

Original article | Published 27 August 2010, doi:10.4414/smw.2010.13092

Cite this as: Swiss Med Wkly. 2010;140:w13092

# Mental disorders in the paediatric setting – results of a Swiss survey

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## Summary

**Theoretical background:** Mental disorders emerge in childhood and adolescence and are important risk factors for mental disorders in adolescence and adulthood. Since paediatricians are typically the first to see children with psychological problems, the aim of this study was to obtain a survey of mental disorders of children in paediatric settings.

**Methods:** 250 paediatricians completed a questionnaire especially developed for this study, which asked for the estimated frequency and type of mental disorders in their patients, assurance in identifying mental disorders, diagnostic and treatment strategies used for these disorders and requests for training.

**Results:** Paediatricians estimated that 15% percent of children in their paediatric setting reported psychological difficulties. The most frequent mental disorders indicated by the paediatricians were attention-deficit hyperactivity disorder (ADHD), anxiety disorders, depression and aggressive disorders. Comfort in assigning diagnoses for anxiety disorders and depression was lower than for externalizing disorders. Counselling was the treatment approach most often reported in treating mental disorders, followed by psychopharmacological medication. Psychotherapy, however, was reported very rarely. Paediatricians' wish for continuing education included diagnostics and screening instruments for psychological problems in childhood.

**Conclusions:** Estimated prevalence rates reported by paediatricians are comparable with rates in epidemiological studies. As paediatricians are often confronted with psychological problems, they have the important role in recognising the early signs of mental problems.

**Key words:** mental disorders; childhood; paediatric; psychological problems

## Mental disorders in the paediatric setting – results of a Swiss survey

Childhood is a period during which profound changes occur in physical, cognitive and social development. However, this is also the time where most mental disorders have their age of onset. A study conducted by Kessler and colleagues [1] showed retrospectively that the median age of onset for anxiety disorders, attention deficit hyperactivity disorder (ADHD), and oppositional deviant disorder was 11 years. These data are supported by a prospective study [2], indicating that 50% of young adults (26 years of age) with a current diagnosis were diagnosed before 15 years of age. This study investigated diagnoses at 11, 13, 15, 18, 21 and 26 years of age. Furthermore, it has been shown that mental disorders in childhood are stable and are not grown out of [3, 4]. In fact, mental disorders in childhood are a significant risk factor for the development of mental disorders in adolescence and adulthood [5], have long-term economic costs (unemployment, mental health services) [6] and imply a significant decrease of life quality for the child as well as for their families [7, 8].

Different studies using representative community samples indicate that around 20% of children have a current mental disorder [9–11]. In childhood, anxiety disorders are the most common disorders followed by ADHD and aggressive disorders. Comparable frequencies have also been found in epidemiological studies, which have investigated prevalence rates of mental disorders in childhood and adolescence in paediatric settings. Briggs-Gowan et al. [12] found a prevalence rate of 16.8% for mental disorders in children aged 5 to 9 years old. The prevalence rate of any DSM-III-R Axis I mental disorder in children between 2 and 5 years of age was 21.4% [13]. Furthermore, Chavira et al. [14] found a prevalence rate of 10% for anxiety disorders in children between the ages of 8–17. In a study by Williams et al. [15], 47 standard interviews with paediatricians were conducted to assess the extent of diagnoses and treatment of behavioural health problems. Paediatricians estimated that around 15% of children in their practice had a behavioural health problem.

However, according to an American study [6], only 23.5% of the children and adolescents rated as having mental health problems really get professional help. This has also been shown to be the case in German speaking areas [16]. Professional help seeking may depend on country specific factors such as the frequency of therapists or payment for psychotherapy [17]. However, the quality of treatment is yet another aspect. It could be shown that the median delay in help-seeking was 8 years and that these delays are particularly long in cases of an early age of onset [18]. In addition, children with externalizing problems get more professional help than children with other problems [19].

Despite substantial disability associated with mental disorders in children and the availability of effective therapies for most mental disorders in childhood [20], improvement in the recognition of mental disorders in children seems to be important. In obesity and regulation disorders, psychological factors play an important role and have psychological disorders as a consequence if left untreated [21, 22]. The public health importance of primary care settings in the identification and management of common paediatric mental disorders is well recognised. Within this setting, paediatricians play a major role in the recognition of mental disorders in childhood and adolescence. Paediatricians are typically the first contact person for children or adolescents with psychological problems and their regular observation of the child's development is a good basis for the judgment of the child's presented problems as normal, or as an abnormal state or behaviour that may require treatment. At the same time, the identification and especially the treatment of mental disorders requires specific knowledge and strategies that are usually not included in paediatricians' training.

