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Is the Health promotion Campaign for the breast cancer screening programme in Flanders successful? A process evaluation

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Abstract

Aim. *To find out which health promotion media are successful in convincing women to participate in the Flemish breast cancer screening programme.*

Methods. *In June 2001, the Flemish government started a breast cancer screening programme complying with the European guidelines. Beginning 2002, two self-administered questionnaires were spread among 447 women who participated in this programme (one immediately before the screening examination, another directly after). Moreover, 900 women who did not participate in the programme, also received a questionnaire, this time by regular mail.*

Results. *The response rate of the questionnaire in the screening programme participants almost reached 100%. From the 900 postal questionnaires sent to the non-participants in the screening programme,*

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242 were returned (26.9%). Nearly all questioned participants and non-participants, said they knew the breast cancer screening programme of the Flemish government (95.7%, n=428 and 97.9%, n=237, respectively). The main channel by which they were informed about the programme, is the personal invitation letter (75.8%, n=339 and 81.8%, n=198, respectively). The GP scores rather low as an information channel (22.6%, n=101 and 16.1%, n=39, respectively). More than half the responding screening programme participants would not have had a preventive mammography performed in the absence of the Flemish screening programme (53.5%, n=239). Eleven percent of the responding screening programme participants could be attracted by the mammography being free of charge (n=49). All responding participants declare that they are willing to have another mammography in the future, following the ongoing procedure of a personal invitation letter with a specific appointment to a specific screening unit.

***Conclusions**. The personal invitation letter seems to be the strongest medium to motivate Flemish women to participate in the screening. In this respect, the GP is much less mentioned. Target payment could be a possible measure from the government to stimulate the GP where motivating women to attend screening is concerned.*

***Key words**: Belgium, Breast Cancer, Health Promotion, Mass Screening*

Samenvatting

***Doelstelling.** Trachten uit te zoeken welke GVO-media succesrijk zijn in het overtuigen van vrouwen om deel te nemen aan het Vlaamse borstkankerscreeningsprogramma.*

***Methoden.** In juni 2001 startte de Vlaamse overheid met een programma voor borstkankerscreening. Dit programma beantwoordde grotendeels aan de Europese richtlijnen. Begin 2002 werd een bevraging gedaan via twee schriftelijke vragenlijsten bij 447 vrouwen die deelnamen aan het programma. Eén vragenlijst werd net vóór en één net nà het mammografisch onderzoek afgenomen. Daarnaast werd 900 niet-participanten gevraagd een postenquête in te vullen en terug te sturen.*

***Resultaten.** Bijna alle participanten aan het screeningsprogramma die werden gevraagd om de vragenlijst in te vullen, gingen hierop in. Van de 900 postenquêtes die naar de niet-participanten werden gestuurd, kwamen er 242 ingevuld terug (26,9%).*

Bijna alle bevraagde participanten en niet-participanten zeiden dat ze het borstkankerscreeningsprogramma van de Vlaamse overheid kenden (95,7%, n=428 en 97,9%, n=237, respectievelijk). De belangrijkste weg waarlangs ze het programma leerden kennen, is de persoonlijke uitnodigingsbrief (75,8%, n=339 en 81,8%, n=198, respectievelijk). De huisarts scoort eerder laag als informatiekanaal (22,6%, n=101 en 16,1%, n=39, respectievelijk). Meer dan de helft van de bevraagde participanten zegt dat ze geen preventieve mammografie zou hebben laten uitvoeren, mocht het Vlaamse programma niet bestaan (53,5%, n=239). Het feit dat de screeningsmammografie gratis is, kon 11,0% van de bevraagde participanten overtuigen (n=49). Alle bevraagde participanten verklaren dat ze de intentie hebben om in de toekomst opnieuw een screeningsmammografie te laten uitvoeren en dit volgens de bestaande procedure, met een persoonlijke uitnodigingsbrief die een specifieke afspraak bij een specifieke mammografische eenheid vermeldt.

