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ORIGINAL PAPER

Involuntary commitment and detainment in adolescent psychiatric inpatient care

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Abstract
Objective To evaluate whether adolescents committed to psychiatric inpatient care are the most disturbed, and whether psychosocial factors other than psychiatric symptoms are associated with commitment to and detainment in psychiatric care among adolescents.
Materials and methods The case histories of 187 13- to 17-year-old adolescents consecutively admitted to the study clinic were scrutinized with the help of a structured data collection form. Psychiatric, demographic and family-related characteristics of those referred involuntarily ($n = 93$) and voluntarily ($n = 94$), and those detained involuntarily ($n = 42$) and treated on a voluntary basis ($n = 145$) were compared.
Results Involuntary referral and involuntary detainment were associated with psychotic symptoms, temper tantrums and breaking property, involuntary referral also with violent and hostile behaviours and suicidal ideation and talk. They were not associated to family adversities, previous treatment history or sociodemographic factors. The risk for being committed when presenting with aggressive behaviours was greater in girls.
Conclusion Involuntary referral and detainment in adolescents is associated with symptom severity, and not with aspects of the adolescent's living conditions. This is in agreement with the legislation. Gender bias resulting in girls' greater risk of being involuntarily committed if displaying aggressive behaviours may be an ethical and legal problem.

Keywords Involuntary treatment · Involuntary admission · Health services research · Adolescent psychiatry

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Introduction

In Western democracies, individuals basically have a right to make decisions concerning themselves, including decisions concerning their health that experts consider harmful. In psychiatry, however, the patient's wish not to be treated can be overridden both referring to her/his need for treatment and to dangerousness to her/himself or others. Mental illness is considered to alter the patient's understanding of her/his situation and the consequences of her/his choices so that s/he can no longer be deemed competent to make decisions. Therefore, others can, or even must intervene. Compulsory intervention is assumed to result in greater good than no (coercive) intervention [10, 12, 16, 18, 34, 35]. On the other hand, coercive treatment may result in greater harm than good, if "costs" such as violation of autonomy, not improving or even getting worse, or being pushed away from psychiatric services due to negative experiences weigh more than benefits received [21, 28].

In order to be competent to make decisions, a patient must be able to understand information as relevant to her/his situation, process that information and express a choice [2]. Minors are seen by definition incompetent in many ways, and therefore their self-determination is limited, and parents are expected to see to their best interests, for

example, in decision-making concerning health care. However, through the adolescent development, minors gradually gain competence [44], and many ethically problematic decisions around topics such as sexual health, substance abuse treatments and the alike among minors are a subject of debate in everyday clinical practice. It is by no means clear at what age minors can have self-determination in various aspects of health care [3, 4, 6–8, 29, 30, 43]. In mental health care, ethical solutions may be even more difficult to find, because mental disorders impair adolescent development, and the capacity for decision-making may essentially differ from that of same aged peers.

Involuntary psychiatric care in Western legislations is carefully regulated. Mental health legislation usually first defines the conditions which allow involuntary care. This basic criterion, for example mental illness or severe mental disorder, does not alone justify involuntary treatment, but additional criteria are given. These usually comprise need for treatment, dangerousness to self and dangerousness to others, in different combinations, and lack of less restrictive treatment alternative may also be included [1, 13, 31, 39].

In Finland, commitment criteria for minors differ from those for adults. A minor can be involuntarily hospitalised if she/he suffers from a severe mental disorder and, due to the disorder, is in need of treatment because failure to treat her/him would result in a deterioration of her/his severe mental disorder (need for treatment), or would endanger her/his health or safety (dangerousness to self), or other persons' health or safety (dangerousness to others), and other treatment options are inadequate. For adults, the basic criterion is mental illness (psychosis) [34]. Minors can, therefore, be committed with broader criteria [24]. Separate commitment criteria for minors are exceptional [39]. In Finland, the process of admitting a patient for involuntary psychiatric treatment starts from referral for observation (MI), written by a physician independent of the admitting hospital. In the hospital, a physician (a psychiatrist or a trainee) decides about placing the patient under observation, if the commitment criteria appear to be fulfilled. Within 4 days, the psychiatrist in charge of the observation produces a written statement of whether or not the commitment criteria are indeed fulfilled (MII), and finally, the chief psychiatrist in charge decides about detainment (MIII). Regarding minors, the decision is immediately subjected to confirmation by an administrative district court.

