Toepassing van de gezondheidsgids in onze praktijk

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In het kader van mijn Master Na Master scriptie schreven wij een artikel dat werd ingediend voor het European Journal of General Practice.
Oorspronkelijke titel: “Combining multiple prevention strategies in one health questionnaire: a pilot study” (Stefan Morreel, Werner Van Peer, Veronique Verhoeven)
Hieronder kan u eerst het vertaalde abstract vinden gevolgd door het ingediende artikel.

Abstract

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Context: Huisartsen dienen enorm veel preventieve interventies op te volgen. Het combineren van een aantal van deze interventies in één vragenlijst kan een oplossing bieden. De gezondheidsgids is een voorbeeld van zo een vragenlijst. Over dit onderwerp bestaat weinig onderzoek.

Onderzoeksvraag: Stijgt het aantal preventieve items in onze dossiers na de implementatie van de gezondheidsgids? Hoeveel patiënten nemen deel wanneer deze vragenlijst wordt uitgedeeld tijdens een routine consultatie?

Methode: De wetenschappelijk onderbouwde vragenlijst uit de gezondheidsgids bevat 25 vragen over 11 onderwerpen. Deze werd toegepast in een groepspraktijk met vier artsen in een half landelijke gemeente. De beschikbaarheid van deze 25 items werd gemeten in de dossiers voor en na de interventie.

Resultaten: Er werden 106 patiënten geïncludeerd waarvan er 46 deelnamen. De beschikbaarheid van de meeste antwoorden nam toe na de interventie. Deze toename was significant voor 8 van de 25 items.

Conclusies: Deze studie toont duidelijk aan dat het gebruik van de gezondheidsgids de kwaliteit van de preventie in onze dossiers heeft verhoogd. Wanneer deze vragenlijst wordt uitgedeeld tijdens een routine consultatie krijgen we een mooie respons.

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Combining multiple prevention strategies in one health questionnaire: a pilot study (Stefan Morreel[1], Werner Van Peer[2], Veronique Verhoeven[3])

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Running title: Combining prevention strategies in one questionnaire

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Abstract

*Background: G*eneral practitioners are confronted with a lot of required preventive interventions. A solution to this problem is combining several interventions into one questionnaire. Almost no research exists about this subject.

Objectives: In this pilot feasibility study we examine whether a prevention strategy based on a questionnaire increases the number of preventive items in the patient's records, and we examine the response rate when this questionnaire is distributed during a routine consultation.

Methods: An evidence based questionnaire containing 25 questions about 11 topics was used in a practice of four doctors in a semi-rural community. The availability of the 25 answers was rated before and after the intervention using strict criteria.

Results: Of the 104 included patients 46 participated. After the intervention the availability of most items increased but it was only significant for eight items.

Conclusion: This unique pilot study clearly shows us that a questionnaire which combines multiple prevention interventions improves the quality of our records. Handing over this questionnaire during routine visits gives a high response rate.

Keywords (MeSH terms)

- Primary Health Care
- Preventive Medicine
- Preventive Health Services
- Quality Improvement
- Public Health

Keymessages

- Combining several preventive interventions into one questionnaire improves the quality of these preventive interventions
- Distributing this questionnaire during a routine visit gives a high response rate
- For those interventions found to be weak in the pre-intervention measurement we saw a marked increase after the intervention

Introduction

General practitioners (GPs) are confronted with an overwhelming amount of required preventive interventions. Because of various barriers both the physician and the patient quickly lose focus.[1] A possible solution is combining these interventions into one questionnaire.[2] The Flemish scientific board of general practitioners (Domus Medica) has made such a questionnaire called the health guide (‘de gezondheidsgids’ in Dutch).[3, 4] There is a lot of research about single focus preventive interventions but almost no research can be found about combining multiple interventions.[2, 5, 6]

The main objective of this pilot study is to examine if the use of this questionnaire increases the number of preventive items in the electronic records of the participants. As a secondary objective we assessed how many patients respond when this questionnaire is distributed during a routine visit.

Methods

The practice

This pilot implementation study was conducted at a practice near Antwerp, Belgium. This practice, located in a semi-rural area consists of four GPs of different ages. The ®Windoc 8.8 electronic records system is used. It contains datasets such as history, current diseases, follow up notes, current medication, physical measurements and a personal calendar. In this calendar curative and preventive interventions for the future are written down. The International Catalogue of Primary Care (ICPC) is used when applicable.[7]

Population

The study was conducted between 4/1/2011 and 7/15/2011. Each day the first consulting patient, meeting the inclusion criteria was asked to participate. These criteria were: aged between 50 and 65 years and being inscribed at our practice. If the GP forgot to include the first patient he was allowed to include the second one. The participants were given time until 10/15/2011 to return for the intervention. A patient could only be included once. Exceptionally the GPs were allowed to exclude a patient for a specific reason. For example a short life expectancy.

