Available online at www.sciencedirect.com
ScienceDirect
Journal of Adolescence 31 (2008) 407–419
Journal of Adolescence
www.elsevier.com/locate/jado

The involuntary treatment of adolescent psychiatric inpatients—A nation-wide survey from Finland

Heikki Toivo Ellila*, Andre Sourander, Maritta Välimäki, Tony Warne, Matti Kaivosoja

Turku Polytechnic, Health Care, Tammikallionpolku, B6 20660 Littoinen, Finland

Abstract

This national cross-sectional study investigates the prevalence rates, regional differences and factors associated with the involuntary inpatient treatment of adolescents in Finland on a chosen day in 2000. The proportion of inpatients with involuntary legal status was 29.5% ($n = 82$) giving a prevalence rate of 2.5 per 10,000/12–17 years old inhabitants.

Forty-eight per cent of involuntarily inpatients were 16–17 years old and 62% had psychotic disorders. Twenty-six per cent of inpatients with involuntary legal status were voluntarily admitted. Regional differences of involuntary treatment were rather modest. Psychotic disorders, suicidal acts, and substance use disorders were independently associated with involuntary legal status.

There is a need for further studies to investigate the long-term effects of involuntary treatment on the adolescents' subsequent well-being. Further studies on alternatives methods for involuntary treatment are warranted, likewise the clinical guidelines for involuntary treatment practices.

Keywords: Adolescent; Inpatient treatment; Involuntary legal status; Psychiatry

*Corresponding author. Tel.: +358 5050930.
E-mail address: heikki.ellila@turkuamk.fi (H.T. Ellila).

0140-1971/$30.00
doi:10.1016/j.adolescence.2007.08.003

Introduction

Most of the recent research on involuntary psychiatric treatment deals with adult samples. (Kaltiala-Heino, Korkeila, Tuohimäki, Tuori, & Lehtinen, 2000; Richer-Rossler & Rossler, 1993; Salize & Dressing, 2004; Sanquienti, Samuel, Schwartz, & Ropetson, 1996; Tuohimäki et al., 2003). There are limited national studies based on adolescent population which deals with involuntary treatment (Kaltiala-Heino, 2004; Sourander et al. 1998; Worall et al., 2004). The two Finnish nation-wide studies Sourander et al. (1998) and Kaltiala-Heino (2004) were based on hospital discharge registers, which limits the reliability of the results. The information included in these registers is rather limited (e.g. information about sex, age, discharge diagnosis and length of stay). There is a lack of studies examining the associations of other important factors (treatment variables, family background, functional level, severe symptoms such as suicidality and violence with the involuntary legal status). However, this kind of information is crucial for policy makers and administrators planning services for seriously disturbed adolescents as well for clinicians responsible for inpatient units.

The UN's Convention on the Rights of the Child (1989) is the general convention of human rights in terms of protecting and promoting children's rights. A patient's right to liberty is supported by the principle of self-determination, recognising that in some circumstances, some children and young people also have the right to make decisions about their own treatment (Park, 2002; Roe, Weishut, Moshe, & Rabinowitz, 2002). Likewise, the principle of patients' self-determination and autonomy is highlighted in the Finnish Mental Health Act (1991) and in the Finnish Act on Status and Rights of Patients (1992). A patients' liberty can be restricted by using involuntary treatment, even though this use of compulsory psychiatric treatment militates against the more general principles of self-determination. However, leaving a severely disturbed adolescent without appropriate care, even against the person's own will, may give rise to claims of neglect (Kaivosoja, 1996).

The main criteria for assessing adolescent's self-determination are their capability to understand alternatives and the consequences of their choices. Therefore, the adolescents' level of emotional and cognitive of development must be taken into consideration (Ford & Kessel, 2001). The involuntary treatment of adolescents is often problematic because as someone under 18 years of age, they remain legally the responsibility of their parents or parent substitutes. However, according to the Act on Status and Rights of Patients a child's parent or parent substitutes are not entitled to refuse treatment that would avert a health risk or save the life of an underage person.

There is a lack of evidence about whether most adolescents' have the necessary competence to understand their illness and psychological state (Casmir & Billing, 1994; Kaivosoja, 1999). Despite this uncertainty, the opinions of adolescents should wherever possible always be taken into account in decisions affecting them (Batten, 1996; Shaw, 1999).

According to the Finnish Mental Health Act (1991/1116, revised 2002) a person can be ordered to receive treatment in a psychiatric hospital against his/her will only where the person is diagnosed as being mentally ill; and the person needs treatment for a mental illness which, if not treated, would become considerably worse or severely endanger the person's health or safety or health or safety of others; and if all other mental heath services are inapplicable or inadequate. It is possible to convert a voluntarily admitted inpatient to involuntary treatment where these criteria of involuntary treatment are met.