Conclusies. *De persoonlijke uitnodigingsbrief is het sterkste medium om Vlaamse vrouwen te motiveren tot deelname aan de screening voor borstkanker. Wat dit betreft, wordt de huisarts veel minder vermeld. Target payment is één van de maatregelen vanuit de overheid die de huisartsen zou kunnen stimuleren om vrouwen voor deelname aan screening te motiveren.*

Résumé

But*. Rechercher les moyens les plus fructueux pour convaincre les femmes à participer au dépistage du cancer du sein en Flandres.*

Méthode*. En juin 2001 la Flandre a débuté un programme de dépistage du cancer du sein. Ce programme répondait en grandes lignes aux directives européennes. Début 2002, 447 femmes qui participaient au programme ont rempli 2 questionnaires: l'un juste avant la mammographie et l'autre juste après l'examen. De plus, 900 non-participantes ont reçu par courrier une enquête à remplir et à renvoyer.*

Résultats*. Presque toutes les participantes à qui fut demandé de remplir les questionnaires, ont accepté. Des 900 enquêtes par courrier chez les non-participantes, 242 sont revenues dûment rempli (26,9 %).*

Presque toutes les participantes et les non-participantes questionnées ont dit connaître le programme de dépistage du cancer du sein du

gouvernement flamand (95,7 %, n=428 et 97,9 %, n=237, respectivement). La lettre d'invitation personnalisée est la principale voie par laquelle elles ont appris à connaître le programme (75,8 %, n=339 et 81,8 %, n=198, respectivement). Le médecin généraliste ne fait qu'un faible score comme source d'information (22,6 %, n=101 et 16,1 %, n=39, respectivement). Plus de la moitié des participantes affirment qu'elles n'auraient pas fait de mammographie préventive si le programme flamand n'existait pas (53,5%, n=239). Le fait que la mammographie du dépistage soit gratuite a pu convaincre 11,0 % des participantes questionnées (n=49). Toutes les participantes questionnées déclarent qu'elles ont l'intention de refaire une mammographie de dépistage et ceci selon la procédure existante, avec une lettre d'invitation personnalisée qui stipule un rendez-vous précis dans un centre de mammographie spécifique.

***Conclusions**. La lettre d'invitation personnalisée est le moyen le plus efficace pour motiver les femmes flamandes à participer au dépistage du cancer du sein. Dans cet ordre d'idées, les médecins généralistes sont mentionnés beaucoup moins. Des initiatives vers les médecins généralistes, comme target payment, peuvent être citées comme possibles mesures du gouvernement.*

Introduction

Breast cancer screening is one of the six priority health objectives, put forward by the Flemish government in 1998 (1). This resulted in the installation of an organized breast cancer screening programme in Flanders, Belgium on 15 June 2001. All women aged 50 to 69 years old are offered a free two-yearly mammography. This examination has to be performed in a certified mammographic unit. The European guidelines for quality assurance in mammography screening were largely followed to lay down the principles of the programme (2). Nevertheless, the introduction of the programme was not that simple. Since the beginning of the nineties, several pilot projects for breast cancer screening have been conducted in Flanders, Belgium. These pilot projects were rather successful, especially those in which the women were directly invited to a dedicated unit (3). That it still lasted more than ten years before the Flemish government took the decision to start a programme for the whole of Flanders, was mainly due to the complex structure of Belgium: the health care matter is partly allocated to the federal state (curative health care) and partly to the Communities (preventive health care). Moreover, health practitioners in Belgium are educated almost completely to perform curative medicine, whereby diagnostic and

therapeutic freedom are a sacred cow. These health practitioners were not eager for a preventive health care adventure in which they had to follow certain (quality) guidelines embedded in a rigourous organization.

This also explains that there is a specific programme feature: the Flemish government has chosen to stimulate and subsidize both the referrals by GPs and gynaecologists and the direct invitation by a dedicated screening centre. When a woman is referred for a screening mammography by a GP or a gynaecologist, this is called the first track. When a woman accepts the direct invitation of the screening centre, this is called the second track. A woman can participate in the screening programme by having a screening mammography in a screening unit which is recognized by the Flemish government (a private practice, a hospital or a mobile unit).

Only those women aged 50 to 69 who have not taken part in the programme by means of the first track, receive a direct invitation. The second track could only start at least 3 months after the first track had started. By following this procedure, the number of direct invitations can be reduced. The direct invitation is stating a specific place, date and hour on which the woman is expected to have her examination. Preallocated appointments induce a significant increase in compliance with screening (4). Of course, it is always possible for the woman to change this proposal. As well the place, the date as the time can be changed or the appointment can be cancelled.