Before the 1991 Mental Health Act was passed, there were discussions on whether the broad commitment criteria for minors result in using psychiatric hospitalisation as punishment, or a general solution to adolescent oppositional behaviour [22]. After the Act was passed, involuntary commitment and detainment figures of minors started to increase. The steady increase with considerable regional variation has continued until the present decade [23, 41]. Concerns were immediately raised as to whether the concept of "severe mental disorder" was too vague and imprecise to keep the use of coercion appropriate, and guarantee equality before the law. Much later, guidelines for interpreting the concept of severe mental disorder were produced [22, 24].

Variation in involuntary treatment figures within a legislative area has been explained by variation in the epidemiology of mental disorders, accessibility of psychiatric services and treatment cultures [5, 15, 27, 32, 33, 37]. Involuntary treatment seems to relate not only to severity of the disorder but also to factors such as ethnicity and social deprivation [5, 11, 46]. Research has focused on the involuntary treatment of adults. Few studies have focused on aspects of the involuntary treatment of minors. The ethical and legal aspects of the involuntary treatment of minors are even more complicated than those related to decisions concerning adults, as the decisions involve not only the patient and society (heath care) but also the minor patient's parents, and, because minors are in a process of continuous change, guidelines for decision-making always have to take into account the developmental level of the minor. In Finland, certain minors can actually become targets of involuntary interventions both under the Mental Health Act and under the Child Welfare Act, particularly minors with conduct disorders and substance abuse disorders [9, 24, 34, 41]. Those committed to psychiatric treatment should be the most severely disturbed in psychiatric terms, and family-related issues or previous treatment history should theoretically not influence psychiatric commitment. However, it is not known how well these principles are met in practice.

The aim of this study is to evaluate whether adolescents committed to care are most disturbed in psychiatric terms, and whether other psychosocial factors such as family circumstances and previous treatment history are associated with commitment to and detainment in psychiatric care, by comparing the sociodemographic, family-related and psychiatric characteristics of

1. adolescents referred involuntarily and voluntarily, and
2. adolescents detained involuntarily and those treated on a voluntary basis.

Materials and methods

Setting

Tampere University Hospital provides all adolescent psychiatric inpatient care for the inhabitants of a catchment area of 33 municipalities including both urban and rural

areas. The 13- to 17-year-old population numbers about 32,000. Young people up to 17 years old can be admitted to the two wards with 12 beds each. The lower age limit of patients is not defined in terms of years but it is connected to adolescent development. In practice, young people under 13 are usually admitted to child psychiatric wards if hospitalisation is required.

Data collection

All the admissions to the adolescent psychiatric wards of Tampere University Hospital in 2004–2006 were identified in hospital databases. Adolescents referred involuntarily for the first time during the data collection period were included in the study as involuntary patients. The next voluntarily referred patient after each involuntary commitment was always included as a control. Readmissions occur relatively frequently. If an adolescent was already included in the study, the next admission was included in the data so that nobody was taken into the study more than once. A retrospective chart review with a structured data collection form was involved. The data collection did not include personal interviews or surveys with the patients. The study received approval from the ethics committee of Pirkanmaa Hospital District.

The study group

There were 214 admissions, 106 with voluntary and 108 involuntary referrals, to the study unit in 2004–2006. As each adolescent was included in the study only once, the final study sample comprised 187 adolescent psychiatric patients of whom 93 were referred on an involuntary basis and 94 voluntarily according to the Finnish Mental Health Act. In the hospital, 42 of these adolescents were detained in involuntary treatment, and 145 were treated on a voluntary basis.