A person under 18 years of age can be ordered to treatment in a psychiatric hospital against his/her will, because of a ''serious mental disorder'' which, if not treated would be considerably worse or severely endanger the health or safety of the minor, or the health or safety of others, and if all the other mental health services are inapplicable (The Finnish Mental Health Act 1991/1116, revised 2002). The problem with this is that the definition of what ''a serious mental disorder'' is not clear or universally agreed. In this context, destructive behaviour such as suicidal acts, severe substance dependence or a diagnosis such as severe depression, conduct disorders and anorexia nervosa could be considered as serious mental disorders (Kaltiala-Heino, 2003).

A minor needing psychiatric inpatient treatment has to be treated separately from adults unless it is considered that it is the interests of the minor to act otherwise. Parents or parent substitutes have to be informed and told immediately about any proposed involuntary admission. In Finland, District Administrative Courts have the responsibility of ensuring the legality of every decision about involuntary treatment of a minor It is also possible to appeal to the District Administrative Court, if the parents/parent substitutes or the adolescent themselves (if over 12 years) is opposed to the involuntary treatment decision (The Finnish Mental Health Act 1991/1116, revised 2002).

Those adults who are most often treated on an involuntary basis come from population groups with high levels of social deprivation and where the availability of social services is poor (Bindman, Tighe, Thornicroft, & Leese, 2002). Studies on adults (Davis, Thornicorft, Leese, Higgingbotham, & Phelan, 1996; Owens, Harrison, & Boot, 1991; Singh, Croudace, & Beck, 1998) and on adolescents (Tolmac & Hodes, 2004) have shown that involuntary treatment is more commonly used with individuals from Black and Ethnic Minority groups in the UK.

Likewise, a study by the Ministry of Social Affairs and Health in Finland noted that a lack of flexible social and mental health services was often related to the involuntary admission of adolescents in Finland (Ministry of Social Affairs and Health, 2001). Comparative studies on involuntary treatment among adults reveal great variations in prevalence rates between different countries (Darsow-Schutte & Muller, 2001; Riecher-Rossler & Rossler, 1993; Zinkler & Priebe, 2002) and within the regional areas of one country (Björngaard & Heggestad, 2001; Mears et al., 2003; Tuori & Kiikkala, 2004). Recently, it was found that the frequencies of compulsory admissions vary widely across Europe (Salize & Dressing, 2004). Such variations in the use of involuntary treatment may indicate that the use of involuntary treatment is determined by factors such as professional practices, ''treatment cultures'' or administrative policies (Kaltiala-Heino, 2004; Sourander et al., 1998).

Previous studies, although somewhat inconsistent, have shown that several diagnosis such as psychotic disorders, substance use disorders and conduct disorders, as well as depression and eating disorders are associated with involuntarily treatment amongst adolescents (Kaltiala-Heino, 2004; Khenissi et al. 2004; Mears et al., 2003; Sourander et al., 1998; Watson, Bowers, & Andersen, 2002). Similarly suicidal acts and violent acts have been found to be associated with the involuntary admission of adolescents (Hastle, 1997; Kaivosoja, 1996; Khenissi et al., 2004). Mears et al. (2003) reported that the majority of involuntarily adolescent admissions were boys and Felkins, Guthrie, and Walch (1991) found that involuntary admitted adolescents often experienced severe conflicts with their parents. In Finland several studies have shown, that girls are more often given treatment within the mental health system while boys more often received care from social care systems (Kaivosoja, 1996).

The present national study provides information on the involuntary psychiatric treatment of adolescents in Finland by exploring: prevalence rates; regional differences, and a wide range of factors (demographic, family, ICD-10 diagnosis, functional level, levels of suicidality and propensity for violence) associated with the involuntary treatment of adolescents.

Material and methods

Procedure and subjects

The study was a point-prevalence study, carried out in January 2000, concerning all the child and adolescent psychiatric inpatients treated in the wards ($n = 69$) in Finland on the chosen day. The inpatients of these wards, from 12 to 17 years of age, formed the target group of the present study. A questionnaire was sent to all the wards. Child psychiatric wards were also included in this survey because about 20% of the inpatients in child wards were over 12 years of age. There are no private psychiatric inpatient services for children or adolescents in Finland. Child psychiatry and adolescent psychiatry are two independent specialities in Finland, arguably a unique approach in Europe.

Out of 22 hospital districts three had no psychiatric inpatients wards for adolescents. Psychiatric inpatient services for adolescents in these districts were provided by services in other neighbouring districts. However, it is possible, under exceptional circumstances, to treat a patient under 18 years old in adult wards, albeit the proportion of minors treated in adult wards is minimal, because according to the Finnish Mental Health Act (1991) all minors have to be treated separately from adults unless it is considered that it is the interest of the minor to act otherwise.

