpersonal relations and different roles of the psychiatric nurse in maintaining therapeutic relationships are underlined by in the classic model of mental health nursing (Peplau 1997). Psychiatric nursing is defined as art and craft and, the nurse is often seen as a therapist, but also as an advocate of the mental health service users (Negarandeh et al. 2006).

In this study *CAP inpatient nursing* refers to the therapeutic interventions by nursing staff aimed at improving the physical, social and psychological well-being of inpatients and, the role of a nurse as patient advocate (Negarandeh et al. 2006). Further, the term “*ideology of psychiatric nursing in inpatient care*” is defined as the ethical, philosophical and cultural premises behind the psychiatric nursing interventions in inpatient wards (Dawson 1997, Taylor 1997).
2. REVIEW OF THE LITERATURE

2.1. Development of child and adolescent inpatient care in Finland

The first special psychiatric ward for children and adolescents was established in Pitkäniemi Hospital in Tampere 1927. In late 1950’s inpatients wards in Children’s castle hospital and Aurora hospital were opened in Helsinki. (Piha & Almqvist 1994.) Most of the child psychiatric inpatients units were established in the beginning of 1980’s on the orders of the National Health Board. The majority of adolescent wards were built ten years later in accordance with the Mental Health Act (1161/1991) which required that patients less than 18 years should be treated separately from adults. Child psychiatry was recognised as an independent medical specialty in 1955 (Piha 1991) and adolescent psychiatry in 1999 (Laukkanen et al. 2003). Hence, Finland is the only country in the world where child psychiatry and adolescent psychiatry are separate medical specialties. Paradoxically, neither child nor adolescent psychiatric nursing nor general psychiatric nursing is recognised as a speciality of nursing. In addition, post-registered special training, in general and child and adolescent psychiatric/mental health nursing is not systematically arranged in Finland. However, in other countries such as UK there is the possibility to achieve degree in mental health nursing and specialise in child and adolescent mental health nursing (McDougall & Davren 2006).

2.2. Structure of child and adolescent psychiatric inpatients care in Finland

Finnish CAP inpatient services are publicly funded (The Act of Special Health Care 1062/1989) and the provision of mental health services of minors is the duty of the communal authorities. In many European countries such as UK only 25 % inpatients services are provided by the private sector (Gowers & Cotgrove 2003). In Finland 18 out of total 22 hospital districts provided CAP inpatient services in 2000. In one district there was psychiatric inpatient service only for adolescents. (Piha et al. 2000). According to Finnish Mental Health Act, patients under 18 needing inpatients psychiatric treatment have to be placed in special units planned only for minors. In addition, many children and adolescents needing psychiatric treatment are situated in social welfare institutions (Hukkanen et al. 1999) and in paediatric wards (Laukkanen et al. 1996). However, studies from England (O’Herlihy et al. 2003, Worall et al. 2004) and from Denmark (Hastle 1997) revealed that over half of psychiatric admissions of minors were inappropriately placed in paediatric and adult psychiatric wards. Likewise in Finland, until 1993, there were more adolescent psychiatric patients treated in the wards of adults than in adolescent wards (Korkeila 2005).
2.2.1 Ward characteristics

The characteristics of CAP inpatients wards in Finland are presented in two survey based studies undertaken in 1999 and 2000. (Laukkanen et al. 2003, Piha et al. 2000). These studies showed the number of CAP psychiatric inpatients beds being 592 (300 adolescent and 292 children). Fifteen percent (n = 83) of the beds was “day treatment beds” (35 adolescents / 48 children) and rest 85 % (n=504) were situated on 24 hour wards. “Day treatment beds” were situated whether in special day hospital wards or within the 24 hour wards. Two of the wards were family wards, both giving services for two families. The mean prevalence of inpatients beds for minors in Finland was 4.9 / 10.000 minors and the variation between hospital districts was 3.6- 9.7 /10.000 (Piha et al. 2000). In comparison, in England and Wales, the total number of CAP inpatients beds was 900, the number of units 80 and the prevalence of inpatients beds 0.7/10.000, with a variation between districts of 0.3- 1.3/ 10.000 (O’Herlihy et al. 2003). According recent information received from Stakes (2007) there are no major changes in the number of the units and inpatient beds in Finland compared with the situation in 2000, although there is a slide sift to increase outpatient services and partial hospitalisation.

2.2.2. Staff characteristics

CAP wards in Finland were usually staffed with a consultant and possibly a resident, specialising in child or adolescent psychiatry, with psychologists and social workers representing other academic staff. Nursing staff consists of registered psychiatric nurses and practical mental health nurses, and in some cases nurses from other specialties, such as paediatric nurses and practical paediatric nurses. In addition, the team might include an occupational therapist, a craft leader, a special teacher, a kindergarten teacher, a physiotherapist, or a youth worker. (Piha 2004.) Professionals with different occupational backgrounds formed the multidisciplinary team, which is a central tool in psychiatric inpatient care (Ebeling 1993, Blantz & Schmidt 2000). Exact figures for the number of personnel in child and adolescent wards have been difficult to define because many professionals, especially physicians and psychologists work in several units (Laukkanen et al. 2003). However, in 1993 there were 459 posts for nursing- and other non-academic staff in inpatients wards (Koskinen 1997) whereas in 1997 the number of nursing staff posts had risen to 615 (Laukkanen et al. 2003).
2.2.3. Characteristics of child and adolescent psychiatric inpatients in Finland

2.2.3.1. Prevalence of child and adolescent psychiatric inpatient treatment
The number and the prevalence of CAP inpatients have increased remarkably during the years 1995-2004. In 1993 there were 958 inpatients treated in CAP wards (Sourander & Turunen 1999), in 1995 the number was 1313, and by 2004 2787. The prevalence of minor psychiatric inpatients was 225/100.000 minor inhabitants in 1995, rising to 552/100.000 by 2004 (Tuori et al. 2006).

2.2.3.2. Age and sex characteristics
In a Finnish register study 57 % per cents of the CAP inpatients were from the age group of 12 -17 years, and only 6 % from the age group of 0-6 years in the 1993 (Sourander & Turunen 1999). However, in another Finnish register study it was found that in 2004 nearly 2/3 (n=1788) of all CAP inpatients were from the age group of 13 to 17 years (total 2787 inpatients). Nevertheless, the number of adolescents’ inpatients has increased by 114 % and the number of child inpatients by 72 % between years 1995-2004 in Finland. (Tuori et al. 2006.)

According to several studies the majority of inpatients in child psychiatric treatment were boys, although the proportion the girls increases in adolescent wards (Sourander & Turunen 1999, Blanz & Schmidt 2000). Thus, in 2004 the proportion of girls was 21 % (n=211) in child psychiatric wards, but 63 % (n=1129) in adolescent wards. Nevertheless, the number of adolescent female psychiatric inpatients has increase by 197 % between the years 1995 and 2004 (Tuori et al. 2006).

2.2.3.3. Family background
In most of cases the family background of CAP inpatients was different than two biological parets family. Sourander and Piha (1995) demonstrated in their study on 100 inpatients in four child psychiatric units that thirty-seven per cents of inpatients lived with their biological parents, 35 % with a single parent (nearly always a mother), and 12 % in new families of their parents, 10 % with foster parents and 7 % in residential care homes. Inpatients suffered from poor family relationships and their parents had severe socio-economical difficulties (Sourander & Piha 1996). Furthermore, according to the information of 119 adolescent psychiatric out and inpatients, 39 % of the parents had divorced and 9 % of biological fathers and 6 % of mothers had died (Peiponen et al.1995). Nearly half of the parents of child psychiatric inpatients (n=81) were unemployed, 10 % were treated in a psychiatric hospital and 18 % were suffering from severe illness (Sourander 1995).
2.2.3.4. Length of stay, number of treatment days and periods.

The average LOS in CAP inpatient treatment was 43 days between the years 2002-2004 in Finland and the LOS has shortened by 12 days from the average rate of the years 1995-1998 (Tuori et al. 2006). However, the LOS is still quite long in Finland. For example, in USA treatment periods are shorter and the use of CAP inpatient services shows a general reduction of 24 % between the years 1997-2000, with shift to medication based outpatient services (Martin & Leslie 2003). Furthermore in Finland, the number of treatment periods in child psychiatric wards was increased by 28 % and the number child inpatients 40 % between 1995-2004 but, the number of treatment days among child inpatients was increased only 4 %. Meanwhile the number of inpatients in adolescent psychiatric wards has tripled and, treatment periods and the number of treatment days has nearly doubled. (Tuori et al. 2006.)

2.2.3.5. Diagnosis of child and adolescent psychiatric inpatients

In 1993 the three most common DSM-III diagnoses of minor psychiatric inpatients in Finland were adjustment disorder, depression and conduct disorders. Inpatients less than 12 years old had more developmental and borderline disorders while adolescents 12-18 year had more psychotic and personality disorders. (Table 1.)

Table 1. The twelve most common diagnoses (DSM-III) of minors discharged from psychiatric hospital treatment in 1990 and 1993 in Finland (Sourander & Turunen 1999).

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>1993 &lt; 18 years (n= 958)</th>
<th>1990 and 1993 0-12 years (n = 762)</th>
<th>1990 and 1993 13-17 years (n= 041)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment disorder</td>
<td>31.4</td>
<td>27.3</td>
<td>25.4</td>
</tr>
<tr>
<td>Depression</td>
<td>12.3</td>
<td>6.0</td>
<td>13.9</td>
</tr>
<tr>
<td>Conduct/opp.disorder</td>
<td>10.3</td>
<td>8.3</td>
<td>11.4</td>
</tr>
<tr>
<td>Developmental disorder</td>
<td>10.2</td>
<td>19.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Borderline disorder</td>
<td>9.6</td>
<td>13.3</td>
<td>4.9</td>
</tr>
<tr>
<td>Attachment disorder</td>
<td>7.5</td>
<td>10.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>7.4</td>
<td>7.4</td>
<td>7.4</td>
</tr>
<tr>
<td>Psychotic disorder</td>
<td>6.6</td>
<td>0.7</td>
<td>12.3</td>
</tr>
<tr>
<td>Personality disorder</td>
<td>6.3</td>
<td>1.3</td>
<td>12.3</td>
</tr>
<tr>
<td>ADHD</td>
<td>5.6</td>
<td>4.7</td>
<td>5.6</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>3.1</td>
<td>0.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>
In 2003 the most common psychiatric diagnosis of Finnish CAP inpatients (0-11 years) were mixed disorders of conduct and emotions 36 %, major developmental disorders 13 %, depression 9 %, childhood affective disorders 8 % and hyperkinetic disorders 5 % (Stakes 2004). In the year 2000, the five main diagnostic groups were depression 26%, mixed disorders of conduct and emotions 16 %, psychotic disorders 12 %, conduct disorder 8% and eating disorder 5% in age group of 12-17 year olds (Laukkanen et al. 2003).

In a large review study, including ten research studies on CAP inpatient care (USA, UK, Germany and Finland) between the years 1983-1996, it was found that children and adolescent inpatients form a heterogeneous patient group. They suffer from behavioural and emotional psychological difficulties, mixed disorders, multiple diagnoses with neuropsychiatric components which, interfere with their normal development. The proportion of psychiatric diagnosis varied greatly between the different studies. The three most common diagnostic groups were emotional disorders between 14 % and 38 %; hyperkinetic disorders 9 - 26 % and conduct disorders 14- 40 %. (Blanz and Schmidt 2000.)

In addition, an US epidemiological study from the year 2000 on 5400 minor inpatients shows that 71 % of inpatients had a depression diagnoses (major depression 46.4 % / mild depression 24.7) . The next largest diagnosis group was ADHD disorder 19. 4 %, followed by bipolar disorder 18.4 %, conduct/oppositional disorder 11.9 and substance misuse disorder 9.4. Most of the inpatients 80.4 % were 13-18 years old. The study shows generally a significant increase in the number of bipolar disorders and in the number of eating disorders of female patients. There was also a slight decrease in the number of ADHD, substance misuse and anxiety disorders. (Harpaz-Rotem et al. 2005.) Furthermore, a UK study showed a growing level of violence among the admitted adolescent inpatients and one-third had been transferred into an intensive care unit because of severe violent behaviour (Calton & Arcelus 2003). Additionally, an Australian study showed that the majority of young inpatients with severe psychiatric disorder had also a co-morbid substance use disorder (Swadi & Borbier 2003).
2.3. Characteristics of child and adolescent psychiatric inpatient care in Finland

A CAP inpatient unit has increasingly been seen as an essential component of therapeutic intervention and treatment modality of the children and adolescents suffering from severe psychiatric disorders (DeSocio et al. 1997). Ebeling (1993) found in her study on the emotional reactions of the staff working in inpatient wards that treatment of severely distressed minors is intensive and staff members have to cope with their own emotions, such as transference or counter transference. In addition, nursing staff experienced these emotions more intensely than other members of the staff. The important elements of inpatient treatment are physical and psychological milieu: safe and suitable environment and ward culture, continuous relationship between staff members - patients and parents (McLeod 1996, DeSocio et al. 1997). Further, the objective of inpatient care is to give structure to the patient's condition and time, to regulate inpatients’ destructive behaviour and to respond with empathy to inpatient disorders (Green & Burke 1998). An in-depth interview study from England and Wales demonstrated that adolescent psychiatric inpatients preferred homely, non-institutional physical environments with privacy and space. In addition, adolescents emphasised a large delivery of daily activities and supported education. In general young patient wanted to be involved in decision making situations considering their own treatment. They also wanted more information about treatment both before and during the admission. (Street 2004.)

