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ORIGINAL ARTICLE

## GPs' experiences with enhanced collaboration between psychiatry and general practice for children with ADHD

Lieke J.A. Hassink-Franke<sup>a</sup>, Mijne M.M. Janssen<sup>b</sup>, Guy Oehlen<sup>a</sup>, Patricia A.M. van Deurzen<sup>b</sup>, Jan K. Buitelaar<sup>b,c</sup>, Michel Wensing<sup>d</sup> and Peter L.B.J. Lucassen<sup>a</sup>

<sup>a</sup>Department of Primary and Community Care, Radboud University Medical Centre, Nijmegen, the Netherlands; <sup>b</sup>Karakter Child and Adolescent Psychiatry University Centre, Nijmegen, The Netherlands; <sup>c</sup>Department of Cognitive Neuroscience, Radboud University Medical Centre, Nijmegen, the Netherlands; <sup>d</sup>Scientific Institute for Quality of Healthcare, Radboud University Medical Centre, Nijmegen, the Netherlands

### KEY MESSAGES

- Within a collaborative ADHD programme for children, participating GPs were positive about a quick and specialist diagnostic process within secondary care.
- After an online course, GPs felt confident to start and monitor ADHD medication in children with uncomplicated ADHD.
- GPs were content about the collaboration between primary and secondary care.

### ABSTRACT

**Background:** Most general practitioners (GPs) do not feel comfortable with diagnosing and treating children with attention deficit hyperactivity disorder (ADHD). This is problematic since ADHD is a prevalent disorder and an active role of GPs is desired. In the Netherlands a collaborative ADHD programme was established, comprising of shortened diagnostic assessment in specialized mental healthcare followed by psycho-education in mental healthcare and pharmacological treatment by pre-trained GPs.

**Objectives:** To explore the experiences of GPs regarding the diagnosis and treatment of children with uncomplicated ADHD within this programme.

**Methods:** Semi-structured interviews with 15 GPs were conducted. The GPs participated in an evaluation of the collaborative ADHD programme. Data was analysed using the principles of constant comparative analysis.

**Results:** Most participating GPs expressed reluctance to diagnose ADHD themselves. The reluctance was due to a lack of time, knowledge and experience. The GPs welcomed the collaborative programme because it met their need for both quick and adequate diagnosis by a specialist. Furthermore, an online ADHD course, offered by the programme, gave them the confidence to start and monitor ADHD medication. Finally, they appreciated the possibility of consulting a specialist when necessary.

**Conclusion:** GPs preferred that ADHD was diagnosed by a specialist. In the context of the ADHD collaborative programme, they felt competent and comfortable to start and monitor medication in children with uncomplicated ADHD.

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### KEYWORDS

ADHD; children; family practice; treatment of ADHD; diagnosis of ADHD

### Introduction

Attention deficit hyperactivity disorder (ADHD) is a common disorder with an estimated worldwide prevalence of 5% in children and adolescents.[1] The three key-symptoms of ADHD are inattention, hyperactivity and impulsiveness. Adequate treatment has been shown to benefit patients and their families by improving behavioural problems, and includes in most cases the prescription of medication.[2] The diagnostic

assessment, treatment and follow-up most often takes place in secondary care.[3] However, the large numbers of children referred to secondary care result in long waiting times.[4] In the meantime, GPs in the Netherlands have started to contribute to diagnosing ADHD and initiating ADHD medication.[5] It is, however, presumed that this does not provide children and adolescents with ADHD with optimal healthcare.[6] For instance, over diagnosing of ADHD is a well-known

problem in primary care.[7] Also, inadequate medical treatment and a shortage of systematic aftercare have been described.[8,9] Moreover, there are uncertainties about GPs' involvement in the diagnosis and treatment of children with ADHD. The Dutch multidisciplinary guideline for ADHD in children, for instance, does not describe the GPs' role and does not give applicable recommendations to GPs for diagnosing and/or treating children with ADHD.[6] Also, many GPs do not see a role for themselves in ADHD care or do not feel comfortable with it.[10,11] In the light of the high prevalence, the long waiting times, and the GPs' uncertainties it seems necessary to develop practical methods in which GPs can contribute to the management of children with uncomplicated ADHD (i.e. no comorbidity, no severe family problems).