Responses were obtained from 64 psychiatric inpatient wards (30 wards for adolescents and 34 for children, with 504 inpatients) in18 hospital districts. Inpatient wards (1 child and 4 adolescent) which refused to participate collectively provided 43 inpatient beds.

Measures

The survey included questions about family characteristics, treatment factors, the legal status, general functional level (CGAS), level of violence and suicidality, and ICD-10 diagnosis. The responders were asked to assess the current position of every inpatient on the chosen day.

Questions focusing on the legal status of every inpatient at the study point included three alternatives. 1 = the patient has been admitted involuntarily and was still in involuntary treatment at the study point, 2 = the patient had been admitted involuntarily but was in voluntary treatment at the study point, 3 = the patient has been admitted voluntarily, but was in involuntary treatment at the study point.

The questions focusing on demographic and family characteristics included requests for information about the patient's age and gender, and whether the patient was from a family with two biological parents or from some other family type. Treatment variables included a question about the length of the treatment (LOS = length of stay) at the study time-point. Patients were divided into two groups: (1) long-term inpatient; 90 days or more and (2) short term-inpatients less than 90 days. The cut of point of 90 days has been used previously in child and adolescent

psychiatric research (e.g. Sourander, 1995; Ritmannsberger et al., 2004; Woolston, 1991) to define long-term inpatient treatment.

The alternatives for planned out-of-home placement of inpatient after the treatment period were 1 = no, 2 = possible and 3 = certain. The question about previous inpatients treatment was 1 = yes or 2 = no.

The patients were diagnosed in accordance with ICD10 and assessments were made by the psychiatrist responsible for the treatment. In the data analysis, the first, second and third psychiatric diagnoses were also taken into account; so one patient might appear in more than one diagnostic group. Diagnostic groups which in former studies have shown to be associated with involuntary treatment among adolescents were included in the analysis. These diagnostic groups were substance use disorders F10–19, psychotic disorders F21–29, bipolar disorders F31, depressive disorders F32–33, eating disorders F50 and conducts disorders F91–92. (Kaltiala-Heino, 2004; Khenissi et al., 2004; Mears et al., 2003; Sourander et al., 1998; Watson et al., 2002).

Suicidality was evaluated using the Spectrum of Suicidal Behaviour Scale (Pfeffer et al. 1988; Pfeffer et al., 1994; Pfeffer et al., 1989) which has been widely used in previous studies in the US (King et al., 1995; Penn, Esposito, Schaffer, Fritz, & Spirito, 2003), as well in Finland (Haavisto et al., 2003; Hukkanen, Sourander, & Bergroth, 2003). Further, the scale has been found to have high inter-ratter reliability (Pfeffer et al. 1989). The scale measures the severity of suicidal behaviours and the scale is from 1 to 5; 1 = no suicidal ideation or behaviour, 2 = suicidal ideas, 3 = suicidal threats, 4 = mild suicide attempts, and 5 = serious suicide attempts. In the present study, suicidality was defined as mild (4) or serious (5) suicidal attempts. All the alternatives had more detailed description in order to help responders to assess the level of suicidal behaviour.

Violent behaviour was evaluated using the Spectrum of Assaultive Behaviour Scale, (Pfeffer, Plutchik, & Mizruchi, 1983; Pfeffer, Plutchik, & Mizruchi, 1986). The scale has been used in previous studies on child and adolescent psychiatric treatment (Hukkanen et al., 2003; Khenissi et al., 2004; Sourander et al. 2002).The scale has been found to have high inter-ratter reliability (Pfeffer, Solomon, Plutchik, Mizruchi, & Weiner, 1985).The scale is 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. In the present study, measures of aggressiveness were defined as less serious violent acts (4) and serious violent acts (5). All alternatives of this scale were also described in greater detail in order to help responders to assess the level of aggressiveness.

The general functioning level was evaluated with the Children's Global Assessment Scale (Bird, Canino, Rubio-Stipec, & Rivera, 1987; Shaffer et al. 1983). CGAS is designed to reflect the lowest level of functioning of a child or adolescent during a specified time period. Values range from 1, representing the most functionally impaired child, to 100, representing the healthiest. The CGAS scale has been found to have an adequate inter-ratter reliability (Green, Shirk, Hanze, & Wanstrath, 1994; Rey, Denshire, Wever, & Apollonova, 1998; Shaffer et al., 1983). Inter-ratter reliability of CGAS has also been tested by Dyborg et al. (2000) and was found to be a sufficiently reliable assessment tool for clinical practice. The CGAS scale has been previously used in Finnish psychiatric inpatient settings (Sourander & Piha 1998; Sourander et al., 2002a) and in residential settings (Hukkanen et al., 2003). In the present study, the cut-off point of 40 was used to indicate a very low general functioning level. Detailed scales with descriptions of the functional levels of inpatients were given to responders.