The main elements of inpatient treatment are individual work with inpatients, work with families and larger net-works and, whole ward milieu used as a therapeutic agent. (Sourander & Piha 1996, Green & Burke 1998). In practice this means that inpatients wards often provide multimodal evaluation and treatment by multidisciplinary teams (Blantz & Schmidt 2000) by co-working, being together and upbringing children and adolescents, and taking care of day-to-day activities. The aim of this care is to support the patient in coping with life situations and to prepare patients for independent life, and to motivate patients for treatment, rehabilitation, work or studies (Tanskanen 1996). Clinical interventions could also be divided into three categories: behavioural interventions such as psychoeducational training programmes aimed to teach the inpatient to control her/his behaviour, cognitive interventions targeted to improve coping skill and problem solving by adding intellectual understanding, and affective interventions focused on improving the emotional understanding of inpatients (Delaney 2006).
Every-day caring activities of one Finnish CAP ward were described by Sourander et al. (1995). Every-day interactions between staff and patients formed the crucial quality of inpatients treatment, including morning and bed-time routines, meal times, community groups, activity groups such as sports, and school going. Spontaneous interactions and activities were highlighted in addition with structured programme such as confidential nurse-patient meetings. Families were encouraged to visit the ward and the abundance of interactions between staff and families was seen positively, improving the quality of treatment. In order to ensure the high quality of inpatient care the staff took part in daily clinical supervision.

2.3.1. Models of inpatient care

Three main clinical models for CAP inpatients treatment are psychodynamic, systemic and eclectic models (Green & Burke 1998). In addition, these models can be accomplished by cognitive-behaviour and bio-medical models (Sourander 1995). In order to understand the influence of the main theoretical models on inpatient treatment characteristics are the presented models briefly described.

According to psychodynamic approaches the psychopathology of children or adolescents are seen through psychoanalytical theory. Inpatient care is understood as presenting an opportunity for a detailed exploration of a child’s or adolescents’ inner psychological conflicts and their origins, and an option of evaluation of present ego defences, object relations, and ego strengths (Nurcombe 1988). Sometimes, the emotions of a patient such as transference could be seen as “total transference” towards the whole institution (Magagna 1998). Traditionally, psychodynamic orientated inpatients treatment indicated long treatment periods or even possible children’s isolation from their parents and formal psychoanalysis had an important role in treatment. The whole milieu of inpatient unit was ment to affect patients therapeutically and to allow exploration and resolution dynamic conflicts of the inpatients (Bettelheim 1974).
In the systemic model inpatient treatment is seen as an open system approach to unit organisation. Moreover, the patient, the family and the ward community are regarded as large therapeutic system, which should be used as a therapeutic agent when treating CAP inpatients with psychiatric disorders (Piha 2004). The concept of boundary has been used to examine the relations between families and larger system such as inpatients wards (Seikkula 2002). This means, however, that both systems have their own integrity, but at the same time they have a shared, common area, called the border system. The family-ward boundary is a central concept in family-ward interaction because it is the interface where the two systems concretely touch. Interaction between family and ward is the basic structural element of inpatients treatment. (Sourander & Piha 1996.)

The cognitive-behavioural model underpins four theoretical frameworks used in psychiatric inpatient treatment of children and adolescents, 1) treatments which are based on stimulus-response theories, 2) operant conditioning theories of positive and negative reinforcement to alter destructive behaviour, 3) cognitive theories, suggesting therapeutic techniques to modify repetitive trains of though that lead to unwanted behaviours and 4) social learning theory leading to a group of interventions using modelling, role-playing and social skills learning (Jacobs 1998, Hamrin & Pachler 2005). Behaviour modification techniques in inpatient treatment may include also modelling and imitation, praise and positive reinforcement, ignoring and negative reinforcement (Dalton & Foreman 1992, Masters 2002).

The bio-medical model considers that psychiatric disorders should, in first hand, be recognised as a disease and should be addressed and treated as such (Gournay 1997). According this model, that more has been learned about biological causes of psychiatric disorders, that more CAP has moved closer to the medical science, and away from the social and psychological sciences. The Biomedical model emphasis is on diagnosing, and medical interventions and the popularity of the model could be seen increasing also in child and adolescent psychiatry. (Sourander 1995, Vitello et al.1999a.) This can be recognised also in Finland as an increased trend in prescribing psychopharmacological medication also for CAP inpatients, albeit the use of psychopharmacotherapy is still rather modest in Finland (Piha et al 1995, Pylkkänen 1999, Haapasalo-Pesu 2004).
The Eclectic model is a multimodal program of mixed therapeutic orientations with less emphasis on formal psychotherapeutic approaches, but more emphasis on empathy and active communication, ward structure and environment, behavioral control and co-operation with parents (Cotton 1993). Eclectic model integrates psychosocial and biological therapeutic approaches with treatment actives (Green & Bruke 1998). The aim is a flexible need based programme similar to an integrated multi-modal system intervention (McClellan & Werry 2003) and to integrated psychiatric treatment (Alanen et al. 1991).

2.3.2. Models and ideology of nursing

There are several nursing models and theories developed after Nightingale published the first nursing model in 1860. Psychiatric nursing has traditionally been strongly influenced by the ideas of individuality and humanism (Nolan 1999, Barker 1997) and, a few nursing models are developed specially for clinical psychiatric nursing (Peplau 1997, Barker 2001, Latvala 2002) although, none especially for CAP nursing. According to White (1995), knowledge of nursing, is constructed around five interrelated patterns namely: 1) the scientific nursing models and theories, 2) ethical theory, guidelines and principals, 3) psychological knowledge of “self” and the impact of “self” upon others, 4) aesthetical concerns in nursing and 5) socio-political context of nursing. All these five patterns are related with each other and are needed in order to create comprehensive understanding of nursing.

The classical and the most well-known model of psychiatric nursing is Peplau’s model of interpersonal relationships developed in the 1970’s (Peplau 1997) which highlights interpersonal nurse-patient relationship and the different roles of professional nurses in maintaining the therapeutic nurse-patient relationship. Peplau’s model is influenced by psychodynamical theory and humanistic interpersonal psychotherapy approach by Carl Rogers. Additionally, a recent phenomenological narrative model, by Barker (2001), is an interdisciplinary model of mental health care emphasizing on the core need for empowerment and assuming that within the person's everyday lived experience, laying the possibility for resolution and the beginning of recovery.
A recent Finnish model of psychiatric nursing describes three additional nursing approaches namely: confirmatory-, educative-, and catalytic psychiatric nursing orientations (Latvala & Janhonen 1998). Firstly, confirmatory psychiatric nursing is based on a hierarchical and authoritarian model in which the nurses concentrate on maintaining the physical and psychological functioning of patients according the physician’s orders or a standardised model of treatment on a certain ward. Secondly, educational psychiatric nursing is based on a professionally driven and behavioural model, which highlights patient education and support, such as psychoeducative approach and finally, catalytic psychiatric nursing which is systematic, theoretical, and research-based. Catalytic psychiatric nursing may vary, depending on the patient's needs, from confirmatory and educational to situationally determined nursing. However, it always enables patient initiatives and values the open interactions between staff and patient and relatives. (Latvala 2002.)

The ideology of nursing care is culturally determined system of beliefs, values and goals affecting on body of knowledge of nursing discipline (Goodwin 1992, Calvin 1997, Dawson 1997) and, the quality of nursing care is largely dependent on the nursing ideology underpinning the delivery of care and treatment ideology states the central ethical principles guiding the care (Chesson & Chisholm 1996). Furthermore, the ethical values behind nursing interventions influence the ideological choices of child and adolescent psychiatric inpatient care and vice versa (Roberts 2004). Additionally, nursing ideology can be seen as an essential factor in promoting occupational understanding, and allowing nurses to find their own position in relation to others within multi-professional teams. More over there is always an ideological orientation behind the treatment actions and each professional team should be aware of the orientations influencing their work. (Calvin 1997.)

2.3.3. Psychosocial treatment

According to a comprehensive literature review on evidence based treatments in child and adolescent psychiatry it was found that psychosocial interventions are generally beneficial treatments (McClellan & Werry 2003). Particularly cognitive-behavioural methods were found to be effective, similarly with family-based and integrated multi-modal system interventions. Psychoeducational approach is an example of a common behavioural treatment programme with cognitive dimensions. (Weisz & Jensen 1999). Psychoeducational treatment programmes point the learning of more appropriate behaviours and coping skills and highlights on community involvement. In addition, the role of on-line staff is more on guiding the patients in problem solving, than in verbal psychotherapy. (Delaney 2006.)
Inpatients units are designed around the complex idea of developmentally orientated milieu programmes including a board delivery of psychosocial treatments, which are possible to divide into approaches, such as individual, family and group treatments or to verbal and non-verbal therapies (Piha 2004). Further, psychosocial treatments could be classified in individual psychotherapies, functional therapies, parent and family-orientated interventions and other environmental interventions (Remschmidt & Mattejat 2001). In addition, a large variety of creative therapies is often available for CAP treatment, for example art, music and story-telling therapies, activity groups and occupational therapy and wilderness therapy (Woolston 1991, Piha & Spurkland 1992, Hinds 1994).

The contents of psychosocial treatment methods are depended on the prevailing therapeutic orientation of the ward and individual staff member. In addition, psychosocial treatments are connected with special school education and several forms of hobbies and other every-day activities such as sports or hiking, which are not necessarily called as treatment methods, although they might have a crucial role in CAP inpatients care. In practice comprehensive inpatient care includes continuous networking between the staff and the patient’s family, teachers, and other professionals, e.g. representatives from outpatient mental health teams, school health services and social services (Green et al. 2001).

The basic element of inpatient care is the nurse – patient relationship, maintaining each patient having an individual relationship with an adult staff member (McLeod 1996). Individual relationships between a patient and a staff member can be divided into interaction and transaction. Interaction is visible; doing different activities together with the patient, and transaction more invisible; psychological understanding (Piha 2004). Furthermore, a successful relationship “therapeutic alliance” between the patients and staff has found to be associated with successful treatment out-comes (Green et al. 2001). The relationship with a personal nurse often becomes the child's or adolescent's most important adult contact during the time spent in in-patient care and CAP inpatients also emphasise the personal time they could spend with their own personal nurses (Tanskanen 1996, Venäläinen 1999, Kuosmanen 2000).
Parents emphasise co-operative relations with a child’s personal nurse to be crucial in the treatment process for the whole family. The personal nurse has the best knowledge, not only over the child, but also over the whole family (Harju 1997). Additionally, parents’ engagement and satisfaction in care of their children is associated with positive outcomes of the inpatients treatment. (Brinkmayer et al. 2004). While, a successful “therapeutic alliance” between parents and staff and, the working family function is associated with positive treatment outcomes (Ranta 1999, McClennen & Werry 2003). On the other hand, parents reports about poor empathy and understanding from staff is associated with poor outcomes, likewise staff reports of received hostility from the parents (Green et al. 2001). Furthermore, psychiatric inpatients care of a minor can indirectly improve the parenting competency and efficacy and parent mental status (Gavidia-Payne et al. 2003). Parents’ improved psychosocial condition has been found to be significantly associated with successful outcomes of children treatment, therefore it was implied that child mental health services should be simultaneously provided also for the parents (Harrington et al. 2000). More over, contacts with other people in the social net of the patient, such as teachers, relatives, friends, and authorities are essential elements of modern treatment process (Sourander & Piha 2000).

2.3.4. Psychopharmacological treatment

The use of psychopharmacotherapy in child and adolescent psychiatric treatment has increased world-widely (Zito et al. 2000, Schirim et al. 2001, Olfson et al. 2002, Walkup 2003, Haapasalo-Pesu et al. 2004), however the indications for psychopharmacotherapy in CAP is still a matter of controversy, and there are only few epidemiological studies available on psychopharmacological treatment (Piha et al 1995, Erkolahti et al. 1998, Zito et al. 1998). There is also a relative lack of national studies investigating medication practices among all CAP psychiatric inpatients at one time-point and most of the prevalence studies on medication use in inpatient settings are from the USA (Zito et al. 1994, Harpas-Roteman et al. 2005). Thus, it is arguable that clinical decisions on the use of psychopharmacotherapy are frequently made on a non-scientific knowledge basis, because of the relative lack of research data on the safety and efficacy of most psychiatric medications in children and adolescents (Vitiello et al.1999b, Riddle et al. 2001).
In the early 1990’s the prevalence of psychopharmological medication among child psychiatric inpatients was 8% in Norway, 11% in Denmark, 17% in Finland, 28% in Switzerland, 54% in Ireland and 90% in Estonia (Piha et al. 1992, Piha et al. 1995, Sourander & Piha 1998b). Likewise, in the early 1990’s a study on adolescent inpatients treated in one hospital in USA showed that 64% of the inpatients were receiving psychopharmacological treatment (Erkolahti et al. 1998). According to Zito et al. (1994) psychopharmacological medication was prescribed to 98% of minor inpatients in four CAP settings in New York. In a UK study showed that three out of four CAP inpatients was reserving psychotropic medication at the time of admission to residential treatment. (Connor et al. 1998). However, another UK study showed that scheduled medication was prescribed for only 4% and "as required" medication for 60% of the 500 cases of admissions to an adolescent inpatient unit in the UK, and the clinical practice of high numbers of "as required" medication and low numbers scheduled medication may represent the view that medication was used to provide containment of disruptive behaviour rather than for the treatment of the psychiatric disorder (Bernard & Littlejohn 2000).

2.3.4.1. Use of specific psychopharmacological medication

The use of atypical neuroleptic medication is the first-choice anti-psychotic medication in treatment of psychotic disorders among adolescents (Haapasalo-Pesu 2004) although, the treatment of psychotic disorders with antipsychotic agents is primarily based on the literature on adults. Further, it is suggested that typical neuroleptics such as haloperidol should be used on minors only in some severe psychotic conditions (Gillberg et al. 1997). There are very few studies which examined the effectiveness of anti-psychotics in early-onset psychotic disorders and furthermore, the majority of studies with neuroleptics have addressed other disorders or problems, including autism and pervasive developmental disorders, mental retardation, tic disorders, autism and disruptive behaviours (McCracken et al. 2002).