Therefore, a collaborative ADHD programme was developed in the east of the Netherlands, the Tornado programme, with diagnostics by secondary and tertiary line specialists, and medication prescribed and monitored by GPs. The goal of this programme is to shorten the time of diagnostic assessment and to give GPs a more prominent role in ADHD care in close collaboration with psychiatry. Effectiveness and efficiency of the programme are being investigated in a cluster trial. If the ADHD programme is to be implemented nationwide, a successful participation of GPs is crucial.

This study, therefore, aimed to investigate GPs' experiences with participation in the collaborative programme regarding their role in the treatment of children with uncomplicated ADHD in primary care.

## Methods

### Design and objectives

A qualitative approach was deemed appropriate to understand GPs' experiences with participation in a collaborative treatment programme for children with ADHD, because of the explorative character of this design.

### Participants and setting

A non-randomized controlled before-after study (trial registration number NTR2505) examined the effectiveness and efficiency of a collaborative programme compared to usual care for 6 to 18 year-olds suspected of uncomplicated ADHD in the Netherlands.[12] Usual care existed of a diagnostic assessment, medication

### Box 1. Outline of the collaborative ADHD programme.

1. GPs referred children with suspected ADHD to secondary care for a one-day-to-diagnosis service in a psychiatric outpatient clinic for children and adolescents.
2. At the same time, the outpatient clinic invited the GPs to participate in a one-hour online course about ADHD. The course was developed by psychiatrists and a GP. The main aims of the course were to provide information
  - about the characteristics of ADHD, and
  - how to start and monitor ADHD medication, and
  - how to deal with side effects.
3. In addition, the use of the ADHD-rating scale was explained. This scale is a reliable questionnaire with 18 items about the DSM-IV symptoms of ADHD, used for diagnosing and monitoring ADHD in children.[13]
4. When patients returned to their GP with the diagnosis of uncomplicated ADHD and a medication advice, the GP started and monitored ADHD medication.
5. Parents received psycho-education in the outpatient clinic.

treatment, psycho-education, maybe combined with behavioural parent training, within secondary care.

In the collaborative programme (Box 1), GPs referred children with suspected ADHD to a secondary care one-day-to-diagnosis service. In addition, GPs were invited to participate in a one-hour online course about ADHD.[13] When patients returned to their GP with the diagnosis of *uncomplicated ADHD* and a medication advice, the GP started and monitored ADHD medication. Parents received psycho-education in the outpatient clinic.

For the qualitative study, all participating GPs ( $n=23$ ) in the collaborative programme were approached. A mixture of male and female GPs was selected and invited. Among these were two GPs who did not participate in the online course. All invited GPs consented for an interview. After 15 interviews, no new themes emerged and saturation was reached.

### Data collection

The interviewer (GO) and his supervisors (LH, PL) were not involved in outcomes evaluation of the collaborative programme for targeted ADHD patients. All had a

medical background. A trained medical student (GO) conducted semi-structured interviews via telephone (August to September 2011). An interview guide was developed (Box 2). Interviews lasted approximately 30 min, they were audiotaped, transcribed verbatim, and anonymized.

### Analysis

Data collection and analysis were conducted as an iterative process which means that relevant topics were added to the guidebook after a preliminary analysis of each interview.[14] Data were entered into Atlas.ti, a software package to support the analysis of qualitative data. According to the principles of constant comparative analysis in which transcripts are subsequently coded thematically, transcripts were read and re-read to identify relevant themes. The interviewers had a biomedical perspective regarding ADHD as a disorder that frequently needs pharmacological treatment while at the same time recognizing psychosocial aspects. A first categorization was made independently by coding meaningful sentences. These initial codes were discussed and grouped into themes to identify GPs' views on diagnosis and treatment of children with uncomplicated ADHD in primary care within the collaborative programme. In the case of not reaching consensus about the codes, a third researcher was consulted.

### Results

We interviewed 15 GPs (seven females). The GPs had a mean working experience of 12.5 years (range: 5–29 years). On average, each GP treated 1.3 children with ADHD (range: 0–4) within 10 months. Two GPs had not participated in the online ADHD course. One did not want to participate in additional courses for all sorts of health problems; the other one had time constraints. Their views were not different from other GPs' views. We categorized the results in two main themes, in line with the pre-existing interview guide: (a) GPs' views about their role in the diagnosis and treatment of children with ADHD; (b) GPs' experiences with the pharmacological treatment of children with ADHD.

