

A DESCRIPTION OF CHILDREN AND ADOLESCENTS IN DANISH CHIROPRACTIC PRACTICE: RESULTS FROM A NATIONWIDE SURVEY

Lise Hestbaek, PhD,^{a,b} Annette Jørgensen, DC,^c and Jan Hartvigsen, PhD^{a,d}

ABSTRACT

Objective: The purpose of this study was to describe Danish chiropractic patients younger than 18 years.

Methods: Questionnaires were mailed to all chiropractic clinics in Denmark during a randomly assigned month between September 2007 and September 2008. All patients younger than 18 years or their parents were asked to complete a questionnaire collecting information on age, presenting complaint, duration and consequences of this complaint, referral mode, and use of pain medication.

Results: Babies were the most common pediatric patients with about one third being between 0 and 4 months of age. Infantile colic was the most common presenting complaint in this age group. For the older children, musculoskeletal problems were the most dominant complaint, ranging from 33% among the preschool children to 75% among the teenagers. These complaints were often chronic and about a third of the children older than 2 years had experienced symptoms for more than 1 year before seeing the chiropractor. These health complaints were reported to restrict activity as well as alter mood, and 39% of the 2- to 17-year olds used analgesics. There was limited referral of patients from other health care professionals.

Conclusions: Babies made up most of the Danish chiropractic patients younger than 18 years. Among the older children and the adolescents, musculoskeletal complaints were most common and mostly of a chronic nature. The large number of pediatric patients in chiropractic practices and the paucity of evidence of treatment effectiveness indicate the need for further research in these age groups. (*J Manipulative Physiol Ther* 2009;32:607-615)

Key Indexing Terms: *Health Care Survey; Chiropractic; Infant; Child, Preschool; Adolescent*

Surveys from European and North American countries show that chiropractors are almost exclusively providers of musculoskeletal health care, in particular for adult spine-related pain conditions.¹⁻⁷ Of course, variations in patient clientele between chiropractic clinics and even between doctors in the same clinic can still be considerable and these variations have been poorly

described in the literature. In particular, there appears to be diversity in relation to pediatric patients where some chiropractors almost never treat children and some go as far as to promote themselves as specialists in chiropractic pediatric care.⁸

Recently, there has been an increasing focus on the health of children and adolescents mainly because lifestyle diseases such as cardiovascular disease and diabetes that affect a large proportion of the population in industrialized countries have been shown to begin early in life.⁹⁻¹¹ This pattern is, however, also seen in musculoskeletal conditions such as back pain where the cumulative lifetime incidence is already at the adult level in late adolescence³ and significant back pain in childhood is a strong predictor of back pain later in life for the individual.¹² It therefore makes sense that chiropractors would be interested in the musculoskeletal health of children and adolescents.

Chiropractic care of children, however, appears not to be limited to conditions of the spine and musculoskeletal system. According to a recent systematic review by Gotlib and Rupert,¹³ it has been documented that chiropractors treat vastly different conditions in children ranging from infantile

^a Senior Researcher, Nordic Institute of Chiropractic and Clinical Biomechanics, Odense, Denmark.

^b Assistant Professor, Institute of Clinical Biomechanics, University of Southern Denmark, Odense, Denmark.

^c Private Practice, Copenhagen, Denmark.

^d Professor, Institute of Clinical Biomechanics, University of Southern Denmark, Odense, Denmark.

Submit requests for reprints to: Lise Hestbaek, PhD, Senior Researcher, NIKKB, Forskerparker 10, Odense MDK-5230, Denmark (e-mail: l.hestbaek@nikkb.dk).

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colic, asthma, enuresis, and otitis media to learning disabilities and even jet lag. The rationale for treatment rests primarily with clinical experience and descriptive case reports as there have been very few randomized controlled trials¹³ providing evidence to guide practice. Therefore, high-quality evidence for the effectiveness of the chiropractic treatment of the pediatric patient is almost completely absent.