The ambition is to have screened at least 75% of the eligible population with the lapse of time (5).

To introduce the programme to the public, a health promotion campaign was set up. In 1998, the Flemish League Against Cancer (VLK, Vlaamse Liga tegen Kanker) had already entered into an agreement with the Flemish government upon the communication to the public about breast cancer screening. The health promotion campaign started on 14 February 2001. Due to several technical problems, however, there was a delay of 4 months between the start of the health promotion campaign and the start of the screening programme. The Flemish health promotion campaign consisted of different communication tools:

– On 14 February 2001, a region-wide poster campaign carried by three well-known women belonging to the target group, was started. It contains the following message: ‘Are you between 50 and 69? Show your breasts!’

– On 20 February 2001, a personal letter with information about the screening programme and the poster is sent to a random sample of 2 million men and women (out of the 6 million inhabitants of Flanders)
– On 23 February 2001, a full evening's entertainment television show on the official Flemish Television Company: VRT (Vlaamse Radio en Televisie), introduces the two-yearly campaign 'Stand up against Cancer' (Kom op Tegen Kanker) which collects money for both curative and preventive cancer initiatives. In the 2001 campaign, special attention was given to breast cancer screening.
– After the television show, three series of radio and television spots from Stand up against Cancer are broadcast by the VRT. The third series is running until 3 June 2001.
– A 'Health line' (a dedicated telephone line) and a website are installed for everyone having questions about breast cancer screening.
– Furthermore, several other ways are used to inform women (such as flyers with GPs and in public places and advertisements in magazines).

In the study described below, we tried to find out to which extent the above-mentioned Flemish health promotion campaign was successful in convincing women to participate in the screening programme.

Methods

The study consisted of three questionnaires. Two self-administered questionnaires were presented to women who participated in the screening programme (part 1). A third one was conducted in women who did not participate in the screening programme (part 2). The study design was approved by the Ethical Committee of the University Hospital of Antwerp.

Where part 1 is concerned, each woman who wanted to fill out the questionnaire, had to sign an informed consent to confirm that she agreed with participating in the study. The informed consent consisted of a separate sheet. These sheets were collected in another box than the filled out questionnaires, so that it was impossible to link the identity to the questionnaire. Each woman also got an information document about the screening programme which could be read immediately or could be taken home.

Part 1 of the study took place at the Radiology department of the Antwerp University Hospital (one of the recognized screening units) and at the mobile unit during January 2002. All women in our study who were screened in the Antwerp University Hospital, were referred by a GP

or a gynaecologist (track 1). Women who were screened in the mobile unit, all received a direct invitation (track 2). The mobile unit was located at four different places during that month, all situated near the city of Antwerp. The questionnaires in the University Hospital were presented to the participating women on four consecutive Wednesdays, each time in the afternoon. When women did not fully understand a question or needed extra information, this was provided by the female researcher who was present.

As far as part 2 of our study is concerned, we randomly selected 900 women who did not take part in the screening programme, neither by the first track nor by the second. These 900 women all received a questionnaire and informed consent by regular mail, a few weeks after the mobile unit had called in at their community. Included was also a self-addressed envelope with postage paid by addressee. These women got a period of fourteen days to send back the questionnaire and the informed consent. The questionnaires were sent to women living in the same place as where the mobile unit had been active, and, as far as possible, in the same proportions as there were returned questionnaires of participants in the various stands of the mobile unit. Due to a color code at the outside of the self-addressed envelope, it was possible to retrieve the place from which the questionnaire was sent back.

These are the research questions and the respective outcome measures of our study, part 1 (participating women) which will be further discussed:

- Research question: What is the most effective way in which women can be motivated and informed about breast cancer screening? Outcome measure: the reach of a certain health promotion medium; the way in which a medium succeeds in getting through at least the basic information, i.e.: the existence of a breast cancer screening programme.
- Research question: What is the impact of the breast cancer screening programme on the voluntary participation of women? Outcome measure: the percentage of women that would not participate without the existence of a screening programme.
- Research question: Is breast cancer more frequently present in families of participating women and if so, at what age? Outcome measure: the prevalence of breast cancer in families of participants compared to the prevalence of breast cancer in families of non-participants, taking into account the age of the respondents.
- Research question: How many participants are practising breast self examination? Outcome measure: the percentage of participating women practising breast self examination.