The aim of the present study was to assess paediatricians' awareness of mental disorders in their patients. Furthermore, paediatricians' needs and requests for diagnosing and handling mental disorders in children and adolescents were investigated.

## Methods

### Questionnaire

A questionnaire<sup>1</sup> was developed especially for the present study. It consisted of questions concerning demographics, estimated percentage of children in paediatric practices who have mental disorders, tools used to make diagnoses, and requested needs for additional educational training on diagnostics and treatment of mental disorders in childhood. Paediatricians were asked, in an open-ended question, to indicate which psychological problems they frequently identify. In a second step, they were asked to indicate on a Likert-scale ranging from 0 to 4, with 0 being "never" and 4 being "very often", the frequency of the most common mental disorders (e.g., anxiety disorders, ADHD, obesity, sleep disorders) encountered in their practice during the last year. Each diagnostic response was followed by a question concerning the level of comfort in assigning a diagnosis on a 0–100% scale (0% = not at all comfortable, 100% = entirely comfortable). The paediatricians were then asked if they provided treatment for psychological problems in children and/or their families. If they answered yes, they were asked to describe types of interventions (counselling, psychotherapy, medication or others) they offer to families depending on the specific mental disorder. Furthermore, they were asked for referral reasons and to whom they refer a child with mental disorders. Finally, they were asked which topics they would be interested in to get additional training on mental disorders in childhood.

### Procedure

In a pilot study, the questionnaire was sent to all paediatricians in the region of Basel, whereby 39 of the 80 questionnaires were returned. Due to the results of the pilot study and the great demand for further education within the area of mental disorders in childhood, the questionnaire was adapted and then mailed with the journal "Paediatrica" to all members of the Swiss Paediatric Society. About 1500 questionnaires were mailed and 250 were returned (160 German, 83 French, 7 Italian), leading to a return rate of 16.7%.

### Subjects

A total of 250 paediatricians participated. The sample consisted of 126 women and 110 men (14 missing data). The mean age was 48 years (Range: 30–80). 62% of the participating paediatricians worked in their own practice, 24% in a clinic, and 14% in a practice and clinic.

<sup>1</sup> The questionnaire can be obtained from the first author.

## Results

### Frequency of psychological problems and used diagnostic tools

Paediatricians estimated the mean percentage of children with psychological disorders seen in their practice at 15% (SD = 13.85, Range of estimations 0–90%). The percentage of internalizing disorders (anxiety and affective disorders) were estimated at around 7% (SD = 8.36, Range 0–80%), and externalizing disorders (ADHD, conduct disorder) at around 9% (SD = 8.54, Range 0–60%). Paediatricians indicated that maladjusted, disturbing behaviours, school problems, and familial and social problems are seen as the most frequent indicators that the children's presenting symptoms might be caused by psychological problems.

The paediatricians indicated in the open-ended question that the most frequent mental disorders seen in their practice were ADHD (reported 98 times out of 224 responses), followed by anxiety disorders (26 reports), and aggressive

disorders (22 reports). These results indicate that ADHD was reported four times as frequently as other mental disorders. In a second step, the frequency and comfort in assigning diagnoses of specific disorders was assessed.

As can be seen in table 1, a high frequency and comfort in assigning diagnoses was indicated for obesity, and sleep and regulation disorders. The lowest comfort in assigning diagnoses was found for anxiety and depression with 61% (SD = 27.5) and 54% (SD = 27.4), respectively.

The vast majority of paediatricians (88%) stated that they would assign diagnoses of mental disorders. Furthermore, 59% of the paediatricians mentioned the usage of diagnostic tools and classification systems in assigning diagnoses. The most frequent instruments mentioned were different measures for ADHD (e.g. Brown [23], Connor questionnaires [24], Ruf assessment [25]) and the two diagnostic classification systems ICD (WHO) and DSM (APA). Results indicated that when diagnostic instruments were used, often several tools were applied simultaneously. In 93% of the cases, paediatricians used at least 2 diagnostic instruments to diagnose mental disorders.

