Decreasing the number of consultations for minor illnesses of Turkish and Dutch inhabitants of a deprived area in The Netherlands: an intervention study

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Objective. The purpose of this study was to assess the effectiveness of GPs personally handing out to their patients booklets about minor ailments and self-limiting health problems (minor illnesses).

Methods. The study was a pre-test–post-test, control group design and took place in seven general practices. The participants were 162 patients (72 Turkish, 70 Dutch and 20 of other nationality) who frequently visit their GP (≥5 times a year), living in deprived areas of The Hague. They were recruited in the waiting rooms of participating general practices. GPs personally handed out booklets to their patients about 12 of the most common minor illnesses and explained how to use them. The main outcome measures were consultations for the 12 minor illnesses listed in the booklet, reported by the patients themselves as well as registered in the general practice medical records, and the number of self-reported illnesses the patients suffered from.

Results. The results of both the self-report and the medical records show a significant decrease in number of consultations for minor illnesses in the entire research population, Turkish as well as Dutch. The number of self-reported self-limiting health problems of the Dutch increased.

Conclusion. Due to the non-randomization procedure, some caution with regard to generalization must be taken. The results indicate that distribution by the GP of booklets with tailored information when a patient is ill leads to a reduction in consultations for minor illnesses.

Keywords. Ethnic minorities, intervention, medical self-care, minor illnesses, primary health care.

Introduction

At present, there is a widespread concern in primary care, because the management of patients who consult their GP for acute, self-limiting health problems is a burden on the workload of GPs. In particular, in deprived areas with low economic and social standards and many immigrants, e.g. Turkish people in The Netherlands, GPs experience their workload as being too high. This might be due to cultural differences and the social and economic status of the patients. An important part of the GP’s workload consists of consultations for minor ailments and self-limiting health problems (minor illnesses), which could account for up to 40% of their consultations. These consultations are often not very satisfactory for the patient or the GP. In most cases, the GP can only offer reassurance whereas the patient expects treatment.

Faced with a minor health problem or symptom, patients must decide whether to seek care from a health care professional or to treat themselves. In an attempt to change care-seeking behaviour, interventions have been applied to stimulate self-care behaviour. Several
studies have shown the effectiveness of medical self-care education in reducing health care utilization, while others failed to do so. The dissemination of information by mail was considered to be the most important reason for failure: people were receiving information about illnesses when they were not ill. Another factor that might have contributed to the lack of effect was the profusion of information, i.e. 40 minor illnesses were discussed. It was argued that it might be more effective if written information about (self-) treatment of minor illnesses is handed personally to patients by their GP, in particular when they are suffering from a minor illness.

The present study examined the effectiveness of an intervention aimed to reduce care-seeking behaviour by stimulating self-care behaviour for minor illnesses among Turkish and Dutch inhabitants of a deprived area in The Hague, the government city of The Netherlands. In The Netherlands, each community-dwelling person is registered with a GP, and patients have to consult their GP before entering the rest of the medical system, the so-called ‘gatekeeper’ system. The focus in this study was on cultural differences, for it is known that (non-western) immigrant patients seek professional medical help more often than native-born patients. The effectiveness of the intervention might therefore differ between these two groups. In contrast to other studies, the present intervention was carried out by the GP, who personally handed out booklets, in which the 12 most common minor illnesses of these specific patients were discussed in easy, understandable language, to the patients when they consulted the GP for a minor illness. The number of consultations based both on self-report and on medical GP records was investigated to determine whether the intervention reduced the number of consultations for minor illnesses, whether the possible change would last over time, and whether there were any differences between the Turkish and the Dutch participants.

Method

Design

This longitudinal study was based on a ‘pre-test–post-test control group’ design. There was one pre-test (T0) before the intervention, and two post-tests: 6 months (T1) and 1 year after the intervention (T2). Data were collected during structured face-to-face interviews with patients in the ‘interview’ group (IG). A reference group (RG) was added to adjust for bias in estimating the effectiveness of the intervention due to the extensive interviews. The RG consisted of patients who also received the booklet from the GP, but who were not interviewed at T0 and T1. A control group (CG) of patients living in the same deprived areas, but consulting other GPs, was created. These patients did not receive the booklet and were not interviewed (see Fig. 1).