#### *GPs' views on their role in the diagnosis and treatment of children with ADHD*

Interviewed GPs preferred a specialist to diagnose ADHD. Most did not see a role for themselves in the diagnosis of ADHD. They mentioned some barriers: (a) they do not feel sufficiently competent due to a lack of knowledge and experience; (b) they think they have too little time to collect all required information of parents and teachers; and (c) they feel that the diagnostic assessment has to be done very precisely because of the consequence, the prescription of psychoactive medication in children. Some GPs expressed resistance towards prescribing stimulant medication for

#### Box 2. Interview guide.

##### In general

1. What was your main reason for participation in the collaborative programme?
2. Did the programme meet your expectations?

##### Online ADHD course

1. What is your overall opinion about the online ADHD course?
2. What pros and cons can you mention?
3. Did you feel competent to prescribe and monitor ADHD medication after having completed the course?

##### GP's experiences with treatment of children with uncomplicated ADHD

1. What were your experiences in the collaboration with secondary care within this programme?
2. How do you think about the use of the ADHD rating scale?
3. What kind of barriers did you perceive in the treatment of ADHD or within the collaborative programme?
4. What is your perspective on treatment by a GP rather than a psychiatrist? What pros and cons can you mention?

##### Diagnosis and treatment of ADHD in general

1. What is your view on the GPs' role in the diagnostic assessment of children suspected of ADHD?
2. What is your view on the GPs' role in the treatment of children with ADHD?

children. Overcoming this resistance first requires an adequate ADHD diagnosis.

*I think it is quite complicated to ensure that the burdens which parents have and they therefore present, such as the symptoms of their children, do not mean that you as a GP might establish a diagnosis too easily and so perhaps more easily treat a child with medication than is strictly speaking necessary. (GP-15, male)*

*As it involves psycho-stimulant medication that you give to young children [...] I would like to be supported by an expert, with validated questionnaires and so forth and on top of this yet another good observation. [...] At present I would like that piece of diagnostics to be performed by the psychiatrist. (GP-05, male)*

A minority of GPs thought they could diagnose ADHD themselves, especially when supported by specific questionnaires or clear criteria. They regarded their longstanding relationships with children and their parents as very helpful in the diagnostic process.

*On the face of it I could perform the diagnostics. However, GPs must have sufficient knowledge but also sufficient possibilities, for example properly validated questionnaires. An extensive psychological investigation is not always necessary. Sometimes a good observation is also enough. (GP-06, female)*

*I think that what psychiatrists pick up in a day we can also pick up over a period of several years. Of course, we see some patients frequently over a long period of time. (GP-13, female)*

*Nevertheless it is a medicine that influences the brain and functioning of a child, they belong to a vulnerable group. I, therefore, think it is important to perform the diagnostics well [...] If it is more complex then I think the diagnostics should be performed by a specialist. But if it seems a very... well, straightforward case of ADHD [...], then I believe it can sometimes be diagnosed in general practice. (GP-09, female)*

All interviewed GPs saw a role for themselves in the pharmacological treatment of children with uncomplicated ADHD. By playing a substantial role in the treatment, they hoped this would save time in secondary care with subsequently decreasing waiting times for patients who need secondary care. Psycho-education for parents costs too much time within general practice and requires specific expertise, according to the GPs. Some GPs thought that a practice nurse could have a role in the diagnosis and treatment of children with ADHD.

*I think the GP is perfectly able to perform the treatment. I also think that should be the case ... because it is less burdensome for the children to come to the general practitioner for a check-up than to a child psychiatrist. (GP-06, female)*

*I think that there are particular benefits of treating the patient in primary care. After all, it is a sort of hospitalization of young children. That is why I am reticent about sending all sorts of children to the psychiatrist just like that... because by doing that you are very much sticking labels on children who are still quite young. [...] It is far less onerous if primary care is allowed to play a bigger role. (GP-14, male)*

An advantage of pharmacological ADHD treatment in primary care is, according to the GPs, the low threshold for patients and their parents. Most GPs have good, mostly longstanding relationships with children and their families. They thought it felt less stigmatizing for both patients and parents to visit a GP than to visit a psychiatrist. In addition, GPs considered the short distance to the practice as an advantage for patients. As a disadvantage of ADHD treatment by a GP instead of a psychiatrist, some GPs mentioned their lower competence due to their lack of experience. Therefore, in difficult cases, patients get advice only after the GP has consulted a psychiatrist. Furthermore, GPs usually have only limited contacts with other professionals who are often involved in ADHD care for children.