Statistical analysis

The associations between independent variables and the legal status of inpatients were analysed by binary logistic regression analysis and Pearson's χ^2 test and/or Fisher's exact test. The independent variables were sex, age, family structure, previous treatment, length of stay, out-of home placement, general functioning, violence and suicidality level and psychiatric diagnosis group based on ICD-10 diagnosis.

All the associations between these independent variables and the legal status of inpatients were first analysed with univariate regression analysis. Those variables showing a significant association with the outcome variables in univariate logistic regression analysis were included in multivariate regression analysis. Odds ratios (OR) and 95% confidence intervals (95% CI) were calculated. A p-value of less than 0.05 was interpreted as significant. The statistical analysis was carried out using the SAS system for Windows.

Results

The prevalence of involuntary treatment

Out of 278 adolescents inpatients 29.5% ($n = 82$) had involuntary legal status. Out of the inpatients with involuntary legal status 26% were voluntarily admitted, however the legal status was changed during the treatment period. There were no adolescent inpatients with involuntary legal status in 2 out of the 18 hospital districts at the study point and the prevalence of inpatients with involuntary legal status was found to be extraordinary high in one district (7.7/10,000). When these three districts were excluded, the prevalence was 2.5 patients/10,000/12–17-year-old inhabitants (range 1.4–2.9).

Characteristics of involuntarily treated adolescent inpatients

Fifty-nine per cent of involuntarily treated and 53% of voluntary treated inpatients were girls. Forty-eight per cent of involuntarily treated patients were 16–17-years-old, while only 13% were 12–13 years old. The majority of both voluntarily and involuntary treated inpatients came from families where there were not two biological parents. One half of the inpatients with involuntary legal status and only one out of four with voluntary legal status were planned to be placed out of their home after the treatment period (Table 1).

Almost two out of three involuntarily treated adolescents had a diagnosis of a psychotic disorder, while only 15% of voluntarily treated had this diagnosis. Further, inpatients in involuntary treatment had often attempted suicide (31%) and violent acts (30%) while the respective figures were 9% and 13% among voluntarily treated. Nine per cent of involuntarily treated patients had a substance use disorder compared to only 1% of those voluntarily treated. The proportion of conduct disorder was similar across both groups (26% vs. 24%), while depression was more common amongst those voluntarily treated (26% vs. 18%) (Table 1).

Factors associated with involuntary treatment

Older age, substance use disorder, psychosis disorders, suicidal and violent acts, planned out-of-home placement, and low CGAS scale level (under 40) were significantly associated with

Table 1
Descriptive characteristics of 12–17-year-old inpatients treated involuntarily and voluntarily ($n = 278$)

	Involuntary ($n = 82$) %	Voluntary ($n = 196$) %	p
Variables			
Sex			
Boys	41	47	
Girls	59	53	0.376
Age			
12–13	13	26	
14–15	39	39	
16–17	48	35	0.035
Living with biol. parents	39	44	0.510
Previous inpatient treatment	38	34	0.431
Length of stay >90	55	49	0.625
Out-of-home placement	50	26	<0.001
CGAS <40	49	29	0.009
Violent acts	30	13	0.005
Suicidal acts	31	9	<0.001
Substance use disorders	9	1	0.005
Psychotic disorders	62	15	<0.001
Depressive disorders	18	26	0.156
Conduct disorders	24	26	0.642
Bipolar disorders	5	10	0.105
Eating disorder	5	10	0.105

involuntary legal status in the univariate regression analysis. Sex, family structure, previous hospital treatments, length-of-stay, depressive, conduct-, bipolar- and eating disorders were not significantly associated with involuntary legal status. Furthermore, no significant gender and age interaction was found. In multivariate logistic regression analysis, psychotic disorder, substance use disorders and suicidal acts were independently associated with involuntary legal status (Table 2).

Discussion

In this study, it was found that 21% of the 12–17-year-old inpatients had an involuntary legal status. Kaltiala-Heino (2004) has reported 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 study by Sourander et al. (1998) where the proportion of 12–17 year olds involuntarily treated was 14% in 1993. The study reported here suggests that the proportion of adolescent inpatients with involuntary legal status has increased since this time.

