Non-attendance in a secondary paediatric referral centre

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ABSTRACT

INTRODUCTION: Non-attendance in outpatient clinics may be associated with risks to patients' health, disturb the management of clinics and cause a waste of healthcare resources. The aim of the present study was to measure the non-attendance rate in a secondary paediatric outpatient centre and to assess reasons for non-attendance.

METHODS: Non-attendance in children and adolescents from 0-19 years of age were recorded prospectively during a year. In a telephone interview, the families of non-attending patients were asked about their reasons for non-attending.

RESULTS: The number of scheduled attendances in 1,466 patients was 4,556. A total of 196 non-attendances (4.3%) were recorded in 167 patients (11.4%); 129 were boys (77.2%), 38 girls (22.8%). Patients aged 10-19 years of age had a higher frequency of non-attendance than patients in the 0-9-year age group (16% (115/715) versus 7% (52/751), respectively, p < 0.001). A total of 110 families (65.9%) stated that the reason for their non-attendance was that they had forgotten the appointment; 19 (11.4%) said that the family had decided not to show up because they had considered that their child had recovered.

CONCLUSIONS: The non-attendance rate in the secondary paediatric referral centre studied was low. The majority of non-attendance may be explained by forgetfulness.

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The frequency and implications of non-attendance for scheduled appointments have been documented in adult patients in primary [1], secondary [2] and tertiary [3] outpatient settings. Non-attendance may be associated with risks to patients' health, may disturb the management of clinics and causes a waste of healthcare resources [4]. Even so, data on non-attendance in children are limited. Studies in tertiary general paediatric outpatient clinics have found non-attendance rates of 7.7% and 10% [5, 6], whereas rates of 20% and 30%, respectively, have been reported in paediatric tertiary outpatient dermatology and pulmonology specialist centres [7, 8]. No data, however, have been provided for secondary paediatric settings. The aim of the present study was to measure the non-attendance rate in a secondary paediatric outpatient centre and to assess reasons for non-attendance.

METHODS

During the period from 1 March 2016 to 28 February 2017, non-attendance in children and adolescents aged 0-19 years was recorded prospectively. If it was considered important due to concern for the child's health, the family would receive a phone call on the day of the non-attendance and a substitute appointment would be made. Otherwise, a four-week period would be allowed to see whether the family would contact the clinic within that interval. If not, the family would receive a phone call from the clinic Medical Secretary (Henriette Nordhaug). All families who called the clinic or received a phone call from the clinic were asked about the reason for their non-attendance. Data were recorded in an electronic database, processed and analysed using R version 3.3.2. Nominally scaled variables were tested by Pearson's chi-squared test, and ordinal variables by a regression model (ANOVA). A 1% significance level was used.

Trial registration: not relevant.

RESULTS

During the period from 1 March 2016 to 28 February 2017, the clinic had 4,566 scheduled attendances, 322 (7.1%) were the children's first ever visit, and 4,234 (92.9%) were ≥ 2nd visits, in 1,466 patients (878 boys (59.9%) and 588 girls (40.1%)). A total of 196/4,566 (4.3%) non-attendances were recorded in 167 patients (11.4%); 129 were boys (77.2%), 38 girls (22.8%). A total of 167 of 1,466 children (11.4%) did not attend their first scheduled visit during the one-year observation period, the frequency of non-attendance at the first planned visit was 14.7 (129/878) in boys and 6.7% (38/588) in girls, respectively (p < 0.001). A total of 148/167 patients (88.6%) had one non-attendance, 12/167 had two (7.2%), 6/167 (3.6%) had three and 1/167 patients (0.6%) had four non-attendances. Of the 19 children who had more than one non-attendance, 14 (73.7%) were boys and five (26.3%) were girls. A total of 11/322 (3.4%) children did not show up at their first appointment; and 13.6% (156/1,144)

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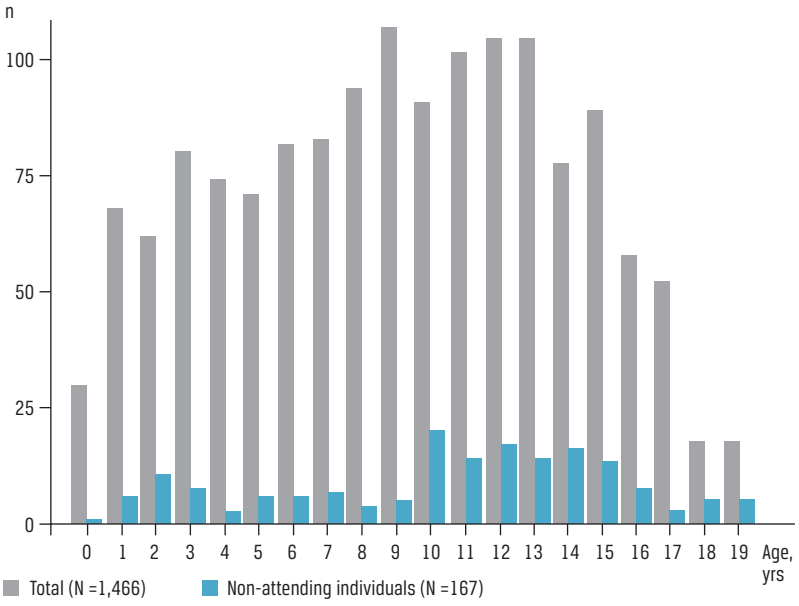
FIGURE 1

Distribution by age of 0-19-year old non-attending children compared to attending children during a year.



did not show up at their second or next visit ($p < 0.001$).