Selective serotonin reuptake inhibitors are used as the first line psychopharmacotherapy when treating depressed child and adolescent patients (Ziervogel 2000) and SSRIs are almost frequently used when treating juvenile depression in USA although, there is still lack of research on the use of SSRIs medication for children and adolescents (Skaer et al. 2000, Hammerness et al. 2006). according Hall & Lucky (2006) use of SSRIs in the treatment of adolescent depression might even increase the risk for suicidal behaviour, although this is still a matter of controversy. However, there is evidence supporting efficacy of SSRIs for childhood OCD (Cook et al 2001). Nevertheless, tricyclic antidepressants are not recommended because of insufficient evidence of their efficacy in children and adolescent and as well as potential adverse side effects (Skaer et al. 2000).
The effectiveness of stimulants for the short-term treatment of attention-deficit/hyperactivity disorder (ADHD) is well documented and constitutes the largest body of evidence based literature in child psychiatry pharmacology (Greenhill et al. 1999). Improvement occurred in 65% to 75% of the 5,899 patients randomized to stimulants compared to only 5% to 30% of those assigned to placebo (McClellan & Werry 2003).

In comparison, the use of benzodiazepines for childhood anxiety disorders have not documented significant efficacy (Simeon et al. 1992, Graae et al.1994) and, it is recommended that benzodiazepines should be prescribed for young people on a short-term basis because of the potential for dependence (Riddle et al. 1999). Furthermore, there are no controlled studies examining the effectiveness of Buspirone or beta-adrenergic blockers in this age group. Mood stabilizers such as lithium and anticonvulsants such as Carbamazepine are recommended in conjunction with psychoeducational interventions on minor patients with bio-polar disorder (James & Javaloyes 2001) and there is evidence suggesting lithium being an effective in reducing aggressive behaviour (Gampbell et al. 1995).

2.3.5. Coercive treatment

The patient’s right to liberty is supported by the principle of self-determination, including the fact that patients have the right to make decisions about their own treatment (Välimäki et al. 1996, Välimäki 1998, Park 2002, Roe et al. 2002). In practice, however, patients’ liberty can be restricted by using coercive treatment methods, in order to manage patients’ aggressive acts and disturbing behaviour including suicidal acts (Välimäki et al. 2001). Restrictive interventions such as seclusion and mechanical restraint are used frequently in the clinical practice of CAP (Green & Jacobs 1998a). Alternatively, if possible, physical holding techniques (Sourander et al. 1996c) or time-out sessions (Delaney 1999) are used as less restrictive interventions especially for children.

More over, restriction of liberty is a controversial concept for a person under 18 years of age because, a person under 18 years of age remains legally under the control of their parents or parent substitutes (Kaltia-Heino 2003). The opinion of a minor patient on a treatment measure has to be assessed if it is possible with regard to patients’ age or level of development. If a minor owing to his/hers age and level of development can decide on the treatment given to him/her, he/she has to be cared in mutual understanding with him/her. However, if a minor is not capable to decide on treatment given to him/her, she/he has to be cared in mutual understanding with his/hers guardian (parents) or legal representative (The Act on Status and Rights of Patients 785/1992).
In a Finnish study from the early 1990s concerning minors treated involuntarily in hospital, prisons and social welfare settings experienced coercion as confusing, unexpected and distressing and, they also criticised the manner in which the coercive measures were carried out, particularly the lack of information and suddenness of the measures taken. However, more than two of three of those who had been in psychiatric treatment thought that they had benefited from such approaches (Kaivosoja 1999). Further, the last Amendment to the Finnish Mental Health Act (1423/2001) emphasised the autonomy of all patients. In particular, it was concerned with minimising any restrictions to a patient’s fundamental legal rights. Thus, this means that use of coercive treatment forms are the last alternatives in situations where all other forms of clinical interventions are available or non-effective.

Although, coercive treatment techniques are frequently used, there is very little information available about the effects of coercion (Delaney 2006) and either about frequency of the use or the general rationales which guide the use of different types of restraints in CAP inpatient treatment. Most of the studies on this topic are from the USA (Earle & Forquer 1995, Mesham 1995, Finke 2001, DosReis et al. 2003, Delaney 2001). Nevertheless, there are programmes developed which aim to reduce the use of coercive treatment in CAP inpatient wards (Delaney 2001, Donovan et al. 2003).

2.3.5.1. Holding and time-out

The therapeutical holding technique and time-out procedure is used in order to prevent the destructively behaving child harming him or herself or others. In holding sessions trained staff hold the patient in a sitting position or hold the patient down when the patient is on the floor or in sitting position, while verbal reassurance and comfort is offered. A holding session appeared to last about half an hour and the sessions were more frequent at the beginning and end of the week, which is obviously connected with the time of transition between home-hospital (Sourander et al. 1996c). Therapeutic holding appears to be as effective as seclusion and restraint when managing aggressive behaviour of children and has the potential to reduce the episodes of mechanical restraint (Berrious & Jacobowitz 1998, Myeroff et al. 1999).

In addition, time-out sessions are commonly used in CAP inpatient treatment when behaviour control is needed. However, the purpose of time-out is to keep inpatients out of the company of the peers in a less simulative place e.g. patients own room or a special area or a silent room in the ward (Green & Jacobs 1998a). The aim of time out is behavioural control of the inpatient and prevention of the escalation of violent behaviour around the ward and, it has been found to be a useful tool, but only when it is used purposefully - not automatically (Delaney 1999).
2.3.5.2. Seclusion and mechanical restraint

Seclusion and mechanical restraint procedures are used as last resorts in order to prevent and control aggressive behaviour or avoid self harm. (Delaney 2001). The use of seclusion refers to the practice of removing a patient from the common environment in a seclusion room. Secluded minor inpatient is always accompanied with a member of staff. The use of mechanical restraints refers to four or five-point restraints, designed to secure the arms and legs in a natural position to the bed. In the situation of mechanical restraint of a minor a member of staff is continuously observing the patient beside the bed and verbal comfort is offered.

Research on child and adolescent psychiatric inpatients treated in one state hospital in the USA showed that 61 % of all the patients were secluded and 49 % have been restrained (Donovan et al. 2003). Furthermore, a study on 199 treatment periods of 166 minors admitted to psychiatric inpatients wards also in USA, demonstrated noted 714 episodes of seclusion or restraint among these inpatients. Forty four per cent of all the patients had been secluded or restrained at least once and in 71 % of all the cases type of coercion was seclusion. (Martin et al. 2002.) In addition, children under eleven of age have found more likely to undergo seclusion or restraint as well those patients with involuntary admissions and those patients belonging to specific ethnical minorities (Donovan et al. 2003).

Further, secluded children and adolescents were also more severely mentally disturbed and their families were poorer and had severe mental health problems and were faced with stressful life events (Gullick et al. 2004). Similarly factors like male gender, diagnosis of disruptive behaviour disorders and previous history of physical abuse were found to increase the risk of getting secluded (Millstain & Cotton 1990). Interestingly, two UK studies noted that the majority of units practice coercive measures at some time (Angold & Pickles 1993, Green & Jacobs 1998a).

Coercive treatment can be an important component in helping children and adolescents with psychiatric disorders to establish internal control (Bath 1994). However, the use of seclusion and restraint is often a matter of controversy among nursing staff in CAP inpatients wards (Delaney 2006) and more over nurses’ perception about ethical problems of coercive treatment of adults have found to vary between working environments and genders (Lind et al. 2004). Thus, according to studies on restraint practices in CAP wards, nurses generally had positive attitudes towards the restraint techniques as tools for controlling destructive behaviour of children (Goren & Curtis 1996, Allen 2000). Conversely, however, it is argued that seclusion and restraint is not therapeutic but, in fact, harmful for child and adolescents patients (Finke 2001).
2.3.6. Involuntary treatment

According to Finnish Act on Status and Rights of Patients 785/1992, the patient has to be cared in mutual understanding with them. However, involuntary treatment (treatment against the will of the patient) is performed in the situations where it is regarded necessary to treat inpatients against their will in psychiatric ward. All involuntary treated patients have involuntary legal status. The main criteria for assessing minors’ self-determination are their capability to understand alternatives and the consequences of their choices. However, it has been suggested that the autonomy and opinions of minors should always be taken into account as far as possible in decisions affecting them (Shaw 1999). Simultaneously, the minors’ state of development must be taken into consideration (The Act on The Status and rights of Patients 785/1992, Ford & Kessel 2001). There is however, a general lack of evidence about young people’s competence to understand their illness and psychological state (Casmir & Billing 1994, Kaivosoja 1996).

2.3.6.1. Legal aspects on the involuntary status of minor inpatients

According to The Finnish Mental Health Act (1116/1991) a person can be ordered to treatment in a psychiatric hospital against his/hers will (involuntarily admission) only if the person has been found to be suffering from a severe mental illness or if they are in need of psychiatric care, without which, the mental illness will get worse or it could seriously threaten their own or other people’s health or safety; and if no other form of mental health service is available or is seen to be insufficient. It is also possible to admit a voluntary inpatient to involuntary treatment if the criteria of involuntary treatment are met. For individuals less than 18 years “a severe mental disorder” is a sufficiently relevant reason for involuntary treatment in psychiatric hospital and further, a patient under 18 years of age has to be placed in a special unit, which is specially planned for this age group. However, “a severe mental disorder” is not a clear-cut concept. In this context, destructive behaviour such as suicidal acts, severe substance abuse or a diagnosis such as severe depression, conduct disorders and anorexia nervosa are often described as severe mental disorders (Kaltiala-Heino 2004).
The patient who is in psychiatric treatment against his/her own will can legally be seen as having an “involuntary legal status” and more over, the involuntary admission of a minor is legally complicated, because a person under 18 is legally under the control of patient parents or parent substitutes, who are always informed about involuntary admission and they have the right to appeal to administrative court (Finnish Mental Health Act 1116/1991). Involuntary treatment must be arranged in as safe a way as possible and only when it is necessary because of the patient’s or other’s safety. Additionally, protecting the dignity of every patient should be reinforced at every stage of the involuntary treatment period. (Amendment of Finnish Mental Health Act (1423/2001.)

2.3.6.2 The prevalence and the factors associated with involuntary legal status

According to The Finnish Mental Health Act 1116/1991 for the persons less than 18 years ”a severe mental disorder” is a sufficiently relevant reason for involuntary treatment in psychiatric hospital, although, the concept “severe mental disorder” is not comprehensively explained. (Kaltiala-Heino 2003). Furthermore, previous Finnish studies on adolescents with involuntary legal status were based on register data, which is not primarily designed for research purposes. There is also a lack of knowledge about the sosidemographical, diagnostic and treatment factors associated with involuntary legal status of adolescent inpatients in Finland. Likewise, there is no data available about those voluntarily admitted adolescents who were converted to involuntary treatment during the treatment period.

According to Finnish register studies, the proportion of involuntarily admitted adolescent patients was 14% in 1990 (Sourander & Turunen 1999) and 11 % in 1993 (Kumpulainen et al. 1999), 22 % in 1998 (Kaltiala-Heino 2004), and 24 % in 2004 (Tuori et al. 2006). This means that the number of coercively treated minors has nearly doubled during the years 1995-2004 and the increase has been highest among adolescent females (Tuori et al. 2006). In addition, the number of involuntarily treated psychiatric adult patients varied relatively between hospital districts (Sourander et al. 1998, Kaltiala-Heino 2004) and similar variation is also found concerning the psychiatric inpatient care of adolescents (Khenissi et al. 2004, Kaltiala-Heino 2004, Tuori et al. 2006). Further, a survey from England and Wales showed that about 17 % of adolescent psychiatric inpatients were involuntarily admitted in 2000 (Mears et al. 2003).
Previous studies on the treatment of adult patients, and the use of compulsory treatment and involuntary admissions reveal great variations in prevalence rates between different countries (Riecher-Rosser & Rosser 1993, Darsow-Schutte 2001, Zinkler & Priebe 2002) and even within one country (Björngaard & Heggestad 2001, Mears et al. 2003). In a recent epidemiological study of the involuntary placement of mentally ill people across the European Union, it was found that the frequencies of compulsory admissions vary remarkably across the EU (Salize & Dressing 2004). In summary, the existing research shows that the use involuntary treatment on minors has increased clearly during last 15 years in Finland. More over, it is found that the use of involuntary admissions and treatment on adult patients varies greatly between countries in Europe

3. THE PURPOSE AND THE AIMS OF THE STUDY

The purpose of this study was firstly, to describe the structure, staffing patterns and nursing ideology of child and adolescent psychiatric inpatient wards in Finland. Secondly, to investigate the use of psychosocial treatments, psychopharmacotherapy, coercive treatment forms and involuntary treatment in child and adolescent psychiatric inpatients wards, and thirdly to exam the factors associated with these treatments.

The specific aims of this study were:
1. To describe ward characteristics, and staff resources of CAP inpatients wards.
2. To investigate the characteristics of CAP inpatients.
3. To explore and discuss ideological approaches guiding mental health nursing in CAP inpatient care.
4. To study the prevalence of, and the factors associated with psychosocial treatments in CAP care.
5. To study the prevalence of, and the factors associated with psychopharmacotherapy in CAP inpatients wards.
6. To study the prevalence of, and the factors associated with coercive treatment in CAP wards.
7. To study the prevalence of, and the factors associated with involuntary treatment of the adolescent (12-17 year) psychiatric inpatients.
4. SUBJECTS AND METHODS

4.1. Design and settings
This national-wide point prevalence study was carried out within special psychiatric care inpatient units for children and adolescents in Finland. In the beginning of 2000, CAP services were provided across 22 hospital districts. Within these districts, there were a total of 69 psychiatric inpatients wards (34 in child psychiatry and 35 in adolescent psychiatry). These wards employed approximately one thousand health care professionals representing 10 professionals groups.