It is noticeable that one out of four inpatients with involuntary legal status had originally been admitted on a voluntary base. The change in legal status during the treatment period has seldom

Table 2
Significant associations of independent variables with involuntary legal status of adolescent inpatients

	Univariate		Multivariate	
	OR	95% CI	OR	95% CI
Substance use disorder	9.5	2.1–47.9**	12.5	2.4–8.0**
Suicidal act	4.3	2.2–8.3***	3.4	1.6–7.6**
Psychosis	3.4	1.9–6.1***	2.9	1.4–6.0***
Violent act	2.9	1.6–5.4**		
Out-of-home placement	2.8	1.7–4.7***		
Gas < 40	2.4	1.4–4.1*		
Age 16–17	1.2	1.0–1.5*		

Results of univariate and multivariate logistic regression analysis.
OR = odds ratio; CI = confidence interval.
*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$.

been addressed in previous research, although such changes take place frequently. Obviously, there are several probable reasons for changes in the legal status of the adolescent inpatients. First, adolescents are not always fully competent to understand the consequences of their decisions about the treatment and, secondly, adolescents are legally under the control of their parents or parent substitutes who may have a powerful influence over the young person's acceptance of the admission. This may cause ''false compliance'', which might change rapidly during the treatment process. Thirdly it is possible that an out-of-home placement, in an unfamiliar ward milieu, is stressful for adolescent inpatients and might worsen their psychiatric disorders during the treatment period. This may increase the need for re-assessment of their legal status. Fourthly, the severity of psychiatric disorders and suicidality of adolescent patients could be especially difficult to assess, and finally, physicians might try to admit minors primarily on a voluntary basis in mutual understanding with the minors, following the guidelines presented in The Act on the Status and Rights of Patients 785/1992, furthermore, involuntary treatment might be a traumatic experience for minors and that is why physicians try to avoid any compulsory interventions including involuntary admission (Kaivosoja, 1999).

The regional differences in the prevalence of involuntary hospital treatment were rather modest. There was only one district in which the prevalence was significantly higher than in other districts and in one district all the patients were in voluntary treatment at the study point. In contrast, a previous Finnish register study on involuntary treatment of adults between the years 1999–2002 found many differences in the prevalence rates of involuntary treatment between hospital districts and psychiatric hospitals (Tuori & Kiikkala, 2004). However, the number of patients in the present study was too low to draw any definite conclusions on the regional differences of involuntary treatment.

Those adolescents having involuntary legal status presented with a wide range of severe psychiatric and psychosocial problems. This group differed in many ways from those patients with voluntary legal status. They generally had very low levels of general functioning and often had

committed frequent violent acts. Psychotic disorders, substance use disorders and suicidal acts were also strongly associated with involuntary legal status.

Involuntary treatment was more common amongst 16–17 years olds, probably because the prevalence of suicidality and psychosis increases in the late adolescence (Roberts, Attkinsson, & Rosenblatt, 1998). However, when age was controlled with the other explanatory variables, it was not found to be independently associated with involuntary legal status. The strong association between psychosis and suicidality, and involuntary legal status is consistent with the criteria of The Mental Act in Finland No. 1116/1991. These, results suggest that the use of involuntary treatment in Finland is consistent with the legal regulations and guidelines underpinning the provision of services for minors in Finland.

The substance use disorder diagnosis was found to be independency associated with involuntary treatment, and nearly all inpatients with this diagnosis ($n = 10$) had involuntary legal status. This suggests that substance use disorder is used, although rarely, as criterion for involuntary treatment. In the previous studies (Kaltiala-Heino, 2003; Kaltiala-Heino & Fjord, 2007; Pirkola & Marttunen, 2001) substance dependence has be regarded as ''a severe mental disorder'' and substance dependence was suggested to been used as a criterion for the involuntary admission of minors, providing that all the other criteria for involuntary admission mentioned in the Mental Health Act are also met.

Half of the adolescents treated on an involuntary basis were planned to have out-of-home placements after discharge. This reflects either the severity of their psychosocial problems or serious family problems, or both. It is obvious, that those adolescents having involuntary legal status and, at the same time waiting for placements in foster or residential care may often have an especially difficult time in the hospital environment. The use of involuntary hospitalisation as substitute for sufficient child social services also violates the principles set out by the Finnish Parliament committee when the Finnish Mental Health Act was accepted (The Ministry of Social and Health Care, 2001).

Although, conduct disorder was a relatively common diagnosis among involuntarily treated patients it was not significantly associated with involuntary legal status. In the study by Kaltiala-Heino (2004) the proportion of conduct disorders was slightly higher (33%) than in this study, both those adolescents treated on an involuntary and voluntary basis. In this study, 30% of patients with involuntary legal status had committed violent acts during their last treatment period. This is less than that noted in a previous study conducted in South-West Finland, where 44% of involuntarily admitted adolescents were found to have committed a violent act during their inpatient treatment period (Khenissi et al., 2004).

Limitations

There are several limitations, which need to be considered when interpreting these results. This is a cross-sectional study and should not therefore be used predicatively, which means that causal conclusions cannot be 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. Additionally, because of five refusals wards it is possible that some

involuntary-treated adolescents were not included in this study. Likewise, some adolescents may have been treated in adult wards. Information about diagnoses was not based on clinical interviews and no structured diagnostic interviews were performed.

