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

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_Citation for published version (APA):_
chapter 7

INTERVENTIONS ON FREQUENT ATTENDERS IN PRIMARY CARE. A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Purpose
To analyze which interventions are effective in influencing morbidity, quality of life and healthcare utilization of frequently attending patients (FAs) in primary care.

Method
We performed a systematic literature search for articles describing interventions on FAs in primary care (Medline, Embase and PsycINFO). Outcomes were morbidity, quality of life and use of health care. Two independent assessors selected all randomized clinical trials (RCT) and assessed the quality of the selected RCTs.

Results
Three RCTs used frequent attendance to select patients at risk for distress, major depression and anxiety disorders. These RCTs applied psychological and psychiatric interventions and focused on as yet undiagnosed psychiatric morbidity of FAs. Two of them found more depression-free days and a better quality of life after treating Major Depressive Disorder (MDD) in FAs. No other RCT found any positive effect on morbidity or quality of life. Two RCTs studied an intervention which focused on reducing frequent attendance. No intervention significantly lowered attendance. Due to the difference in study settings and the variation in methods of selecting patients, meta-analysis of the results was not possible.

Conclusion
We did find indications that frequent attendance might be a sign of as yet undiagnosed MDD and that treatment of MDD might improve the depressive symptoms and the quality of life of depressed FAs. We found no evidence that it is possible to influence healthcare utilization. Future studies should focus on well-defined subgroups of FAs.
**Introduction**

Primary care physicians (PCP) spend about 80% of their time on 20% of their patients: about one in every seven consultations concerns the top 3% of attenders.\(^1\) Two systematic literature reviews confirm that these frequent attenders (FAs) have high rates of physical disease, emotional distress, psychiatric illness and social difficulties.\(^2,3\)

Frequent attenders are a heterogeneous group of patients. Karlsson’s analysis of FAs suggests dividing them into five subgroups: patients with purely somatic illness (28%), patients with clear psychiatric illness (21%), patients in temporary crisis (10%), chronically somatizing patients (21%) and those with multiple problems (20%).\(^4\) In most cases somatic and psychiatric illnesses are accepted reasons for frequent consultation, crises pass and are a reason for frequent consultation for a short time. However frequent attendance by multi-problem or somatizing patients with related but undetected psychiatric morbidity is thought to lead to unnecessary consultations and therefore to ineffective health care.\(^5\) Detecting, diagnosing and treating the psychiatric disorders of these FAs should improve their quality of life as well as lower the impact of frequent attending on the healthcare system.\(^6\)

The combination of large workload and high rate of (chronic) disease make FAs an important group for a PCP not only to study but also to treat.

The objective of this study is to analyze which interventions might be helpful in reducing morbidity and improving the quality of life of FAs and might reduce their healthcare utilization. We therefore performed a systematic review of interventions on FAs aimed at answering two questions: (1) which interventions have been studied, and at which group of FAs were they targeted, and (2) what was the effectiveness of these interventions in terms of morbidity, quality of life and frequency of attendance?

**Methods**

*Literature search:*

We searched the databases Medline, Embase and PsycINFO (1980-2006-11). To obtain optimal sensitivity we used the MESH-headings: ‘health services/utilization’, ‘health services misuse’ and ‘health care utilization’, as well as the following truncations as text words: ‘frequent attend*’, ‘frequent consult*’, ‘high utiliz*’, ‘high consultation frequency’, ‘high consultation rate’. In addition we checked the references of all included articles for other relevant but not yet retrieved articles.

*Selection of articles:* On title and abstract, we selected articles which described interventions in FAs in primary care aged between 18 and 70 years, and were written in the English, French, Dutch or German language. We included all possible FA-definitions, also definitions based on specific (sub) groups of primary care patients. When there was any doubt about the setting or the kind of included patients we assessed the full paper. An overview of the FA definitions used in the final selection of articles for this review is presented in table 1.
All articles that met the inclusion criteria were read in detail to select only randomized controlled trials (RCT) and to re-check the inclusion and exclusion criteria. Two assessors (FS; KW) performed these procedures independently and the final selection was discussed in a consensus meeting with a third assessor (HW).

**Quality assessment:** Two reviewers (FS and KW) appraised each RCT independently with the quality criteria for assessment of experimental studies of Khalid Khan et al. This checklist consists of nine items on methodological quality. All items were scored as yes, no or uncertain. Points of disagreement were discussed with a third senior assessor (HW) for a final decision. Because of the differing study settings and the variation in studied populations, pooling of the results was not possible.

**Results**

**Literature search:**

Our literature search resulted in 4357 articles. After the first selection, 28 articles were retrieved for detailed reading. (Figure 1) The second selection resulted in the identification of five RCTs. Table 1 presents an overview of their characteristics.