Detailed descriptions of patients seeking chiropractic care have helped define the domain of the profession for chiropractors themselves, for other health care professions, and for the public. Furthermore, such mapping of patients and their characteristics can help identify areas where there is a particular need for research or increased public awareness. For the reasons mentioned above, it was decided that research into chiropractic pediatric issues would be a priority area at the Nordic Institute of Chiropractic and Clinical Biomechanics, the first initiative being a comprehensive survey of pediatric and adolescent patients in Danish chiropractic clinics. The purpose of this article is to report the results of this survey. Specifically, the age distribution, the types and duration of complaints, mode of referral, consequences of the complaints and use of nonprescription pain medication were of interest.

METHODS

Data Collection

Data collection took place from September 2007 to September 2008, and all chiropractic clinics in Denmark were invited to participate. The clinics were randomly assigned 1 month in which questionnaire data were to be collected for all new patients younger than 18 years. A new patient was defined as a patient who had not consulted a chiropractor within the last year. The month of July was omitted due to the summer holidays, thus data were collected at diverse clinics during 11 months of the year. The questionnaire was filled out by the patient or a parent immediately after the first consultation with the chiropractor, placed in an envelope and returned anonymously to The Nordic Institute of Chiropractic and Biomechanics. Danish ethics standards allow questionnaire-based surveys as long as there is no examination of human biological material or examination of individuals, as was done in this survey-only study.¹⁴

Questionnaires

Owing to an expected variation in problems encountered at different ages, we set out to develop a specific questionnaire for each of the following groups:

- “babies”: 0 to 1 year of age (incl.)
- “pre-school children”: 2 to 5 years of age (incl.)
- “young school children”: 6 to 11 years of age (incl.)
- “teenagers”: 12 to 17 years of age (incl.)

Table 1. Variables included in the 3 questionnaires used in a survey of pediatric patients in Danish chiropractic clinics 2007-2008

	0-1 year of age	2-5 years of age	6-17 years of age
Age	X	X	X
Gender	X	X	X
Primary complaint *	X	X	X
Duration of primary complaint	X	X	X
Caused by trauma/accident	X	X	X
Secondary complaint	X	X	X
Parent previously a chiropractic patient	X	X	X
Sibling previously a chiropractic patient	X	X	X
Referred by... *	X	X	X
General health *		X	X
Use of pain killers (daily/almost daily; more than once per week; once per week; less than weekly)		X	X
Limited in activities (seriously; slightly; not at all)			X
Mood affected (seriously; slightly; not at all)			X
Physical activity *			X

* Answer categories can be seen in Table 2.

However, the questionnaires for the 2 oldest age groups were almost identical and were therefore collapsed. Thus, 3 different questionnaires were used for the 4 age groups: one for babies younger than 2 years, one for preschool children 2 to 5 years of age, and one for school children 6 to 17 years of age. The variables included in the questionnaires are shown in Table 1.

Pilot Study

The procedures and the 3 questionnaires were pilot-tested in 3 clinics. Twenty-three questionnaires for children younger than 2 years, 9 questionnaires for 2- to 5-year olds, and 23 questionnaires for 6- to 17-year olds were filled out and returned. Afterwards, the wording of some of the questions was slightly changed but overall the procedures seemed to work without problems.

Data Interpretation

Results are descriptively reported in tables and figures reporting the type and duration of complaint, mode of referral and overall summary of the sample. Because of different problems and different lifestyles among the various age groups, results are presented separately for each age group. For the description of complaints, the babies were subdivided into 0 to 3 months (incl.) and 4 to 23 months (incl.). When describing duration of complaint, the children for whom “prophylactic examination” was listed as their primary complaint were omitted from the presentation as there was no duration of complaint. When comparing proportions, confidence intervals are presented to test for statistical significance. To evaluate the statistical significance of a

trend, the “nptrend” option in the Stata statistical computer program was used, which is a test for trend among ordered groups. In the figures, groups with less than 5 individuals have been omitted. Double entry of data was performed for a 10% random sample to check for errors. Data were analyzed using Stata version 10 (Stata Corp LP, College Station, Tex).

