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Chapter 9

Pharmacists' role in awareness about folic acid: the process of introducing an intervention in pharmacy practice

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Abstract

Objective: To determine whether a multiple intervention program is feasible in pharmacy practice; which adjustments in organisation and materials will improve the feasibility; how the target group will experience the intervention.

Method: In each of the 4 pharmacies a core team (1 pharmacist and 1-2 technicians) was formed that was responsible for the organisation and implementation of the intervention. The intervention consisted minimally of adding a label about folic acid (FA) on the box of oral contraceptives (OCs) and handing out a leaflet about FA at least once during the intervention period. The intervention was planned or modified during core teams meetings every six weeks. Adjustments were made based on experiences of the pharmacy team, on responses in the pharmacy and on the results of a questionnaire sent to women one week after they visited the pharmacy with a OC-prescription. This cycle of planning, action, observation and reflection was repeated twice.

Setting: four pharmacies in eastern region of The Netherlands.

Key findings: The minimal intervention was carried out by all 4 pharmacies. Other activities differed per pharmacy: two introduced an age limit of 40 years for handing out the leaflet, two installed an electronic display, three worked with posters and display windows, and in two pharmacies the pharmacy technicians wore buttons and a portfolio was placed in the public area. Of the target group, 44% was positive about the received sticker, 49% was neutral and 4% was negative. Besides, 56% of the target group stated that they appreciate the preventive information given through the pharmacy.

Conclusion: Working with core teams seems to be a successful strategy. By editing the intervention per research cycle during the core team meetings an optimal intervention can be reached that fits in the existing organisation and possible barriers can be overcome. The target group was positive about the received information, which motivated the core teams enormously.

Introduction

Since the protective effect of folic acid on having a child with neural tube defects is known,^{1,2} many efforts have been made to get women of childbearing age to take enough folic acid. In 1993, the Dutch Inspectorate of Public Health recommended that all women planning a pregnancy should consume 0,5 mg folic acid tablets daily in the periconceptual period from 4 weeks before conception until 8 weeks after conception.³ This recommendation led to a mass media campaign about the periconceptual use of folic acid in September 1995.

In 2000, De Walle *et al* asked pregnant women at one of their antenatal visits about their knowledge about and use of folic acid.⁴ Although 82% of the respondents had a planned pregnancy, only 36% used folic acid in the advised period and 25% stated not to have used folic acid at all. Among these non-users 14% reported this was a conscious choice and the remaining responders stated they never had heard about folic acid or heard about it too late.

Also in 2000, the Health Council of the Netherlands advised against fortification with folic acid of staple food. Fortification should be limited to specific foods that are aimed at the target group.⁵ However, even this fortification is not allowed at the moment; thus consumption of FA supplements is the only option. Therefore the problem of reaching the target group (women planning their pregnancy) and inform them about the benefits of folic acid exists. In the Netherlands no structural preconception consultation exists and because folic acid should be taken before conception, regular antenatal visits of pregnant women to their physician or midwife, even in early pregnancy, are no option for advice in time. However, over 80% of the Dutch women plan their pregnancy and over 70% take oral contraceptives (OCs) somewhere before their first pregnancy, at least for a while. This means that young women visit their pharmacy regularly and thus folic acid education through pharmacies seems a good opportunity to increase periconceptual folic acid use. Generally spoken, it is the responsibility of health care providers to give information about negative as well as positive effects of drug exposure during pregnancy. Traditionally pharmacists give information about dispensed drugs. However, in pro-active patient education clients are exposed to the intervention without an existing latent or manifest actual need or request of the client to be exposed. This role in preventive health care as well as the pro-active approach in patient education is new to pharmacists. Thus new questions and problems will rise. Yet, comparable cases in which daily routines and practices are subject of intended quality improvement in general practice care, including pro-active patient education, are known. Evaluation and controlled studies conducted in the area of health