The distribution of non-attending children and adolescents by age is shown in **Figure 1**. Patients aged 10-19 years had a statistically significantly higher frequency of non-attendance than patients in the 0-9-year age group (16% (115/715) versus 7% (52/751), respectively, $p < 0.001$). The distribution of non-attending children and adolescents by calendar month is presented in **Figure 2** ($p < 0.001$).

The purpose of the visits (n (%)) in the non-attending patients was control of bronchial asthma and/or allergic rhinitis (77 (46.1%)), subcutaneous immunotherapy (50 (29.9%)), first visit (11 (6.6%)), control of a gastro-intestinal condition (10 (6.0%)), control of urinary incontinence (6 (3,6%)), eczema (3 (1.8%)) and others (10 (6.0%)).

Due to concern for the health status of the child, the clinic called 30 families (18.0%) on the day of their non-attendance. A total of 52 families (31.1%) contacted the clinic themselves within four weeks, and the clinic called 85 families (50.9%) after a four-week period. A total of 110 families (65.9%) stated that the reason for their non-attendance was that they had forgotten the appointment; 19 (11.4%) said that the family had decided not to show up because they had considered that their child had recovered; in eight cases (4.8%) it turned out that other appointments had been booked and the non-attended appointment had not been cancelled; in ten (6.0%) cases, a variety of reasons were given (parents' illness, busy parental schedules, concurrent disease, school exams, etc.); 20 families (12.0%) were called on the phone three times, but failed to answer.

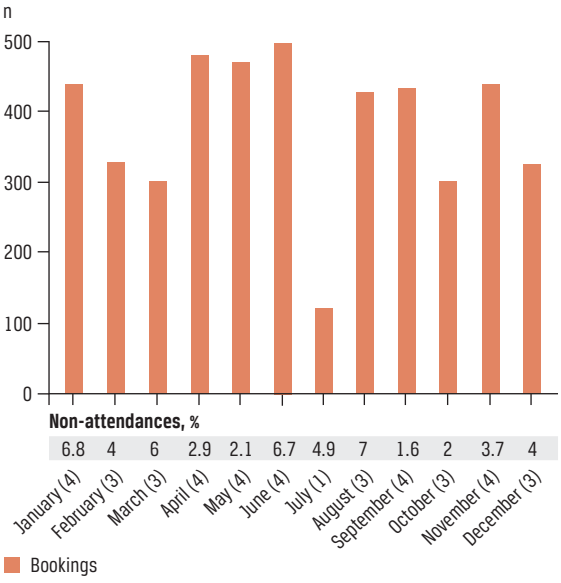
DISCUSSION

The present non-attendance rate based on the total number of scheduled attendances during a year in our secondary paediatric referral centre study was numerically lower than the rates reported by tertiary general paediatric centres [5, 6]. It has to be taken into consideration, however, that the study period in one study was of only eight weeks' duration [5]. Furthermore, in the studies, non-attendance rates were calculated based on first appointments only during the study periods as opposed to the present study in which subsequent appointments during a year were included [5, 6]. In fact, when the non-attendance rate in the present study was calculated based on first-appointments only, the mean rate was quite similar to those previously reported [5, 6]. No firm comparisons between the results of the present study and previous tertiary centre studies can be made, however, because the scheduled visits included in analyses and the duration of the study period differed.

The effect of gender on non-attendance remains unclear. Some studies have found that males may be more at risk of non-attendance than females [4]. An orthodontic study, however, found a higher rate of non-attendance in girls [9]. Such variations may relate

FIGURE 2

Number of bookings (N = 4,566) and % of non-attendances (N = 196) by calendar month (with number of clinic working weeks) during a year.



to population-dependent sex ratios. Even taking the majority of boys in the background population into consideration, however, boys had significantly more non-attendance than girls in the present study. That is consistent with observations in paediatric hospital settings [7]. Furthermore, though we have no systematic data to support the experience, in our clinic we see that from ten years of age, the frequency of children and adolescents attending alone without accompanying family member(s) increases. That is why we analysed the age groups of 0-9 years and 10-19 years separately. The observation of statistically significantly higher non-attendance rates in the older age groups calls for further study.

Whereas there are no data available for comparison of the observed significant perennial variation in non-adherence rates, previous surveys have found that a frequent explanation for non-attendance is that patients or families simply forget their appointment [3, 7, 8], and the present observations were in accord with such reports. Preliminary observations in tertiary settings have suggested that non-attendance may be reduced by approximately 40-48% by sending out text messages to inform about appointments [5, 6]. The present findings have suggested that if non-attendance rates should be further reduced, focus may need to be primarily on boys, on the group of 10-19-year-old patients and on seasonal variations. This needs to be studied further.

As in all observational studies, bias may have been introduced by the Hawthorne (the observer) effect [10]. We cannot rule out that the recording per se of non-attendance might to some extent have modified non-attendance rates over time.

CONCLUSIONS

It seems fair to conclude, however, that the non-attendance rate in our secondary paediatric referral centre was low. Most non-attendances were explained by forgetfulness.

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