RESULTS

Questionnaires were mailed to a total of 230 clinics of which 193 agreed to participate and returned questionnaires, resulting in a participation rate of 84%. Of the participating clinics, 51 (26%) did not see any pediatric patients during their month of data collection. The data presented therefore represents patients from the 142 clinics in Denmark who treated pediatric patients during their assigned month.

In total, completed questionnaires were returned for 725 pediatric patients. This would infer a total of 8700 pediatric patients a year for the country, or an average of 3.76 pediatric patients per participating clinic per month. According to the Danish National Board of Health, 16 600 pediatric patients visited a chiropractor in Denmark during the same period (September 2007-2008). This indicates that more than half the targeted patients were captured. The age distribution of the sample was similar to that reported by The Danish National Board of Health for the whole country in 2006 (data were not available for 2007 and 2008).

Validity

Double entry of data from a 10% sample revealed an error rate of less than 1%. We consider this to be satisfactory.

Age and Sex

Babies were by far the most common pediatric patients in Denmark (Fig 1). Of the 318 patients that were younger than 1 year, 74% were less than 4 months old. There was a slight over-representation of boys (54%). This was most pronounced among the youngest patients with 59% boys, whereas there was an almost even distribution among the teenagers (49% boys).

Complaints

Below 2 Years of Age

Primary complaint. Excessive crying/infantile colic and stomach problems accounted for more than half of the visits for the babies (0-3 months). The definition of infantile colic is primarily based upon the amount of inconsolable crying but the reasons for such excessive crying can be many and are difficult to diagnose. Often parents will consider crying as a sign of stomach problems even though there is no diagnosis of such. At the same time, they do not know the

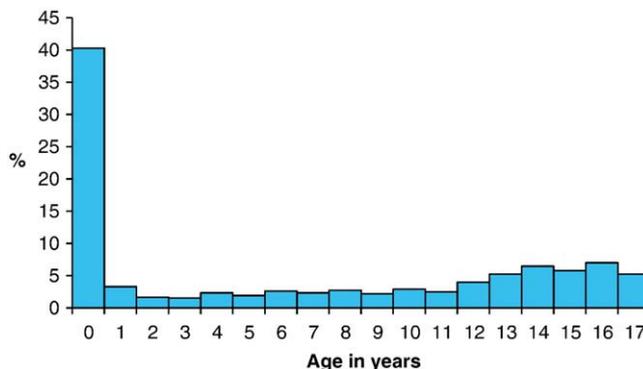


Fig 1. Age distribution of pediatric patients attending Danish chiropractic clinics during 2007-8.

exact criteria of infantile colic (“the rule of 3s”: >3/day, >days/week, >3weeks), and therefore, the 2 categories are likely to cover the same range of problems, which, in reality, is excessive crying for uncertain reasons. In the older age group (4-23 months), the presenting symptoms were more varied with developmental problems arising in relation to movement, asymmetry and motor development. The largest group presented with motor development problems, a category completely absent below the age of 4 months.

The frequencies of the reported primary complaints are shown in Table 2.

Secondary complaint. Secondary complaints were reported by 32 percent of the babies. Stomach problems were most frequently reported (32%), abnormal movement and disturbed sleep were each reported by 10%, and 9% reported excessive crying.

Two to 17 Years of Age

Primary complaint. Musculoskeletal problems were the most dominant group of complaints and increased with age from 33% among the preschool children to 75% among the teenagers. A large proportion of the musculoskeletal problems were reportedly associated with trauma or accident: 26% for the preschool children, 49% for the young school children, and 36% for the teenagers.

The second most common primary complaint was headache with a total of 13%. In addition, a large proportion of the headaches (20%) were reported to be associated with trauma or accident. The middle group (young school children) appeared to have the highest frequency of headache, but the sample sizes for the 2 youngest age groups were too small to detect differences.