When the prevalence rates of involuntary treatment between districts are compared, the low number of involuntary-treated patients hinders drawing any definite conclusions from the results. Likewise, a point prevalence study gives a general picture of the situation of adolescent inpatient treatment services at a certain point of time, and the possibility of accidental variation has to be considered.

Practice implications

Adolescents treated on an involuntary basis were often prone to severe psychiatric and psychosocial problems. Psychosis and suicidality were most strongly associated with individuals treated involuntarily. Regional differences in levels of involuntary treatment were rather modest. Overall these finding provide support for the assumption that involuntary treatment is used within the current legalisation governing child and adolescent mental health services in Finland. The finding that substance use disorder is not common among inpatients while almost all the inpatients having substance use disorder were subject to involuntary legal status challenges those charged with planning services for adolescents with serious drug and alcohol problems.

The whole process of involuntary admissions of adolescents should be the topic of further research endeavours. The finding that one out of four adolescents with involuntary legal status was voluntarily admitted is interesting and raises further research questions about the decision making processes when evaluating adolescents' legal status at the point of admission and during the treatment. Due to the rather frequent use of involuntary treatment among adolescents, the training of staff in managing violent situations and life-threatening behaviour of inpatients should be emphasised. These concerns should be taken into account when considering the staffing patterns such as the staff–patient ratio and the skill mix of the wards.

Due to the lack of knowledge over the long-term benefits and possible negative effects of involuntary treatment, further studies on this topic are required. It would be important to obtain information about adolescents' own subjective experiences of coercive treatment methods. Because of the tendency towards harmonisation of the strategies for mental health care delivery inside European Union, rules and regulations, practical guidelines and further research on the use of involuntary treatment is also needed.

Uncited References

The Amendment of the Mental Health Act in Finland (1423/2001)

References

Batten, D. A. (1996). Informed consent by children and adolescents to psychiatric treatment. *Autralian and New Zealand Journal of Psychiatry*, *30*, 623–629.

Bindman, J., Tighe, J., Thornicroft, G., & Leese, M. (2002). Poverty, poor service, and compulsory admissions in England. *Social Psychiatry & Psychiatric Epidemiology*, *37*, 341–345.

Bird, H., Canino, G., Rubio-Stipec, M., & Rivera, J. (1987). Further measures of the psychometric properties of the Children's Global Assessment Scale. *Archives of General Psychiatry*, *44*, 821–824.

Björngaard, J. H., & Heggestad, T. (2001). Can case-mix explain differences in involuntary admissions? *Tidskrift Norge Laegerfonden*, *121*, 3369–3374 (in Norwegian).

Casmir, K. C., & Billing, S. B. (1994). Competency in adolescent inpatients. *Bulletin of American Academy of Psychiatry and Law*, *22*, 19–29.

Darsow-Schutte, K. I., & Muller, P. (2001). Number of hospitalisations according to German "PsychKG. 2001" legislation has doubled in 10 years. *Psychiatria Praxis*, *28*, 226–229 (in German).

Davis, S., Thornicorft, G., Leese, M., Higgingbotham, A., & Phelan, M. (1996). Ethnic differences in risk of compulsory psychiatric admissions among representative cases of psychosis in London. *British Medical Journal*, *2*, 312, 533–537.

Dyborg, J., Warborg Larsen, F., Nielsen, Byman, J., Buhl Nielesen, B., & Gautre-Delay, F. (2000). The Children's Global Assesment Scale (CGAS) and Global Assessment of Psychosocial Disability (GAPD) in clinical practise—Substance and reliability as judged by intraclass correlations. *European Child and Adolescent Psychiatry*, *9*, 195–201.

Felkins, B., Guthrie, M., & Walch, J. (1991). Voluntary or involuntary status of 50 adolescent inpatients. *Hospital and Community Psychiatry*, *42*, 1062–1063.

Ford, T., & Kessel, A. (2001). Feeling the way: Childhood mental illness and consent to admission and treatment. *British Journal of Psychiatry*, *178*, 384–386.

Green, B., Shirk, S., Hanze, D., & Wanstrath, J. (1994). The Children's Global Assessment Scale in clinical practice: An empirical evaluation. *Journal of the American Academy of Child and Adolescent Psychiatry*, *33*, 1158–1164.

Haavisto, A., Sourander, A., Ellila, H., Valimaki, M., Santalahti, P., & Helenius, H. (2003). Suicidal ideation and suicide attempts among child and adolescent psychiatric inpatients in Finland. *Journal of Affective Disorders*, *76*, 211–221.

Hastle, N. J. (1997). Children and adolescent under 18 years of age admitted to a psychiatric department for adults. *Ungeskr Laerger*, *159*, 4649–4653 (in Danish).

