Rijksinstituut voor Volksgezondheid
en Milieu
*Ministerie van Volksgezondheid,
Welzijn en Sport*

The Dutch cervical cancer screening programme and the use of self-sampling
Factsheet 2021

This factsheet is meant to give general information about the Dutch cervical cancer screening and the use of the self-sampling kit. It is not meant to use for scientific publications.

1. Introduction

The Dutch Cervical cancer screening programme invites persons from the target group[1] aged 30 to 60 every 5 (- 10) years to participate in the screening programme. The aim of the screening programme is to reduce cervical cancer mortality by detecting early cervical cancer or precancerous lesions.

The screening programme was originally based on cytological examination, and has been changed in 2017. Cervical cancer is mostly caused by a persistent infection with high risk human papillomavirus (hrHPV). Therefore the new programme is based on detection of an HPV-infection. When a sample is HPV-positive, cytological examination is performed as a next step.

In the screening programme, women visit their general practitioner (GP) for a smear. As an alternative they can choose for self-sampling.

This factsheet is a description of the population screening programme on cervical cancer and the introduction of, and experiences with self-sampling.

2. Execution of the programme

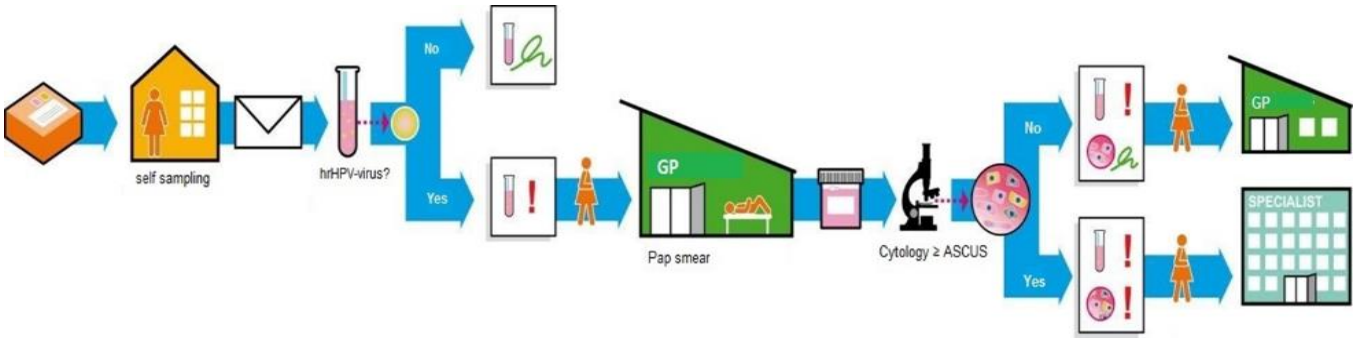
Primary process self-sampling

Selection and invitation

All persons in the target group in the age of 30, 35, 40, 50 and 60 receive an invitation letter. Women in the age of 45 and 55 only receive an invitation when a previous test was positive on HPV or when they did not attend the previous screening. The invitational letter is accompanied by an educational leaflet to help a person to decide to participate or not. They are invited to make an appointment at the general practioner (GP) to have a smear taken.

The invitational letter and leaflet briefly mention the possibility of using a self-sampling kit, specifically for those who find it difficult or are uncomfortable having a smear performed by the GP, and would therefore not participate.

If the self-collected sample is hrHPV positive, the person will be advised to go to the GP practice for an additional smear for cytological assessment.



[1] The programme includes women, transmen and/or gender diverse people with a cervix, in the age 30-60 years.

Responding

A participant can join the screening programme by taking a smear at the GP practice or can order a self-sampling kit.

If participants want to have a smear by the GP, they have to make an appointment themselves. They can also choose to decline for this screening round or entirely, or request a deferral. Persons who do not respond to an invitation within four months after the invitation letter has been sent, will receive a reminder letter. This reminder letter is accompanied by more information about the self-sampling and a request form to order a self-sampling kit.

The self-sampling kit

The self-sampling kit consists of a letter, an instruction leaflet, a brush and a return envelope. It is sent to a person's home address. After using, the participant returns it by regular mail by using the pre-labeled return envelope. The performance of the self-sampling kit meets a number of conditions in terms of size, weight, temperature resistance and attention value.

Screening

Smear

In case a person chooses to have a smear performed at the GP practice, this smear is first tested on the presence of hrHPV. If this virus is present, the same smear is also assessed cytologically by the laboratory. When there is no hrHPV-virus found, attendants will be invited again in five years (aged 30, 35, 45 or 55) or ten years (aged 40 and 50).

Self-sampling

When using the self-sampling kit, a participant collects a sample from the vagina themself. After the sample is taken the brush must be put back into the package. Then it must be placed in the return envelope and send by regular post to the laboratory. The vaginal material is tested for hrHPV in the laboratory.