The questionnaire

The questionnaire was created in 2010 by the Flemish scientific board of general practitioners (Domus Medica). It contains 25 questions about 11 topics: cardiovascular prevention, smoking, diet, physical exercise, diabetes screening, vaccinations (tetanus, flu, pneumococcal), breast cancer screening, cervical cancer screening, colorectal cancer screening, alcohol abuse and medication abuse. All these topics were chosen out of existing evidence based guidelines and respond to the Wilson and Jungner criteria for screening.[8] For performing a health check with this questionnaire the Belgian government pays the GP a fee of €10,15 per patient.

The intervention

After the patients were given the questionnaire they were asked to book a new visit for the sole purpose of reviewing this questionnaire. During this visit the GP assessed all 25 questions together with the patient. When needed the GP did some minor physical examinations. In the electronic record the current diseases, history, calendar and measurements were updated. When a small intervention (e.g. vaccination) was needed it was performed at once. More time-consuming interventions (e.g. PAP-smear) were planned during a follow-up visit. This intervention was approved by the ethical review committee of the university of Antwerp under number A11-24 in May 2012. All patients signed an informed consent.

Pre-intervention measurement

Out of the 25 items in the questionnaire we skipped the questions about physical exercise, diet and medication abuse because of the lack of evidence-based criteria to measure them and because the result of these interventions cannot directly be found in the electronic records. All the items were rated as available or not available. Not available does not mean false. When for example a patients scored non available for the item ‘Hypertension’ this means that in his current disease list he did not have this item, either because the GP knew the patient

doesn't suffer from hypertension either because the GP isn't aware of it or forgot to write it down.
Criteria were formulated to assess the availability of all the 26 items. E.g. for the item 'Weight' this means having had a weight measurement during the past year.
In general these criteria can be divided into five types:
-Eight items which had to be planned in the personal calendar. E.g. for breast cancer screening a future mammography had to be found in this calendar.
-Four items that had to be added to the current diseases list.
-Five items were measurements and the exact numbers had to be written down.
-Eight items were registered as risk factors (e.g. smoking and family history).
-One item had to be registered in the history (previous cardiovascular event).
-Medication for hypertension had to be registered in the current medication list.
For some patients it was not possible to review their record before the intervention because they returned to soon. They were regarded as missing values.

Post-intervention measurement

For the participating patients all 26 items were rated again after the intervention using the same criteria.

Statistics

Descriptive statistics about the included population were conducted with SPSS version 20. We assessed the differences between the participating and the non-participating population with univariate statistics. Age was the only continuous variable for which we used the unpaired T-test. All the other variables were dichotomous and assessed through the chi square analysis or the Fisher exact test.
No sample size calculation was done for the intervention, since the required number of participants would be different for each variable in the questionnaire and since no reliable estimate of effect size could be made due to lack of examples in the literature. Therefore, the results of this pilot study must be interpreted qualitatively rather than quantitatively.

Results

Population

The flow of patients through the study is shown in figure 1. We offered the questionnaire to 108 patients. In total four patients returned too quickly to do the pre-intervention measurement. The mean age was 57,5 years. All patients were included between 4/1/2011 and 7/13/2011. GP one included 25 patients of whom 13 participated (52%). GP two included 44 patients of whom 24 participated (55%). GP three included 13 patients of whom two participated (15%). GP four included 22 patients of whom seven participated (32%). In Total 46 patients participated. The fastest one participated the same day of the inclusion, the slowest one 102 days after inclusion.

Five patients were excluded for patient-specific reasons. For three patients the GP did not have enough time to explain about the questionnaire. One patient had a life expectancy of less than one year. The last one had a somatisation disorder.

Pre-intervention measurement

The results of the pre-intervention measurement can be found in table I.

Differences between the participating and the non-participating patients.

The participating and the non-participating patients were similar. We only mention the significant differences. The participants were three years older on average. A length measurement could be found for 80% of the participants and only for 59% of the non-participants . A flu vaccination was planned for 46% of the participants tors and only for 19% of the non-participants tors. Finally a mammography was planned for 36% of the participating patients and only for 10% of the non-participators.

Post-intervention measurement

The results of the Post intervention measurement can be found in table II. There was an increase for most items but it was only significant for planned cardiovascular screening, weight, waist circumference, BMI above 30, planned screening for diabetes, planned tetanus vaccination, planned mammography, planned PAP-smear and planned FOB test.

Discussion

This study shows that a combined prevention strategy, opportunistically offered by a GP, is successful in terms of preventive measures taken and in terms of response rate. Of the included patients 46% came back for the preventive visit. This is more than in a similar Dutch study where a written invitation yielded a response of 33% and a poster invitation only one percent. [6] A small unpublished Belgian trial with the same recruitment strategy as ours had a response of 26%.[9]

Two out of four GPs had a response rate of about 50%. The two younger GP's had a much lower response of 32% an 15%. We do not have a solid explanation for this. The two younger GPs also included fewer patients, probably due to a different population with less patients aged between 50 and 65.