4.2. Instruments

The data were collected in January 2000 on a chosen day with two survey questionnaires in each 69 wards. The first questionnaire included questions about ward and staff characteristics and it was filled by ward managers (Appendix 1). The second questionnaire included questions about inpatients was filled by the clinician responsible for the treatment of the ward (Appendix 2).

4.2.1. Ward characteristics questionnaire (Studies I, III)
Ward managers (head nurses) were asked for details of the exact number of professionals making up the clinical staff team on each ward on a certain day. (Secretaries and household staff were excluded). In addition there were questions about the type, size, and opening hours of the ward, number of beds, and number of patients on the ward (Study I). Ward managers were also asked to describe the ideology of nursing care of the ward by responding to one open-ended question. (Appendix I).

4.2.2. Background and treatment information questionnaire (Studies II, IV, V, VI)
Clinicians were first asked to describe patients’ socio-demographic background information: age, sex and family circumstances and previous psychiatric inpatients treatments. Secondly there were questions about current mental health status: ICD-10 diagnosis, general psychosocial function level and levels of aggressive and suicidal behaviour. Thirdly information about treatment characteristics: previous treatment, school attendance, length of the current treatment period (length of stay), psychopharmacological and psychosocial treatments. In addition there were questions considering involuntary treatment, coercive treatments and obvious placement of the patient after the discharge. (Appendix II)
4.2.2.1. The Children’s Global Assessment Scale (Studies II, IV, V, VI)
The general functioning level of every inpatient was evaluated by using the Children’s Global Assessment Scale (CGAS) (Shaffer et al. 1983, Green et al. 1994, Bird et al. 1997). The CGAS-scale has been used in previous Finnish studies. (e.g. Sourander et al. 1997, Sourander & Piha 1997, Hukkanen et al. 1999) and has been found internationally to be a reliable tool for evaluating the general function level (Dyrborg et al. 2000). CGAS has been designed to reflect the lowest level of functioning of a child or adolescent during a specified point of time. The value of CGAS scale range from 1, representing the most functionally impaired child, to 100, representing the healthiest. In this study, the cut-off point of 40 was used to indicate very low general functioning among inpatients. The questionnaire was attached with the CGAS scale including 10 descriptions of psychosocial function levels.

4.2.2.2. The Spectrum of Assaultive Behaviour (Studies II, IV, V, VI)
The level of aggressiveness of the inpatients was evaluated by The Spectrum of Assaultive Behaviour Scale (Pfeffer et al.1983). It has been used in many previous studies (Pfeffer et al. 1985, Hukkanen et al. 1999, Khenissi el al. 2004) and found to have a high inter-rater reliability (Pfeffer et al. 1985). The scale was from 1 to 6 for 1) no violent ideation or behaviour 2) violent thoughts, 3) violent threats, 4) less serious violent act, 5) serious violent act and 6) killing someone. All the alternatives of assaultive behaviour were described more detailed in order to help responders to recognise the level of aggressiveness.

4.2.2.3. The Spectrum of Suicidal Behaviour (Studies II, IV, V, VI)
The severity of suicidal behaviour was evaluated by The Spectrum of Suicidal Behaviour Scale (Pfeffer et al.1988, Pfeffer et al 1993, Pfeffer et al. 1994) which has been used in previous studies (King et al. 1995, Hukkanen et al. 2003, Penn et al. 2003) and found to have high inter-rater reliability (Pfeffer 1989).The scale is from 1 to 5 for 1) no suicidal ideation or behaviour, 2) suicidal ideas, 3) suicidal threats, 4) mild suicide attempts, and 5) serious suicide attempts. All the alternatives were described in more detail in order to help the responders recognise the level of suicidality.
4.2.2.4. The List of Psychosocial Treatments (Study II)
Psychosocial treatment methods used in care of every inpatient were explored by using a list of Psychosocial Treatments. This list was formulated by modifying former list of psychosocial treatments (Piha et al. 1992), which has been used in Europe (Piha et al. 1995) and in North America (Erkolahti et al. 1998). The list describes 17 specific treatment methods and the informants were asked about the use of every treatment method as a part of inpatient’s care (yes or no). Specific treatment methods described on the list were as follows: 1) personal nurse, 2) activity group 3) parental guidance 4) network meetings 5) family therapy 6) adl training 7) nonverbal group therapy 8) holding therapy 9) individual psychotherapy 10) non-verbal individual therapy 11) wilderness therapy 12) physiotherapy 13) parent’s individual therapy 14) speech therapy 15) parent’s couple therapy 16) group psychotherapy 17) sensory integration therapy. In this study the list of completed by adding network meetings and wilderness therapy in previous list. These treatment forms have obviously become common in CAP inpatient practise during the last 15 years. Thus, they were not mentioned in previous studies (Piha et al.1992).

4.2.2.5. The List of Coercive Treatment Methods (Study V)
The possible use of coercive treatments methods during present treatment period was measured by a list of coercive treatment including four types of coercive methods. These four alternatives were 1) holding therapy, 2) time-out in “own room”, 3) seclusion and 4) mechanical restraint (Sourander et al. 1996, Delaney 1999). Informants were asked to circulate the right alternative.

4.2.2.6. The List of Patient’s Legal Status (Study VI)
The use of involuntary treatment during the present treatment period was evaluated by asking the alternatives of patient’s legal status, which were 1) the patient has been admitted involuntarily and is still in involuntary treatment, 2) the patient has been admitted involuntarily, but is treated voluntarily in this moment, 3) the patient has been admitted voluntarily, but is treated involuntarily in this moment. (The Finnish Mental Health Act 1116/91). Participants were asked to circulate the right alternative.
4.3. Data collection

Questionnaires were sent to all the Finnish CAP inpatients wards (n=69) in the beginning of January 2000. Responders (ward managers and clinicians responsible of the treatment) were asked to give the information about the current situation on the wards in 23.1.2000. Filled questionnaires were required to be returned by the end of February 2000. Completed questionnaires were received from 64 wards with information of 504 inpatients. Additionally, the wards that did not respond (n = 5) were contacted by phone in order to ascertain the number of beds available. The number of inpatients beds in all 69 wards was 547. Thus, response rate was 93.7 % when counted from the total number of beds. Responses to the open-ended question about nursing ideology was reserved only from 61 wards.

4.4. Data analysis

4.4.1. Quantitative analysis

The quantitative statistical analysis was carried out using the SAS system for Windows. Data about socio-demographic background information of patients, wards characteristics and staff resources were analyzed by descriptive statistical methods (percents, frequencies, means and standard deviations) (Studies I, II, IV, V, VI). The differences between categorical variables were tested by using Pearson’s chi square test and/or Fisher’s exact test. The associations between explanatory and outcome variables were studied with univariate logistic regression analysis. Odds ratios (OR) and 95% confidence intervals (95% CI) were calculated. All variables with significant association with an outcome variable were included in the multivariate logistic regression analysis. A p-value of less than 0.05 was interpreted as significant. (Studies II, IV, V, VI.)

4.4.2. Qualitative and quantitative content analysis (Study III)

Descriptions of the ideological approaches guiding the nursing care on the ward were examined using a combination of inductive qualitative, four-phase content analysis and deductive three-phase quantitative content analysis (Cavanagh 1997, Burns & Grove 2001). To ensure validity and reliability of the content analysis, an expert in psychiatric nursing care critically examined the analyses by reading the data set and comparing it with the categories developed. The agreement rate was 83 %, representing a high level of agreement between the data analysis and categorisation. The data was also reanalysed by using the researcher test-retest method. The retest was made one year after the first analysis and the agreement rate was high 97 %. (Polit & Hunger 1997.)
4.5. Ethical considerations

In order to ensure that this study is ethically in high level, researchers consulted the chairman of ethical committee of University Hospital of Turku for advice and it was determined that there was no need for an application to be made to the ethical committee; however consent from every clinical manager was obtained. The statement of the chairman was send to every clinical manager attached to the questionnaires. Further, the answers were anonymous, informants could not be identified and the results were reported with no possibility for identification of the ward, patients or staff; the data did not include such details that the identification of an individual patients could be possible. Further, in the report of this research, a single inpatient or staff member and a specific ward can not be linked together.

5. RESULTS

5.1. Ward and staff characteristics. (Study I)

The number of inpatient beds in 69 CAP wards was 547. The average provision of psychiatric inpatient beds for minors was 5/10.000 (range 3-8/10.000). Fifty-five per cent of the inpatients wards were open 24 hours a day and seven days a week, and 5 wards were day wards. The remaining wards were temporally closed during weekends. Two wards were family wards.

Concerning the staff recourses all the members of staff were qualified professionals. Out of the total 960 staff members, there were 81 % (n=776) nursing staff, 8 % (n=81) physicians, 5 % (n=45) psychologists, 3 % (n=27) social workers and 2 % (n=14) occupational therapists. The group of other professionals 5 % (n=52) included e.g. youth workers, craft leaders, practical child nurses and kinder garden teachers. More detailed information about staff is shown in Figure 1. All wards employed psychiatric nurses and physicians, but every sixth ward did not employ psychologists and there were no social worker in 13 wards. The mean of the nurse/patient ratio in all the wards was 1.5 nurses to 1 patient and physician/patient ratio was 2/10, while psychologist/patient ratio was 1/10 and social worker/patient ratio 0.6/10. The nurse/patient ratio was similar in the wards of child psychiatry and adolescent psychiatry but there were more physicians in child wards than in adolescent wards.
Figure 1. The number of clinical staff in child and adolescent psychiatric inpatients wards in 2000.
5.2. Inpatient characteristics (Study II)

The proportion of boys was 60% of all inpatients however, in the age group of 2-12 years olds the proportion of boys was 80%, but in older age groups of inpatients population the girls were the majority (Figure 2). Other background, diagnostic and treatment variables are shown in Table 2.

![Figure 2](image_url)

**Figure 2.** Child and adolescent psychiatric inpatients (n=504) allocated by age and sex in 2000 in Finland.
Table 2. The characteristics of child and adolescent psychiatric inpatients (n=504).

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>283</td>
<td>60.6</td>
</tr>
<tr>
<td>Girls</td>
<td>185</td>
<td>39.4</td>
</tr>
<tr>
<td>Family structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two biological parents</td>
<td>193</td>
<td>39.3</td>
</tr>
<tr>
<td>Single mother</td>
<td>146</td>
<td>30.0</td>
</tr>
<tr>
<td>Single father</td>
<td>22</td>
<td>4.4</td>
</tr>
<tr>
<td>Remarried biological mother</td>
<td>65</td>
<td>13.7</td>
</tr>
<tr>
<td>Remarried biological father</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td>Other (foster care e.g.)</td>
<td>60</td>
<td>12.3</td>
</tr>
<tr>
<td>CGAS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41-100</td>
<td>320</td>
<td>66</td>
</tr>
<tr>
<td>0-40</td>
<td>184</td>
<td>34</td>
</tr>
<tr>
<td><strong>Destructive behaviour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggressive acts</td>
<td>128</td>
<td>26.7</td>
</tr>
<tr>
<td>Suicidal acts</td>
<td>53</td>
<td>10.8</td>
</tr>
<tr>
<td><strong>Diagnostic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct/oppositional disorder</td>
<td>135</td>
<td>27.7</td>
</tr>
<tr>
<td>Depressive disorder</td>
<td>99</td>
<td>20.0</td>
</tr>
<tr>
<td>Psychotic disorder</td>
<td>64</td>
<td>13.1</td>
</tr>
<tr>
<td>Child affective. disorder</td>
<td>41</td>
<td>8.1</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>35</td>
<td>7.5</td>
</tr>
<tr>
<td>Developmental disorder</td>
<td>32</td>
<td>6.5</td>
</tr>
<tr>
<td>Autistic disorder</td>
<td>25</td>
<td>5.0</td>
</tr>
<tr>
<td>ADHD</td>
<td>25</td>
<td>5.0</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>25</td>
<td>5.0</td>
</tr>
<tr>
<td>OCD</td>
<td>15</td>
<td>3.0</td>
</tr>
<tr>
<td>Substance misuse disorder.</td>
<td>10</td>
<td>1.6</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>8</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous inpatient treatments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>186</td>
<td>38.0</td>
</tr>
<tr>
<td>School attendance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital school</td>
<td>363</td>
<td>72.6</td>
</tr>
<tr>
<td>General school</td>
<td>28</td>
<td>5.6</td>
</tr>
<tr>
<td>Not in school</td>
<td>50</td>
<td>10.0</td>
</tr>
<tr>
<td>Under school age</td>
<td>59</td>
<td>12.8</td>
</tr>
<tr>
<td>Length of treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 90 days</td>
<td>250</td>
<td>52.0</td>
</tr>
<tr>
<td>90 days or more</td>
<td>229</td>
<td>48.0</td>
</tr>
<tr>
<td>Planned placement after discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home /other previous placement</td>
<td>364</td>
<td>72.8</td>
</tr>
<tr>
<td>Out-out-home or other previous placement</td>
<td>58</td>
<td>11.6</td>
</tr>
<tr>
<td>Open case</td>
<td>78</td>
<td>15.6</td>
</tr>
<tr>
<td>Involuntary legal status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>82</td>
<td>29.5</td>
</tr>
</tbody>
</table>
The family background of 61% inpatients was different than a traditional family with two biological parents. In 34% of cases, inpatients lived in single parent families, usually the mother as the only parent. In the older age groups adolescent were more likely situated in foster or residential care (Figure 3). The family backgrounds did not differ significantly between genders.

