Why do they keep coming back? Persistent frequent attenders in primary care
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chapter 3

EPIDEMIOLOGY OF (PERSISTENT) FREQUENT ATTENDERS - A 3-YEAR HISTORIC COHORT STUDY COMPARING ATTENDANCE, MORBIDITY AND PRESCRIPTIONS OF ONE-YEAR AND PERSISTENT FREQUENT ATTENDERS-

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ABSTRACT

Background
Attendance rates for patients visiting a General Practitioner (GP) vary. Patients who remain in the top 10 centile of the age and sex adjusted attendance rate for at least 3 years are known as persistent frequent attenders. GPs spend a disproportionate amount of time on persistent Frequent Attenders. So far, trials on the effect of (mostly psychiatric) interventions on frequent attenders have shown negative results. However, these trials were conducted in short-term (< 3year) Frequent Attenders. It would be more reasonable and efficient to target diagnostic assessment and intervention at persistent Frequent Attenders. Typical characteristics of persistent Frequent Attenders, as distinct from frequent attenders during one year and non-Frequent Attenders, may generate hypotheses with respect to modifiable factors on which new randomized trials may be designed.

Methods
We used the data of all 28,860 adult patients from 5 primary healthcare centres, participating in a GP-based continuous morbidity registration network. Frequent Attenders were patients whose attendance rate ranked in the (age and sex adjusted) top 10 percent during 1 year (1-year-Frequent Attenders) or 3 years (persistent Frequent Attenders). All other patients on the register over the 3 year period were referred to as non-Frequent Attenders. The lists of current medical problems as registered and coded by the GP using the International Classification of Primary Care (ICPC) were used to assess morbidity.
First, we determined which proportion of 1-year-Frequent Attenders was still a frequent attender during the next two consecutive years and calculated the GPs’ workload for these patients. Second, we compared the morbidity and the number of prescriptions for non-Frequent Attenders, 1-year-Frequent Attenders and persistent Frequent Attenders known to the GP.
Results
Of all 1yFAs, 15.4 % became a pFA (1.6% of all patients). Of the FAs, 3,045 (10.6%) were responsible for 39% of the face-to-face consultations; 470 patients who would become pFAs (1.6%) were responsible for 8% of all consultations in 2003. Compared to non-FAs and 1yFAs, considerable more social problems, feelings of anxiety, addictive behaviour and medically unexplained physical symptoms were seen in pFAs. FAs differ less where the prevalence of chronic somatic diseases - respiratory problems, cardiovascular problems and diabetes mellitus- are concerned.

Conclusion
One out of every seven 1-year-frequent attenders (15.4%) becomes a persistent Frequent Attender. Compared with non-Frequent Attenders, and 1-year-Frequent Attenders, persistent Frequent Attends consume more health care and are diagnosed not only with more somatic diseases but especially more social problems, psychiatric problems and medically unexplained physical symptoms.
WHY DO THEY KEEP COMING BACK?

Background

General practitioners (GP) spend a large part of their time on a small proportion of their patients. It is estimated that about 80% of a GP’s clinical work is spent on 20% of their patients\(^1\). In most studies, frequent attendance is defined as an age and sex-adjusted attendance rate ranking in the top 10 centile within a time frame of one year (1-year-Frequent Attenders)\(^2,3\).

Systematic reviews show that these 1-year-Frequent Attenders are more likely to suffer from physical and psychiatric illness, social difficulties and emotional distress \(^4,5\). High attendance rates are also found for patients with medically unexplained somatic symptoms, health anxiety and perceived poor health \(^5,7\). In addition, frequent attendance may be a sign of inappropriate consultation behaviour \(^8,11\).

At this point, we should ask the question whether or not it is possible to treat frequent attenders and reduce their attendance rates? Trials on the effect of (mainly psychiatric) interventions have shown conflicting results \(^12,12\). No study has shown convincing evidence that any intervention improves the quality of life or morbidity of Frequent Attenders in primary care, although there is some evidence that an effect might exist in a subgroup of Frequent Attenders – that of depressed patients. There is no evidence to suggest that the utilization of health care by Frequent Attenders can be influenced. The only trials that showed positive effects were with patients who were Frequent Attender over a period of two years; all others used a time frame of one year \(^13,14\).