In the pre-intervention measurement we found reasonable rates for cardiovascular prevention, weight and length measurements, breast cancer screening and alcohol abuse. The rates for tetanus vaccination, diabetes screening, cervical cancer screening and family history of some diseases were rather low. For three items the rates in the participating population were better than the rates in the non-participating population. This might indicate a healthy volunteer bias.[10]

After the intervention we saw an increase for 22 out the 26 items. Due to the small number of included patients this increase was only statistically significant for nine items. As expected for those items found to be weak in the pre-intervention measurement analysis we saw a marked increase. Screening for colorectal cancer was an new project for this practice, of the 46 participating patients 40 (87%) had either a fecal occult blood test or a colonoscopy planned. In a similar but randomized Canadian trial 51% of the participants had a FOB after the intervention.[2] In a large Belgian trial for colorectal cancer screening with postal invitation the response rate was 44,3%.[11]

For some items the frequency was too low to assess them in this study (eg macrosomal child).

This project slightly increased the workload of the practice. Once acquainted to the use of this questionnaire the visits took about 15 minutes. Because the participating patients now have much better records, this project might even lessen the workload in the future. Most patients were enthusiastic about this project, some were not interested. We did not receive any negative reactions.

This pilot study has a number of limitations. Firstly the questionnaire was based on evidence based and validated guidelines but is not validated itself.[12] Secondly this was a non-controlled study: part of the increase in preventive actions might be due to a general improvement of our preventive attitudes. However a similar randomized trial did not show improvement in the control group.[2] The outcome of this combined intervention in terms of health improvement has not been studied. Finally this was an opportunistic screening strategy. Possibly those patients with the worst preventive status do not frequently present in general practice. [13, 14]

These weaknesses should be addressed in upcoming research. The results of our study are promising, but to generalize these findings there is need for a multi-practice study in a large randomized trial.

Conclusions

This unique study clearly shows us that a questionnaire which combines multiple prevention interventions is feasible and improves the quality of our records. Handing over this questionnaire during routine visits gives a high response rate. We believe this leads to better and more systematic prevention.

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Table I: availability of the items before the intervention (n = 104).

Variable	Number of available items
Hypertension	30
Measured BP in last year	77
Antihypertension treatment	37
Known diabetes	9
Previous CV- disease	13
Family history of CV-disease	5
Smoking	10
CV-screening in calendar	38
Length	71
Weight	54
Waist circumference	2
BMI above 30	5
Impaired Fastening glucose	3
Macrosomal child*	0
Family history of diabetes	3
Screening for diabetes	12
Tetanus vaccination in calendar	6
Hearth-, lung- or kindney disease	14
Flu vaccination in calendar	32
Family history of ovarian or breast cancer*	0
Mammography in calendar*	12
PAP-smear in calendar*	8
Family history of colorectal cancer	4
FOB test in calendar	0
Colonoscopy in calendar	6
Alcohol abuse	10

BP = Blood Pressure, CV = CardioVascular, BMI = Body Mass Index, FOB= Faecal Occult Blood

*: female patients only (n = 25)

Table II: Differences between pre-and post-intervention measurements (n = 46).

Variable	Available items before	Non-available items before	Available items afterwards (increase)	P-value (chi square /Fister Exact)
Hypertension	10	36	11 (+1)	0.8038
Measured BP in last year	37	9	43 (+6)	0.1190
Antihypertension treatment	12	34	12 (=)	1
Known diabetes	5	41	5 (=)	1
Previous CV- disease	8	38	8 (=)	1
Family history of CV-disease	3	43	6 (+3)	0.4850
Smoking	3	43	5 (+2)	0.7139
CV-screening in calendar	21	25	38 (+17)	**0.0002**
Length	37	9	43 (+6)	0.1190
Weight	28	18	41 (+13)	**0.0017**
Waist circumference	1	45	39 (+38)	**<0,001**
BMI above 30	3	43	17 (+14)	**0.0007**
Impaired Fastening glucose	0	46	3 (+3)	0.2418
Macrosomal child*	0	25	1 (+1)	1
Family history of diabetes	2	44	8 (+6)	0.0901
Screening for diabetes	5	41	18 (+13)	**0.0039**
Tetanus vaccination in calendar	3	43	43 (+40)	**<0,001**
Hearth-, lung- or kindney disease	9	37	10 (+1)	0.7968
Flu vaccination in calendar	21	25	21 (=)	1
Family history of ovarian or breast cancer*	0	25	4 (+4)	0.1099
Mammography in calendar*	9	16	24 (+15)	**<0,001**
PAP-smear in calendar*	5	20	19 (+14)	**<0,001**
Family history of colorectal cancer	1	45	5 (+4)	0.2031
FOB test in calender	0	46	38 (+38)	**<0,001**
Colonoscopy in calendar	3	43	5 (+2)	0.7139
Alcohol abuse	1	45	3 (+2)	0.6166

BP = Blood Pressure, CV = CardioVascular, BMI = Body Mass Index, FOB= Faecal Occult Blood

*: female patients only (n = 25)

Figure 1 Flow chart of the study population