Measures

Sociodemographic characteristics collected were age, sex and family situation (living with at least one parent/with foster parent(s)/in child welfare institution/independently). Previous treatment history was recorded whether or not the adolescent had been treated in specialist level adolescent psychiatric community care (yes/no/unclear based on charts) or inpatient care (yes/no/unclear based on charts). Exact details of previous treatment history may not always be found in the charts of the study unit if the adolescent had earlier lived and been treated in another hospital district. When unclear, previous treatment was coded "no".

Information related to the present admission was collected the referring agent (primary care, GP/child or adolescent psychiatrist/other medical specialist), mode of referral (voluntary/involuntary), dates of admission and discharge, and involuntary detainment decision (yes/no).

Symptoms displayed by the adolescents were collected from the referral and the medical charts written during the first 4 days of the stay in the hospital. The period of the first 4 days was selected because this is the length of the observation period (see "Introduction") defined in the Mental Health Act. 21 core symptoms of adolescent inpatients were recorded (yes/no) in a checklist. The list was originally developed as an aid in admission situations and is currently being used in clinical work in the study clinic.

With the help of a structured 10-item checklist, adverse family life events were recorded. The list was originally developed as an aid in admission situations and is currently being used in clinical work in the study clinic. Adverse family life events were recorded from referral and/or medical charts written during the first 4 days of the stay in the hospital, similarly as were the symptoms (see above).

Length of treatment was calculated from the date of admission to discharge.

Psychiatric main diagnoses were collected as given at discharge by the treating psychiatrist according to the ICD-10. Diagnoses are used in the analyses classified as follows: substance abuse related disorders (f10–19), schizophrenia spectrum psychoses (f20–29), mood disorders (f30–39), anxiety disorders (f40–49), somatoform disorders (f50–59), personality disorders (f60–69), mental retardation (f70–79), developmental disorders (f80–89), conduct disorders (f90–99) and non-psychiatric main diagnosis.

Medications started for continuous use and PRN medications were recorded as prescribed during the first 3 days of treatment and at discharge. Medications were classified by therapeutic category level as follows: neuroleptics, antidepressants, antiepileptics, anxiolytes and hypnotics.

Statistical analyses

Frequencies of the features studied are given. Sociodemographic characteristics, previous treatment, referring agents, symptoms, diagnoses and adverse family life events and conditions, continuous and PRN medications prescribed and length of treatment are compared between those referred involuntarily and voluntarily, and those detained in involuntary care and treated on a voluntary basis using cross-tabulations with Chi-square statistics and *t* test where appropriate. Age- and sex-adjusted associations between the studied correlates and involuntary legal status are studied using logistic regression, entering involuntary referral (yes/no) and involuntary detainment (yes/no) in turn as the dependent variable, and sex, age and the correlates each in turn as independent variables.

Age- and sex-adjusted odds ratios with 95% confidence intervals are given for risk of involuntary legal status according to psychiatric symptoms and family adversities.

Results

The hospitalised adolescents

Of the study group, 67 (35.8%) were boys and 120 (64.2%) were girls. Their age ranged from 11 to 17, mean (SD) 15.03 years (1.22), median 15.05 years, mode 15 years. 42.2% were referred by doctors in primary care, 50.5% by child or adolescent psychiatrists and 7.2% by other specialists. Prior to hospitalisation, 74.3% of the adolescents were living with parent(s), 5.7% with foster parent(s), 17.1% in child welfare institutions and 2.9% independently (in boarding schools, communes and with partner). Of the adolescents, 74.9% had previously been treated in specialist level adolescent (or child) psychiatric services and 35.7% had been hospitalised before.

Most common symptoms recorded were depression, suicidal ideation and psychotic symptoms (Table 1). Most common main diagnoses at discharge were mood disorders, schizophrenia spectrum disorders and conduct disorders (Table 2). Most common adverse family life events or conditions were family violence and parental substance abuse problems (Table 3).

Within the three-first inpatient days, 52.9% of the adolescents had been prescribed neuroleptic medication, 15.5% antidepressants, 4.8% antiepileptics, 8.0% anxiolytes and 1.1% hypnotics. PRN medication was prescribed as follows: neuroleptics 55.1%, antiepileptics 0.5%, anxiolytes 40.6% and hypnotics 44.4%. At discharge, 65.8% of the adolescents were on neuroleptics, 15.0% on antidepressants, 5.9% on antiepileptics, 4.3% on anxiolytes and 3.7% on hypnotics.