This means that these studies may have targeted the wrong group of transient Frequent Attenders.

Until now most research on frequent attendance has been cross-sectional and used one-year attendance rates. The few longitudinal studies conducted showed regression of attendance to the mean in the longer run, with only 20-30% of FAs continuing to attend frequently in the following year \(^15,17\). However, these studies on persistent frequent attendance used different definitions of FAs and lacked the power to detect differences in morbidity between transient and persistent frequent attenders.

This study presents the results of a historic 3-year cohort study on 28,860 adult patients in a longitudinal primary care database. Our first objective was to study the natural course of frequent attendance and to determine the proportion of 1-year-Frequent Attenders who remain a Frequent Attender during two consecutive years and to calculate the GP workload for non-Frequent Attenders, 1-year-Frequent Attenders, and persistent Frequent Attenders. Secondly, we wanted to determine whether and how persistent Frequent Attenders differ from 1-year-Frequent Attenders and normal attenders.

Methods

Patient population

Five primary healthcare centres in Amsterdam provided data for this study. These centres participate in the GP-based continuous morbidity registration network of the Department of General Practice.
Attendance

Only face-to-face consultations with GPs (consultations in the surgery and house-calls) were included. Consultations with other practice staff were excluded because these contacts are mostly initiated by the GP and relate mostly to the monitoring of chronic diseases. We determined the mean number of consultations per age and sex group for the three groups of patients.

Morbidity

In the problem oriented approach to medical record keeping, patients can have a list of current medical problems (“Problem list”). Different from the definition used in the UK, in the Netherlands a current medical problem is defined by the GP as: any medical problem (disease or complaint) which needs continual medical attention or monitoring; any complaint or disease presented to the GP that has lasted more than 6 months and/or any recurrent medical problem (more than 4 complaints per half year). Every problem on this list was coded by the GPs using the ICPC. Please see appendix 1 for a list of the ICPC-codes.

Selection of 1yFAs, pFAs and non-FAs

Frequent Attenders were defined as those patients whose attendance rate ranked nearest to the top 10th centile of their sex and age group (15-30 years; 31-45 years; 46-60 years; 61 years+). Frequent Attenders were determined for each of the years 2003, 2004 and 2005. As starting point, we took the one-year-frequent attenders for the year 2003. We defined persistent Frequent Attenders as those patients who continued to be a frequent attender over the three year period. Patients who were never a Frequent Attender in the three year study period (non-Frequent Attenders) were used as a reference group. We compared the three selections. Patients younger than 15 years were excluded, because their consultations often depend on their parents. A multivariable analysis was performed to check for selective loss to follow up.

The data from these problem lists were extracted at the end of 2003 and the end of 2005. The numerator in the prevalence calculations was the number of enlisted patients with a certain current medical problem at the end of the two periods. Thus the prevalence of each medical problem was calculated for 1-year Frequent Attenders at the end of the first year, for persistent and non-Frequent Attenders at the end of the third year.
Box 1. Approach to the multivariable analysis

Loss to follow-up
368 patients (12%) were lost at some point over the two years of follow-up. We argued that, in theory, a potential frequent attender might move out of the practice due to dissatisfaction with care. The resulting selection bias may attenuate associations found between the selected indicators and frequent attendance. We tested our hypothesis in a multivariable logistic regression analysis with an indicator variable “1 = moved house” and “0 otherwise” as the dependent variable and 9 independent indicators (see below). Our hypothesis was not confirmed. On the contrary, we found some evidence that those with at least one chronic somatic illness were less likely to have moved out of the practice (odds ratio 0.73 (95%CI from 0.54 to 0.99)); all other associations were neither strong nor significant. These results support the view that important selection bias is unlikely. Sixty-eight patients (2.2%) had died over the two year follow-up period, but since, by definition, these patients cannot become 3-year frequent attenders, selection bias by death is impossible.

Variable selection
The 9 candidate predictors, modelled as 11 variables, included:
1. age at baseline (continuous),
2. sex,
3. number of problems on the problem list (continuous),
4. any of the three chronic somatic illnesses just mentioned (yes/no),
5. any psychological/social problem (yes/no),
6. any medically unexplained physical problem (yes/no),
7. psychoactive medication (yes/no),
8. average monthly number of prescriptions for antibiotics (0 = reference category; 1-2; >2),
9. average monthly number of prescriptions for analgesics (0 = reference category; 1-4; >4).