Hukkanen, R., Sourander, A., & Bergroth, L. (2003). Suicidal ideation and behaviour in children's homes. *Nordisk Journal of Psychiatry*, *57*, 131–137.

Kaivosoja, M. (1996). *Compelled to help. A study on the impact of the enactment of Mental Health Act on coercive help practices concerning minors in 1991–1993*. Doctoral theses, Department of Child Psychiatry, University of Turku. Helsinki: Stakes.

Kaivosoja, M. (1999). Coercive help of children and adolescents in Finland. *Psychiatria Fennica*, *30*, 214–224.

Kaltiala-Heino, R. (2003). Treatment against the will of a minor. What does the concept of the Mental Health Act "serious mental disorder "mean in to minors? Reports of The Ministry of Social Affairs and Health, Helsinki, Vol. 7 (pp. 1236–2115).

Kaltiala-Heino, R. (2004). Increase in involuntary psychiatric admissions of minors. *Social Psychiatry & Psychiatric Epidemiology*, *39*, 53–59.

Kaltiala-Heino, R., & Fjord, S. (2007). Severe mental disorder as a basic commitment criterion for minors. *International Journal of Law and Psychiatry*, *30*, 81–94.

Kaltiala-Heino, R., Korkeila, J., Tuohimäki, C., Tuori, T., & Lehtinen, V. (2000). Coercion and restrictions in inpatient treatment. *European Psychiatry*, *May 2000*, 213–219 〈http://www.sciencedirect.com〉.

Khenissi, C., Erkolahti, R., Ilonen, T., & Saarijärvi, S. (2004). Adolescents' involuntary psychiatric treatment. *Psychiatria Fennica*, *35*, 131–141.

King, C. A., Franzese, R., Gargan, S., McGovern, L., Chanziuddin, N., & Nylor, M. W. (1995). Suicide contagion among adolescent during acute psychiatric hospitalization. *Psychiatric Services*, *46*(9), 915–918.

Mears, A., White, R., O'Herlihy, A., Worral, A., Banerjee, S., Jaffa, T., et al. (2003). Characteristics of the detained and informal child and adolescent psychiatric inpatient populations. *Child and Adolescent Mental Health*, *8*, 131–134.

Owens, D., Harrison, G., & Boot, D. (1991). Ethnic factors in voluntary and compulsory admissions. *Psychological Medicine*, *21*, 185–196.

Park, B. (2002). Is legal to be crazy. An ethical dilemma. *Archives of Psychiatric Nursing*, *15*(5), 241–244.

Penn, I. V., Esposito, C. L., Schaffer, L. E., Fritz, G. K., & Spirito, A. (2003). Suicide attempts and self-mutilative behaviour in a juvenile correctional facility. *Journal of American Academy of Child and Adolescent Psychiatry*, *7*, 762–769.

Pfeffer, C., Hurt, S. W., Kaukuma, T., Peskin, J. R., Siefker, C. A., & Nagabhairava, S. (1994). Suicidal episodes and effects of treatment during follow-up. *Journal of American Academy of Child and Adolescent Psychiatry*, *33*, 225–230.

Pfeffer, C., Newcorn, J., Kaplan, G., Plutchik, R., & Mizruchi, M. (1988). Suicidal behaviour on adolescent psychiatric inpatients. *Journal of American Academy of Child and Adolescent Psychiatry*, *27*, 357–361.

Pfeffer, C., Plutchik, R., & Mizruchi, M. (1983). Predictors of assaultiviness in latency-age children. *American Journal of Psychiatry*, *140*, 31–35.

Pfeffer, C., Plutchik, R., & Mizruchi, M. (1986). A comparison of psychopathology in child psychiatic inpatients, outpatients, and nonpatients. Implications for treatment practises. *The Journal of Nervous and Mental Disease*, *174*(9), 529–535.

Pfeffer, C., Plutchik, R., & Mizruchi, M. (1989). Changes in suicidal behaviour in child psychiatric inpatients. *Acta Psychiatria Scandinavia*, *79*, 431–435.

Pfeffer, C., Solomon, G., Plutchik, R., Mizruchi, M., & Weiner, A. (1985). Variables that predict assultiviness in child psychiatric inpatients. *Journal of American Academy of Child and Adolescent Psychiatry*, *26*, 775–780.

Pirkola, S., & Marttunen, M. (2001). The conditions of involuntary treatment of adolescent substance misusers. *Duodecim*, *117*(15), 1591–1597 (in Finnish).

Rey, J. M., Denshire, E., Wever, C., & Apollonova, I. (1998). Three-year outcome of disruptive adolescents treated in day program. *European Child and Adolescent Psychiatry*, *7*, 42–48.

Riecher-Rossler, A., & Rossler, W. (1993). Compulsory admission of psychiatric patients—An international comparison. *Acta Psychiatria Scandinavia*, *87*, 231–236.