Data were collected from the medical records in order to compare the attendance frequency for minor illnesses of the IG with the RG and CG over time: the year before the intervention (1998), and in the 2 years after the intervention (1999 and 2000).
Participants

There were 241 patients invited to participate in the study. Initially, 162 patients were included (79 refused) from seven different general practices (72 Turkish, 70 Dutch and 20 of other nationalities). Inclusion was based on the GP's assessment of the frequency of consultation, which had to be ≥ 5 visits a year, and a minimum age of 18 years. There was no difference between participants and non-participants with regard to attendance frequency according to the medical records.

There were 132 participants in the RG (89 Turkish, 29 Dutch, nine of other nationalities and five unspecified). These were all from the same general practices as the participants in the IG. Since Dutch people are a minority in deprived areas, it was not possible to recruit more eligible Dutch participants from the participating general practices.

Because of the risk of contamination of groups, it was not possible to form a CG of patients who did not receive a booklet from their participating GP. Therefore, a CG of patients living in the same deprived areas, but consulting other GPs, was created. The CG consisted of 85 patients who agreed to participate in the study.

Procedure

When the study started at the end of 1998, participants were recruited in the waiting rooms of the general practices by Dutch and Turkish interviewers, and each patient was interviewed in the language they preferred. Patients who met the inclusion criteria were invited by the interviewer to participate in the study. If they agreed, a short interview was held in the general practice, after which the patient received the booklet from the GP. Shortly afterwards, a second complementary interview was held in the participant’s home. This interview contained additional questions that could not be asked in the general practice, due to time limitations, e.g. demographic variables. Thus, the first measurement (T0) consisted of two interviews. A third interview 6 months later (T1) and a fourth interview 1 year later (T2) were also held in the participant's home (see Fig. 1).

Participants in the RG and CG were recruited by means of a letter, sent on behalf of their GP, inviting them to participate in the study, after which interviewers contacted them by phone to ask whether they were

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**Box 1**  Two examples of the way the guidelines on the management of a minor illness were presented in the booklet

**Headache**

**Symptoms**
- Pain in the front, sides or back of the head
- Pain is oppressive/heavy/dull, sometimes there is a feeling that there is a band around the head
- With ordinary headaches there are no unusual aspects, they are caused by tension in the neck muscles or stress

**Visit the GP?**
- No, if you do not have any other physical symptoms
- Yes, if there are any other symptoms such as bad vision, vomiting, drowsiness or paralysis

**What can you do to treat yourself?**
- Talking to others about what is bothering you
- Writing a diary to understand what causes the headache
- Get enough rest, do not sleep too much
- Do exercises to relax (yoga)
- Do not take food and drink that cause headache such as coffee and alcohol
- Take aspirin, but no longer than a few days
- Try to go to bed at the same time every day
- Having an X-ray taken is seldom of any use

**Coughing**

**Symptoms**
- Coughing up phlegm
- Dry cough
- Sometimes in combination with a cold, flu or bronchitis

**Visit the GP?**
- No, an ordinary cough will disappear within 14 days
- Yes, if it lasts over 14 days or recurs frequently
- Yes, if the coughing comes together with constriction, chest pain, illness or coughing up bloody phlegm

**What can you do to treat yourself?**
- You don’t have to do anything for the first 14 days
- Don’t smoke
- Drink frequently, or suck on a sweet/candy
- Use nose drops if the coughing comes together with a cold
- Steam under a towel or in the shower
- Drink tea with honey
- If this does not relieve the cough enough, one could buy some cough syrup at the pharmacy. This does not cure the cough, but it might ease the complaint
willing to participate. If they agreed, they were interviewed at home only once, 1 year after they had received the booklet from their GP.

**Measures**

Structured interviews were used to measure behaviour and behavioural change. All questions were asked at T0, and most questions (except for demographic variables) were repeated at T1 and T2.

During each measurement, all participants were asked whether they or their children had suffered from any of the minor illnesses mentioned in the booklet during the 6 months preceding the interview and whether they had consulted the GP for this. The number of minor illnesses measured was the number of different minor illnesses reported by the participant. Also the number of consultations concerning different minor illnesses.