- Research question: Is mammography evoking pain, fear or a feeling of shame? Outcome measure: a self-administered scale which measures the level of pain, fear or feeling of shame evoked by having a mammography.
- Research question: Are participants planning to have a future mammography after good experiences? And after bad ones? Outcome measure: the answer to the question on the intention to have a future mammography after a good or a bad experience.
- Research question: What is the support given to the breast cancer screening programme by GPs and gynaecologists? Outcome measure: the number of women that knew of the existence of the screening programme because their GP or gynaecologist told them.

Women were asked to fill out one questionnaire before they underwent the examination. Apart from age and job, in this short questionnaire, women were asked about their knowledge concerning the Flemish breast cancer screening programme: whether they knew this programme and by which means (television, flyers, GP, invitation letter, poster, radio, friends, gynaecologist, family, magazines, others). Furthermore, women were asked by which track they were triggered to participate, whether they performed breast self examination, whether it was their first mammography and if not, whether the former examinations were preventive or diagnostic, whether there is breast cancer present in the family, whether they would have had performed a screening mammography without the existence of the Flemish programme, how necessary they think the breast cancer screening programme is and whether they would have participated if the examination would not have been free of charge.

Another questionnaire took place immediately after the screening mammography had been performed. The latter questionnaire only consisted of 4 questions, about how painful the screening mammography had been experienced, whether women were anxious before the examination, whether they had a feeling of shame during the examination and whether they would come back for a next screening mammography and if so, whether or not they would come back to the same unit. Concerning the measuring of pain, a scale was used from zero (completely painless) to ten (very much pain) (6).

These were the research questions of our study, part 2 (non-participating women):

- Research question: Do women who do not participate, still know the Flemish breast cancer screening programme and if they do, how did

they get this information? Outcome measure: the percentage of non participating women who say they know the Flemish breast cancer screening programme and the medium or media by which they say they got information about it.
– Research question: How many non-participants are practising breast self examination? Outcome measure: the percentage of non-participants practising breast self examination.
– Research question: What are the reasons for women not to participate in the screening programme? Outcome measure: the grouped answers on the open ended question why women have no mammography within the screening programme.

The questionnaire for the non-participants consisted of eight questions. Apart from age and job, it was asked whether women knew the Flemish programme and by which means (television, flyers, GP, invitation letter, poster, radio, friends, gynaecologist, family, magazines, others), whether they performed breast self examination, whether they already had a mammography and if so, whether the previous examinations were preventive or diagnostic, whether there is breast cancer present in the family, whether they think the breast cancer screening programme is necessary and at last an open ended question why they had no mammography performed within the Flemish screening programme.

Results

Response

Concerning the participants in the screening programme, the questionnaire (before as well as after the examination) was filled out by 447 women. Only less than 10 women refused to co-operate, resulting in a response rate of more than 98%. In the case women did not have their glasses with them, the questionnaire was administered as much as possible as a face to face interview. Since only nine women attended the screening at the University Hospital during the study period, the study group existed almost completely of respondents visiting the mobile unit. From the 900 postal questionnaires sent to the non-participants in the screening programme, 242 were returned (26.9%).

Results of the survey in participating women, part 1 (before the examination)

The mean age of the women filling out the questionnaire, is 59.2 years. Only 9.2% of women (n=41) indicated that this was their first

mammography, most of them being 50 to 52 years of age. Almost 73% of the women (n=325) have retired or indicate they are housewives.

Nearly all questioned women knew the Flemish breast cancer screening programme (95.7%, n=428). The main channel by which they learned to know the programme, is the personal invitation letter (75.8%, n=339), followed by the health promotion campaign by the Flemish League against Cancer, with especially television (44.3%, n=198), flyers (40.7%, n=182) and the poster (23.0%, n=103) scoring high. It is remarkable that the GP and the gynaecologist are even scoring lower than flyers and the poster, 22.6 (n=101) and 6.5% (n=29) respectively (table 1).