![Figure 3. Family structure of child and adolescent psychiatric inpatients (n=504) in four age groups.](image)

The general function level of inpatients was measured by Global Assessment Scale. The mean of CGAS was 45.2 and 34% of all inpatients had CGAS level below 40. The CGAS level among all the inpatients in four age groups in shown in Figure 4. The level of CGAS did not differ significantly between boys and girls.
Figure 4. The general function level (CGAS) of child and adolescent psychiatric inpatients among age groups 0-6, 7-12, 13-15, 16-18.

Significant sex differences (p<0.05) were found in conduct / oppositional disorder, and autism spectrum disorders which were more prevalent among boys. All patients with ADHD were boys. The most common diagnosis in this sample was conduct / oppositional disorder (28%), the second was depression (20%) and the third psychotic disorder (14%). Among boys, the most common was conduct / oppositional disorder (37%), while amongst the girls depression (30%) was the most common disorder (Figure 5.)
Figure 5. The four most common ICD-diagnosis (ADHD, conduct/oppositional disorders, psychosis, depression) among child and adolescent psychiatric inpatients (n=504) in four age groups allocated by sex.

All the patients with eating disorders were girls and girls had more anxiety disorders however, autism was more common diagnosis among boys and nearly all inpatients with substance misuse disorder were boys. (Figure 6).
Figure 6. Four specific ICD-diagnoses (eating disorders, autism, anxiety disorder, substance misuse disorder) among child and adolescent psychiatric inpatients in four age groups divided by sex.

Inpatients in child psychiatric wards had significantly more aggressive acts and inpatients in adolescent wards had committed significantly more suicidal acts. Eleven per cents of all the inpatients had committed suicidal acts and 27% aggressive acts. The levels of suicidality and aggressiveness are shown in more detailed in Figures 7 and 8.
Figure 7. The level of aggressive behaviour: thoughts, threats, mild and serious acts, among child and adolescent psychiatric inpatients (n=504) in four age groups divided by sex, measured by The Spectrum of Assaultive Behaviour.
Figure 8. The level of suicidality: thoughts, threats, mild attempts and serious attempts, among child and adolescent psychiatric inpatients (n=504) in four age groups divided by sex, measured by The Spectrum of Suicidal Behaviour.
5.3. Nursing ideology of inpatients wards (Study III)

Ward managers descriptions about the ideological approaches guiding nursing care were received from 61 wards. The descriptions were simplified to 170 units of analysis (utterances; sentences or parts of sentences). Units of analysis were categorized into six different categories.

First category “family centred care” consisted of descriptive terms related to the patient's family, other important relationships and the utilisation of existing resources available to the family. Second category “individual care” consisted of expressions, in which referred to a person's individuality being valued and as the basis and the premise for the organisation of care. Thirdly “milieu centred care” included descriptive terms, which describe the inpatient unit as a community, a combination of different groups or context and content for treatment. Fourth category was “integrative care” including the terms describing the caring ideology as multidimensional approach to care, including the co-operation between different disciplines of science in multidisciplinary workgroups. The fifth category was named as “educative care” which consisted of descriptive terms that emphasised the development, growth, learning and upbringing of the individual child, and finally category of “psychodynamic care” included expressions which reflected psychodynamic approach for the care and psychoanalytic theory as the frame of reference underpinning care.

In order to make the statistical analysis the categories were quantified and prevalence of different nursing care ideologies was explored by descriptive methods. The quantified data revealed that psychiatric nursing care was simultaneously guided by two or three ideologies within 71 % of the units and 22 % of the wards were guided by four or five ideological orientations. Only two units adhered to one ideological approach. None of the wards followed all six ideological approaches. On average, a child psychiatric ward was simultaneously influenced by larger number of ideological approaches than the adolescent wards. The number of categories and examples from the original data are described in Table 3.
Table 3. The number and original examples of the categories describing ideology of nursing care in child psychiatric and adolescent psychiatric inpatient wards in Finland. (F=frequency of ideology)

<table>
<thead>
<tr>
<th>Category</th>
<th>Speciality</th>
<th>F</th>
<th>Examples from the original data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family centred care</td>
<td>Child</td>
<td>32</td>
<td>&quot;Co-operation and discussion with parents.&quot;</td>
</tr>
<tr>
<td></td>
<td>Adolescent</td>
<td>17</td>
<td>&quot;The family and its relationship network involved, if needed, in the different stages of the treatment.&quot;</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>49</td>
<td>&quot;Our work is centred on the family and the family network.&quot;</td>
</tr>
<tr>
<td>Individual care</td>
<td>Child</td>
<td>25</td>
<td>&quot;Individual care, which takes into account the child's needs&quot;</td>
</tr>
<tr>
<td></td>
<td>Adolescent</td>
<td>17</td>
<td>&quot;Key-worker's (primary nurse's) care, centred on an individual&quot;</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>42</td>
<td>&quot;An individual care plan is worked out for the patient&quot;</td>
</tr>
<tr>
<td>Milieu centred care</td>
<td>Child</td>
<td>14</td>
<td>&quot;On a ward community, the patient experiences being in a group and being in a relationship with adults.&quot;</td>
</tr>
<tr>
<td></td>
<td>Adolescent</td>
<td>12</td>
<td>&quot;We try to follow the principles of community care in the ward care.&quot;</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>26</td>
<td>&quot;In daily routines, the emphasis is on coping with the membership of the ward community and groups, in addition to the individual treatment.&quot;</td>
</tr>
<tr>
<td>Integrative care</td>
<td>Child</td>
<td>12</td>
<td>&quot;The functional use of psychodynamic individual-centred and system-centred family therapeutic views combining these with the principles of nursing care in relation to the caring process.&quot;</td>
</tr>
<tr>
<td></td>
<td>Adolescent</td>
<td>8</td>
<td>&quot;Combining together the knowledge of nursing science, child psychiatry and child psychology.&quot;</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Educative care</td>
<td>Child</td>
<td>9</td>
<td>&quot;Supporting the growth and development of a child/adolescent at his age-level&quot;</td>
</tr>
<tr>
<td></td>
<td>Adolescent</td>
<td>9</td>
<td>&quot;Taking into account the patient's developmental phase and responding to his developmental needs&quot;</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>18</td>
<td>&quot;Restarting the growth and development which has been interrupted&quot;</td>
</tr>
<tr>
<td>Psychodynamic care</td>
<td>Child</td>
<td>6</td>
<td>&quot;The fundamental conception of a child's and an adolescent's development and the origin of disorders is psychoanalytic&quot;</td>
</tr>
<tr>
<td></td>
<td>Adolescent</td>
<td>9</td>
<td>&quot;Understanding a child's development is based on psychodynamic theory&quot;</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>15</td>
<td>&quot;The prevailing ideology on the unit is psychodynamic&quot;</td>
</tr>
</tbody>
</table>
5.4. Psychosocial inpatient treatments (Study II)

The majority of patients had a personal nurse/key worker (98%), activity group (87%) and parental guidance (80%). On the average one patient received simultaneously about five different psychosocial treatments at the study point. The portion of psychosocial treatments of child psychiatric wards and adolescent psychiatric wards are presented in figure 9.

**Figure 9.** Psychosocial treatments among the child and adolescent psychiatric inpatients (n=504). (One patient has more than one psychosocial treatment).

The factors that had the strongest associations with the used psychosocial treatment methods were age, sex and length of stay. Female gender was associated with individual psychotherapy (OR 2.3, 95%CI 1.4-3.7) and nonverbal group therapy (OR 1.6, 95%CI 1.1-2.5). Younger age was independently associated with ADL training (OR 3.4, 95%CI 2.2-5.2) and holding therapy (OR 6.9, 95%CI, 3.7-12.8) while older age was associated with nonverbal group therapy (OR 1.9, 95%CI 1.2-3.0). There were no other gender specific differences in the use of different psychosocial treatments.
The use of family therapy was not associated with any of the child or adolescent diagnostic variables studied. Family therapy was used more often for families with two biological parents (OR 1.5, 95%CI 1.0-2.1) while network therapy was used for children living in other kinds of family constellations or out-of-home placements (OR 1.6, 95%CI 1.1-2.3). In general, diagnostic variables (CGAS level, suicidality, aggressiveness, ICD 10 diagnosis) had almost no association with the treatments used. Psychotic disorder was associated with nonverbal individual therapy (OR 2.0, 95%CI 1.1-3.7), and holding therapy was associated with aggressive acts (OR 4.7, 95%CI 1.2-3.2) and conduct disorder (OR 2.1, 95%CI 1.2-3.8). The use of different psychosocial treatment methods did not differ remarkably between child and adolescent wards.

5.5. Psychopharmacotherapy in inpatient treatment (Study IV)

Fifty-two per cents of all the child and adolescent patients were receiving some kind of psychopharmacological medication and medication was significantly more often used in the wards for adolescent than in the children wards. Further, in 10 of child psychiatric wards, none of the patients had medication and in two adolescent wards all inpatients were treated with scheduled medication. About 16% of all inpatients had two or more scheduled psychiatric medications. Fifty-six per cents of the inpatients receiving psychotropic medication had neuroleptics and 45% antidepressants. Antiepileptic medication was used by 10% and benzodiazepines by 6% of the inpatients. Only 5 patients had stimulants and one patient had lithium.

Scheduled psychopharmacotherapy was associated with older age (OR 9.1, 95%CI 5.3-15.4), female sex (OR 2.0, 95%CI 1.3-3.0), involuntary treatment (OR 7.6, 95%CI 4.6-13.0), possible out-of-home placement after the treatment (OR 1.8, 95%CI 1.2-2.9) and suicidal attempts (OR 3.2, 95%CI 1.8-5.8). Psychosis diagnosis had the strongest association with scheduled medication (OR 9.1, 95%CI 5.0-16.4). There were 132 (28%) patients with ‘as required’ psychopharmacotherapy. The most common medications prescribed “as required” were benzodiazepines or short-acting sedative zopiklone (78% of cases) and neuroleptics (19%). The primary target of ‘as required’ medication was, in 37% sleep problems, in 35% anxiety or panic attacks, and in 14%, restlessness or aggressiveness.
Of the 114 patients with scheduled neuroleptic treatment, 51% were treated with second generation neuroleptics risperidone and olanzapine. The most common neuroleptics were risperidone (n = 29, 25%) and olanzapine (n = 29, 25%) of those with neuroleptic medication, chlorpromazine (n = 20, 18%), tioridazine (n = 14, 12%), clozapine (n = 11%), and haloperidol (n = 9%). In 80% of patients, the primary target of the neuroleptic prescription was psychotic symptoms, and in 11% aggressiveness or restlessness. A psychosis diagnosis had the strongest association with neuroleptic treatment (OR 16.1, 95%CI 7.3-35) and nevertheless, a low CGAS score (OR 4.0, 95%CI 2.2-7.1), involuntary treatment (OR 3.5, 95% CI 1.7-7.2) and older age (OR 2.2, 95%CI 1.1-4.4) were also independently associated with neuroleptic medication treatment.

There were 93 children and adolescents with scheduled antidepressant treatment. Almost all the patients (n = 92) had Selective Serotonin Reuptake Inhibitor (SSRI) treatment, while only 3 patients were treated with tricyclic antidepressants. Of those who had antidepressant treatment, 39% had citalopram, 22% fluoxetine, 19% mirtazapine and 8% sertaline. The primary target of antidepressant prescription was, in 80% of cases, depressive symptoms, in 12%, anxiety or panic attacks, and in 8% obsessive-compulsive symptoms. Older age (OR3.2, 95%CI 1.8-5.7) and depression diagnosis were significantly associated with antidepressant treatment (OR 3.4, 95%CI 2.0-5.7). The use of all regular medication and neuroleptic and antidepressant medication in different age groups is shown in Figure 10.

![Figure 10](image-url)  
**Figure 10.** The use of psychopharmacological medication (all regular medication, anti-depressants and neuroleptics) among the child and adolescent psychiatric inpatients in four age groups.
5.6. Coercive treatment (Study V)

Coercive treatment procedures included in this study were time-out, holding, seclusion and restraint. About 28% of all the inpatients (36% of boys and 16% of girls) had been removed to their own room for time-out and behavioural control at least once during the present treatment period. The use of coercive treatment methods are shown in Figure 11.

Of these 142 children who had had time-out, 41% had conduct/oppositional disorder. Factors such as aggressive acts (OR 5.9, 95%CI 3.6-9.0), suicidal acts (OR 2.4, 95%CI 1.1-5.0), longer LOS (OR 1.9, 95%CI 1.2-3.3) and younger age (OR1.7, 95%CI 1.1-3.0) were most strongly associated with time-out.

**Figure 11.** The use of coercive treatments (seclusion, restraint, time-out and holding) among child and adolescent psychiatric inpatients (n=504) in four age groups allocated by sex.
Holding sessions were included in the inpatient treatment of about 26% of all the patients (33% of boys and 14% of girls) at least once during the present treatment period. Of these 133 children with holding, 36% had conduct/oppositional disorder diagnosis. Aggressive acts (OR 10.0, 95%CI 5.8-17.4), attachment disorder (OR 4.8, 95% CI 1.7-13.5), autism (OR 4.7, 95%CI 1.7-12.8), younger age (OR 3.6, 95%CI 1.9-6.6) and longer LOS (OR 2.5 95%CL 1.5-4.3) were mostly strongly associated with holding.

About 8% of all the inpatients (7% of boys and 9% of girls) had been removed to a seclusion room at least once during the present inpatient treatment. Of the 43 patients who had been isolated, 37% had a psychosis diagnosis and 28% conduct/oppositional disorder. Aggressive acts (OR 9.2, 95%CI 3.7-22.6) and suicidal acts (OR 7.0, 95%CI 2.7-18.2) had the strongest associations with seclusion.