care are therefore very informative for our case. These studies came forward with several applicable conclusions. First, the chances on a successful voluntary introduction and implementation of changed or new methods of working increase if alleged actors of change are deliberately led through the stages of orientation, interest, evaluation, intention to change and planning to change. Second, in the stage of introduction of the change and implementation, action research can help to identify barriers and create solutions that are fully supported by the health care workers themselves.⁶ Furthermore, feedback of outcome measures can add significantly to the magnitude of the improvement achieved.⁷ Finally, multifaceted intervention programmes can induce relevant improvements in health care practice with more chance than non-multifaceted programmes.^{8,9} To be able to execute the multiple intervention a set of procedures and facilities was required, that was not yet part of the normal workflow. This implied that the pharmacy had to initiate procedural and behavioural changes in daily practice actively. The main objectives of this study were therefore whether a multiple information intervention program can be carried out in daily practice of a pharmacy; which adjustments in organisation and materials will lead to a better feasible intervention; and how the target group will experience the intervention.

Methods

After introducing the research proposal to a group of pharmacists, several pharmacies wanted to participate in this project. The study was carried out in four pharmacies (A, B, C and D) of which C and D have a partnership. These four were randomly chosen from the volunteers. In each pharmacy a core team of one pharmacist and one or two pharmacy technicians was formed. These teams were responsible for the organisation and implementation of the intervention in their pharmacy. The intervention itself was carried out by the whole pharmacy team. These teams consist of 1-3 pharmacists and 8-12 qualified technicians, depending on the number of patients served.

Intervention

The intervention should minimally consist of adding a sticker about folic acid on the box of oral contraceptives and handing out a leaflet about folic acid at least once during the intervention period. There was one ready-made leaflet available that could be used, but pharmacies were free to make one themselves. No sticker was available. Other means to

reach the women of childbearing age like posters and display windows were up to each core team to decide on.

Research cycles

The introduction and implementation of the intervention was set up over three cycles. Each cycle took six to eight weeks and consisted of four stages: planning, action, observation and reflection. During core team meetings with the researchers the intervention was planned (initial plan on first meeting, modified plans on following meetings). Each core team planned the intervention in a way they thought it was feasible in their pharmacy organisation at that moment. By this approach differences in intervention programs were possible between the four pharmacies. After each meeting whatever actions were thought necessary were undertaken in order to carry out the intervention. In all cases at least (modified) intervention plans were communicated with the whole team and then the team tried to carry out the (modified) intervention for six to eight weeks. During this phase of the cycle, it was actively observed how the intervention was carried out. Observations were done by the core team and by the researchers (see below). At the end of each cycle reflection of the former weeks took place, based on the experiences of the pharmacy team, and the answers on a questionnaire among the target group (see below). All results were discussed under supervision of an experienced conductor (DdS). Based on this reflection the next cycle was planned. At the end of the third cycle the optimal intervention per pharmacy should be reached.

Observations

To collect information about reactions at the counter, a small form was made on which the pharmacy technician could register questions or remarks (positive or negative) from women and their response. At each core team meeting these forms should be collected by the research team.

A questionnaire to measure the attitude of the target group contained among others closed questions about the sticker on the pillbox, the leaflet, opinions about these items and socio-demographic variables (table 1). Per cycle, 30 questionnaires per pharmacy were sent, spread over three weeks (a total of 360). The questionnaire was sent about one week after the women visited her pharmacy with a pill-prescription. Although the questionnaire was pre-tested and agreed on by a senior investigator, some small change in questions and lay-out were made after the first cycle based on the scored answers. Reminders were sent to all subjects of the second and third cycle, about 2 weeks after they received the questionnaire.