Table 1: Number and percentage of participating and non-participating women who say they know the Flemish breast cancer screening programme by means of this health promotion medium

Health promotion medium	**% of participating women referring to this medium (n = 447) + 95%CI**	**% of non-participating women referring to this medium (n = 242) + 95%CI**	**p-value (χ^2)**
Invitation letter	75.8% (71.9-79.8)	81.8% (77.0-86.7)	0.09
Television	44.3% (39.7-48.9)	40.5% (34.3-46.7)	0.38
Flyer	40.7% (36.2-45.3)	37.6% (31.5-43.7)	0.47
Poster	23.0% (19.1-26.9)	28.1% (22.4-33.8)	0.17
GP	22.6% (18.7-26.5)	16.1% (11.5-20.7)	0.055
Magazines	13.0% (9.9-16.1)	11.6% (7.5-15.6)	0.68
Radio	9.6% (7.1-12.7)	12.8% (8.6-17.0)	0.24
Gynaecologist	6.5% (4.4-9.2)	9.9% (6.5-14.4)	0.14
Friends	4.7% (2.9-7.1)	4.5% (2.3-8.0)	0.9
Family	3.4% (1.9-5.5)	2.1% (0.7-4.8)	0.47
Others	1.6% (0.6-3.2)	3.3% (1.4-6.4)	0.47

Of all 404 women who had already had a mammography before (90.4%), 86.9% only had a screening mammography (n=351), 11.9% had a diagnostic mammography because of clinical reasons (n=48) and 1.2% already had both kinds of mammography.

In 83.4% of the participants in the screening programme, there is no breast cancer present in the family.

When women were asked whether they would also have had a preventive mammography performed when the Flemish screening

programme would not exist, 53.5% said they would not. The necessity of a screening programme is even recognized by those women who say they would have had a mammography performed without the existence of such a programme (99.5%). One woman did not answer this question.

The fact that the screening mammography is free, when performed within the screening programme, seems to be effective. It could attract 11.0% of the respondents, who say they would not have participated when the screening mammography would not have been free of charge. Breast self examination is performed by 71.1% of the women who filled out the questionnaire.

Results of the survey in participating women, part 2 (after the examination)

After the screening mammography, the same women were asked to fill out part two of the questionnaire.

Whether or not a woman experiences pain and the degree of painfulness, can influence a woman's decision to participate in the future. The mean pain score for the right breast, was 2.7. For the left breast, this was 2.8. There seems to be a statistically significant relationship between a higher pain score and having more fear and feeling ashamed. Those women who are more anxious or feel more ashamed, indicate to have more pain. This holds for the right as well as for the left breast (table 2).

Table 2a: Relationship between anxiety and pain score

	pain right (1-10): mean (median)	pain left (1-10): mean (median)	n
Anxiety	3.63 (3.0)	3.47 (3.0)	43
No anxiety	2.59 (2.0)	2.76 (2.0)	403
Difference	1.04 (1.0)	0.706 (1.0)	
significance (Mann-Whitney U test)	p=0.031	p=0.134	

Table 2b: Relationship between feeling ashamed and pain score

	pain right (1-10): mean (median)	pain left (1-10): mean (median)	n
Feeling ashamed	4.05 (4.0)	4.32 (4.0)	22
Not feeling ashamed	2.62 (2.0)	2.75 (2.0)	424
Difference	1.43 (2.0)	1.57 (2.0)	
significance (Mann-Whitney U test)	p=0.007	p=0.015	

One out of ten women said she was anxious to have the examination performed (9.6%, n=43), mainly because of the possible detection of cancer and of a painful experience in the past. Other elements which can generate fear, are nervousness, ignorance, radiation, violation of privacy and past experience of further examination.

Only 5% of women has a feeling of shame. Most of the time this is because women think their breasts are too voluminous or because they do not know the personnel.

All women who responded to the questionnaire, declare that they are willing to have another mammography in the future. They all like the existing procedure of a personal invitation letter with a specific appointment to the mobile unit.

Results of the survey in non-participating women

The mean age of these respondents was 57.6 years. Although they did not participate in the screening programme, 98% of these women are familiar with the Flemish breast cancer screening programme. Once again, the invitation letter is the most important channel by which they learned to know the programme (81.8%, n=198). On the second place followed the health promotion campaign by the Flemish League against Cancer, with the television spots (40.5%, n=98), the flyers (37.6%, n=91) and the poster (28.1%, n=68).