Twenty inpatients had been mechanically restrained during the treatment. They all were 13 years or older. (9 boys/11 girls). Most of these patients had aggressive acts (n = 16), 10 had suicidal acts and 12 were psychotic. The use of mechanical restraints was significantly associated with aggressive acts (OR 14.2, 95%CI 3.9-52.4), suicidal acts (OR 4.4, 95%CI 1.1-16.9), psychosis (OR 5.0, 95%CI 1.4-18.6) and longer LOS (OR 4.6, 95%CI 1.0-20.2).
5.7. Involuntary legal status (Study VI)

Out of 278 adolescents inpatients (12-17 year) 30 % (n = 82) had involuntary legal status. The distribution of inpatients with involuntary legal status in the whole sample (n = 504) is shown in Figure 12.

![Figure 12](image)

**Figure 12.** Involuntary legal status among the child and adolescent psychiatric inpatients (n = 504) in four age groups divided by sex.

There were no adolescent inpatients with involuntary legal status in 2 out of the 18 hospital districts and the prevalence of inpatients with involuntary legal status was found to be extraordinary high in one district (7.7/10000). When these three districts were excluded, the prevalence was 2.5 patients/10000 / 12-17-year-old inhabitants (range 1.4-2.9). About half of the involuntarily treated patients were 16-17 years old and over one half was girls. However, gender was not significantly associated with involuntary treatment. The proportion of involuntarily treated patients was significantly associated with age, but there was no significant gender and age interaction. Out of all involuntarily treated inpatients 25 % were admitted voluntarily and the decision about the need for involuntary treatment was made later during the inpatients treatment period. In the age group of 16-17 year olds half of inpatients with involuntary legal status were voluntarily admitted.
Psychosis disorder (n=62), suicidal acts (n=31), out-of-home placement after discharge (n=52), violent acts (n=30), low CGAS level (<40) (n=49) and age 16-17 years (n=48) were all factors associated with involuntary treatment. Psychotic disorder (OR 2.9, 95%CI 1.4-6.0) had the strongest association with involuntary treatment, substance abuse disorder (OR 12.5, 95%CI 2.4-8.0) and suicidal acts (OR 3.4, 95%CI 1.6-7.6) were also independently associated with involuntary treatment.
6. DISCUSSION

6.1. Discussion of methodology

6.1.1. The sample and study design
The sample of the study included all the 69 CAP inpatients wards in Finland in the end of January in the year 2000, being the largest study ever done on CAP inpatients care in Finland. The responses were obtained from 64 wards, giving a high a response rate (93 %), which enhances the generalizability of the results. Associations between explanatory - and outcome variables were studied with both univariate logistic regression analysis and multivariate logistic regression analysis. Furthermore, studies by Piha & Spurkland (1992) and Erkolahti et al. (1998) on CAP inpatients treatment characteristics were repeated almost identically. This offered a possibility to find out potential changes in psychopharmacological and psychosocial treatments in child psychiatric wards.

This research was mostly done by using quantitative methods although, research strategy of this study can also be regarded as multiple triangulations (Kimchi et al. 1991), because qualitative and quantitative research methods: data sources and analytical methods are used in the study of same phenomenon. Furthermore, this study integrates the knowledge of CAP with the aspects coming from nursing care in order to describe the multidisciplinary focus of CAP inpatient treatment. In addition, there has been a general lack of national wide survey studies on this field, and the few previous Finnish studies have been based on registered data, which are not designed for research purposes. More over, only a few studies have been published that explore the prevalence of inpatient services; ward, staff and inpatient characteristics, and on the associations between inpatients’ sosiodemographic, diagnostic and treatment factors and psychopharmacological and psychosocial inpatient treatment modalities.
When prevalence of involuntary treatment between the hospital districts is compared the low number of involuntary treated patients hinders drawing any definite conclusions from the results. Five units out of 69 refused to participate in this study and in addition, nursing ideology descriptions of the ward managers were obtained only from 61 wards out of 69 (88 %). Further, no standardised diagnostic interviews were used, which may well be a limitation. Psychiatric diagnoses of CAP inpatients have been studied in several studies and there are many differences in diagnosing, study designing and in methodology of different studies, which may complicate comparisons between studies.

Additionally, there are also some disadvantages in the content analysis method. The data is based on ward managers’ personal opinions about the ideology of nursing care on their wards. It is possible that the descriptions represent ward managers’ ideal or rhetorical opinions about the ideologies. This could decrease the reliability of the study. Likewise, there is also the possibility that the units of analysis were interpreted or coded inappropriately, although to avoid this happen, a co-researcher classified the data and a test-retest was undertaken.

In sum, this national and cross sectional research covering all the CAP inpatients wards gives a comprehensive picture about the CAP inpatients care in Finland. Thus, the results can not be used predicatively, which means that causal conclusions can not be easily developed, although it is possible to show prevalence and associations. Moreover, a cross sectional study gives a general picture of the situation of CAP inpatient treatment services at a certain point of time, but the possibility of accidental variation has to be considered.

6.1.2. Instruments

Questionnaire (A) used with ward managers included 8 questions and Questionnaire (B) used with clinicians had 15 questions. Both questionnaires were designed in order to make them understandable, easy to fill and not time consuming. Questionnaire (A) included one open ended question and the rest of the questions (in A and B) informants were asked to either circle the most appropriate alternative or give the required information. The response rate of the study was high and the answers were in the main carefully constructed showing a high compliance of informants. Furthermore, ward managers and clinicians responsible of the inpatient treatment are arguably the most reliable informants with their up-to-the-moment knowledge of their wards, patients and psychosocial treatments.
To get a complete picture of professional qualifications of the staff it might have been useful to ask other questions about skill mix among the staff. For example data about the number of nurses and other staff members with psychotherapeutic training or other special training would have completed the picture of the staffing patterns. It is possible that there might be some confusion about the names of the "treatment methods" included in the questionnaire (psychosocial treatments). Especially the connotations of the concepts, therapy, treatment, psychotherapy, individual therapy and individual relationship may vary from unit to unit. Nevertheless, the names of the treatment methods were clearly presented in the questionnaire and the use of the methods are a part of the common practise in CAP inpatients wards in Finland. In addition, the concept of nursing ideology is possibly not apparent for all ward managers and would have deserved to be more clearly explained to the participants. The ward managers and other members of staff were not interviewed, although interviews would have provided information with more depth and perhaps promote more complete descriptions about nursing ideologies employed.

The general functioning level of every inpatient was evaluated by using the Children’s Global Assessment Scale (CGAS) which has been found internationally to be a reliable tool for evaluating the general function level (Dyrborg et al. 2000). The questionnaire was attached with the CGAS scale including 10 descriptions of psychosocial function levels. This was done, in order to clarify the differences between levels. The cut-off point of 40 used in this study might be rather low, but it was selected on purpose to find out the most distressed inpatients with significantly decreased impairment level.

The Spectrum of Assaultive Behaviour Scale (Pfeffer et al. 1983) was used as an instrument to measure the level of violent behaviour of every inpatient. More over, the severity of suicidal behaviour was evaluated by The Spectrum of Suicidal Behaviour Scale (Pfeffer et al. 1989). This scale has been used in recent Finnish studies on child and adolescent psychiatric care (Hukkanen 2003, Haavisto et al. 2003). Both spectrums, The Assaultive Behaviour Scale and The Scale of Suicidal Behaviour are rather simple instruments to assess suicidal or aggressive ideation. However, these instruments can give estimation about the existence and severity of suicidal and violent tendencies and furthermore, the scales are easy to use and the given alternatives were clearly explained. Thus, both scales have found to have high inter-ratter reliability (Pfeffer et al. 1985, Pfeffer et al. 1989, Hukkanen 2002).
6.2. Discussion of results

6.2.1. Ward characteristics
The number of CAP inpatient wards (n=69) can be considered satisfactory, if compared internationally, e.g. with the number of units in the whole of England and Wales (n=80) (Jaffa et al. 2004) or in Ireland (n=4) (Mc Carthy 1999) and the number of inpatient beds in Denmark (n= 200) (Thomsen 1999). The average provision of psychiatric inpatient beds for minors was 5 /10,000 (range 3-8 / 10,000) in all the hospital districts that had child or adolescents psychiatric inpatients beds. This figure is similar to the figures demonstrated by Piha et al. (2000) and the number of ward and beds in Finland meet well the standards given by RCP (1999).

The number of CAP inpatient beds varies between different studies to some extend. In 1999 there were 292 beds for children (Piha et al. 2000) and 300 for adolescents (Laukkanen et al. 2003) vs. in the present study 282 beds for children and 265 adolescents. The explanation for the variation in the number of beds is not known, but it is possible that all the beds for partial hospitalisation in 24-hour-wards were not included in this study because the number of “day care beds” in 24-hour-wards was not specially asked. On the contrary Laukkanen et al. (2003) reported in their survey about 35 “day hospital beds” in 24-hours adolescents’ wards.

Most obvious explanation for the internationally high number of CAP inpatient hospital beds in Finland is that the Finnish Mental Health Act 1116/1991 requires that the treatment of psychiatric inpatients less than 18 years of age must to take place in hospital wards, meant only for this age group. Ethically and clinically there are strong arguments supporting these requirements, albeit this is not the practice in many European countries where adolescents are often treated in adult wards (Hastle 1997) and it is also probable that children needing psychiatric inpatient treatment are treated in residential care intuitions or in prisons (Hukkanen et al. 1999, Kaivosoja 1996).

There were only 5 day wards and two family wards included in the sample. All these wards were child psychiatric wards. The number of possible “day treatment beds” was not asked, but it is obvious that there are also partial services offered in 24 hour units. However, in many western countries, day wards and other forms of partial hospital services are the main elements of care of CAP inpatients. In the UK almost all child and adolescent psychiatric 24-hour units offered also day care services for children in the mid- 1990’s (Green & Jacobs 1998a).
Day treatment in child and adolescent psychiatric care is the usual treatment practice in Germany (Huss et al. 2001) and in Switzerland (Von Aster et al. 1998). In partial hospital care staff has more time for face-to-face relationships, as they are not working on shifts and at weekends (Marshall 2003). Partial hospital care is obviously also less institutionalising than full time hospital treatment and perhaps a more economical form of inpatient care (Grizenko & Papineau 1992, Marshall 2003). Furthermore, there are some studies showing that day treatment programmes are more effective and that the user satisfaction is higher than in traditional inpatient care (Matzner et al. 1998, Rey et al. 1998).

6.2.2. Staffing patterns

The great majority (80 %) of staff in CAP inpatient wards consisted of nurses, which is common practice in most European countries e.g. England and Wales (Paice 1996, Jaffa et al. 2004). While the number of nurses and psychiatrists were rather satisfactory when compared with the recommendations of AACAP (1990) and RCP (1999) there was a shortage of psychologists and social workers. No services were offered by psychologists in 11 wards and by social workers in 17 wards. The lack of social workers is significant particularly because of the increasing integration of social and health services. There was a shortage of social workers found also in the UK (Jaffa et al. 2004). Nevertheless, the small number of occupational therapists (n=14) is as well noticeable in Finland.

The nurse/patient ratio in CAP inpatient care has not increased over recent years in Finland. The nurse/patient ratio found in this study was at the same level as could be found in Finnish child psychiatric wards in the early 1990’s (Piha & Korhon 1991). Furthermore, this study demonstrates a considerable variation in staff/patient ratios between different wards. This finding indicates a need for national guidelines for staff/patient ratios as well as which professional groups ought to make up the CAP workforce. These guidelines should reflect the different needs of child and adolescent population, as well as the different treatment approaches (e.g. acute, assessment, long-term treatment; 24-hour-a day units, day treatment units). Furthermore, changes in inpatient treatment practices, such as the move from long-term treatment programmes towards more acute and crisis treatment, also has implications for staff resources and professional training. Thus, the staff/patient ratio might have great importance for maintaining therapeutic milieu and ward atmosphere (Green & Jacobs 1998a).
All members of staff were qualified professionals, which is a unique situation in Europe. For example, in the UK about 50% of nursing staff had formal training with the rest of staff made up of unqualified health care assistants in 1999 (Jaffa et al. 2004). In Finland most of the nursing staff nurses had special training in mental health nursing or were practical mental health nurses with vocational training. This situation could offer possibilities for comparative studies in order to find out the differences in CAP inpatients care between in two countries with different staffing policy. However, there might be difficulties in recruiting specially trained mental health nurses in CAP wards in the future in Finland because systematic, national post graduate training programmes in mental health nursing are non-existent. The lack of special training in mental health nursing and in child and adolescent mental health nursing has to be taken in to consideration when planning post graduate nursing training and a Master programme in mental health nursing in order to improve child and adolescent mental health services and academic research on mental health nursing in Finland. In sum, an adequate staff / patient ratio, right skill-mix among the staff and relevant workforce planning additionally with continuous staff education and high working motivation most obviously provides the best clinical practice.

6.2.3. Inpatient characteristics

In this study it was found that about 60% of the inpatients in CAP wards were boys while the proportion of boys was about 80% in child psychiatric wards. However, girls were in slight majority in adolescent psychiatric wards. The age distribution patterns, diagnostic profiles and the family backgrounds found in this study are similar to previously published reports on inpatient populations (Green & Jacobs 1995, Piha et al. 1995, Sourander 1995, Sourander & Turunen 1999). Likewise the low general function level (GCAS) and high number of committed suicides and aggressive acts among inpatients were in accordance with the results of former studies (Green & Jacobs 1998, Kaivosoja 1999, Sourander et al. 1998).