The presentation of the young school children and the teenagers seemed to be quite similar, but differed from the preschool children. The preschool children more often presented with problems relating to the ears, motor development, asthma/allergy, and more often came in for a check-up, whereas the musculoskeletal problems were more

Table 2. Distribution of answers to survey questionnaires of pediatric patients in Danish chiropractic clinics 2007-2008, n (%)

Age of child	0-3 mo	4-23 mo	2-5 y	6-11 y	12-17 y	Total
Primary complaint						
Abnormal movement	35 (15%)	13 (15%)	—	—	—	48 (7%)
Excessive crying/infantile colic	71 (30%)	2 (2%)	—	—	—	73 (10%)
General well-being	13 (6%)	3 (4%)	—	—	—	16 (2%)
Asymmetry	24 (10%)	11 (13%)	—	—	—	35 (5%)
Disturbed sleep	10 (4%)	9 (11%)	0	1 (1%)	5 (2%)	25 (3%)
Stomach	49 (21%)	7 (8%)	3 (5%)	0	0	59 (8%)
Ears	0	8 (9%)	5 (9%)	2 (2%)	1 (<1%)	16 (2%)
Nose/throat	0	0	0	1 (1%)	1 (<1%)	2 (<1%)
Motor development	0	14 (16%)	7 (12%)	5 (5%)	1 (<1%)	27 (4%)
Musculoskeletal system	—	—	19 (33%)	57 (54%)	184 (75%)	260 (36%)
Headache	—	—	2 (3%)	22 (21%)	27 (11%)	51 (7%)
Asthma/allergy	—	—	5 (9%)	0	1 (<1%)	6 (1%)
Dizziness/lethargy	—	—	1 (2%)	1 (1%)	4 (2%)	6 (1%)
Concentration/hyperactivity	—	—	4 (7%)	4 (4%)	5 (2%)	13 (2%)
Menstruation	—	—	0	0	3 (1%)	3 (<1%)
Prophylactic examination	25 (11%)	12 (14%)	6 (10%)	1 (1%)	4 (2%)	48 (7%)
Other	6 (3%)	6 (7%)	6 (10%)	11 (10%)	8 (3%)	37 (5%)
Total	233 (100%)	85 (100%)	58 (100%)	105 (100%)	244 (100%)	725 (100%)
Mode of referral						
Health visitor *	64 (20%)	—	1 (2%)	6 (6%)	1 (<1%)	72 (10%)
General practitioner	6 (2%)	—	1 (2%)	5 (5%)	29 (12%)	41 (6%)
Physiotherapist	12 (4%)	—	7 (12%)	4 (4%)	5 (2%)	28 (4%)
Medical specialist	1 (1%)	—	0	3 (3%)	3 (1%)	7 (1%)
Others **	31 (10%)	—	1 (2%)	2 (2%)	11 (5%)	45 (6%)
Total	114 (36%)	—	10 (17%)	20 (19%)	49 (20%)	193 (27%)
General health						
Excellent	—	—	22 (38%)	49 (46%)	69 (29%)	140 (35%)
Very good	—	—	25 (43%)	40 (38%)	95 (40%)	160 (40%)
Good	—	—	6 (10%)	15 (14%)	63 (26%)	84 (21%)
Not good	—	—	4 (7%)	2 (2%)	12 (5%)	18 (4%)
Poor	—	—	1 (2%)	0	1 (<1%)	2 (<1%)
Total	—	—	58 (100%)	106 (100%)	240 (100%)	404 (100%)
Physical activity						
Light physical activity <30 min/d	—	—	—	6 (6%)	55 (23%)	61 (17%)
Light physical activity 30 to 60 min/d	—	—	—	44 (43%)	101 (43%)	145 (39%)
Light physical activity >60 min/d	—	—	—	52 (51%)	80 (34%)	132 (36%)
Total	—	—	—	102 (100%)	266 (100%)	368 (100%)
No hard physical activity	—	—	—	9 (9%)	49 (21%)	58 (16%)
Hard physical activity <1 h/wk	—	—	—	10 (10%)	19 (8%)	29 (8%)
Hard physical activity 1-4 h/wk	—	—	—	66 (65%)	81 (34%)	147 (40%)
Hard physical activity >4 h/wk	—	—	—	17 (17%)	88 (37%)	105 (29%)
Total	—	—	—	102 (100%)	237 (100%)	339 (100%)

* Health visitors visit the home on a regular basis during the child's first months of life.