Mean (SD) length of stay was 47.8 days (56.1), median 28 days.

Correlates of involuntary referral and detainment

Age and sex distributions were comparable among involuntarily and voluntarily referred adolescents, as well as among involuntarily detained and voluntarily treated young people.

Table 1 Prevalence (%) of emotional and behavioural symptoms in involuntarily and voluntarily referred, and involuntarily detained and voluntarily treated adolescent psychiatric patients, and risk (OR, 95% confidence intervals) for involuntary referral/detainment according to symptoms, controlled for age and sex

	Involuntarily referred ($n = 93$)	Voluntarily referred ($n = 94$)	*P*	OR (95% CI)	Involuntarily detained ($n = 42$)	Voluntarily treated ($n = 145$)	*P*	OR (95% CI)
Suicidal ideation and talk	73.1	53.2	**0.004**	**2.0 (1.0–3.8)**	61.9	63.4	0.50	0.9 (0.4–2.0)
Suicide attempt	21.5	18.1	0.34	1.9 (0.5–2.3)	16.7	20.7	0.37	0.7 (0.3–1.8)
Self-harming behaviours	46.2	34.0	0.06	1.4 (0.7–2.7)	35.7	41.4	0.32	0.5 (0.4–1.6)
Psychotic symptoms	55.9	41.5	**0.03**	**1.9 (1.0–3.3)**	78.6	40.0	**<0.001**	**5.6 (2.4–12.9)**
Depression	73.1	76.6	0.35	0.7 (0.3–1.4)	61.9	78.6	**0.03**	**0.4 (0.2–0.9)**
Manic behaviour	5.4	7.4	0.39	0.7 (0.2–2.5)	9.5	5.5	0.27	1.4 (0.4–5.2)
Hostile behaviour	33.3	20.2	**0.03**	**2.3 (1.1–4.8)**	33.3	24.8	0.18	1.9 (0.9–4.2)
Temper tantrums	19.4	10.6	0.07	**2.4 (1.0–5.9)**	31.0	10.3	**0.002**	**5.5 (2.1–14.2)**
Violent behaviour	39.8	17.0	**<0.001**	**4.2 (2.0–9.1)**	35.7	26.2	0.16	2.0 (0.9–4.4)
Breaking property	16.1	4.3	**0.006**	**5.5 (1.6–18.4)**	21.4	6.89	**0.01**	**4.3 (1.5–12.1)**
Inappropriate sexual behaviour	10.8	5.4	0.14	2.1 (0.6–6.6)	4.8	9.0	0.30	0.5 (0.1–2.2)
Alcohol abuse	34.4	29.8	0.30	1.2 (0.6–2.4)	23.8	34.5	0.13	0.6 (0.2–1.2)
Substance use	16.1	11.7	0.25	1.3 (0.6–3.2)	11.9	14.5	0.45	0.7 (0.2–2.1)
Truancy/school refusal	33.3	40.4	0.20	0.8 (0.4.1.5)	28.6	39.3	0.14	0.6 (0.3–1.3)
Property crimes	8.6	10.6	0.41	0.8 (0.3–2.4)	7.1	10.3	0.39	0.8 (0.2–3.0)
ED symptoms	23.7	23.4	0.55	0.9 (0.4–1.8)	31.0	21.4	0.14	1.7 (0.7–3.7)
Isolation	5.4	5.3	0.62	1.3 (0.3–4.9)	7.1	4.8	0.40	1.6 (0.4–6.9)
Impulse control problems	3.2	3.2	0.65	0.9 (0.2–5.1)	2.4	3.5	0.59	0.7 (0.1–6.3)
Running away	16.1	11.7	0.25	1.7 (0.7–4.1)	21.4	11.7	0.09	2.2 (0.9–5.6)
Attention problems	–	1.1	0.53	1.3 (0.5–3.5)	–	0.7	0.78	–
Anxiety	7.5	11.7	0.24	0.6 (0.2–1.6)	9.5	9.7	0.62	0.8 (0.3–2.8)
Other	22.6	41.5	0.004	0.4 (0.2–7.6)	23.8	34.5	0.13	0.6 (0.3–1.3)