Table 1: questions and answers (frequencies) of questionnaires and characteristics of responders

	Frequency (%)
Send questionnaires	360 ¹
Response	164 (45.6)
Characteristics of responders (N=164)	
Mean age (range)	29.4 (18-49)
Born in the Netherlands	154 (94.5)
Mother born in the Netherlands	145 (89.0)
Father born in the Netherlands	149 (91.4)
What do you think about the label? ² (N=144)	
Good that the pharmacy informs me like this	64 (44.4)
Fine, it doesn't trouble me	5 (3.5) only asked for in first cycle
Doesn't apply to me but it doesn't disturb me	66 (45.8)
Annoying / Very annoying	3 (2.1)
Else, like...	3 (2.1)
Missing	3 (2.1)
How would you like it if from now on you would always find a label on your pillbox? ³ (N=152)	
Good that the pharmacy informs me like this	66 (43.4)
Fine, it doesn't trouble me	11 (7.2) only asked for in first cycle
Doesn't apply to me but it doesn't disturb me	61 (40.1)
Confusing	3 (2.0)
Annoying / Very annoying	3 (2.0)
Else, like...	2 (1.3)
Less often, say once a year, would be enough	6 (3.9)
What do you think about this attention for folic acid by the pharmacy? (N=163)	
Very good that pharmacy gives preventive information	91 (55.8)
Leave it to the GP	0
Don't trouble me with it	1 (0.6)
Very exaggerated, I've no intention getting pregnant before long	4 (2.5)
I've noticed nothing about it	16 (9.8)
Else, like...	6 (3.7)
No opinion	5 (3.1)
No answer	40 (24.5)

¹ Per pharmacy 3*10 =30 per cycle, so in total 3*4*30=360 questionnaires were send. Of these, 164 returned, one was unfit to use the answers of so 163 useable questionnaires. ² Percentages are based on 144 responders who stated to have seen the label.

³ The percentages are based on 152 responders: 144 who stated they've seen the label and 8 in the 2nd and 3rd cycle who stated not have seen the label but who were referred to this question anyway. In the 1st cycle this question was skipped after not have seen the label.

Results

First cycle

At the first core team meeting the core teams together formulated the text of the sticker they all used: "Child wish? Ask for information about folic acid in your pharmacy." With regards to the leaflets, the pharmacies had different approaches. Pharmacies C and D placed leaflets in the public area of the pharmacy while in pharmacies A and B a leaflet would be handed out to every woman who collected her OC. They all decided to use the available leaflet although they did not like the layout (only text, no pictures). In pharmacy B personnel added a letter about the project with the leaflet. Core team A explicitly mentioned in their plan to give the women oral information. An overview of all interventions executed is given in table 2.

Table 2: intervention per cycle per pharmacy

Interventions	Pharmacy A			Pharmacy B			Pharmacy C			Pharmacy D		
	1	2	3	1	2	3	1	2	3	1	2	3
Label												
on all OC	X	X		X	X	X	X	X	X	X	X	X
age limits (19-42)			X									
Leaflet												
with all OC	X	X		X	X			X			X	
age limit 19-42			X									
age limit <42						X						
only in public area of pharmacy							X		X	X		X
Letter with leaflet		X	X	X	X	X		X			X	
Notation in computer about given information	X	X	X	X	X	X		X			X	
Information by other means												
electronic information												
display						X		X				
poster(s)												
display window /showcase		X							X ¹			X ¹
button(s)		X									X	
information portfolio in public area									X ¹			X ¹
									X ¹			X ¹

¹ for one week during this cycle.

From the reflection of this first cycle it came forward that putting the labels on the boxes was fully integrated in the daily routine of all pharmacy team members and that leaflets were handed out as planned. For informing their colleagues about the intervention, each team used their usual methods (post boxes, general notice board and/or regular team meetings).