Roberts, R. E., Attkinsson, C. C., & Rosenblatt, A. (1998). Prevalence of psychopathology among children and adolescent. *American Journal of Psychiatry*, *155*, 715–725.

Roe, D., Weishut, M. A., Moshe, J., & Rabinowitz, J. (2002). Patients' and staff members' attitudes about the rights of hospitalised psychiatric patients. *Psychiatric Services*, *53*, 87–91.

Salize, H. J., & Dressing, H. (2004). Epidemiology of involuntary placement of mentally ill people across European Union. *British Journal of Psychiatry*, *184*, 163–168.

Sanquienti, V. R., Samuel, S. E., Schwartz, S. L., & Ropetson, M. R. (1996). Retrospective study of 2,200 involuntary psychiatric admissions and readmissions. *American Journal of Psychiatry*, *153*, 3392–3396.

Shaffer, D., Gould, M. S., & Brasic, J. (1983). A Children's Global Assessment Scale (CGAS). *Archives of General Psychiatry*, *40*, 1228–1231.

Shaw, M. (1999). *Treatment decisions in young: The Legal Framework*. London: FOCUS, The Royal Collage of Psychiatrists' Research Unit.

Singh, S. P., Croudace, T., & Beck, A. (1998). Perceived ethnicity and the risk of compulsory admission. *Social Psychiatry and Psychiatric Epidemiology*, *33*, 39–44.

Sourander, A. (1995). *Child psychiatric short-term in-patient treatment. A prospective study on content and outcome*. Doctoral theses, Ser. D, Medica-Odontologica, Annelens Universitas Turkuensis, Faculty of Medicine. University of Turku.

Sourander, A., Ellilä, H., Välimäki, M., & Piha, J. (2002). Use of holding, restraint, seclusion and timeout in child and adolescent inpatient treatment in Finland. *European Child and Adolescent Psychiatry*, *11*, 62–67.

Sourander, A., Korkeila, J. A., & Turunen, M.-M. (1998). Involuntary psychiatric hospital treatment among 2-to17 years old in Finland: A national wide Register Study. *Nordic Journal of Psychiatry*, *52*, 367–371.

Sourander, A., & Piha, J. (1998). Parent, teacher and clinical ratings on admissions to child psychiatric inpatient treatment. A study of cross-informant correlations using CBCL, Rutter scales and CGAS. *Nordic Journal of Psychiatry*, *7*, 365–370.

Ritmannsberger, H., Sartorius, N., Brand, M., Burtea, V., Capraru, N., Cernak, P., et al. (2004). Changing aspects of psychiatric inpatients treatment. A census investigation in five European countries. *European Psychiatry*, *9*, 483–488 ⟨http://france.elevier.com/direct/EUROPSY⟩.

The Act on the Status and Rights of Patients in Finland 785/1992 ⟨http://www.finlex.edita.fi⟩.

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

The Mental Health Act in Finland No.1116/1991 〈http://www.finlex.edita.fi〉.
The Ministry of Social and Health Care. (2001). *Report of the workgroup of organising the involuntary care of minors*. A workgroup report 2001, 7. Helsinki: Stakes (in Finnish).
Tolmac, J., & Hodes, M. (2004). Ethnic variation among adolescent psychiatric inpatients with psychotic disorders. *British Journal of Psychiatry*, *184*, 428–431.
Tuohimäki, C., Kaltiala-Heino, R., Joukamaa, M., Korkeila, J., Tuori, T., & Lehtinen, V. (2003). The use of harmful to others-criterion for involuntary treatment in Finland. *European Journal of Health and Law*, *10*, 183–193.
Tuori, T., & Kiikkala, I. (2004). The use of coercion in psychiatric inpatient treatment. *The Finnish Medical Journal*, *59*(37), 3411–3414 (in Finnish).
UN's Convention of the Rights of the Child. (1989). http://www.unhchr.ch/html/menu3/b/k2crc.htm
Watson, T. L., Bowers, W. A., & Andersen, A. E. (2002). Involuntary treatment of eating disorders. *American Journal of Psychiatry*, *157*, 1806–1810.
Woolston, J. L. (1991). Psychiatric inpatients services for children. In M. Lewis (Ed.), *Child and adolescent psychiatry. A comprehensive textbook*. Baltimore: Williams & Wilkings.
Worall, A., O'Herlihy, A., Banerjee, S., Jaffa, T., Lelliot, P., Scott, A., et al. (2004). Inappropriate admission of young people with mental disorder to adult psychiatric wards and paediatric wards: Cross sectional study of six months' activity. *British Medical Journal (online)* (published 5 April 2004).
Zinkler, M., & Priebe, S. (2002). Definition of mentally ill in Europe—A review. *Acta Psychiatria Scandinavia*, *106*, 3–8.