Table 2 Main diagnoses of the hospitalised adolescents

Involuntarily and voluntarily referred, and involuntarily and voluntarily detained adolescents are compared (%)

	Involuntarily referred ($n = 93$)	Voluntarily referred ($n = 94$)	P	Involuntarily treated ($n = 42$)	Voluntarily treated ($n = 145$)	P
Main diagnosis						
f10–19	1.1	–	0.50	–	0.7	0.76
f20–29	23.7	19.1	0.28	54.8	11.7	<0.001
f30–39	38.7	38.3	0.54	19.0	44.1	0.002
f40–49	5.4	8.5	0.29	2.4	8.3	0.17
f50–59	3.2	6.4	0.25	7.1	4.1	0.33
f60–69	1.1	2.1	0.50	–	2.1	0.46
f70–79	–	–	–	–	–	–
f80–89	6.5	3.2	0.24	2.4	5.5	0.36
f90–99	19.4	19.1	0.56	14.3	20.7	0.25
Non-psychiatric	1.1	3.2	0.32	–	2.8	0.36

Table 3 Prevalence (%) of adverse family life events or conditions among the hospitalised adolescents among involuntarily and voluntarily referred, and involuntarily and voluntarily detained adolescents, and risk (OR, 95% CI) of being involuntarily referred and detained according to family adversities, controlled for age and sex

	Involuntarily referred ($n = 93$)	Voluntarily referred ($n = 94$)	P	OR (95% CI)	involuntarily detained ($n = 42$)	Voluntarily treated ($n = 145$)	P	OR (95% CI)
Event/condition								
Family violence	18.3	14.9	0.36	1.3 (0.6–2.8)	16.7	16.6	0.58	1.2 (0.4–3.0)
Parental substance use problems	14.0	20.2	0.17	0.6 (0.3–1.8)	**4.8**	**20.7**	**0.009**	**0.2 (0.04–0.8)**
Divorce or separation	4.3	7.4	0.27	0.5 (0.1–2.0)	4.8	6.2	0.53	0.9 (0.2–4.5)
Bereavement	15.1	10.6	0.25	1.6 (0.6–4.0)	4.8	15.2	0.06	0.3 (0.1–1.2)
Parental severe somatic illness	5.4	2.1	0.22	2.9 (0.5–15.4)	2.4	4.1	0.51	0.6 (0.1–5.1)
Parental severe mental disorder	12.9	10.6	0.40	1.6 (0.6–4.1)	11.9	11.7	0.58	1.2 (0.4–3.5)
Severe financial difficulties, unemployment, etc.	4.3	5.3	0.51	0.7 (0.2–3.0)	4.8	4.8	0.67	1.2 (0.2–6.6)
Severe problems related to siblings	8.6	5.3	0.28	2.0 (0.6–6.7)	4.8	7.6	0.41	0.7 (0.2–3.5)
(Suspected) sexual abuse within the family	3.2	4.3	0.51	0.6 (0.1–2.7)	2.4	4.1	0.51	0.5 (0.1–4.0)
Other[a]	23.7	20.2	0.35	1.0 (0.5–2.2)	14.3	24.1	0.12	0.5 (0.2–1.3)

[a] Suicide of a relative, severe illness of a relative, unsatisfactory relationship with parent(s), problems in right to meet a parent, psychiatric problems of a dating partner, sexual abuse by someone not from the nuclear family (uncle, mother's ex boyfriend)