The forms for the patient comments at the counter were not used. It was considered too much work and no direct relevance was felt by the team members. A few negative reactions at the counter were brought up anyway and it was felt that those were the main dilemma during the project within the pharmacy teams. The discussion was about handling negative or painful reactions as well as the fact that team members (especially technicians) felt uncomfortable giving information about folic acid to women above childbearing age. In this discussion it was brought up that giving proper (oral) information at the desk can prevent negative reactions and maybe the letter used by pharmacy B might help as well. For example, a woman over 40 can be explained that the information given might not be applicable for her but she could pass it through to younger women in her surroundings. Besides, one pharmacist stated: "sometimes giving information is more important than the few negative reactions at the counter and the latter should not lead to stop giving this information." It was agreed on that if a woman states, even after explanation, that she wishes not to receive this information again, a notice could be made in the computer so she would not receive the sticker and leaflet anymore.

Second cycle

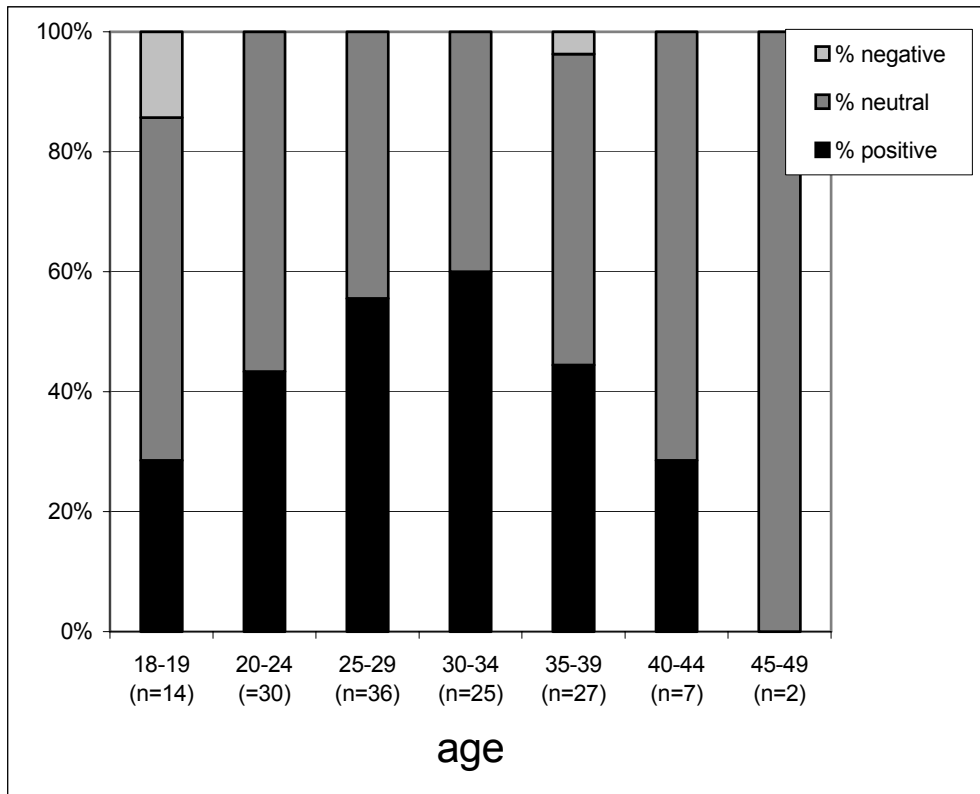
After evaluating the first cycle, all core teams planned the second cycle. As table 2 shows, no changes in the intervention were made by team B. The other pharmacies took over the letter with the leaflet and used posters, a showcase and an electronic display. In pharmacies C and D the leaflet was handed out actively with the OCs.

During the third meeting the second cycle was reflected upon. Again the negative reactions and the age of women receiving the intervention were the main discussion subjects. The counter forms were hardly used again and therefore the counter teams were asked to sit down with their colleagues once or twice in the third cycle to collect the reaction everyone could remember.