**Included studies:**

Setting, definition of FAs, kind of counted contacts and the population of the included studies are summarized in table 1.

Simon et al. and Katzelnick et al. refer to the same research program. Their main goal was the evaluation of a depression management program among depressed FAs. They excluded patients who had received active treatment for depression during the previous three months and for whom the treatment program would be inappropriate (i.e. bipolar or psychotic disorder, substance abuse or terminal illness). The selected patients (n=7203) were screened by telephone using the depression module of the Structured Clinical Interview for DSM-IV (SCID). Those currently suffering from major depression or those reporting an episode of major depression within the previous two years but now in partial remission (n=1475) were eligible for a second assessment using the Hamilton Depression Rating Scale (HDRS).

Finally, a total of 407 patients with a HDRS score of 15 or more consented to enrolment: 218 patients were randomized to a Depression Management Program (DMP) and 189 patients received usual care (UC). **Intervention:** The depression management program included a two hour physician training program, an evaluation visit with their PCP immediately after enrolment, antidepressant medication (AD) if appropriate, written and videotaped educational materials and treatment coordination. **Results:** in the year following the intervention patients in the intervention group had a mean of 47 more depression-free days (c.i. 26.6-68.2), more prescriptions for AD (69.3% of DMP patients and 18.5% of UC patients had filled at least three antidepressant prescriptions for the six-month period after enrolment; P<0.001), more improvement on the HDRS (change in HDRS in 12 months for DMP patients 9.2 and for UC patients 5.6; P<0.001), more improvement on the SF-
diagnostic interview by a psychiatrist using the Diagnostic Interview Schedule (DIS) with the family physician present, a jointly formulated treatment plan and a mutually accepted course of action (i.e. medication adjustment, referral, fixed-interval visits etc.). The outcome measures were rates of anxiety and depression (SCL-90-R), use of antidepressants and use of health care.

Results: Katon found no significant difference in improvement of psychopathology, more prescribed antidepressants (+38%; p<0.01.) in the intervention group after one year and no consistently significant differences in any utilization measure between intervention and control groups (primary care, p=0.097; medical specialty visits, p=0.111; radiography, p=0.61; lab testing, p=0.072; admission to inpatient care, p=0.16).

Katon et al. evaluated a psychiatric consultation-liaison program among distressed FAs. They selected 1790 FAs (235 patients were excluded for various reasons). From this group distressed FAs were selected by using the Symptoms Checklist Revised (SCL-R); sum score 1 standard deviation above population mean. Of the 339 identified distressed FAs, 251 gave consent for randomization, 124 patients were assigned to the intervention group and 127 to the control group. The intervention consisted of a psychiatric diagnostic interview by a psychiatrist using the Diagnostic Interview Schedule (DIS) with the family physician present, a jointly formulated treatment plan and a mutually accepted course of action (i.e. medication adjustment, referral, fixed-interval visits etc.). The outcome measures were rates of anxiety and depression (SCL-90-R), use of antidepressants and use of health care. Results: Katon found no significant difference in improvement of psychopathology, more prescribed antidepressants (+38%; p<0.01.) in the intervention group after one year and no consistently significant differences in any utilization measure between intervention and control groups (primary care, p=0.097; medical specialty visits, p=0.111; radiography, p=0.61; lab testing, p=0.072; admission to inpatient care, p=0.16).
<table>
<thead>
<tr>
<th>Setting</th>
<th>Definition FA/Kind of counted contacts</th>
<th>Population</th>
<th>Identification</th>
<th>Number of interventions / contr. patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care clinic, 3 prepaid health plans in Midwest, Northwest and New England, (USA)</td>
<td>Top 15% attenders during 2 consecutive years, outpatient medical visits</td>
<td>Age: 23-63</td>
<td>Electronic data: SCID: Pos MDD or MDD pos. last 2 yrs (=1475 pat), HDRS &gt;14, 163 General practices: Usual care: 81, intervention: 82</td>
<td>Intervention: 218, Usual care: 189</td>
</tr>
</tbody>
</table>