** Reflexologists, midwives, or massage therapists.

prevalent complaints in the oldest group. The frequencies of the reported primary complaints are shown in Table 2.

Consequences. Twenty-two percent thought their complaint had severely influenced their mood, in 55% it had

some influence and in 24% no influence at all. With regard to activity limitation, 29% felt very limited, 48% felt some limitations and 23% felt no limitations at all. Neither mood influence nor activity limitation showed any association with type of complaint.

Secondary Complaint. There were 111 secondary complaints reported. There was 1 in the youngest group (2%), 30 (28%) in the middle group, and 80 (33%) in the oldest group. The most common secondary complaint was various musculoskeletal problems (29%) and most of these patients (72%) also had musculoskeletal problems as their primary complaint. The rest of the secondary complaints were 14% asthma, 13% diabetes, 10% headache, and 10% learning problems/hyperactivity. All other disorders represented less than 8% combined of the secondary complaints.

Duration of Primary Complaint

Below 2 Years of Age. Because the majority of the patients in this group (74%) were less than 4 months old, most of them had had symptoms for less than 4 months (89%). However, if age was divided into similar categories as duration of complaint (<1 week, 1-4 weeks, 1-3 months, 4-12 months, and >12 months), the age was associated quite well with the duration of symptoms, indicating that the majority of the infants had had the problems for most of their lives. This is true for all complaint categories with the exception of ear problems, where only 2 of 7 had experienced symptoms for their entire lifespan, and problems with motor development, where 3 of 10 had experienced these problems for their entire lifespan.

Two to 17 Years of Age. About one third of all the children had experienced symptoms for more than 1 year before seeking chiropractic care. Of these problems, the smallest proportion were long-term problems in the musculoskeletal category and the largest proportion were more unusual complaints, such as problems with motor development or learning. However, it is still noteworthy that almost 1 quarter of the patients with musculoskeletal complaints reported that symptoms had been present for more than 1 year.

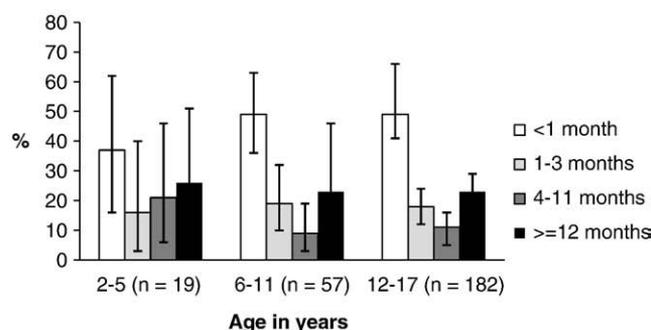
There did not seem to be a noticeable difference between age groups with regard to the duration of musculoskeletal problems. For headache patients, the oldest children seemed to have suffered the longest with 13 of 27 having had headaches for more than 1 year, whereas the youngest suffered from “other disorders” for the longest time. This is illustrated in Figure 2A-C.

Mode of Referral

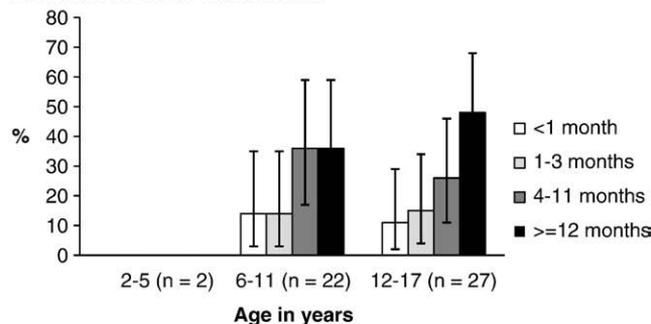
In total, 26% of the children were referred by people other than family and friends. Health visitors referred most of the babies and the general practitioners referred the majority of the teenagers. Details are shown in Table 2.