Figure 1. Flow diagram: Persistence of Frequent Attendance
Prevalences were calculated for that subset of morbidity in which, according to the literature, frequent attenders differ most of normal attenders: diabetes mellitus, chronic cardiovascular disease, chronic respiratory disease, feelings of anxiety, feelings of depression, addictive behaviour, other psychological/psychiatric codes, all social problems and medically unexplained physical symptoms (MUPS) \(^2\). MUPS were defined according to Robbins et al. and had to comply with the definition of the Problem List \(^9\).

We determined the total number of registered medical problems as indicator of overall morbidity for the one and three year periods.

**Prescribed medication**

The yearly number of prescriptions for each patient was calculated for the following: antibiotics, painkillers, anxiolytics, hypnotics, and antidepressants. We present the average number of prescriptions of these 5 groups of medications in non-Frequent Attenders, 1-year-Frequent Attenders and persistent Frequent Attenders.

**Statistical analysis**

SPSS 14.0 for windows was used for the statistical analysis. Differences between patients groups were analysed using \(X^2\) test. Statistical significance was set at \(P<0.05\). After checks for errors and consistency, we assessed the potential for selection bias due to loss to follow-up and death.

Box 1 provides a description of our approach. Statistical analyses were performed in Stata (version 9.2).

**Results**

**1-year-Frequent Attenders, persistent Frequent Attenders and GP-workload**

The number of Frequent Attenders found were as follows: 2003, 3,045 (10.6%); 2004, 2,897 (10.2%); 2005, 2,499 (9.3%). Of all Frequent Attenders in 2003, 436 were lost to follow-up because they had died (71) or moved out of the practice (365) before December 31, 2005. A multivariable analysis showed (virtually) no signs of selective loss to follow up for moving out of the practice or for death (see Box 1). Of the 2,609 Frequent Attenders in 2003 who could be followed for three years, 1,008 were also Frequent Attender in 2004, while 470 continued to be a Frequent Attender in 2004 and 2005 and were a persistent Frequent Attender according to our definition. These persistent Frequent Attenders comprised 1.6% of all enlisted patients of 15 years and older in 2003 and 15.4% of all 1-year-Frequent Attenders in 2003. (See Figure 1) Compared with 1-year-Frequent Attenders, persistent Frequent Attenders are older (see diagram 1). The percentage of patients over the age of 65 years changed from 12.5% to 15.3%, the percentage of patients in the age group 45-64 years changed from 26.6% to 34% and the percentage at 15-44 years decreased from 60.9% to 50.6%.

The number of yearly consultations varied substantially according to age. In 2003, the mean number of consultations
Table 1. Mean number of GP-consultations per age group for non-Frequent Attenders, 1-year Frequent Attenders and persistent Frequent Attenders in 2003.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Non-FAs(^1)</th>
<th>1yFAs(^2)</th>
<th>pFAs(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-44</td>
<td>1.01</td>
<td>6.5</td>
<td>8.47</td>
</tr>
<tr>
<td>45-64</td>
<td>1.61</td>
<td>8.6</td>
<td>10.98</td>
</tr>
<tr>
<td>65+</td>
<td>2.85</td>
<td>12.4</td>
<td>14.3</td>
</tr>
<tr>
<td>All patients &gt;15</td>
<td>1.4</td>
<td>7.8</td>
<td>10.22</td>
</tr>
</tbody>
</table>