All information about the current programme is written in a framework for execution of cervical cancer screening[2].

3. Experiences with self-sampling

The introduction of self-sampling was part of the changed programme in 2017. Self-sampling is positioned for non-responders, who are uncomfortable by having a smear at the GP's practice and who would otherwise not participate. It is an opt-in system: a person gets information in the invitation letter, but then has to order the kit.

Participation rate

In general, 56% of all invited persons did attend the screening programme. The amount of participants hasn't changed by

[2] national monitoring of the cervical cancer screening programme in the Netherlands 2019 | RIVM

implementing self-sampling. In 2019 8,6% of all participants (about 39.000 out of 450.000 women), used a self-sampling kit. So a large majority (91%) went to the GP for a smear.

Who are those self-sampling-attenders?

70% women had taken smears before but switched to self-sampling.

Of the remaining 30%: 15% were 30 years old and had therefore no previous screening history 15% were non-responders on previous invitations, so they were new attenders.

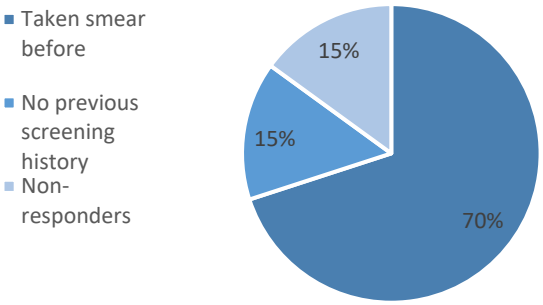


Figure 1 Self-sampling attendees

Most of the participants with self-sampling are 30 years old or in the age of 55 to 65 years.

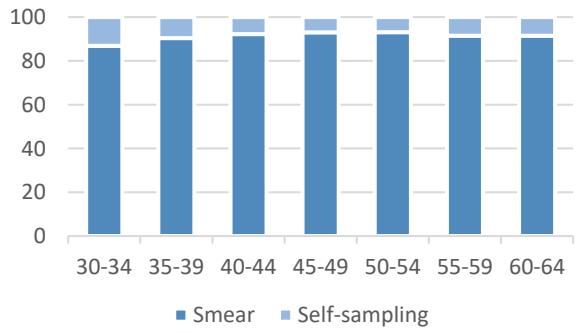


Figure 2 Smear versus self-sampling by age

Results and follow up

8,4% of the self-sampling users are tested hrHPV-positive, with hardly no differences between the ages. This is slightly lower than the GP smear-outcomes, which is found to be 10% hrHPV-positive.

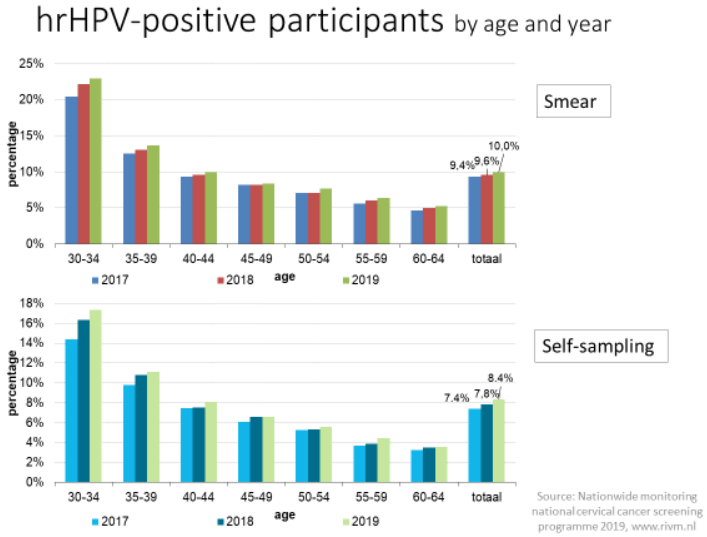


Figure 3 hrHPV-positive participantts

Both smear and self-sampling give a good prediction of the risk on cervical cancer. However we see that there are differences in the result between smear and self-sampling. In case of smear the detection rate of HPV is a little higher. Persons with a lower viral load sometimes test negative with self-sampling, while they would have been tested positive with a smear. So self-sampling is less sensitive. But on the other hand, the specificity is a little bit higher.

Both samples (self-sampling and smear) are processed the same way in laboratory. It is possible that the self-sample, contains less material. That could mean the laboratory procedure for self-sampling could be adjusted to reach equal results.

After an hrHPV-positive self-sample, participants are invited for a smear at their GP practice for cytology assessment. At April 1st following the year of invitation, 78% of the self-samplers had attended their GP for a smear. In the following year another 11% of

the self-samplers went for a smear. So after two years 89% of the HPV-positive participants did follow up the referral to the GP, and 11% did not.