The babies were referred for a wide range of symptoms with abnormal movement pattern and asymmetry as the most common reasons, representing 23% and 16% respectively of the 115 referrals. The primary reasons for

A. Duration of musculoskeletal disorders



B. Duration of headache



C. Duration of other disorders

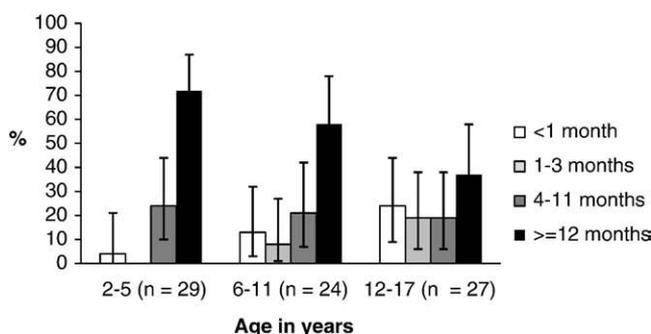


Fig 2. A to C, Duration of primary complaint in pediatric patients attending Danish chiropractic clinics during 2007 to 2008, by age groups.

referral of the preschool children were problems with motor development, which represented 4 of the 10 referrals and in these cases, all referred by physiotherapists. These 4 referrals were not the result of collaboration between one specific chiropractor and one specific physiotherapist, as the 4 cases were reported from 3 different clinics. The primary reasons for referral of the young schoolchildren and the teenagers by general practitioners and medical specialists were musculoskeletal symptoms (n = 25) and headaches (n = 6), together representing 79% of the referrals from the medical doctors.

Above the age of 1 year, the referred patients generally had a longer duration of symptoms than the rest. Among the

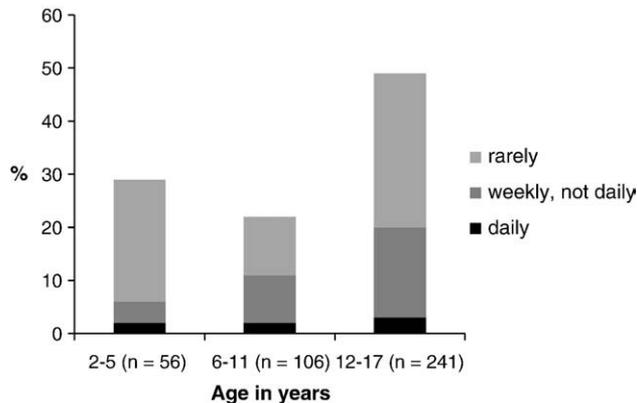


Fig 3. Frequency of the use of painkillers in pediatric patients attending Danish chiropractic clinics during 2007 to 2008, by age groups.

referred patients, 60% had experienced symptoms for more than 1 year versus 32% for the whole sample.

Other Characteristics

Almost 3 quarters (73%) of the patients had at least 1 parent who had visited a chiropractor previously and many of the siblings had also seen a chiropractor (39%). The proportion of children whose parents were also chiropractic patients, was smallest among the babies (62% vs 80%-84% for the other age groups). This corresponds well with the higher referral rate from other health care providers for this group. Among the children attending the chiropractor for a prophylactic examination, 81% of the parents and 72% of the siblings had seen a chiropractor previously. There was a slight trend of shorter duration among children whose parents were chiropractic patients and those who were not, but this difference was not statistically significant (21% vs 9% acute problems and 29% vs 38% with more than 12 months duration [$P = .28$]).

The preschool children, the young school children, and the teenagers were also asked about their general health and their use of non-prescription pain medication. These are the proportions of children and teenagers who self-rated their general health (or had it rated by a parent) as: excellent 35%, very good 40%, good 21%, not good 5%, and poor 0.5%. No differences between age groups were detected.

Thirty-nine percent used over-the-counter pain medication. Of these, 3% used them daily and 13% weekly or more, but not daily. The usage increased with age, with “more than once per week” ranging from 9% among the preschool children to 20% among the teenagers (Fig 3). Headache patients reported the highest usage with 31% using pain medication at least weekly, whereas only 15% of the patients with musculoskeletal problems did so.