Involuntarily referred adolescents were more frequently referred by primary care level (54.9 vs. 29.2%) or non-psychiatric specialities (12.1 vs. 2.2%), whereas voluntarily referred young people were more commonly referred by child or adolescent psychiatrists (68.5 vs. 33.0%) ($P < 0.001$). Prior to index hospitalisation, involuntarily and voluntarily referred adolescents lived equally frequently with parents, foster parents, in institutions and independently. Of those referred involuntarily, 67.7% had previously received psychiatric community care, of those referred voluntarily, 81.9% ($P = 0.02$). There were no differences in previous psychiatric inpatient treatment received according to legal status at referral. Similarly, young people detained involuntarily had more frequently been referred by primary care (57.9 vs. 38.0%) or non-psychiatric specialists (13.2 vs. 5.6%), whereas those who were not detained had mainly been referred by adolescent psychiatrists (56.3 vs. 28.9%) ($P = 0.01$). Decision on detainment was unrelated to living conditions or previous psychiatric treatment of the adolescent. Controlling for age and sex did not alter the associations of referring agent, living conditions and previous psychiatric treatment with legal status at referral or during treatment.

Involuntarily referred adolescents presented more often with suicidal ideation and talk, psychotic symptoms, hostile and violent behaviour towards people and property

breaking than adolescents referred on a voluntary basis (Table 1). Being involuntarily detained was associated with psychotic symptoms, temper tantrums and property breaking, whereas depression was more common among the voluntarily treated patients (Table 1). Controlling for sex and age did not level out any of the associations detected in univariate level between legal status and psychiatric symptoms, but when age and sex were controlled for, temper tantrums were also associated with involuntary referral.

Psychiatric diagnostic groups were not statistically significantly associated with being involuntarily referred. Involuntarily detained young people were more often diagnosed with schizophrenia spectrum disorders (f20–29), and less frequently with mood disorders than those treated on a voluntary basis (f30–39) (Table 2). Controlling for age and sex did not alter the associations between psychiatric main diagnosis and involuntary detainment [odds ratios controlling for sex and age: schizophrenia group 8.6 (95% CI 3.8–19.6), mood disorders 0.3, 95% CI 0.1–0.7].

Involuntary referral of the adolescent was not associated with any of the adverse family life events or conditions studied. Among those detained and not detained, adverse family life events and conditions were otherwise equally frequent, but parental substance abuse problems were more common among those treated on a voluntary basis (Table 3). Adjusting for sex and age confirmed lack of associations between adverse family life events and legal status at referral or during care.

Continuous medication prescribed during the first 3 days of treatment did not otherwise differ between those committed involuntarily and those referred voluntarily, but anxiolytes were more often prescribed to the involuntarily referred adolescents (11.8 vs. 4.3%, $P = 0.05$). Of the involuntarily referred, 54.8% were prescribed PRN anxiolytes, of the voluntarily referred 26.6% ($P < 0.001$), and PRN hypnotics were prescribed to 52.7% of the involuntarily and 36.2% of the voluntarily referred ($P = 0.02$). Medication at discharge did not differ according to legal status at referral. These associations did not change when adjusted for sex and age.

Those detained in involuntary care were more often put on neuroleptic medication (71.4 vs. 47.6%, $P = 0.005$) and on anxiolytes (26.2 vs. 2.8%, $P < 0.001$) at the beginning of treatment than those treated on a voluntary basis. Those detained were also more frequently prescribed PRN anxiolytes (60.0 vs. 32.4%, $P < 0.001$) and PRN hypnotics (59.5 vs. 40.0%, $P = 0.02$) than those treated on a voluntary basis. At discharge, those detained in involuntary care were more commonly on neuroleptics (83.3 vs. 60.7%, $P = 0.004$) and anxiolytes (14.3 vs. 1.4%, $P = 0.002$), whereas those treated on voluntary basis were more commonly on antidepressants (17.9 vs. 4.8%, $P = 0.02$). The associations between medication and involuntary detainment persisted after controlling for sex and age.

Length of treatment did not differ according to type of referral (involuntary/voluntary), but those detained involuntarily stayed longer than those not so detained [82.0 days (69.3) vs. 37.8 days (47.5) ($P < 0.001$)].

Are the associations between symptoms and coercion different among girls and boys?