*It is also nice for both parents and children that they do not have to go to a specialist outpatient's clinic. That saves them time ... I think it is also pleasant for the general practitioner to do. And I think that for patients, in particular, it is much less of a threshold than a visit to a psychiatrist. (GP-07, male)*

*It is of course a fantastic service that children can be seen within one month. That would normally take months when considering the long waiting lists. That is definitely a big advantage. However, I can imagine that the advantage will spread further if I have more patients... so that I can gain some more experience. (GP-11, female)*

*[A disadvantage is that] for more complex questions or issues, there is not an immediate answer, I first need to consult a specialist. (GP-09, female)*

### **GPs' experiences with the pharmacological treatment of children with ADHD**

Overall, participating GPs supported the rationale of a shortened diagnostic assessment within secondary care and, when necessary, subsequent pharmacological treatment within primary care. According to the GPs, the project met their expectations. GPs were content about the collaboration with psychiatry, in particular with the shortened diagnostic procedure including short waiting lists, an adequate diagnosis and the ability to consult a psychiatrist. GPs said they found the collaborative programme well organized. Some

interviewed GPs complained that patients already returned before they had participated in the online course.

Some said they consulted a psychiatrist for advice during treatment, mostly about doses, side effects or switching to long-acting methylphenidate. Although it was often difficult to contact a psychiatrist by telephone, they felt helped very well by the psychiatrists.

Participating GPs said that they felt confident and competent after the online course to start and monitor ADHD medication in children. GPs said that the course had been especially educative about the pharmacological treatment, for instance, medication dosing schemes and side effects. In addition, they had received a clear structure for follow-up consultations. Some GPs felt the lack of treatment experience as a small barrier. They emphasized their confidence in gaining more experience when providing pharmacological treatment to more patients. A special ADHD guideline for GPs would support them in the treatment, they stated.

*Pharmacological treatment is certainly not a problem. We measure, we observe, we enquire about side effects ... we ask how it is going...* (GP-12, male)

*You treat children with the medicine that influences their behaviour and that is still something very unnatural for us. The publication of an official guideline would certainly help overcome some of those reservations.* (GP-14, male)

*I admit... psychiatry is, of course, more expert at the moment. But I also think that with such collaboration it could eventually work fine in a very different manner.* (GP-13, female)

GPs who had used the ADHD rating scale considered it a feasible instrument to monitor the course and severity of ADHD symptoms. The scale offered them a good structure for follow-up consultations.

## Discussion

### Main findings

Participating GPs felt comfortable with a new collaborative programme for children with uncomplicated ADHD in which diagnosis and psycho-education takes place in secondary care, and medication treatment takes place in primary care. Participants welcomed the programme for several reasons. First, it met their need for adequate diagnostics, which they regarded as complicated but essential because of the consequence of psycho-stimulant medication.

They appreciated the shortened access for the diagnostic assessment in secondary care. Second, participants felt equipped to start and monitor ADHD medication in children, after having completed the provided one-hour online course about ADHD. They considered treatment within primary care feasible and comfortable for patients and their parents because of the familiarity and proximity of GPs. Finally, participants were satisfied with the consultation possibilities with psychiatrists in secondary care when necessary.

### Strengths and limitations

In the Netherlands, GPs provide more than 90% of medical care themselves, both for adults and children. Patients, including children, can only have access to secondary care after being referred by their GP. With GPs as gatekeepers, active cooperation exists between Dutch primary and secondary care. This restriction creates an opportunity for more intense collaboration between primary and secondary care. Collaborative projects, therefore, are characteristic for healthcare systems with GPs as gatekeepers. Collaborative care has been well organized and financed for some chronic diseases for instance, diabetes mellitus. Currently, primary and secondary care GPs are actively looking for ways to share ADHD care for children. GPs' experiences within a formal collaborative ADHD programme had not been investigated before. Qualitative research has been recommended as the best method to explore and clarify participants' opinions.[14] By using a cyclical and interactive way of collecting and analysing data, we were able to perform an in-depth exploration of GPs' views.[15] Data saturation was reached.