**Medical records**

In the general practice, the medical records of the participants were studied and the number of consultations for minor illnesses was counted over a 3 year period: 1 year preceding the intervention (1998), and the first (1999) and second (2000) year after the intervention, in order to control for the self-reported number of consultations (Fig. 1). Specifically trained third year medical students assessed each consultation that concerned a minor illness according to the contents of the booklet. Two medical students’ double-checked the first 10 medical records and scores were compared. Any disagreement was discussed, after which there was consensus on how the medical records should be assessed.

To be able to compare the number of self-reported consultations with the number reported in the medical records, the number of consultations for different minor illnesses was also the number counted in the medical records.

**Analyses**

MANOVA's were performed to compare the mean scores of the three measurements within subjects, so only those participants who completed all four interviews were included in the analyses (n = 117). The level of significance was 0.05. All analyses were adjusted for practice (n = 7). MANOVA's were also used to compare the data from the medical records within subjects over time.

**Results**

**Participants**

For various reasons, some IG participants dropped out of the study (change of GP, moving house, re-migration, death). After 1 year, there were 117 patients remaining in the IG (72%). Most participants (80%) were women. The average stay of the Turkish participants in the Netherlands was 10 years; nevertheless, the majority chose to be interviewed in their native language. The patients who could no longer be contacted at T2 did not differ significantly from the patients who completed all interviews with regard to demographic characteristics (gender, age, nationality, level of education, etc.) or outcome measures at T0 (self-reported care-seeking behaviour).

No significant differences were found between the IG and the RG with regard to gender, level of education, marital status, employment, number of children and duration of stay in The Netherlands. However, the RG consisted mainly of Turkish patients (71%), whereas the IG consisted of 44% Turkish patients. Moreover, more participants in the RG were aged between 18 and 35 years, and very few were aged over 65. There was a difficulty in retrieving all medical records of the RG. Only 123 of the 132 could be found (85 Turkish, 24 Dutch, nine other and five unspecified).

Of the CG, a complete medical record could be retrieved for only 69 participants. CG participants were not interviewed and therefore their nationality remains unknown since GPs in The Netherlands are not supposed to register a patient’s nationality. Thirty-one families with Turkish names could be identified in this group. The CG participants differed from the IG participants. They were better educated and more frequently employed. They frequently visited their GP, like the IG participants, but this was not because of illnesses mentioned in the booklet.

**Self-reported care-seeking behaviour concerning minor illnesses**

IG. A significant decrease in self-reported care-seeking behaviour concerning minor ailments and self-limiting health problems was found \[ F(2,230) = 8.9; P < 0.001 \]. At baseline, the participants in the IG reported that during the previous 6 months they had consulted their GP 3.0 (SD = 2.2) times because of 4.9 (SD = 2.1) different minor illnesses. Six months later, they reported that they had consulted their GP 2.1 (SD = 2.0) times for 5.1 (SD = 3.2) different minor illnesses. One year after the intervention, they reported 1.7 (SD = 1.8) consultations for 5.3 (SD = 2.7) different minor illnesses. Turkish IG participants reported significantly more consultations for minor illnesses than the Dutch IG participants \[ F(1,101) = 7.7; P < 0.007 \]; see Figure 2.

RG. The number of consultations for minor illnesses that the participants in the RG reported was an average 2.4 (SD = 2.3) for 5.4 (SD = 3.7) different minor illnesses, and did not differ significantly from the number of consultations reported by the IG at T2. However, there was a difference based on nationality. The number of consultations reported by Dutch participants in the RG \( x = 2.2; SD = 2.5 \) at T2 was significantly higher than the number reported by the Dutch participants in...
This study aimed to evaluate the effects of a medical self-care intervention for Turkish and Dutch patients living in deprived areas, when faced with a minor illness. A weakness in such an evaluation study design is that the sample procedure lacks randomization, but from a practical and methodological point of view randomization was not possible. Decreasing the number of consultations for minor illnesses was investigated.