	Mean (SD) Range: 0–4	Comfort in 0–100% (SD)
Obesity	2.7 (.91)	95.9 (12.7)
Sleeping Disorders	2.6 (.99)	81.7 (20.7)
Regulation Disorders	2.6 (1.15)	78.6 (23.6)
ADHD	2.4 (.97)	75.1 (23.1)
Aggressive Disorders	2.3 (1.48)	71.4 (25.8)
Elimination Disorders	1.8 (.99)	74.1 (31.2)
Eating Disorders	1.8 (1.02)	72.2 (28.2)
Anxiety Disorders	1.6 (.88)	60.9 (27.5)
Depression	1.4 (.84)	54.0 (27.4)
Tic Disorders	1.2 (.76)	71.3 (32.1)

Note. Frequency: 0 = never, 1 = seldom, 2 = sometimes, 3 = often, 4 = very often

## Treatment

Regarding treatment, 90% of the paediatricians responded that they provided some kind of treatment for the child or the family. Of these treatments, 87% consisted of counselling, 60% of psychopharmacological treatment and 45% of psychotherapy. Often various approaches were combined. Paediatricians indicated for which mental disorders they provide the treatment approaches (counselling, psychopharmacology, and psychotherapy) themselves and for which mental disorders they refer the child/family to experts for mental disorders.

*Counselling* was offered by the paediatricians for different disorders such as sleeping disorders (14%), ADHD (14%), eating disorders (14%), regulation disorders (13%), depression (12%) and various other mental disorders (e.g., obesity, aggressive disorders, anxiety disorders, etc.). The kind of setting preferred was to see the child and the parents together (69%).

The majority of the paediatricians stated that an indication for *psychopharmacological treatment* was a diagnosis of ADHD (55%), where methylphenidate was favoured. Furthermore, psychopharmacological treatment was indicated for depression (19%) using Jarsin. Different medications were described for sleeping disorders and severe aggression. No other psychological problems were mentioned for psychopharmacological treatment.

Paediatricians offered *psychotherapy* themselves if one of the following disorders was present: sleeping disorders (21%), eating disorders (15%) and obesity (13%). Regarding the setting, treatment with the child and parents together was again preferred (75%). When paediatricians offered psychotherapy themselves, they used behavioural therapy (33%), family therapy (28%) or talk therapy (18%).

The paediatrician referred the child or the family for psychotherapy when the following disorders were assumed to exist: depression (44%), anxiety disorders (32%), ADHD (25%) or eating disorders (25%). Furthermore, children or families would be referred when the disorder is severe, the paediatrician is overloaded or unfamiliar with the disorder, or when the child or the family will get better treatment through referral. Most referrals are to child and adolescent psychiatrists (33%), to child and adolescent psychotherapists (24%), educational counselling (21%), and school psychologists (14%).

Paediatricians indicated to be moderately informed about healthcare services and 95% of the paediatricians stated the wish for further education regarding mental disorders in childhood. Greatest interest was indicated for diagnostics and screening instruments. Furthermore, they were interested in gaining more information about anxiety disorders, depression and the interaction with parents with mental disorders themselves.

## Discussion

Summarising the results of the present study, it can be highlighted that paediatricians commonly report of mental disorders in children. The percentage of psychological problems in paediatrics was estimated at 15%. Thus, the estimation

of the frequency of psychological problems in the paediatric population of Switzerland was almost in the range of other epidemiological studies conducted in paediatric settings, ranging between 16 and 21% [12–14].

Internalizing disorders were estimated marginally less frequently (7%) than externalizing disorders (9%). However, when paediatricians were asked in an open ended question to name the most frequent mental disorders seen in their practice, ADHD was named four times more frequently than other mental disorders. This result may be explained by another finding of the present survey that paediatricians felt considerably less comfortable in assigning diagnoses of anxiety and depressive disorders compared to externalizing disorders. This is a result that is very much in line with the findings of the study by Williams [15], who found that paediatricians most frequently assigned diagnoses of ADHD and felt comfortable in the assignment of the diagnosis. On the other hand, internalizing disorders were assigned more conservatively and the paediatricians felt less comfortable when assigning diagnoses. The replication of Williams's findings is important and may provide an explanation for the under-treatment or delayed treatment of internalizing disorders reported in other studies [19]. Since treatment of mental disorders is based on a diagnosis, the assignment or non-assignment of a diagnoses have important implications for access to treatment. Since ADHD is well identified by paediatricians, children with ADHD will receive treatment quicker, while children with internalizing disorders are identified less well and are referred to treatment less often.

Another interesting finding of the present study showed that when paediatricians were asked about the general frequency of mental disorders, ADHD, anxiety disorders, depression and aggressive behaviours were reported most frequently. However, when the paediatricians were asked to rate the frequency of specific mental disorders from a list, obesity, and sleep and regulation disorders were reported as common as well. A possible explanation may be that these disorders are not primarily seen as psychological disorders, even though behavioural interventions for these disorders are available and effective [26–29].