Third cycle

To avoid some of the negative reactions and feelings core team A decided to use age limits (19-42) for both label and leaflet while in pharmacy B only an age limit (<42) was introduced for the leaflet. These ideas were enthusiastically accepted by their colleagues, to whom it

Figure 1: percentage responders with a positive, neutral or negative attitude towards sticker on pillbox.



was a kind of relieve. In pharmacy B was decided that women who already had received a leaflet and entered the pharmacy again with an OC prescription, would not receive a leaflet again. Although pharmacies C and D stopped the active distribution of the leaflet to the individual OC users they did organise a theme week. An information portfolio about folic acid and other pregnancy topics was placed in the public area. Buttons and posters were used to encourage people to ask questions. The core team stated: "No concrete questions were asked, but at the end of each day the portfolio was obviously used and had to be tidied up". No core team had found the time to sit down with their colleagues and collect the counter reactions.

Questionnaires

Out of 360 questionnaires, 164 were returned (response 47%) and 163 were eligible for further analysis. Because the pharmacies delivered us the ages of the non-responders we could compare ages of responders with non-responders. No difference was found (T-test, $p=0.92$). Although the response rate differed per pharmacy and per cycle, these differences were not statistically significant (Chi-square $p=0.06$ for pharmacies and $p=0.34$ for cycles). Compared to the overall Dutch population aged 15 to 64 years, our responders have a higher education and compared to the female working population of this area our population has relatively more women with a paid job (64% vs. 45%).¹⁰

Of the 163 responders, 144 (88%) claimed to have received the label on the box. The percentages that did not receive the label differed per cycle: 22% in the first cycle and 3% and 11% in the second and third cycle. Differences per pharmacy were due to differences in the first cycle. Of the total of 144 who stated having received the sticker, 18% had not seen it until filling in the questionnaire.

The attitude toward the label was mainly positive ('good that the pharmacy informs me like this') or neutral ('fine, it doesn't trouble me' and 'doesn't apply to me but it doesn't disturb me'). The same kinds of results were seen for the question "how would you like it if you would always find a label on your pill-box from now on?". Six (4%) negative reactions ('confusing', 'annoying' and 'very annoying') occurred. Figure 1 shows that among the age groups 25-29 and 30-24 a higher percentage was positive towards the label than in the youngest and older age groups. The same pattern was found for the question about always receiving the label on the pill (figure not shown).

Over half of the responders (57%) claimed to have received the leaflet of whom 53% read this leaflet. Keeping the leaflet was not dependent of having read the leaflet (41% in both 'read it' and 'not read it').

After three cycles

At the last core team meeting the whole intervention period was evaluated. The core teams experienced the meetings as very helpful, especially the contacts with other core teams. It was encouraging to hear from others about same kind of problems and finding useful solutions together. Discussing the results, mainly of the questionnaire, was experienced very positive. It was motivating to see direct effects of the efforts made. Making a total plan for each cycle was stated to be a bit laboriously, due to the fact the intervention was implemented in a good way from the beginning thus only small changes were made in the second and third cycle. They all would recommend this intervention to their colleagues.

Implementation of this intervention is relatively simple, but it is very important to have the support of the whole pharmacy team.

All four pharmacies made plans to continue their actions on giving information about folic acid to women who visit the pharmacy with an OC prescription.

Discussion

Working with core teams and meetings around research cycles seems to be a successful strategy for two reasons: the tailor-made intervention and reflection during the meetings. The core teams formulated plans as they thought to be feasible in their daily practice and therefore they were able to introduce the intervention by different models without losing the fixed conditions regarding label and leaflet. Since all core teams intended to continue with the intervention after the third cycle we have showed chances of success are high with this approach. Because of time and workload in pharmacies nowadays, it would be impossible to reach this kind of intensive co-operation if you work with the whole pharmacy team. The second reason for success is the opportunity to discuss between core teams during the meetings. Especially the pharmacy technicians felt more certain to confront their colleagues with their plans. Although the core teams stated that redefining the plan was not needed, to our opinion they underestimate the effect of a structural reflection during the meetings and discussions about negative items as age limits. Without core team meetings the intervention would have more chance of failing.