An important limitation of this study is that we used a convenience sample. Participants might have had an above average interest in ADHD because they had consented to participate in an ADHD programme. Therefore, certain specific viewpoints could have been left out of sight in this study and the results might be more positive than we would have found within a wider group of GPs. However, most participants did not propagate ADHD diagnostics to be carried out in primary care. This fits in with opinions of *average* GPs in earlier research. Also, some of our interviewed GPs mentioned they had not deliberately chosen to participate in the programme. They were simply asked by secondary care to do the online ADHD course and then treat patients who were referred to them.

### Comparison with existing literature

Our findings contradict earlier research that showed that GPs did not feel confident to provide ADHD care.[10,11] Australian GPs, for instance, only saw a role for the GP in the monitoring of ADHD medication.[16] Other research showed that GPs did not have adequate knowledge about ADHD.[17,18] Education programmes have been advised to increase GPs' knowledge and confidence with ADHD care.[4,10,19] Our collaborative programme—including a brief online course—might meet this need, because the GPs in our study felt comfortable and competent not only in monitoring ADHD treatment in children but also in initiating ADHD medication. Moreover, they said they were willing to provide ADHD treatment on a larger scale. Therefore, the Dutch collaborative ADHD programme could be a model that facilitates effective involvement of GPs in ADHD care. Furthermore, it might meet the need for improvement of follow-up care. Dutch researchers showed that 19% of children using ADHD medication did not receive any follow-up care.[8]

The resistance of participating GPs towards diagnosing ADHD is in agreement with barriers mentioned in earlier research: diagnostic complexity, time constraints and concerns about stimulant medication.[11] Furthermore, the ability to recognize ADHD correctly in primary care seemed rather poor.[19] The extensive rates of disorders that are comorbid with ADHD pose special challenges to establishing an adequate diagnosis. It has been estimated that two in three children with ADHD meet criteria for one or more coexisting psychiatric disorder.[20]

### Implications for general practice

The optimism of the participating GPs about their role in the pharmacological treatment of children with uncomplicated ADHD within a collaborative programme is encouraging because general practice is a more comfortable setting for children than the psychiatric setting. Dutch GPs mostly know the child's family, and have extensive medical information of the child available. They have practice nurses who might help to provide parents with psychological support. By involving GPs in ADHD care, referral times for diagnostic assessments are expected to reduce and the start of treatment to be accelerated. Early treatment is relevant in a period of children's lives because postponing treatment could lead to a lost year at school. GPs think that a practical primary care guideline on ADHD

would help them in the pharmacological treatment. Such a guideline has recently been developed by the Dutch College of GPs, mainly because GPs are asked more and more frequently to monitor ADHD medication after diagnosis and initiation of medication in secondary care.[21] The added value of the collaborative ADHD programme comprises the quick referral for a one-day specialist diagnosis and subsequently faster start of appropriate treatment within primary care. The ADHD guideline then helps GPs to start and monitor treatment adequately. Altogether, this can decrease over and under diagnosing of ADHD. Further, it can increase systematic monitoring, which is desirable since Dutch GPs provide 61% of the repeat prescriptions of ADHD medication.

Future research must show whether GPs can effectively initiate ADHD medication themselves and whether this will lead to a treatment shift to primary care – and thus shortened waiting lists of child mental health institutions. Effective prescribing is being investigated in the before mentioned cluster trial. When this appears positive, broader implementation of a collaborative ADHD programme seems inevitable: according to the GPs in this study, the willingness to diagnose ADHD is absent in most GPs, whereas the willingness to treat ADHD is present.

### Conclusion

Participating GPs in a collaborative programme for children with uncomplicated ADHD were positive about their role in the medication treatment of these children. GPs were happy with the diagnostic process being performed in secondary care. After an online course, they felt confident to provide treatment, and they were content about the collaboration with secondary care.