When there is no hrHPV-virus found, they will be invited again (by letter) in five years (ages 30, 35, 45 or 55) or ten years (ages 40 and 50).

If the self-collected sample is hrHPV positive the participant receives a result letter with an advise to make an appointment with the GP practice for an additional smear. This additional test is for a cytological assessment. When there are no abnormal cells (NILM), they are advised to have a control smear after 6 months.

When the result of the pap smear is ASCUS, LSIL or HSIL, they will get a referral to the gynaecologist. This is 31,1% of the smear-attenders and 34,7% of the self-sampling users (2019).

Results cytology in the screening (1)	Smear	Self Sampling Kit
Normal smear (Pap 1)	68,9%	64,6%
ASC-US (Pap 2)	13,2%	12,9%
LSIL (Pap 3A1)	8,6%	9,0%
HSIL (Pap 3A2 – Pap 4)	8,9%	12,8%
Invasive carcinoma (Pap 5)	0,51%	0,04%
Indication for referral to gynaecologist (ASC-US – invasive carcinoma)	31,2%	34,7%

Figure 4 Results cytology

After referral the number of detected (pre-) cancerous cells is almost the same for both groups (smear-attenders and self-sampling users). There are small differences in what stage of developing cancer is found.

Detection after direct referral (1)	Primary test GP	Primary test SSK
No histology assessed	0,00%	0,88%
Benign	18,7%	16,3%
CIN 1	29,0%	23,5%
CIN 2	22.0%	20.3%
CIN 3	25.4%	34.7%
Malignant, primary cervix carcinoma	1.3%	1.9%
Malignant, other	0.02%	0.00%
Poor quality	2.0%	0.88%
Subtotal	**98.4%**	**98.4%**
Unknown	1,6%	1,6%
Total	**100%**	**100%**

Figure 5 Detection after direct referral

Knowledge and experience according to self-sampling among women

In 2019 a survey [3] was performed among about 3.000 women to find out whether women were familiar with the existence of the self-sampling kit. 37% of them knew that self -sampling is an option within the screening programme in the Netherlands. Women who had received an invitation letter according to the renewed screening programme knew more often, 46%, just like

[3] Dutch survey 2019, Factsheet Toegankelijkheid BVO BMHK2021

younger women did (46%), about the self-sampling kit. Women with lower education knew less often (33%), and women who never participated in the screening programme knew less often (27%) about the self-sampling kit.

Women (about 3.000) were asked about their preferences towards self-sampling or a smear. Fifty percent preferred a smear at the GP's practice, 25% preferred self-sampling. Most of the responders who preferred self-sampling are previous self-sampling-attenders, younger women and high-educated women. 25% of the women didn't have a preference.

Women are also asked about their experiences with the self-sampling kit. They experienced less discomfort like pain, less shame and less nervousness. They also mentioned more privacy, by doing the self-sampling at home. Some women have doubts about the reliability of the self-sampling and their own skills in using the kit.

Also on practical issues women experience advantages. There is no need to make an appointment and you can do the self-sampling at home at your own preferable time.

90% of the self-sampling participants prefer to use self-sampling again in the future. 30% of the self-sampling attenders claim that they would not have participated with a smear taken by the GP. Non-responders were asked what they would have done if they have known about the possibility of self-sampling. 30% of them claim that they would have participated in that case.

4. Self-sampling in the future

Self-sampling comes with many advantages. It seems to have less barriers (less pain, less shame), possibly higher attendance, less screen-related burden and lower costs. Self-sampling has the potential to reach persons that might not attend otherwise (non-attenders).

Recently the Health Council[1] has published an advisory report for the Dutch Government in which they recommend to position both self-sampling an pap smear as equal options to participate. The Health Council decided that there are no significant differences between the test outcomes and that both methods are reliable. They recommend to send the self-sampling kit to all the invitees in order to decrease any obstacles for participation. This should encourage more women to participate in the population screening programme. It should also mean that more cases of cervical cancer will be detected at an early stage

When the Dutch Government agrees with this advice of the Health Council, RIVM-CvB will develop a plan for implementation the changes in the population screening programme.

5. Documents

https://www.rivm.nl/documenten/framework-for-execution-of-cervical-cancer-population-screening

Uitnodigingsfolder bevolkingsonderzoek baarmoederhalskanker (English-Engels) (1).pdf

Zelfafnameset | RIVM

Link naar Factsheet BMHK

[1] The Health Council of the Netherlands is an independent scientific advisory body whose legal task it is to advise the Dutch ministers and Parliament in the field of public health and health/healthcare research.

6. Contact

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Abbreviations

ASC-US: Atypical squamous cells of undetermined significance

CIN: Cervical Intraepithelial Neoplasia

NILM: Negative for intraepithelial lesion or malignancy

LSIL: Low-grade squamous intraepithelial lesion

HSIL: High grade squamous intraepithelial lesion