**Table 1. Overview of the selected Randomized Clinical Trials**

- **Simon**
- **Katzelnick**
- **Katon**
- **Olbrisch**
- **Christensen**

SCID: Structured Clinical Interview DSM
MDD: Major Depressive Disorder
HDRS: Hamilton Depression Rating Scale
SF: Social Functioning
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Follow up</th>
<th>Outcomes</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Depression management program (DMP):</td>
<td>1 Year after randomization</td>
<td>• Depression free days</td>
<td>• More depression free days (229-182)</td>
</tr>
<tr>
<td>• 2 h training</td>
<td></td>
<td>• Costs</td>
<td>• More costs (+$51.84 per additional depression free day)</td>
</tr>
<tr>
<td>• evaluation contact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• antidepressant medication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• information material</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• treatment coordinator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• DIS by psychiatrist</td>
<td>1 Year after randomization</td>
<td>• HDRS</td>
<td>• Improvement HDRS (13.6–9.9 at 1 year)</td>
</tr>
<tr>
<td>• Interview by the psychiatrist with the GP present</td>
<td></td>
<td>• SF-20 score</td>
<td>• More use of AD (69.3% of DMP-patients and 18.5% of usual-care-patients with at least 3 prescriptions in 0, 5 year)</td>
</tr>
<tr>
<td>• Jointly formulated treatment plan</td>
<td></td>
<td>• Use of antidepressant medication</td>
<td>• Better SF-20 scores for social funct, mental health, gen. health perceptions</td>
</tr>
<tr>
<td>• Written protocol of treatment for GP</td>
<td></td>
<td>• Attendance</td>
<td>• More attendance in year after inclusion (+3, 2)</td>
</tr>
<tr>
<td>Brief educational program (group of 3-8 students)</td>
<td>1 Year after intervention</td>
<td>• Use of antidepressant med (AD).</td>
<td>• More AD (+38%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rate of anxiety/depression</td>
<td>• No better psych state</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use (psych) health care</td>
<td>• No lower use of health care and costs</td>
</tr>
<tr>
<td>• Status consultation by GP</td>
<td>1 Year after the intervention</td>
<td>• Number of contacts with the out-of-hours-service</td>
<td>• Lower use of primary care on short term.</td>
</tr>
<tr>
<td>• Education of participating GP’s</td>
<td></td>
<td>• Daytime contacts with the GP/hospital admiss</td>
<td>• Convergence towards same utilization during follow-up</td>
</tr>
<tr>
<td>• Questionnaire patients</td>
<td></td>
<td>ions; visits to hospital outpatients clinics</td>
<td>• No differences on number of visits to other health care providers</td>
</tr>
<tr>
<td>• Economic incentives GP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SCL-R  Symptom Checklist Revisited
DIS  Diagnostic Interview schedule
The numbers in superscript refer to the reference list
Table 2. Quality assessment selected RCTs

<table>
<thead>
<tr>
<th>Quality criteria (7*)</th>
<th>Simon (8)</th>
<th>Katzelnick (9)</th>
<th>Katon (5)</th>
<th>Olbrisch (12)</th>
<th>Christensen (13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment to the treatment groups really random?</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>Treatment allocation concealed?</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>?</td>
<td>-</td>
</tr>
<tr>
<td>Groups similar at baseline in terms of prognostic factors?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>Were the eligibility criteria specified?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Outcome assessors blinded to the treatment allocation?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>n.a.</td>
</tr>
<tr>
<td>Was the care provider blinded?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Was the patient blinded?</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Points estimates and measure of variability presented for the primary outcome measure?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Analyses included an intention to treat analysis?</td>
<td>+a</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

a  Not mentioned in this article. Katzelnick does mention the criteria.
* Numbers between brackets refer to the reference list

Olbrisch refers to an intervention among frequent attending students.9,10 Her purpose was to evaluate the effectiveness of a brief health education intervention aimed at making students aware of the psychological and social factors that make people prone to illness and to inappropriate use of health care resources. Three-hundred randomly-selected and eligible students were sent a letter inviting them to participate, 129 agreed and 112, who kept appointments scheduled for them, were randomized to the intervention group (n=34) or the control group (n=40). Olbrisch also selected a matched group with no contacts (n=30). The exact routing of all study participants is not clearly described. Her intervention consisted of a brief educational group program (presentations, discussion and a demonstration or audiotape of deep muscle relaxation). The outcome measure was use of health care facilities. Results: the intervention group showed reduced utilization of the university health center for a short period of time (not adequately specified), with this effect dissipating over time and no significant differences on the number of visits to other health care providers (F(2.85)=1.7; p=0.19).

In the only RCT outside of the USA, Christensen et al studied an out-of-hours primary care service in Denmark.11
They tested whether a combination of intervention strategies reduced health care utilization by FA's. In a cluster randomization, family physician practices were randomized to intervention practices (83 practices; 3500 patients) and control practices (93 practices; 4635 patients). The intervention consisted of (1) a patient questionnaire and an invitation for the FAs to contact their family physician for a status consultation, (2) information about the project and FAs for the PCP, (3) physician group education on frequent attending (29% of all physicians representing 40% of all practices participated) and (4) economic incentives for the PCP to perform the status consultation. Outcome measures were (1) the number and kind of contacts with the out-of-hours-service (2) daytime contacts with PCP, hospital admissions, and visits to hospital outpatient clinics and emergency departments. Results: They found no significant difference in the primary and secondary outcome measures.