The label was a success. All teams felt satisfied about the text; it should trigger women planning a pregnancy and not make women afraid about certain anomalies that can occur. The leaflet used was unpleasant (to much text, not clear what it is about at first sight) and suggestions were given for a better one. We hope this can be achieved in the future since currently this is the only available ready-made leaflet. Non-attractiveness of a leaflet might be a reason for counter assistants not to hand it out.

All core teams stated introducing the sticker was fully integrated in their daily routine since cycle one. The results of the questionnaire show that the core teams overestimated the success of the implementation of their intervention, especially in the first cycle. Furthermore, 18% of the responders stated to have received the label but not have seen it until they filled in the questionnaire. We assume these responders did not receive oral information while it is known from other research that written information combined with oral information is most effective. We therefore plead for consistent oral information for example once a year with the leaflet. This would also decrease the number of remarks that women

find it strangely to receive information about possible pregnancy with a pill that should them protect of getting pregnant and it could probably avoid the few negative reactions which might be a threat for the intervention as a whole.

The target group reacted mainly positive about the information received. But the few negative reactions were threatening the intervention because they discourage the pharmacy technician at the counter to give the information. The negative reactions in the questionnaires were found in the age groups 18-19 and 35-39. Among the age groups where most children are born (maternal age 25-29 and 30-34), more positive reactions occurred. The results of the questionnaire were very helpful in the reflection phase after each cycle because the results gave an indication how the target women experienced the intervention. Positive feelings encouraged the technicians to continue to educate about folic acid and the negative feeling could be discussed. This discussing helped the core teams in their role of stimulating their colleagues to keep educating about folic acid.

A limitation of this study is that it was only carried out in four pharmacies, which all volunteered to participate in the project. This means they had some affinity with the subject and they felt they had time and people to work on the project. On the other hand, it is nowadays important (financially) for pharmacists in the Netherlands to be able to show which pharmaceutical care projects they performed per year. The gained experience of this project can be used for other projects as well. Besides, a motivated team is always necessary for introducing new interventions.

Since our responders are relatively high educated and relatively frequently employed we can question if the lower educated women are reached by this approach. Unfortunately this is also the group where education about FA is mostly needed.⁴ Nevertheless we argue that FA education through OCs is a daily routine in the Dutch pharmacies this is a firm basis from which plans can be made to reach a broader population.

For generalising the project on folic acid to other health education topics, the idea of working with a core team is very useful. A core team of a pharmacist and at least one pharmacy technician means the expertise of an executive person who has an overview of the pharmacy in a broad perspective and the expertise of a team member who has insight in daily practice. In addition, pharmacy technicians' involvement in the whole process increases acceptance by the whole team and thus the chance of a successful intervention. Anderson and Raiyagury¹¹ investigated the views of pharmacists and technicians on folic acid education materials in the UK. They found that most pharmacists and technicians were comfortable advising regular customers but they would only raise sensitive issues like preventing neural tube defects by taking folic acid with customers they have a relationship

with. However, our study shows that Dutch pharmacists and technicians feel free to communicate this issue with all customers. Therefore we feel we should encourage the Dutch pharmacies to educate their clients, on non-sensitive issues as well as on sensitive issues.

We performed a follow-up after approximately one year to investigate the sustainability of the implementation of the intervention of these four pharmacies. We noticed that they all still performed the intervention as planned after the third research cycle. In conclusion, a multiple intervention program is feasible in the daily practice of a pharmacy. Good communication between members of the core team and the other pharmacy team members is essential to overcome barriers that can threaten the intervention. Materials that every team member likes and feels comfortable about to work with will lead to less discussion and therefore the intervention has more opportunity to be continued. The target group is mainly positive about the intervention and by making this visible, for example by explicitly asking them, will lead to less threat of ending the intervention.

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