Regarding treatment approaches, counselling was offered by the paediatricians for a wide range of mental disorders, while psychopharmacological treatment was indicated primarily in cases of ADHD (55%), and to a lesser degree in depression (19%) and aggressive behaviour. Thus, ADHD was seen as a strong indicator for psychopharmacological treatment. Furthermore, no paediatrician reported to offer psychotherapy in case of ADHD and only 25% paediatricians judged a diagnosis of ADHD as a reason for referral to trained psychotherapists. However, this practice is not in line with the clinical practice guidelines that recommend stimulant medication only as a second treatment step when evidence based psychotherapy (i.e. behaviour therapy) was not successful or when ADHD symptoms causes severe impairment for the child and it's environment. Furthermore, the guidelines recommend stimulant treatment only in combination with behaviour therapy [30, 31].

In general, psychopharmacological treatment was indicated more often than psychotherapy by paediatricians (60% vs. 45%). This stands in contrast to clinical practice guidelines, which recommend behavioural psychotherapy as the treatment of choice for the vast majority of mental disorders. This result may be explained by the fact that (1) medications are easier to provide, (2) child and adolescent psychotherapists who provide evidence-based treatments are rare and that (3) paediatricians are typically not trained in evidence-based psychotherapy.

The most frequent treatment indication for anxiety and depressive disorders was a referral to psychotherapy with external experts. This may be explained by the result that paediatricians do not feel familiar enough with diagnoses of anxiety and depressive disorders. However, we highlight the need for paediatricians to more easily recognise internalizing disorders, since anxiety disorders in particular are the most common disorders in childhood and, when left untreated, remain a major risk factor for the development of further mental disorders in adolescence and adulthood [5, 32, 33]. When a paediatrician is not comfortable in assigning diagnoses and treating anxiety and depression disorders himself, but is able to recognise these disorders, referring patients to an external expert is an important step. It could be shown that a paediatric referral is an important predictor of public health service use [34], so that even when the paediatrician is not comfortable with anxiety and depression disorders, children may get early and adequate treatment.

The great amount of interest in further education indicates that paediatricians are well aware of the importance of mental disorders. The wish for further education, especially regarding diagnostics and screening instruments for mental disorders in childhood, reflect that they perceive the identification of mental disorders as difficult. The survey showed that 59% of the paediatricians already use standardised procedures for the assessment of mental disorders. The most widely used diagnostic instruments that focus on ADHD, the Connor and the Brown questionnaires, are widely used and well evaluated [23, 24]. However, no psychometric properties are currently available for the Ruf questionnaire [25, 35]. From a public health perspective, it is important to provide training for paediatricians in evidence-based diagnostic tools to assure reliable and valid assessments of mental disorders. Due to time pressure, most paediatricians will not be able to conduct evidence-based treatments in their practice. Thus, it is essential that paediatricians receive information on evidence-based treatment for children with mental disorders on a continuous basis and information regarding experts who conduct evidence-based treatments. This is particularly important since the survey also showed that there is a need for better networking and communication between paediatricians, child and adolescent psychiatrists, and clinical child and adolescent psychologists. An additional way of improving early signs of psychological problems could be to hand out information about psychological problems to parents.

Due to the low response rate, this study does not claim to be representative. Paediatricians' definitions of mental disorders were not explicitly based on ICD or DSM criteria. The estimations are based on retrospective recall that may be subject to recall bias. Thus, the estimated prevalence rates must be interpreted with caution. However, a response rate of around 20% is not uncommon in surveys [36, 37]. Furthermore, the present study did not provide or ask for definitions of

counselling and psychotherapy. It must be further investigated how paediatricians differentiate between counselling and psychotherapy.

The recognition of mental disorders in children should be further improved so that the children and families concerned get adequate treatment at an early stage. Paediatricians are often the first contact persons for parents with children with psychological difficulties. Therefore, an early identification would be very valuable. Paediatricians are confronted with more and more requirements in the health system, but at the same time, due to economic reasons, they are under time pressures and have to keep the treatments and patient visits as short as possible. Therefore, it is even more important for paediatricians to be able to identify mental disorders and have enough information available to refer the children, adolescents or families with mental disorders. Such knowledge helps ease the suffering of children, and contributes to the reduction and prevention of future suffering as adults.

## Funding / potential competing interests

We would like to thank the SGP for their support of the Swiss Survey, especially Dr. med. Stephan Rupp.

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