Quality assessment

The quality assessment of the included RCTs is summarized in Table 2. None of the RCTs fully complied with all quality criteria. In none of the RCTs were the patient and the care provider sufficiently blinded. Blinding of patients and physicians was not possible in the studies of Simon, Katzelnick, Olbrish and Katon because psychological treatments do not allow concealment. Katon, Olbrisch and Christensen did not include an intention-to-treat-analysis. Olbrisch did not describe whether the outcome assessors were blinded to the treatment allocation and did not give point estimates and measures of variability. Christensen did not go into detail about point estimates and measures of variability. All articles, except Christensen’s, refer to various subgroups of FAs. Therefore it was not possible to generalize the results of these studies to all FAs.

Discussion

Main findings

After an extensive search for all relevant literature we were able to identify five randomized controlled trials that studied interventions on FAs. Our aim was to learn more about the included FA population, about the type of intervention program and its effectiveness in improving morbidity and quality of life and in lowering attendance.

The outcome of these interventions was disappointing. We found just 5 primary care based trials. The populations under study as well as the outcomes of studies differed. Two RCTs found more depression-free days and reported a better quality of life after treating MDD in a subgroup of depressed FAs. Although on an individual basis the gain was quite impressive (a mean of 47 depression free days) the net gain on a group level was disappointing: for every SCID 2.6 depression free day could be achieved. One other RCT found no positive effect on morbidity. Only two RCTs included clear measures of quality of life. Finally, all RCTs concluded that the studied interventions did not significantly lower attendance during one year of follow-up.
Two RCTs describing an intervention in depressed FAs found even more contacts, more prescriptions for AD and more costs in the intervention group within one year of follow-up. One RCT found more prescription of AD and no significant difference in health utilization. Two RCTs did not measure costs.

Strength and limitations

An important limitation was the differences in study settings and the variation in methods of selecting patients. Four studies were carried out in the USA (3 HMO; 1 university healthcare), one in Denmark (out-of-hours-service). We also found that frequent attendance is not a clearly-defined concept. Two studies selected patients who were FA for two consecutive years (Simon, Katzelnick). Other studies selected patients who were FA for three months (Olbrisch) or one year (Katon, Christensen). Three studies selected a percentile of most attending patients; two used a certain number of consultations as a selecting criterion. In three studies, frequent attendance was used to select a group of patients at risk for distress, major depression and/or anxiety disorders. The other two made no further selection and intervened in all FAs. Also the interventions used were different: in three studies, which focused on as yet undiagnosed psychological problems and psychiatric morbidity of FAs, interventions consisted of a screening and depression management program and a treatment plan and intervention by a psychiatrist. One used an educational group program. In only one study the intervention (mainly a status consultation and incentives for the PCP) was carried out by a PCP and focused on diminishing attendance. Due to the low number of PCP’s trained in this study, it is likely that the success of this intervention was underestimated. Because of all these differences we cannot generalize results to other (sub)group of FAs.

A possible explanation for the lack of generalisibility could be that frequent attendance is the result of many disease- and personality-linked factors which make frequent attenders a heterogeneous group of patients. Intervening on a specific aspect of frequent attendance, for instance depression, dilutes the outcome of a RCT which studies all FAs. Moreover, frequent attendance is not a consistent personality trait, but often a transitory characteristic. Some studies show that up to 60-70% of frequently attending patients change their health-seeking behavior within 2-3 years. Using healthcare utilization as an outcome measure therefore does not seem adequate in studying FAs, defined on a one year basis. Studies that did find an effect used consultation patterns on a two year basis. When an intervention is planned the net effect on healthcare utilization in the short term logically is upwards and a follow-up of longer than one year is needed.

Our study is the first that reviews interventions on FAs. The strength of this study is the sensitive search with both Mesh-headings and text words. We therefore expect not to have missed any RCT describing an intervention in FAs.
Comparison with relevant literature

There is an extensive literature about the characteristics of (sub) groups of FAs. There are little studies (n= 28) which try to influence morbidity, quality of life and use of healthcare of FAs. Only five are RCT's. Definitions of FAs differed considerably. We propose to follow the advice of Vedsted et al. to define FAs as the top 10% of all enlisted patients.2

Conclusion

We found a small number of studies that evaluated interventions on FAs. There is no evidence that it is possible to influence healthcare utilization by frequent attenders. Treatment of (not yet diagnosed) major depressive disorder might improve the symptoms and the quality of life of depressed FAs, but will not reduce their consultation rate within one year of follow-up.

References