**Medical records**

The medical records of both the IG \(t(94) = 3.3, P = 0.001\) and the RG \(t(122) = 2.7, P = 0.007\) showed a significant decrease in care-seeking behaviour concerning minor illnesses. This effect remained 2 years after the intervention, in particular among the Dutch participants in the IG \(t(31) = 2.4, P = 0.02\). The medical records of the CG did not show a change in number of consultations for minor illnesses during the research period (see Table 1).

**Self-report versus medical records**

The number of self-reported consultations differed from the number registered in the medical records. In 1999, participants reported that they had consulted their GP 3.8 times for a minor illness (adding T1 and T2), versus 2.0 times reported in the medical records. The Dutch participants, who reported 2.7 consultations compared with 2.5 reported in the medical records, differed from the Turkish participants, who reported 4.8 consultations compared with 2.8 reported in the medical records.

**Minor ailments and self-limiting health problems**

Compared with T0, participants at T2 reported that they had suffered from significantly more minor illnesses \(r(240) = -6.5, P < 0.001\), and T1 \(r(143) = -2.4, P = 0.02\), especially the Dutch. This was due to an increase in self-limiting health problems (Table 2), while the number of reported minor ailments remained stable.

**Discussion**

**Methodological issues**

This study aimed to evaluate the effects of a medical self-care intervention for Turkish and Dutch patients living in deprived areas, when faced with a minor illness. A weakness in such an evaluation study design is that the sample procedure lacks randomization, but from a practical and methodological point of view randomization was not possible. It was not possible to form a

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**Table 1** Mean number of consultations for minor illnesses reported in general practice medical records

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview group (all)</td>
<td>3.3 (2.6)**</td>
<td>2.5 (2.1)</td>
<td>2.6 (2.7)</td>
</tr>
<tr>
<td>Dutch</td>
<td>2.9 (2.6)**</td>
<td>2.0 (2.2)</td>
<td>1.6 (1.5)</td>
</tr>
<tr>
<td>Turkish</td>
<td>3.7 (2.5)**</td>
<td>2.8 (1.8)</td>
<td>3.3 (3.3)</td>
</tr>
<tr>
<td>Reference group (all)</td>
<td>3.6 (3.0)**</td>
<td>2.9 (2.3)</td>
<td>3.2 (2.8)</td>
</tr>
<tr>
<td>Dutch</td>
<td>1.5 (1.6)</td>
<td>1.5 (1.5)</td>
<td>1.6 (1.8)</td>
</tr>
<tr>
<td>Turkish</td>
<td>4.4 (3.1)**</td>
<td>3.5 (2.4)</td>
<td>3.8 (2.9)</td>
</tr>
<tr>
<td>Control group (all)</td>
<td>0.9 (1.1)</td>
<td>1.0 (1.0)</td>
<td>0.7 (0.9)</td>
</tr>
</tbody>
</table>


**Table 2** Mean number of different self-reported minor illnesses of the interview group divided into self-limiting health problems and minor ailments in the six months preceding each interview

<table>
<thead>
<tr>
<th></th>
<th>T0</th>
<th>T1</th>
<th>T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>All minor illnesses</td>
<td>4.9 (2.0)</td>
<td>5.1 (3.2)</td>
<td>5.3 (2.9)</td>
</tr>
<tr>
<td>Dutch</td>
<td>4.8 (1.8)</td>
<td>5.3 (3.2)</td>
<td>5.3 (2.8)</td>
</tr>
<tr>
<td>Turkish</td>
<td>4.9 (2.3)</td>
<td>4.8 (3.0)</td>
<td>5.1 (2.4)</td>
</tr>
<tr>
<td>Self-limiting health problems</td>
<td>2.0 (1.5)***</td>
<td>2.3 (2.7)**</td>
<td>2.9 (2.6)</td>
</tr>
<tr>
<td>Dutch</td>
<td>2.0 (1.4)***</td>
<td>2.8 (2.9)</td>
<td>3.0 (2.9)</td>
</tr>
<tr>
<td>Turkish</td>
<td>1.9 (1.6)</td>
<td>1.8 (2.5)</td>
<td>2.5 (2.2)</td>
</tr>
<tr>
<td>Minor ailments</td>
<td>2.9 (1.4)</td>
<td>2.8 (1.4)</td>
<td>2.8 (1.4)</td>
</tr>
<tr>
<td>Dutch</td>
<td>2.8 (1.4)</td>
<td>2.6 (1.5)</td>
<td>2.5 (1.3)</td>
</tr>
<tr>
<td>Turkish</td>
<td>3.0 (1.4)</td>
<td>3.0 (1.3)</td>
<td>2.9 (1.2)</td>
</tr>
</tbody>
</table>

* Significant between T0 and T1, ** significant between T0 and T2, *** significant between T1 and T2.