The young school children and the teenagers were also asked about their level of physical activity and where

relevant, their jobs after school. Most noticeable is the fact that there was a polarizing of physical activity with age. More teenagers had a high level of hard physical activity and more had no physical activity than in the younger group. The details are shown in Table 2.

Interestingly, there was a trend in the relationship between the degree of physical activity and the amount of painkillers used. A high level of physical activity was associated with a low usage of painkillers (test for trend: $P = .001$ for light physical activity and $P = .047$ for hard physical activity). There were no distinct trends detected with regard to an association between the level of physical activity and the type of complaint. However, there was another statistically significant finding: a larger proportion of children with musculoskeletal complaints were engaged in hard physical activity more than 4 h/wk than among the other children (37% [31%-44%] for patients with musculoskeletal complaints versus 13% [5%-26%] for headache patients and 10% [5%-18%] for those with other complaints).

DISCUSSION

A large proportion of the pediatric patients in Denmark were younger than 1 year. As expected, the presenting symptoms among the babies were rather diverse, whereas the prevailing symptoms among the older children (older than 2 years) were more similar to those of adult chiropractic patients, namely, musculoskeletal complaints and headaches. Many of the children had been suffering from their primary complaint for more than 1 year, including those with musculoskeletal complaints. About 1 quarter of the schoolchildren felt that their complaint severely influenced their mood and limited their activities and therefore, the complaints did not appear to be trivial. Furthermore, more than a third of all the children used pain medication, of which 16% did so at least weekly. The use of painkillers was highest among headache patients and among those with a low level of physical activity. About 1 quarter of the patients were referred by other health care professionals, most of these being babies referred by health visitors who visit the homes of the newborn babies on a regular basis. Many of the children had parents and siblings who were chiropractic patients.

One of the very prevalent morbidities in childhood is otitis media with effusion with a cumulative incidence of 80% at the age of 4 years.¹⁵ Nevertheless, ear problems only represent 2 percent of the primary complaints in this survey. This indicates that chiropractic is not an obvious choice of care for children with ear problems in Denmark although it appears to be more common among chiropractors in other countries (personal communication with chiropractors in private practice, United Kingdom and United States). We

have no explanations for this apparent discordance, but it could be due to a very widespread use of ventilation tubes in Denmark, making this the obvious solution for parents and general practitioners alike.

The long duration of complaint was to be expected for conditions like asthma, allergy and concentration problems, but it was rather surprising that about 1 quarter of the children with musculoskeletal complaints also suffered for more than 1 year before their first visit to the chiropractor. This means that the child attends the chiropractor for the first time at a point where the condition in an adult patient would be characterized as chronic. The long duration was even more surprising considering that the large majority of the parents of these children was or had been chiropractic patients themselves. This could reflect a strong belief in the myth that children do not suffer from musculoskeletal complaints unless they are seriously injured with fractures or tears or the like. Other types of musculoskeletal pain will thus be regarded as psychosomatic or "growing pains" and thus ignored. It would appear that this attitude seriously needs revision, considering the relationship between musculoskeletal health in childhood and musculoskeletal health in adulthood. Furthermore, this survey shows that the complaints do have consequences for the quality of life of these children (use of medication, alteration of mood, and limitation of activity) and, therefore, might influence their mental and physical development.

The finding that most of the patients were not referred by other health care professionals could indicate that chiropractic was the first choice of care. However, it could also indicate that there are still improvements to be made with respect to interprofessional relationships, even though chiropractic has become an integrated part of the Danish health care system. The high proportion of referred babies is a reflection of a good working relationship between the chiropractors and the health visitors who visit the homes of new families on a regular basis. This relationship is the result of a conscious effort from chiropractors to improve the dialogue with this group and the health visitors being open-minded and searching for new options to help their clients. This might act as a motivator to work even harder for increased knowledge about chiropractic among other health care professions.