The GP scores very low (only 16.1%, n=39) as an information channel in these women. Also family (2.1%, n=5) and friends (4.5%, n=11) score very low (table 1).

Of the responding women, 86.4% thinks the breast cancer screening programme is a good initiatitive (n=209). Table 3 shows the reasons why these women, however, did not want to participate in the screening programme.

Of the 242 responding non-participants, 210 gave a reason why they did not want to take part in the screening programme (86.8%).

Almost one third of these women, prefers their own medical doctor and has a regular mammography prescribed or a clinical examination with the GP or the gynaecologist (31.4%, n=66). Most of these women prefer a visit with their own physician because he or she knows them best, they have confidence in him or her and they think it is more personal.

Another 18.6% thinks the programme is useless, they have forgotten or did not have the time (n=39). Several women had a bad experience

Table 3: Reasons why women do not have a mammography performed within the Flemish breast cancer screening programme: number and percentage

Reason	Number of women (%)
Regular examination with GP or gynaecologist	66 (31.4%)
No time, forgotten, not necessary	39 (18.6%)
Bad experience last time	35 (16.7%)
Under treatment for breast cancer, high risk patient, recent mammography	34 (16.2%)
GP or gynaecologist is not supporting the programme	33 (15.7%)
Programme defects (no invitation letter received)	3 (1.4%)
Total	210 (100.0%)

in the past or think it will be an unpleasant examination (16.7%, n=35). Most of the time this consisted of pain or anxiety. Some women were afraid of the radiation exposure. Several women indicate that it is wrong to stress only the positive effects of screening while not mentioning the adverse effects.

Another reason for not participating in the screening programme, is having had breast cancer and currently being treated for it, belonging to a higher risk group or recently having had a mammography because of complaints (16.2%, n=34).

Another 15.7% (n=33) indicates that they did not participate in the screening programme because their GP or gynaecologist did not talk about it or even advised them against participation. The most important reasons GPs and gynaecologists put forward to advise against participation, are that a screening mammography without ultrasound is unreliable (n=16), that the equipment is inferior (n=9) and that the time between the examination and the result is too long (n=3).

A few women indicate that they did not participate in the screening programme because they do not remember to have received an invitation letter and they did not dare or did not want to participate on their own initiative (1.4%, n=3).

Breast self examination is performed by 69.0% of the respondents who did not participate in the screening programme (n=167).

Discussion

Since the Flemish health promotion campaign took place in the whole of Flanders, all Flemish women were in principle exposed to it. Since it took place several months before the screening programme had started, there were no other initiatives yet which could thwart or intensify the

efforts of the Flemish campaign. Once the screening programme had started, it could be expected that different promotion and sensibilization actions by different partners (especially municipalities and local health consultation groups – "Logo's") were performed. However, certainly at the start of the Flemish screening programme, when Logo's were still organizing themselves, much use was made of the existing flyers and posters of the Flemish League Against Cancer. Moreover, the Flemish government had installed a task force to control the communication about the programme. The personal invitation letter had to be uniform throughout Flanders and a flyer with 11 answers on 11 questions was agreed upon to be the material to be used by the official authorities. A consensus text with information about the screening programme was put on the official website of the Flemish Community and often used by intermediaries to explain the programme to the target population. In the first six months of the screening programme, it can be assumed that most Flemish women will greatly have been exposed to the same promotion and sensibilization materials.

However, especially the personal invitation letter is referred to by participants as well as by non-participants as the health promotion medium by means of which they knew the Flemish breast cancer screening programme. Because the letter is personal, women feel appealed to read it and to accept the invitation. Personal invitation letters have proved to be good motivators for women to participate in screening for breast cancer (7). In the personal invitation letters in the screening programme, a concrete appointment for a screening mammography is made, mentioning a specific mammographic unit, date and time. It was chosen to work this way because it makes a screening mammography more accessible (4).

Although women told us they had noticed the flyer or poster linked to the official health promotion campaign, this was not enough to convince them to participate in the screening programme. Although more specific research in Flanders has to be carried out to get this clear, the decisive step in persuading women to participate seems to be the personal invitation letter.