1. Non-frequent attenders
2. 1-year frequent attenders
3. Persistent frequent attenders

Table 2. Morbidity of non-Frequent Attenders, 1-year Frequent Attenders and persistent Frequent Attenders: prevalence and relative difference (non-Frequent attenders 100)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Non-FAs(^1)</th>
<th>1yFAs(^2)</th>
<th>pFAs(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes mellitus</td>
<td>5.5</td>
<td>13.7</td>
<td>23.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(250)</td>
<td>(421)</td>
</tr>
<tr>
<td>Chron. Cardiovasc. disease</td>
<td>13.7</td>
<td>23.4</td>
<td>37.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(170)</td>
<td>(275)</td>
</tr>
<tr>
<td>Chron. resp. disease</td>
<td>9.8</td>
<td>17.8</td>
<td>27.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(181)</td>
<td>(277)</td>
</tr>
<tr>
<td>(feelings of) Anxiety</td>
<td>1.8</td>
<td>4.7</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(261)</td>
<td>(522)</td>
</tr>
<tr>
<td>(feelings of) Depression</td>
<td>3.2</td>
<td>6.4</td>
<td>8.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(200)</td>
<td>(271)</td>
</tr>
<tr>
<td>Addictive behaviour</td>
<td>1.2</td>
<td>2.9</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(241)</td>
<td>(408)</td>
</tr>
<tr>
<td>MUPS</td>
<td>6.8</td>
<td>13.1</td>
<td>25.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(192)</td>
<td>(370)</td>
</tr>
<tr>
<td>Social problems</td>
<td>1.3</td>
<td>2.0</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(153)</td>
<td>(607)</td>
</tr>
<tr>
<td>Psychological/psychiatric problems</td>
<td>9.2</td>
<td>20.6</td>
<td>37.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(223)</td>
<td>(402)</td>
</tr>
<tr>
<td>Number of medical problems</td>
<td>1.16</td>
<td>2.00</td>
<td>3.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(172)</td>
<td>(303)</td>
</tr>
</tbody>
</table>

1. Non-frequent attenders
2. 1-year frequent attenders
3. Persistent frequent attenders
CHAPTER 3

of non-Frequent Attenders (n= 19,120), 1-year Frequent Attenders (n= 2,609) and persistent Frequent Attenders (n= 470) were 1.4, 7.8 and 10.2 respectively (see Table 1).

In 2003, for patients of 15 years and older, 80% of all face-to-face consultations were with 37% of the registered patients. Another 37% of patients had not visited their GP at all during that year. In 2003, the 3,045 Frequent Attenders (10.6%) were responsible for 39% of all face-to-face consultations; the 470 persistent Frequent Attenders (1.6%) were responsible for 8% of all consultations.

Morbidity

Table 2 shows the distribution of 9 medical problems or diagnoses across the three categories of non- and frequent attenders. The most important findings are the substantial differences in morbidity for social and psychological/psychiatric problems and the high percentage of persistent Frequent Attenders with cardiovascular disease (37.7 %) and MUPS (25.3 %). Persistent Frequent Attenders present with more medical problems (3.52) than 1-year Frequent Attenders (2.0) and non-Frequent Attenders (1.16). Age follows the predictable pattern of the older the patient, the more consultations and the more medical problems.

Compared with both other groups we see in persistent Frequent Attenders especially more social problems, more feelings of anxiety and more addictive behaviour. These persistent Frequent Attenders differ less as far as the prevalence of chronic somatic diseases is concerned. In persistent Frequent Attenders, feelings of anxiety is more prevalent than feelings of depression. In 1-year Frequent Attenders feelings of depression is more prevalent. (See Table 2)

Number of prescriptions

Compared to non- and 1-year-Frequent Attenders, persistent Frequent Attenders received more prescriptions for painkillers antibiotics, antidepressants, anxiolytics and sleeping tablets. Especially the high number of prescriptions for painkillers and anxiolytics in Frequent Attenders is remarkable. (See Table 3)

Discussion

Main findings

When analysing the consultations of all enlisted adult patients from 5 primary health centres during 3 consecutive years, we found that frequent attending is usually a self-limiting condition. One out every seven (15.4%) of patients who were a Frequent Attender in 2003 (or 18% of those FAs who were enlisted for all three years) remained a Frequent Attender during two consecutive years. These persistent Frequent Attenders make up 1.6% of all enlisted patients of 15 years and older in 2003. GPs held about seven times more consultations with persistent Frequent Attenders compared with non-Frequent Attenders. Compared with non- and 1-year-Frequent Attenders, persistent Frequent Attenders presented more social problems, more feelings of anxiety, more addictive behaviour and MUPS and they received more prescriptions for psychotropic medication.
Strength and limitations

An important strength of our study is the size and the longitudinal character of the dataset and the experience of the participating GPs. Most GPs have participated in the registration network for over 10 years and are used to accepting regular feedback on their registration activities. Prescriptions are extracted from the GPs’ Electronic Medical Record and the number of actual prescriptions is therefore reliable although the amount of prescribed drugs is not. Prescription data in general practice are generally considered to be of higher quality than data on diagnoses. As we used routinely collected data and did not plan any intervention in the normal practice routine, our data reflects the day-to-day business of general practice. Furthermore, the demographic data are accurate.