The polarizing of physical activity seen with increasing age has been shown previously among Danish adolescents¹⁶ and illustrates the need for information for, and motivation of, teenagers to prevent physical inactivity at this age where acquired health and lifestyle habits may last a lifetime. In addition, the use of nonprescription pain killers among teenagers has been demonstrated in previous Danish surveys where the most commonly used medicine was analgesics for headache and stomach ache, and the proportion of frequent users also increased with age.¹⁷ Holstein et al.¹⁷ also noticed a rising trend in medicine use

from 1988 to 1998 and called for more information about the use of medication. Since these problems seem to be similar among chiropractic patients and the rest of the population, these should be areas of focus for the chiropractor, as well as for all other professionals taking care of pediatric patients. The aspect of physical activity might be even more important for the chiropractor than for other professions since musculoskeletal problems might be a barrier for physical activity and a healthy lifestyle. By focusing on the improvement of musculoskeletal health and lifestyle advice, the chiropractor has an important role to play in relation to public health and prevention of lifestyle diseases.

By contacting all clinics in the country and spreading the questionnaires over a full year, sampling bias is minimized with respect to demographic factors and seasonal variations. Furthermore, the questionnaires were targeted to the pediatric population and pilot-tested before use. However, the relatively small sample size may represent a problem. Fortunately, there does not seem to be a systematic bias with regard to age, since the age distribution is similar to that reported from The National Board of Health for 2006. There is no reason to believe that certain complaint categories would be under-represented. Instead, it is more likely that most of the missing sample is simply due to lack of participation in questionnaire collection in busy practices. Indeed, this was confirmed by some chiropractors calling to apologize for their forgetfulness. Furthermore, there were more visits by the end of the month than the beginning, indicating that some clinics did not start their collection by the beginning of the months, but remembered it at some point during their allocated month. We did not become aware of this problem until making the analyses after the end of the data collection. Had we been aware of this problem earlier, we could have extended the collection period for those practices which either forgot the survey completely or started late. We do not anticipate this to skew the result, but it is nevertheless possible and should be kept in mind when interpreting the results.

Implications for Research

Most of the research related to chiropractic treatment has hitherto been focusing on adult patients. There is very little evidence with regard to chiropractic treatment of children and adolescents.¹³ This survey shows that musculoskeletal problems among young chiropractic patients are not trivial and the literature suggests that they have implications for future health.^{12,18} Thus, research must have more focus on this area in order to increase the available evidence regarding treatment of this age group in which primary prevention can be achieved.

Because so many parents seek chiropractic care for their infants, chiropractors have an obligation to provide evidence

to support the value of their treatment by conducting research into the etiology, diagnosis, and treatment of excessive crying in infancy.

Implications for the Chiropractic Profession

Whereas people younger than 20 years constitute 24% of the whole population, in a previous survey, patients younger than 20 years constituted less than 10% of Danish chiropractic patients.⁴ If chiropractic is effective for this age group, it is possible that these services are under accessed. However, this would depend on the prevalence of these pediatric conditions. Presently, there is limited attention to pediatric issues in most chiropractic educational and research institutions and consequently practicing chiropractors too easily rely on charismatic individuals' personal beliefs instead of evidence-based principles. To change this, associations and institutions must pay more attention to the field of pediatrics by supporting and promoting research and maybe even embrace the idea of pediatrics as a chiropractic subspecialty. Furthermore, the profession should work towards an increased public awareness about the importance of musculoskeletal health in childhood and the implications for future health.

CONCLUSION

This survey shows that the 2 largest groups of pediatric chiropractic patients in Denmark are babies with a large variety of symptoms and older children with musculoskeletal complaints. The complaints are often chronic and may have an impact on the children's lives. The survey also showed limited referral from other health care professionals. Research should focus more on chiropractic treatment of infants and babies and the treatment of musculoskeletal problems in children and adolescents.

Practical Applications

- The biggest group of pediatric patients in Danish chiropractic practices were babies.
- The most common complaints in children older than 2 years related to the musculoskeletal system.
- For the children older than 2 years, about one third of the complaints had lasted for more than 1 year
- The reported complaints led to restriction of activities and alteration of mood.
- Twenty percent of the babies were referred from health visitors. For all other groups, referrals were rare.

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