When multivariate associations between the correlates studied of involuntary referral/detainment were analysed in logistic regression controlling for age and sex, sex emerged as a significant risk factor for involuntary referral in combination with symptoms related to aggression: hostility, temper tantrums, violence against people and breaking property. Therefore, interaction of sex and these four externalising symptoms were further explored by entering interaction terms of these symptoms and sex each in turn as independent variables in logistic regression. Being involuntarily referred was entered as the dependent variable. The interaction terms were entered controlling for age and main effects of sex and the symptom in questions. The interaction term of sex and hostility emerged as significant ($P = 0.03$). Interaction term of temper tantrums emerged as nearly significant ($P = 0.06$). The interaction term of violent behaviour and sex emerged as significant ($P = 0.001$). The interaction term of breaking property and sex was also significantly associated with being involuntarily referred ($P = 0.02$).

The significant effects of the interaction terms necessitated further analysis separately among girls and boys and the association between these four externalising symptoms and being involuntarily referred. The separate analyses revealed that the risk of being committed to psychiatric care according to these aggression-related symptoms concerned almost exclusively girls. Among boys alone, hostility was not significantly associated with involuntary referral (OR 1.5, 95% CI 0.6–3.9), but among girls it was (OR 5.9, 95% CI 1.7–20.0). Among boys, temper tantrums did not emerge as associated with risk of being committed (OR 1.1, 95% CI 0.3–4.1), but among girls, a significant risk emerged (OR 4.8, 95% CI 1.3–17.1). Violent behaviour was associated with risk of being committed among boys (OR 3.3, 95% CI 1.1–9.6), but the risk was stronger in girls (OR 6.2, 95% CI 2.0–19.4). Breaking property was also only significantly associated with being involuntarily referred among girls (OR 5.1, 95% CI 1.2–22.1) (among boys OR 5.7, 95% CI 0.64–50.46). Finally, the sex-specific associations between aggression-related symptoms and involuntary referral were further studied controlling for main diagnostic groups. Diagnostic groups (f00–09, f10–19, f20–29, etc.) were added into the analyses separately

each in turn (present/not present). Also controlled for main diagnosis, hostility, temper tantrums and breaking property, was only associated with involuntary referral among girls and violent behaviour in both sexes.

No such emergence of sex as significantly related to involuntary referral or detainment was found in any other analyses, when the associations detected in cross-tabulations were controlled for age and sex.

Discussion

Adolescents referred involuntarily to psychiatric treatment were more commonly referred by physicians not specialised in adolescent psychiatry or child psychiatry. They presented more often with suicidal ideation and talk, psychotic symptoms, hostile and violent behaviour towards people and property breaking than adolescents referred on a voluntary basis, and at the beginning of the inpatient treatment they were more commonly prescribed PRN minor tranquilisers than those referred voluntarily. Adolescents who were detained in psychiatric treatment were similarly more often originally referred by physicians other than adolescent (or child) psychiatrists. They displayed more commonly psychotic symptoms, temper tantrums and property breaking. They were diagnosed with schizophrenia spectrum disorders, and they were more frequently medicated both with minor and major tranquilisers than adolescents treated on a voluntary basis.

Aggressive and psychotic symptom profiles, heavier medications and diagnoses of severe mental illness suggest that adolescents referred involuntarily to psychiatric hospital, and particularly adolescents detained on an involuntary basis, were more seriously disturbed than voluntary patients, which should be the case according to the Mental Health Act. Previously, involuntary psychiatric commitment of adolescents has been associated with conduct disorders and schizophrenia spectrum disorders, suicidal behaviour and alcohol and substance abuse [14, 20, 23, 26]. However, earlier research is very scarce and does not allow for much international comparison. More research is clearly needed on the very basic aspects of adolescent involuntary treatment, even if our results seem to confirm that it is the severity of the illness and not external conditions that thresholds compulsory interventions.

The route to psychiatric hospital through primary care or somatic specialities may also suggest that involuntarily committed and detained adolescents were referred in acute situations where adolescent psychiatric consultation could not be waited for. Involuntary referral could, of course, be due to inferior skills of non-psychiatrists to assess the adolescent or negotiate an agreement, but it is noticeable that within the specialist level service those referred by non-psychiatrists were also more commonly detained. This rather points to the actual severity of disturbance than lack of skills in the referring agent.