The high rate (28%) of conduct / oppositional disorder is significant because, according to a national register study in Finland involving all under 18-year-olds discharged from CAP inpatient wards in 1990, only 10% of inpatients had conduct / oppositional diagnosis (Sourander & Turunen 1999). The rise in the prevalence of conduct disorder diagnoses may indicate that more children with conduct disorders are admitted to hospital treatment, or that there is an increasing need of hospital treatment for delinquent children reflecting an increase in this disorder in the society, or simply that the diagnostic practices have changed during the 1990’s.
The proportion of depressive disorder in the present study was about 20 %, which is nearly twice as much as found in a register study undertaken in 1993 (12 %) and the proportion of psychotic disorder was more twice higher in the present study (14 %) than 1993 (7 %). Anxiety disorders (7 %) were not strongly prevalent neither in the present study and nor in 1993 (as well 7 %) (Sourander & Turunen 1999), perhaps because the anxiety disorders may be less disabling than other childhood disorders and seldom need inpatient referral. Furthermore, the proportion of certain diagnoses has however, decreased when comparing with register study from 1993 (Sourander & Turunen 1999). Six per cents of the inpatients had developmental disorder in the present study vs. 10 % in 1993 and 5 % had attachment disorder in the present study vs. 8 % in 1993. The prevalence of some of the diagnoses in this study was very low, such as ADHD (5%) and OCD (3%), indicating that neuropsychiatric conditions are under diagnosed. The changes found in diagnoses between the years 1993-2000 are not fully reliable because of different study designs and chances in diagnostical criteria.

The diagnostic profile of child and adolescent psychiatric inpatients determined in this study differ to great extent from the profile found in a North American epidemiological register study (Harpaz-Rotem et al. 2005). This study compared the admission diagnosis of child and adolescent psychiatric 5400 inpatients between the years 1995-2000 in US. According the US study in 2000, 71 % of inpatients had depression diagnosis (20% in present study) and 19 % of inpatients had ADHD diagnosis (5% in present study). Nevertheless, 18 % of inpatients had bipolar diagnosis (1 % in present study). In addition, 9 % of inpatients had substance misuse diagnoses in US study (2 % in present study). On the contrary, the proportion of conduct/opposition disorder in the present study was 10 % higher than in the US study. Furthermore, the North American study showed a significant increase in the number of bipolar disorders, in general, and in the number of eating disorders of female patients. In addition, there was also a slight decrease in the number of ADHD, substance misuse and anxiety disorders. Nevertheless, a similar diagnostic profile was found in a large North American population based register study on privately insured minors (Martin & Leslie 2003). However, in spite of differences in diagnostic categorisation and differences in study designs, and methodological aspects so large differences in psychiatric diagnosis are still surprising. These differences might show a lid between the psychiatric diagnostic criteria in Finland and USA, otherwise such differences are very difficult to explain (Blanz & Schmidt 2000, Soutullo et al. 2005).
The high number of patients with conduct disorder and aggressive acts in the same ward raises questions about the quality and efficacy of inpatient treatment. Maintaining a therapeutic milieu in the face of a high proportion of acting out and aggressive behaviour may often be a very difficult task, putting efforts on ward milieu and staff resources.

In sum, it is shown that the majority of inpatients have a diversity of psychosocial problems, a very low functioning level, and a high level of suicidality and aggressiveness with severe psychiatric diagnosis such as conduct disorders, psychosis and depression. In so doing it can be concluded that these patients deserve intensive psychiatric care in a safe hospital environment, because it could be difficult to offer reasonable treatment in open mental health care services.

6.2.4. Ideology of nursing
The study revealed that it was unusual for a single ideology to be employed to underpin the CAP inpatient nursing, and often two or more ideological approaches simultaneously existed on the wards. At one level this can appear paradoxical, and weakens the claim of the need to recognise an ideological approach to care and treatment is required. On the other hand, it can be argued that this finding might emphasise the multidimensional focus of nursing in psychiatric child and adolescent wards. The most common nursing ideology was ‘family centred care’. It was reported as being the ideology of nursing care in all children wards, but also in more than half of the adolescent wards. ‘Individual care’ was also a equally reported ideology, likewise, ‘milieu centred care’ was featured in nearly half of all the ward managers answers. The frequent presence of individuality in ideology descriptions is rather expected, because individuality can been seen as the basis of all nursing and medical care in western word. On the contrary, ‘Psychodynamic care’ was the least frequently mentioned ideological approach, which might indicate that the position of traditional psychodynamical approach is weakening in Finnish CAP inpatient services, although ‘Psychodynamical care’ was highlighted in more than one in every fourth adolescent ward, but only in less than every fifth of the children wards. The large assortment of ideological approaches perhaps signals the importance of integrating different treatment methods in child and adolescent psychiatric inpatient treatment (Aldelsberg 1994). In CAP care, such approaches include working in multi-disciplinary teams, networking with peers, family members, teachers and other professionals in outpatient mental health services, school and social services (Paice 1996, Pönkkö 2006).
In their descriptions of the ideological approaches ward managers often referred to the various activities and treatment methods used in clinical practice while ethical values, beliefs and principles reinforcing clinical practice were seldom mentioned as the ideology of nursing care. It appeared that ward managers have difficulty in identifying the connection between ethical values of nursing and nursing ideology. It is apparent that this influences the ethical choices of nursing staff and correspondingly on the content of their clinical nursing practices (Roberts 2004).

In addition, nursing theories or models were not highlighted in the ward managers’ ideological descriptions. Alternatively, however, the concepts of individuality, milieu, education, family, psychodynamics and integration do reflect the rich humanistic and holistic tradition of mental health nursing (Nolan 1998), that are often featured in many nursing models (Peplau 1997, Barker et al. 1997). The absence of nursing theories and models raise questions about the ideological basis of CAP inpatient nursing in Finland. It can be argued that ward managers appeared unfamiliar with the nursing models and theories and with the results from nursing research. Alternatively, it is possible that they could not connect nursing models or theories with privileging nursing ideology. This may indicate the weak position nursing science enjoys amongst Finnish psychiatric nurses (Lindström 1998) and raises questions about the independent role of nurses working in multidisciplinary teams and by inference, raises concerns about psychiatric nursing as an independent profession with an orientating paradigm of its own (Vuokila-Oikkonen 2002). However, nursing has traditionally been a non academic profession and nursing science is still a young academic discipline in Finland (since 1979) and perhaps explaining why this was not referred to in the ward managers’ descriptions about prevailing nursing ideologies of the wards.

On the other hand a multidimensional focus of nursing ideologies possibly elevates nursing practice away from the false ideological claims such as anti-psychiatric theories (Hopton 1993) or caring philosophies which are often far too limited to explain the whole process of mental health nursing (Barker et al. 1995). Albeit, theories or models coming from nursing or any other disciplines are worthless if nurses are not able or have no opportunity to integrate these within their work in clinical practice (Cutting 1997). In future, comprehensive practical nursing models are warranted in the field of mental health nursing. Practical nursing models could help clinical nurses in structuring their work and finding their role as the representative of independent professional in multidisciplinary teams.
6.2.5. Psychosocial inpatient treatments

There were only a few diagnoses associated with a certain psychosocial treatment: psychotic disorder was associated with nonverbal individual therapy and aggressive acts and conduct/oppositional disorder with holding therapy. This result is congruent with the results of a German study (Goldbeck & Gobel 1990). The use of different treatment methods was very high: every inpatient received, on average, more than five different psychosocial treatments (range 1-11) and the prevalence of treatment methods was quite similar in child psychiatric wards and adolescent's psychiatric wards. Nearly every patient had a personal nurse. Individual psychotherapy and non-verbal group therapy were slightly more commonly used in adolescent's wards and in the contrary family orientated treatments, ADL-training and holding therapy were more common in child psychiatric wards.

Eighty per cent of the parents took part in parental guidance sessions and about half of the families had family therapy showing a shift in treatment orientation to a more family-oriented direction. In 1990, 67% of child psychiatric inpatients had parental guidance and 40% family therapy. Similarly in a UK survey, all child psychiatric wards reported them working actively engaged with inpatients’ families (Green & Jacobs 1998a). Family therapy was used more often for families with two biological parents, while network therapy was used for children living in other kinds of family constellations or in residential/foster care. Insight-oriented therapies, such as psychotherapy and group psychotherapy, are offered more often to girls, while behaviourally oriented treatments, such as ADL training and holding therapy, are offered more often to boys. These results raise interesting questions about whether gender expectations direct clinical decisions, especially in insight-oriented psychotherapeutic treatments.

The overall picture, which emerges, is that CAP is continuously integrating different treatment methods with different theoretical backgrounds and focusing on different levels of the disorder such as the biological, individual, family and social environment levels. However, in addition to length of treatment, age and sex, other variables and particularly the diagnostic ones show little association with the treatment method used. However, it is as well noticeable that there were rather little differences in used treatment methods between children wards and adolescent wards.
6.2.6. Psychopharmacological treatment

Scheduled psychopharmacological medication was used in 39% of child psychiatric inpatients, which is much higher than 15 years ago, when only 17% of child psychiatric inpatients had scheduled or “as required” psychopharmacotherapy (Piha et al. 1992). The use of medication was more common amongst older patients and among those with involuntary legal status. The use of neuroleptics was associated with involuntary treatment and very low CGAS level and severe psychiatric diagnosis. Ninety per cent of psychotic patients treated with neuroleptics. In addition, about half of the patients with scheduled neuroleptic treatment were treated with second generation neuroleptics; risperidone and olanzapine being the most commonly used neuroleptics. This reflects the prospects that second generation neuroleptics bring both decreased risk of tardive dyskinesia and the possibility of wider therapeutic efficacy (Campbell et al. 1999). In an earlier Finnish study (Piha et al. 1992), thioridazine was the most frequently used neuroleptic with child psychiatric inpatients. Furthermore, it is anticipated that the new generation of atypical neuroleptics will be used on a spectrum of CAP conditions, e.g. autism, conduct disorder and ADHD. However, the clinical utility of atypical neuroleptics remains to be documented in psychiatric disturbances where antipsychotic medication is indicated (Campbell et al. 1999).

The use of antidepressant treatment among child psychiatric inpatients has increased over the last 15 years. In an earlier Finnish study, Imipramine was the most widely used antidepressant among Finnish child psychiatric inpatients (Piha et al. 1992). In the present study, the use of tricyclic antidepressants was minimal, and almost all patients were treated with SSRI medications. The most commonly used SSRI in this sample was Citalopram. Antidepressant medication was strongly associated with a depression diagnosis and older age. About 40% of those with a depression diagnosis and about one-third of inpatients with suicidal attempts were treated with antidepressant medication. Although, interestingly, out of 20 adolescent patients with depressive disorder and suicidal attempts, only 11 (55%) had antidepressant medication. The available research data supports the effectiveness of SSRIs in the short-term treatment of relatively severe, persistent major depressive disorder and OCD in children and adolescents and SSRI medication combined with CBT is found to be favourable treatment practice (Emslie et al. 1997, Cook et al. 2001).
Only five patients had stimulants, which might be considered as being a very low number. Surprisingly, only 20% of inpatients with ADHD had stimulant medication. Given the large body of literature on the beneficial effects of stimulants on ADHD (MTA Cooperative Group 1999, Gillberg et al. 1997, Greenhill et al. 1999) and the usually severe problems of inpatients, the percentage of children prescribed stimulant medication must be considered to be very low. There are relatively strict rules and controls from the Finnish national health department on prescribing stimulants for children, which may partly explain the low use of this medication class among Finnish inpatients. A low level of the use of stimulants has been found also in other Nordic countries, reflecting the controversial attitude towards prescribing these drugs (Ekman & Gustafsson 2000).

Anticonvulsants were the third most commonly prescribed psychopharmacological medications. The use of other mood stabilizers, e.g. lithium was almost nonexistent. Benzodiazepines were seldom prescribed for scheduled use this might reflect the assumed risk of their physiological and psychological dependence in children and adolescents. However, the most common ”as required” drugs were benzodiazepines, while a survey from the UK showed that Chlorpromazine and Chloral hydrate comprised the majority of “as required” prescriptions (Bernard and Littlejohn 2000) representing the view of medication as serving to provide containment of disruptive behaviour rather than treatment of the psychiatric disorder.

There were great differences between different settings in medication use. In 16% of the wards, none of the patients had scheduled medication, while in 42% of wards at least half of the patients were treated with scheduled medication. This result is interesting and confirms the clinical experience that ”treatment culture and philosophy” are important factors influencing the choice of medication treatment in child and adolescent psychiatric inpatient care. Considering the increasing use of psychiatric medications during the last ten years, the lack of research-based data on the indications, efficacy, treatment outcome and safety supporting their clinical use is a major problem in the treatment of disabling childhood mental health problems.
The negative results of the present study are also of interest. Previous inpatient treatment, anxiety disorders or autism spectrum disorders were not associated with medication use. Conduct / oppositional disorder were the most common diagnostic group treated in inpatient settings and it was negatively associated with medication and neuroleptic prescription. However, in the previous studies from the USA the use of neuroleptics correlated with aggressive behaviour (Zito et al. 1994, Connor et al. 1998). In comparison, the present study shows that aggressive acts were not associated with medication use and the patients with conduct / oppositional disorder were treated most frequently with SSRI’s or neuroleptics (45%). Thus, about half of inpatients with conduct disorder diagnosis had no scheduled psychopharmacotherapy.

In summary the use of psychopharmacological medication has increased in Finland although it is still rather modest when compared with USA (Zito et al. 1994, Connor et al. 1998). However, the use of psychopharmacology needs to reflect a cautious approach, because of the adverse reactions Likewise, there is a gap between what is known about these agents (adverse and beneficial) and how they are actually used. Arguably, because of the variation in the use of psychopharmacological medication between inpatients wards the use of psychopharmacological treatment should be a topic for further research.