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### Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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## References

- [1] Polanczyk G, de Lima MS, Horta BL, et al. The worldwide prevalence of ADHD: A systematic review and metaregression analysis. *Am J Psychiatry*. 2007;164:942–948.
- [2] NICE: Attention deficit hyperactivity disorder: Diagnosis and management of ADHD in children, young people and adults [Internet]. NICE Evidence 2008, [update 45, July 2013, cited 23 March 2016]. Available from: <https://www.nice.org.uk/guidance/cg72>
- [3] Harrison C, Charles J, Britt H. AD(H)D. *Aust Fam Physician*. 2008;37:393.
- [4] Kotowycz N, Crampton S, Steele M. Assessing the standard of care for child and adolescent attention-deficit hyperactivity disorder in Elgin County, Ontario: A pilot study. *Can J Rural Med*. 2005;10:149–154.
- [5] Health Council of the Netherlands. Health Council of the Netherlands: Diagnosis and treatment of ADHD (in Dutch). Publication no. 2000/24. 2000 [Internet]. The Hague. [cited 23 March 2016]. Available from: <https://www.gezondheidsraad.nl/nl/taak-werkwijze/werkterrein/optimale-gezondheidszorg/diagnostiek-en-behandeling-van-adhd>
- [6] Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ. Multidisciplinary guideline ADHD (in Dutch). 2005 [Internet]. Trimbos Institute Utrecht [cited 23rd March 2016]. Available from: [http://www.ggzrichtlijnen.nl/index.php?pagina=/richtlijn/item/pagina.php&richtlijn\\_id=29](http://www.ggzrichtlijnen.nl/index.php?pagina=/richtlijn/item/pagina.php&richtlijn_id=29)
- [7] Leslie LK, Weckerly J, Plemmons D, et al. Implementing the American Academy of Pediatrics attention-deficit/hyperactivity disorder diagnostic guidelines in primary care settings. *Pediatrics*. 2004;114:129–140.
- [8] Faber A, Kalverdijk LJ, de Jong-van den Berg LT, et al. Parents report on stimulant-treated children in the Netherlands: Initiation of treatment and follow-up care. *J Child Adolesc Psychopharmacol*. 2006;16:432–440.
- [9] Raman SR, Marshall SW, Gaynes BN, et al. An observational study of pharmacological treatment in primary care of children with ADHD in the United Kingdom. *Psychiatr Serv*. 2015;66:617–624.
- [10] Miller AR, Johnston C, Klassen AF, et al. Family physicians' involvement and self-reported comfort and skill in care of children with behavioral and emotional problems: A population-based survey. *BMC Fam Pract*. 2005;6:12.
- [11] Shaw K, Wagner I, Eastwood H, et al. A qualitative study of Australian GPs' attitudes and practices in the diagnosis and management of attention-deficit/hyperactivity disorder (ADHD). *Fam Pract*. 2003;20:129–134.
- [12] Janssen M, Wensing M, van der Gaag RJ, et al. Improving patient care for attention deficit hyperactivity disorder in children by organizational redesign (Tornado program) and enhanced collaboration between psychiatry and general practice: A controlled before and after study. *Implement Sci*. 2014;9:155.
- [13] Zhang S, Faries DE, Vowles M, et al. ADHD rating scale IV: Psychometric properties from a multinational study as a clinician-administered instrument. *Int J Methods Psychiatr Res*. 2005;14:186–201.
- [14] Britten N. Qualitative interviews in medical research. *Br Med J*. 1995;311:251–253.
- [15] Britten N, Jones R, Murphy E, et al. Qualitative research methods in general practice and primary care. *Fam Pract*. 1995;12:104–114.
- [16] Shaw KA, Mitchell GK, Wagner IJ, et al. Attitudes and practices of general practitioners in the diagnosis and management of attention-deficit/hyperactivity disorder. *J Paediatr Child Health*. 2002;38:481–486.
- [17] Ghanizadeh A, Zarei N. Are GPs adequately equipped with the knowledge for educating and counseling of families with ADHD children? *BMC Fam Pract*. 2010;11:5.
- [18] Duric NS, Elgen I. Characteristics of Norwegian children suffering from ADHD symptoms: ADHD and primary health care. *Psychiatry Res*. 2011;188:402–405.
- [19] Daly ME, Rasmussen NH, Agerter DC, et al. Assessment and diagnosis of attention-deficit/hyperactivity disorder by family physicians. *Minn Med*. 2006;89:40–43.
- [20] Cormier E. Attention deficit/hyperactivity disorder: A review and update. *J Pediatr Nurs*. 2008;23:345–357.
- [21] Stijntjes F, Hassink-Franke L, Kruisshoop A, et al. The Dutch College of General Practitioners' (NHG) practice guideline 'ADHD in children' (in Dutch). *Huisarts Wet*. 2014;57:584–594.