The fact that women do not get their information about the screening campaign from their gynaecologist, could be explained because a lot of women in this age group does not seem to regularly visit a gynaecologist. This became clear during the intake of the women at the University Hospital or mobile unit. Women were always asked whether the result of the screening mammography had to be sent to the gynaecologist as well, the GP being the doctor who gets the result anyhow.

Most of the time, women answered that they did not have a gynaecologist or had not visited him for a long time.

The fact that the GP scores that low as a source of information for the women, is remarkable. Since Flemish women belonging to the target population for breast cancer screening have on average 6 to 10 contacts a year with their GP (8), it is very unlikely that the main reason for the GP scoring that low as a source of information, is that there were no patient-doctor contacts. Yet, it has been demonstrated that the GP can play a very important role in reinforcing or pulling down the intentions of women whether or not to participate (9). Moreover, the GP is the health worker who will have to guide the woman who has questions about the examination or when something is found that has to be further diagnosed. On the other hand, it does not seem that easy for a GP to perform the necessary 'technical' steps for inviting the right women at the right moment. Furthermore, the labour and financial cost for a single GP of sending personalized invitation letters, is not to be underestimated. This could lead GPs to leave the 'administrative' work to the second track.

Women seem to think it is important to be screened for breast cancer, even if they do not have someone with breast cancer in their family. This could be explained by the behavioural beliefs, as described in the Theory of Reasoned Action (10). Women are convinced of the value of screening mammography. In the Health Belief Model, this phenomenon is explained by the risk perception of getting the disease, the perception of the severity of breast cancer and again, the perception of the ability of screening mammography to find breast cancer in an early, curable stage (11).

The mobile unit seems to make the performance of a screening mammography accessible because it is located in a central spot in the village (no transport problems). Moreover, the mammobile is accessible for wheel chair patients. Another measure for making accessible the screening programme, is involving female radiographers who can take away the feeling of shame in the women who feel ashamed. Special attention must be given to the participants throughout the screening process. All participating women have to be treated fairly. Especially those women who are anxious will benefit from a congenial treatment (6).

The questionnaire in non-participants reveals that most of the women who did not take part in the organized screening programme did have a 'screening mammography' performed outside the screening programme. Some non-participants stress that not only positive effects of

breast cancer screening are to be mentioned. Nevertheless, all personal invitation letters sent by the Regional Screening Centre of Antwerp, contain a clear message at the back, indicating the pros and cons of participating in the breast cancer screening programme.

It is striking that, although a lot of information about the screening programme has already been given to GPs and gynaecologists, a large part of the women who did not take part in the organized screening programme, say they do so because their GP or gynaecologist tells a screening mammography is inferior to a diagnostic mammography (which includes ultrasound). Either the sensitization of those physicians was not optimal, or there is a need for other measures to have them handle as expected. In the latter case, financial boni (target payment) could be thought about (12).

Conclusions

Although more specific research on this topic has to be performed in Flanders to get this point clear, the personal invitation letter seems to be a very strong medium to motivate Flemish women to attend breast cancer screening. The Flemish health promotion campaign seemed to result in a much weaker appeal. The health promotion campaign surely has had an impact but it seems as if it was not as decisive as the personal invitation in persuading women to attend the screening programme. In part, this might be explained by the fact that the health promotion campaign and the screening programme were not tuned to each other. It is very important that such substantial elements in the screening process are well prepared and executed in the future.

The mobile screening unit seems to be very accessible and does not affect compliance: all women participating in the mobile unit, answered they would come back next screening round.

Since a lot of GPs and gynaecologists do not seem to support the official screening programme, action from the government has to be undertaken. Possible measures are target payment or organizing the breast cancer screening programme in another way, for instance only offering the track which makes use of the direct invitation of women. To increase participation in this latter scenario, it would be interesting to have the personal invitation letter signed by the GP for those women who have inscribed with their family doctor and who have a so called Global Medical Dossier (GMD) (5) (12).

The screening programme is welcomed by almost all women in our study, even by those who did not take part or had a mammography outside the screening programme. This is an excellent soil for the programme to grow, so that in the end at least 75% of all eligible women will be screened. However, a lot of efforts are still to be undertaken, as is shown by the results of our study.

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