Living conditions and family circumstances including family-related factors that might negatively influence the adolescent's mental health were not as such associated with involuntary referral or detainment. Even if adolescent mental disorders are influenced by family factors, and psychiatric assessment of an adolescent should always include assessment of family and network circumstances that may support the adolescent development and functioning or also threaten deterioration [25, 42], it is still important that decisions on compulsory interventions under the Mental Health Act take place focusing on the adolescent's symptoms and disorder, not family circumstances. Involuntary referral and detainment were also not related to previous treatment history. In adult studies it has sometimes been suggested that stigmatisation, or labelling, by a patient's previous treatment history may guide the decisions of clinicians even more than the patient's current mental status [17, 38, 40], but in the present study among adolescents, no support was found for this assumption.

Those detained involuntarily also stayed longer in the hospital than those treated on a voluntary basis. Mode of referral (voluntary/involuntary), however, did not predict length of stay. This suggests that the ideal of independent assessments by several doctors stipulated in the Finnish Mental Health Act truly takes place, and the initial act of involuntary referral does not determine the patient's route within hospital care more than her/his clinical status. Similar observation has been reported of adult psychiatric inpatient treatment in Finland [45].

In bivariate analyses, being involuntarily referred/detained were not associated with the adolescent's age and sex, but in multivariate analyses, a greater risk for involuntary referral among girls emerged when several externalising symptoms were entered in the analysis with age and sex. Girls with disruptive behaviours have a greater risk of being committed to involuntary care than boys with similar behaviours. It is a serious ethical and legal problem if similar symptoms result in different interventions in girls and boys. There may be a risk of unnecessarily depriving girls of their liberty when they break rules in a way that is accepted for boys. On the other hand, there is also the risk that severe symptoms in boys will be ignored and treatment they need is denied.

Methodological considerations

The present study was based on register data. It suffers no bias due to refusal to participate. The retrospective study design ensures that practices of interest were not influenced by the study, as might be a risk in a prospective study on

ethically problematic topics such as involuntary treatment. The material collected was readily available for all the cases, and it was recorded in a structured way, which adds to the data quality. Symptoms and family risk factors were rated as present if clearly so stated in the medical charts. It is possible that the actual symptoms of the subjects were more than recorded in the data, as in case of uncertainty or no explicit comments on certain types of symptoms, they were rated as not present. The same concerns family risk factors. It is also noticeable that only symptoms and family adversities recorded in the referral and/or the medical charts during the first 4 days of the inpatient stay were studied, in order to focus on information that may influence decision-making about involuntary detainment. It is possible that later during the adolescent's inpatient treatment, more family adversities were uncovered and new symptoms emerged that may have influenced, for example, the length of stay. These would remain beyond the reach of the present study. However, if there were family adversities in a referred adolescent's life that were not mentioned in the referral and/or medical charts, it is unlikely that they would directly have influenced the assessing doctors' decision-making, even if they of course may have influenced the adolescent's symptoms.

Diagnoses were recorded as given by the treating psychiatrists according to ICD-10, which is the diagnostic classification officially used in Finland. While structured research diagnosis could have added to the reliability of the diagnostic information, it has nevertheless been shown that diagnoses set in Finnish specialist level psychiatric health services are adequately reliable, particularly as to the most severe diagnoses [19, 36].

Conclusion

Adolescents referred to and detained involuntarily in psychiatric inpatient care in Finland suffer from more severe disorders and display psychotic and aggressive symptoms more often than those hospitalised on a voluntary basis. This is in agreement with the regulation of involuntary inpatient care in the Finnish Mental Health Act. Adolescent involuntary hospitalisation is not associated with adverse family circumstances, which indeed, if very severe, should be dealt with through the child welfare legislation, and neither is it associated with previous treatment history and stigma brought about by it. However, the inequality between sexes demonstrated by the greater risk of girls to be involuntarily hospitalised if displaying externalising symptoms may be a serious ethical problem and needs to be addressed in service quality control. There is a risk of unnecessarily subjecting girls to coercion, but also of ignoring severe symptoms in boys.

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