6.2.7. Coercive treatments
The most restrictive restraint procedures (seclusion and mechanical restraint) were used with the older and more severely disturbed inpatients. Gender was not associated with seclusion or mechanical restraints, but younger children and boys were more likely to be restrained physically (holding) or with time-out. These results are in accordance with a study by Garrison et al. (1990), who conducted a 1-year descriptive study examining the use of restraints among 5- to 15-year-old inpatients.
The present study confirms what is reported in the literature, i.e. that aggressive acts most frequently proceed the seclusion and/or restraint of both children and adolescents, and adults (Brown & Tooke 1992, Fisher 1994). Suicidal acts were associated with all other management techniques except holding. Accordingly, Millstein & Cotton (1990) suicidal attempts and violent incidents prior to hospitalization predicted seclusion among inpatients aged 5 to 12 years. Long treatment period (>90 days) was also independently associated with seclusion and mechanical restraints since, almost all patients (17 out of 20) who were mechanically restrained had been in treatment for more than 90 days. This is in accordance with results of Earle & Forquer (1995) and quite expected, because inpatients with serious behavioural and psychosocial problems often need longer inpatient treatment periods. It is as well possible, that a long out-of-home placement itself is stressful and frustrating for many minor inpatients. This might cause restlessness and aggressive behaviour leading to situations where the coercive treatment intervention is the only alternative.

In the management of children and adolescents with demanding behaviour is at least partly determined by the clarity of policies relating to restraint. These polices were not studied in this study, but it is obvious that staff variables, e.g. sex, age, training, ideology, ward atmosphere, will often influence the different restraint policies. There are no studies that compare the efficacy of different management techniques for aggressive behaviour in CAP inpatient settings. Despite the common use of seclusion and restraint in child and adolescent psychiatric settings these interventions are used without a research-based understanding of their impact on children (Goren & Curtis 1996) and nevertheless, there are studies showing that seclusion is harmful for patients Finke (2001). Most of studies on minors’ responses to being restrained report both positive and negative responses (Kaivosoja 1999), although according DosReis et al. (2003) minor inpatients preferred sedative medication than restrictive treatments.

There are several control and restraint techniques developed in order to give alternative methods for rather restrictive methods such as seclusion and mechanical restraint. The use of these techniques in a safe way requires numerous, well trained staff, which often will not be available in violent situations when restriction is normally needed, and in any event, the efficacy of these techniques is a matter of controversy and more research on this topic is warranted. Thus, it is recommended that there should be more emphasis put in the comprehensive education for staff in preventing aggressive behaviour. (Wright 2003.) Furthermore, careful treatment planning was highlighted with comprehensive assessment and adequate staffing before the need for restrictive interventions. All restrictive interventions should be tailored towards the patient diagnostic profile (DosReis et al. 2003).
It is also been argued that staffing factors do not necessarily have any significant association with the number of seclusion periods (Fryer et al. 2004). However, LeBel et al. (2004) reported about a successful development programme aiming to reduce the use of seclusion and restraint as an intervention of CAP. This two year staff training program included studies in early recognising and preventing of aggressive behaviour. As the result of the programme concerning 1000 treatment days, reduction of seclusion and restraint was 72 % in child units and 47 % in adolescent units.

The high prevalence of coercive treatment methods used in CAP inpatient treatment found in this study raises important clinical and administrative issues. Restrictive management strategies should only apply where there is an open discussion of patient and staff interaction styles and where any of these techniques can be regularly reviewed. Guidelines are needed on the clinical indicators, procedures, orders, documentation, assessment and monitoring of seclusion and restraint use among children and adolescents. Such guidelines would provide an appropriate policy for the developmental needs of severely disturbed children and adolescents. The last Amendment to Finnish Mental Health Act (1423/2001) highlighted the self-determination and autonomy of all patients. In particular, it was concerned with minimizing any restrictions to a patient’s fundamental legal rights during involuntary treatment and, the amendment pointed further that compulsory treatment must be arranged in as safe a way as possible and only when it is essential in order to guarantee the patient’s or other’s safety.

It would be useful to be able to compare the different practices and legal issues in different EU countries, and formulate common guidelines which take into account both the minor’s need for protection from his/her own impulses and the legal rights of the child. In addition, there are signs that the principles and practices of coercive treatments varies between countries in EU and common guidelines for use of restraint techniques are warranted.
Given the potential misuse of restraints, legal and ethical challenges raise questions about the appropriateness of these treatment techniques. In the context of the generally heightened awareness of the problems of physical and sexual abuse, there is a natural ambivalence to a response that might be construed as abuse or punishment. On the other hand, it has been suggested that the failure to intervene to protect a child could itself be construed as a form of abuse. Sensitive use of restraint may provide a response to a child’s need for protection from his/her own impulses, may prevent “group contagion” and set limits for the out-of-control child (AACAP 2001).
6.2.8. Involuntary legal status

The proportion of 12-17-year-old inpatients with involuntary legal status found in this study was nearly 30% (n=82) of all adolescent inpatients. Kaltiala-Heino (2004) has reported, in a register study, of a relative increase of involuntary admissions from 17% in 1996 to 26% in 2000 among the age group of 12-17 year olds. This concurs with an earlier register study (Sourander et al. 1998) where the proportion of 12-17 year olds involuntarily treated was 14% in 1993. The results of the present study and two earlier studies suggest that the proportion of adolescent inpatients with involuntary legal status has increased since early 1990’s. (also Tuori et al. 2006) In controversy, generally in Europe, the involuntary treatment among adult psychiatric patients remains almost stable during the same time span (Salizne & Dressing 2002).

It is also noticeable that one out of four inpatients with involuntary legal status had originally been admitted voluntary. The changes in legal status during the given treatment period has seldom been addressed in previous research, although such changes takes place frequently. Obviously, there are several probable reasons for changes in the legal status of the adolescent inpatient. Adolescents are not constantly fully competent to understand the consequences of their decisions about the treatment and furthermore they are legally under the control of their parents or parent substitutes who may apply a powerful influence over the young person’s acceptance of the admission and strongly affect the patients’ opinion during the admission. In addition, the compliance for treatment might change rapidly. Furthermore, the severity of psychiatric disorders and suicidality of adolescent patients is especially difficult to assess. Finally, physicians might try to admit minors primarily on a voluntary basis in mutual understanding with minors following the guidelines presented in The Act on the Status and Rights of Patients 785/1992. Involuntary treatment might be considered a particularly traumatic experience for minors and that is why the physicians try to avoid any compulsory interventions including involuntary admission. (Kaivosoja 1999).
Involuntary legal status was more common among inpatients in late adolescence. However, age was not independently associated with legal status, which was also the case with gender although there were slightly more girls in involuntary treatment. The association between older age and involuntary legal status is most probably related to the increase of suicidality and psychosis in late adolescence (Roberts et al. 1998). About a half of the involuntary treated adolescents were planned to be placed in residential or foster care after discharge. This reflects either of the severity of their psychosocial problems of the adolescent or serious family problems, or both. Those adolescents having involuntary legal status and, at the same time waiting for placements in foster- or residential care often have an especially difficult time in the hospital environment.

The substance use disorder diagnosis was found to be independently associated with the involuntary treatment and nearly all inpatients having the diagnosis (n=10) had involuntary legal status. This suggests that substance use disorder is used, although rarely, as criterion for involuntary treatment. Substance use disorder can be regarded as "a severe mental disorder" and could be used as criterion for the involuntary admission of minors, providing that all the other criterions for involuntary admission mentioned in the Mental Health Act are also met (Pirkola & Marttunen 2001, Kaltiala-Heino 2003).

Conduct disorder was not significantly associated with involuntary legal status although it was a moderately common diagnosis among involuntarily treated adolescent. In the present study 30 % of patients with involuntary legal status had committed violent acts during the treatment period. In a previous register study from South-West Finland, 44 % of involuntary admitted adolescents had committed violent acts during their inpatient treatment period (Khenissi et al. 2004).

In summary, the adolescents with involuntary legal status had wide range of serious psychiatric and psychosocial problems. This group differed in many ways from those patients with voluntary legal status. They had often very low general functioning level and they had often committed frequent violent acts. Furthermore, they were more often psychotic and had committed suicidal acts. As a consequence it can be cited that involuntary treatment was used quite regularly among adolescents but according the criterions given in Mental Health Act (1116/ 1991).
7. IMPLICATIONS AND CONCLUSIONS

Eighty per cent of the staff working in CAP inpatients wards in Finland was qualified nurses on vocational, collage or university level and, the majority of every-day care and treatment activities of the wards are run by nurses. Nurses are in continuous contact with child and adolescent patients and their parents. Nurses do also act as adult role models for the patients and the named, personal nurses often become the most important adults for patients during their treatment period. Furthermore, nurses have a crucial position in observing and assessing the mental health status and general well-being of the patients. They also take care of the basic needs of children and adolescents. Thus, it can be concluded that nurses are in key-role in the inpatient treatment process. Because of the crucial role of nurses in inpatient treatment they should have enough special knowledge about of CAP, psychotherapy and other special issues related to development and mental health of children and adolescents. The special training should be included in post-graduated special studies in mental health nursing which should be arranged as post graduated nursing studies in universities or polytechnics. Unfortunately, this type of training is not systematically arranged in Finland. Furthermore, the increasing use of psychopharmacology on CAP inpatients and the frequent use of involuntary admissions and other coercive treatments elevates the need to organise special nursing training for nurses aiming to work in CAP care. Because CAP psychiatric inpatient treatment is focused on the individual nurse-patient relationship and on the co-operation with families, both these treatment orientations should be highlighted in the special mental health nursing studies.

The overall picture, emerging from in this study, is that CAP inpatient treatment is increasingly integrating different treatment methods with different theoretical backgrounds and focusing on different orientations of inpatient care such as the individual, family, milieu, biological and educational orientations. This multidimensional character of CAP inpatient treatment and the large assortment of psychosocial treatments is challenging for both clinicians and researchers. Hence, CAP inpatients treatment is a process which includes several simultaneously influencing variables and it should be studied in its entirety, and not as a series of specific treatments. There is a need to combine different scientific approaches when studying CAP inpatients treatment. Particularly, more nursing research should be targeted on this area. However, the research interest in nursing science on CAP treatment is rare in Finland.
Nursing research could especially add to the knowledge of personal experiences and treatment expectations of minors and their families. Furthermore, nursing research could clarify the role of the nurse in a multidisciplinary team and help nurses in finding the ethical and ideological basis of CAP mental health nursing. Both, quantitative and qualitative research orientations such as narrative, dialogical and constructive methods are warranted in order to establish a comprehensive picture of psychiatric care in a child and adolescent inpatient wards.

The differences of psychosocial treatments and ideological approaches between child psychiatric and adolescent psychiatric wards were rather. There were more similarities than differences found in between treatment modalities. This was rather surprising, however, given the strict distribution of inpatient treatment to child psychiatric and adolescent psychiatric wards. Child psychiatry has been a specialty of psychiatry since 1955 and, adolescent psychiatry a sub speciality since 1979 and speciality since 1999. One could assume that this could predicate more differences in treatment practises between the two specialities. However, it would be important to discuss about the boundaries between CAP services in order to improve co-operation and more integrated services for minor psychiatric patients.

The number of CAP inpatient wards and beds was internationally high in Finland. Nevertheless, the number of day and family wards was rather low. This indicates a need to increase partial hospital programmes and other different treatment modalities such as family wards and home based care with possibility for short interval treatment periods in inpatients wards. Day treatment wards and other forms of partial hospitalisation could offer a less institutionalising and family-centred alternative of inpatient care.

The number nurses and physicians in inpatients wards was rather satisfactory, however, there was a rather small number of psychologists, social workers and occupational therapists working in CAP inpatient wards. General guidelines on staff/patient ratio and right skill mix in clinical staffing are warranted. In addition, further research on staffing patterns related to outcomes of inpatients care is implicated in order to improve the cost-effectiveness of inpatient treatment and to find the best treatment practices.
The length of stay, age and sex, or other background variables and particularly the diagnostic ones have rather little associations with the psychosocial treatment used in inpatient wards. This might indicate that the use psycho-social treatments are not based on research evidence, but more obviously on prevailing treatment orientation. In addition, there is a lack of research on psychopharmacological treatment among minors although, the use of psychotropic medication has increased clearly during recent years. The use of psychopharmacological medication also varied greatly between the wards. The reason for this variation is not known, but this might be related to different inpatient treatment traditions guiding the use of such medications. Thus, further research on the use of psychopharmacology on CAP patients is needed.

Coercive psychiatric treatments were commonly used in inpatient wards. About 40% of all the inpatients were coercively treated during the present treatment period. Additionally, nearly one of three inpatients over age 11 had involuntary legal status. Eight per cents of all CAP inpatients have been secluded and four per cents restrained. Over all, the use of coercive treatment is ethically problematic because it violates the principle of self-determination and it is often used without a research-based understanding of their impact. In comparison, some adolescents do benefit of coercive treatment because of the concrete boundaries, which might help the adolescents control their aggressive behaviour and nevertheless in critical, life threatening situations coercive treatment may be the only option.

Defending the dignity of every patient is crucial at every stage of the involuntary treatment period and coercive treatment of any kind should be used as a last resort and must be arranged in as safe a way as possible and only when it is essential in order to guarantee the patient’s or other’s safety. It would be important to study principles and practices of coercive treatments between different countries. Common guidelines for use of restraint techniques are warranted and the frequent use of coercive treatments among CAP inpatient setting should deserve increased research attention in order to generate evidence based and effective treatment practices.
The work of nurses and other health care professions in multiprofessional clinical environment of CAP inpatient services is challenging. Children and adolescent treated in psychiatric inpatient wards suffer from severe psychiatric disorders such as conduct disorders, severe depression, psychosis and suicidality. Their families have often faced difficult psychosocial and economical crises and the needs of the families have to be highlighted in every stage of the caring process. In future it is also obvious that multicultural aspects in clinical nursing are more accurate and co-operation with professional of health care, social care and education continues to increase. This sets big challenges for nursing skill-mix and education and for the whole mental health services of minors in Finland and in whole Europe.
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REFERENCES


The Amendment of Mental Health Act in Finland (1423/2001) http://www.finlex.edita.fi