**Discussion**

**Methodological issues**

This study aimed to evaluate the effects of a medical self-care intervention for Turkish and Dutch patients living in deprived areas, when faced with a minor illness. A weakness in such an evaluation study design is that the sample procedure lacks randomization, but from a practical and methodological point of view randomization was not possible. It was not possible to form a
control group of patients from the same general practices who did not receive a booklet from their participating GP, because of the risk of contamination of groups, and the possibility of influencing GP’s behaviour by the mere fact of GPs knowing which patients had received the intervention. The control group patients differed from the participants in the interview group. They frequently visited their GP, but not because of illnesses mentioned in the booklet, they were better educated and more frequently employed. Nevertheless, we feel that this group still can function as a control group to show the effect of the intervention, since they were similar to the interview group in the most important aspects, i.e. the number of consultations, and they were living in the same deprived area.

Effect of the intervention
The number of self-reported and registered consultations for minor ailments and self-limiting health problems (minor illnesses) decreased significantly after patients received a booklet from their GP with 12 guidelines about the most common minor illnesses. Two years after receiving the booklet, the number of registered consultations for these illnesses was still below the level at the start of the study. At that time, there was no significant difference between the number of consultations of participants who were only interviewed once (reference group) and those who were interviewed more often (interview group). It is therefore argued that the reduction in the number of consultations for minor illnesses was due to the intervention.

The number of consultations for minor illnesses declined most in the Turkish participants. However, the Dutch already reported fewer consultations at the start of the study. The Turkish and the Dutch differed in the number of self-reported minor illnesses. The number of the self-limiting health problems reported by the Dutch increased during the study. Thus the decrease in the number of consultations for minor illnesses reported by the Dutch is associated with an increase in self-reported self-limiting health problems. This might be due to the interviews, which might have led to an increased awareness about minor illnesses. However this did not occur in the Turkish participants. If the Dutch really suffered from more minor illnesses during the study period, there are two possible explanations: either the intervention was extremely successful for the Dutch, or the intervention made them feel pressurized not to attend when they are unwell. The Turkish patients reported more consultations than were recorded in the records. This does not mean that they consulted other doctors. The Dutch ‘gatekeeper’ medical system does not allow this to occur. The over-estimation of consultations of the Turkish might be due to cultural differences; unlike the Dutch, the Turkish evaluate consulting a GP as highly positive, and might therefore over-report. However, this highly positive evaluation of professional health care utilization did not prevent the intervention from being effective for the Turkish participants.

There might also have been other factors that exerted influence on the decrease in the number of consultations. However, at the end of each interview period <1% of the entire study population reported that they heard anything about this subject other than during the interview or at the general practice. Yet, at the end of the research period, on 1 September 1999, a new regulation concerning the prescription of medication became effective. Insurance companies no longer reimbursed the prescription of many types of medication, in particular for the treatment of minor illnesses. As a result, it is no longer possible to obtain this kind of medication for free. Thus the decrease in the number of consultations could have been (partly) due to the introduction of this new regulation. This could be retrieved from the medical records. However, the medical records showed no significant decrease in the number of consultations for minor illnesses in 2000 compared with 1999, nor did it show any difference in GP behaviour with regard to prescriptions before and after the introduction of this regulation. This supports the conclusion that the decrease in the number of consultations was due to the intervention.

In conclusion, the intervention has proved to be effective. An important reason for this success might be that the booklet was tailored to the population it was intended for, and was handed out personally to the patients by their GP at a time when illness was salient. However, the number of self-limiting health problems reported by the Dutch did increase and for this reason it is not yet clear whether this intervention can be considered as successful to the Dutch participants as it appears to be to the Turkish.

Declaration
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Conflicts of interest: None.

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