A limitation of our study, however, is that the data are restricted to “what the GP knows and registered”. In particular, the problem lists could be inflated (if resolved problems are not removed) or subject to underreporting. Underreporting could be the case for patients with a low consultation frequency – thus inflating the contrast between Frequent Attenders en non-Frequent Attendees – and for patients who are relatively new in the practice. As the problem lists of all participating GPs are subject to evaluation on a regular basis we think this problem is being dealt with as well as possible. These problem

<table>
<thead>
<tr>
<th></th>
<th>Non-FAs¹</th>
<th>1yFAs²</th>
<th>pFAs³</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antibiotics</strong></td>
<td>0.18</td>
<td>0.7 (388)</td>
<td>0.88 (488)</td>
</tr>
<tr>
<td><strong>Painkillers</strong></td>
<td>0.51</td>
<td>2.3 (457)</td>
<td>2.91 (570)</td>
</tr>
<tr>
<td><strong>Anxiolytics</strong></td>
<td>0.20</td>
<td>0.9 (450)</td>
<td>1.3 (650)</td>
</tr>
<tr>
<td><strong>Hypnotics</strong></td>
<td>0.19</td>
<td>0.7 (368)</td>
<td>0.99 (521)</td>
</tr>
<tr>
<td><strong>Antidepressants</strong></td>
<td>0.22</td>
<td>0.9 (409)</td>
<td>1.15 (523)</td>
</tr>
</tbody>
</table>

1. Non-frequent attenders
2. 1-year frequent attenders
3. persistent frequent attenders
lists therefore seem quite valid 22,23. Many patients who suffer from an incurable disease become frequent attenders in the months prior to their death. Although our results may include terminally ill patients, only few persistent frequent attenders were incurably sick and died soon after the study period (see box 1). The GP practices in this study are situated in an urban area. This means that the results cannot be generalized and compared with practices in more rural areas. Unfortunately, Socio-Economic-level and ethnicity were not registered.

Relevant literature

There is substantial literature about the characteristics and morbidity of 1-year Frequent Attenders. The few longitudinal studies show regression of attendance rates to the mean in the longer run 15,16,24,25. However, studies on persistent frequent attendance used different definitions of Frequent Attendance and lacked the power to detect differences in morbidity and prescriptions. Several trials have been conducted to test interventions for changing consultation behaviour and/or morbidity of Frequent Attenders 12. Only one study consisting of 2 RCTs used frequent attendance over a period of 2 years 13,14. All others included 1-year-Frequent Attenders 26-28. Although no study found evidence to support the possibility that healthcare utilization of Frequent Attenders can be influenced, the study that included Frequent Attenders for two years did find evidence that treatment of major depressive disorder in a subgroup of depressed Frequent Attenders improved the patients’ symptoms and quality of life.

Implications for future research or clinical practice.

Knowing that frequent attendance is predominantly a temporary phenomenon and because of the continuous high workload, the high prevalence of diseases and the considerable use of medication, we think that only persistent Frequent Attenders deserve further attention. Regarding the important role of psychological and psychiatric problems (especially anxiety) and social problems in persisting frequent attendance it seems logical to focus on these problems in Frequent Attenders in order to try to improve their quality of life and to prevent the continuation of frequent consulting behaviour.

Conclusion

We conclude that, compared with normal attenders, 1-year-Frequent Attenders have many somatic and psychiatric problems, are prescribed much medication, including psychotropic medication, and that they constitute a substantial part of the clinical work of a GP. One out of every seven 1-year Frequent Attenders persists to consult frequently during a period of two consecutive years. Compared to 1-year Frequent Attenders, persistent Frequent Attenders have even more consultations with their GP, suffer from more morbidity (especially social, psychiatric and MUPS) and are prescribed more medication (especially psychotropic medication).
References


