CHAPTER 6

Decision making in prenatal screening: money matters

ABSTRACT

OBJECTIVE

Multiple factors influence pregnant women in their decision to accept or decline prenatal screening. This study aimed at determining the influence of withdrawal of reimbursement on the uptake of the first trimester combined test.

MATERIAL AND METHODS

Between 2004 and January 2007 the combined test was offered to all pregnant women in a designated geographical area as a pilot study prior to the introduction of the National screening program to test the logistics. All tests were performed in one ultrasound centre and were reimbursed by the insurance companies. After the introduction of the screening program the insurance companies stopped paying for the combined test in women <36 years by decision of the government. The influence of reimbursement was studied by examining the difference in the number of women opting for a combined test 12 months before and 12 months after the introduction of the national screening program in January 2007.

RESULTS

In the year 2006 the combined test was performed in 4616 pregnant women. With the introduction of the national screening program and withdrawal of the reimbursement 3459 combined tests were performed (reduction of 25%). In January 2007 a significant decline was observed in the uptake of the combined test in women <36 year (p<0.001) as opposed to a significant increase in the uptake in women ≥36 year (p<0.001).

DISCUSSION

Withdrawal of reimbursement of the combined test has led to a significant reduction in the uptake of the combined test in this selected area. The financial impact on the uptake of the combined test should not be underestimated.

INTRODUCTION

Prenatal screening aims to detect women at high risk for fetal trisomies in a population of normal pregnancies. One of the available screening methods is the first-trimester combined test (CT), consisting of maternal serum screening and nuchal translucency (NT) measurement. This test identifies women at risk for trisomy 21 (T21, Down syndrome), 18 or 13. The serum test is normally performed between 9+0 weeks and 13+6 weeks of gestation and the nuchal translucency is performed between 11+0 and 13+6 weeks of gestation. In the Netherlands the antenatal screening program was designed to provide every pregnant woman with the information necessary to make an informed choice. Multiple factors influence pregnant women in their decision to accept or decline prenatal screening. If the risk assessment shows a high risk for fetal trisomies or if fetal anomalies are detected, invasive testing is offered. Invasive testing caries a risk of iatrogenic pregnancy loss. Parity, fertility history, family history for chromosomal anomalies, education level, ethnicity and religion are acknowledged to attribute in women's choices for prenatal screening.[1] The main reasons to undergo the test are reassurance and the desire to have knowledge about the health of the fetus.[2,3] The decision to decline the first-trimester combined test may be related to personal views on pregnancy termination.[2,3]

In the Netherlands a fully covered health care insurance system provides equal health care for every citizen. With the introduction of the National prenatal screening program in 2007, the government decided that the 20-week anomaly scan should be reimbursed by the insurance companies to all pregnant women. In contrast, the combined test (€154) would be reimbursed only to women of 36 years or older. Although younger women <36 years have to be informed about the combined test, they have to take the personal costs into account when deciding whether or not to undergo first trimester screening. Invasive prenatal diagnosis, such as amniocentesis and chorionic villous sampling, is subsequently reimbursed to all women with an increased risk, either based on maternal age or on the combined test.

Very little is published in literature about the influence of personal costs in the decision to undergo first trimester screening. The aim of this study was to determine the influence of personal costs on the uptake of the combined test.

METHODS

In the period 2004 – January 2007 the combined test and 20 week anomaly scan were performed without personal costs in a regional ultrasound centre (Diagnostic centre Diagnostiek voor U, Eindhoven, the Netherlands), designated to service a specific geographical area. This was done as a pilot before the start of the national screening program, to test the logistic procedures

and quality aspects. Counselling concerning the combined test and 20 weeks'scan was done at about 9-12 weeks of gestation at the booking visits in regional midwifery practices or at regional hospitals.
With the introduction of the program in 2007, the insurance companies suddenly stopped paying for the combined test in women <36 years in this region as decided by the Ministry of Health Department. Counselling did not change, except for the fact that women <36 years were informed about the costs of the test and the fact they had to pay for the test themselves.

We assessed the influence of the stop of reimbursement by studying the difference in uptake of the combined test 12 months before and 12 months after January 2007. The monthly number of 20-week anomaly scans performed in the same ultrasound centre, free of costs independent of age, was used as a reference to rule out demographic changes.

RESULTS

In the year 2006 the combined test was performed in 4616 pregnant women. With the introduction of the national screening program and withdrawal of the reimbursement 3459 combined tests were performed, a reduction of 25%. Figure 1 shows a significant decline of first trimester screening for the group women <36 year in January 2007 (p<0.001) and a significant rise in the uptake of the combined test in women ≥36 year (p<0.001). As a comparison the numbers of the 20-week anomaly scans are shown. Before and after January 2007 the mean number of combined tests performed per month in women <36 year was 327 (range 277–390) and 126 (range 73–353), respectively, as opposed to 58 (range 46–86) and 161 (range 86–241), respectively in women ≥36 year. During the study period, the total number of 20-week anomaly scans in the same ultrasound centre remained stable (p=0.74), indicating that no demographic changes occurred in this period.

DISCUSSION

These data illustrate that personal costs may play a significant role in the decisions of pregnant women whether or not to undergo certain tests. We have observed a significant reduction in the uptake of the combined test for women <36 year with the introduction of the national screening program.
This study is the first to show the influence of reimbursement in prenatal screening. Decision making in prenatal screening depends on many factors like obstetric history, individual experience regarding previous pregnancies, family history, education and religion. Probably

there are many potential confounders, but we believe the personal costs can be an important incentive. As this is a population based cohort study we are not able to rule out other confounders.

Up to date, no reports have been published about the influence of reimbursement on the uptake of prenatal screening. In a high-risk population deciding whether or not to undergo an amniocentesis, the effect of reimbursement has recently been published.[4] This information supports our finding that the absence of costs has a largely positive effect on the probability of choosing for a prenatal test. The fact that women <36 years have to pay personally in a fully insurance-covered health care system might act as a sign from the government that first-trimester screening is not important for younger women. Although Dormandy et al concluded that healthcare professionals' attitudes are unrelated to the uptake of screening, it is imaginable that personal costs for the patient could influence their counselling.[5] Prenatal care providers are often aware of the financial situation of their clients, thus a certain bias towards the potential benefits of the combined test could be present because of the costs. Although all women were counselled about prenatal screening in the pilot area in 2006, women ≥36 were not likely to choose first trimester screening. The rise in uptake in January 2007 for women ≥36 year remains unexplained, but may be partly because women were suddenly made more aware that the combined test was indeed a good alternative for invasive testing based on maternal age. Possibly information in magazines and on television about the introduction of the national screening program in the first months of 2007 influenced the uptake with a reduction in invasive procedures. Currently, like in many countries prenatal screening is changing with the introduction of the non-invasive prenatal test (NIPT) using chromosome selective sequencing of cfDNA. NIPT has been shown to be a very good test to predict presence or absence of fetal trisomy 21 from as early as 10 weeks gestation.
For the implementation of NIPT these study results should be taken into account, as age related reimbursement for prenatal screening tests produces unequal access to prenatal care.

CONCLUSION

The influence of personal costs on the uptake of prenatal screening tests should not be underestimated. Policy makers and health insurance companies should reconsider if the introduction of personal costs for a selected group in a national screening program is ethical as we believe this regulation is against the principle of non-discrimination, the principle of equally accessable health care in relation to the ethical principle of fairness. Future implementation studies for example for NIPT should be carefully designed based on this knowledge. Caregivers should take into account the important financial incentive in the decision making process.

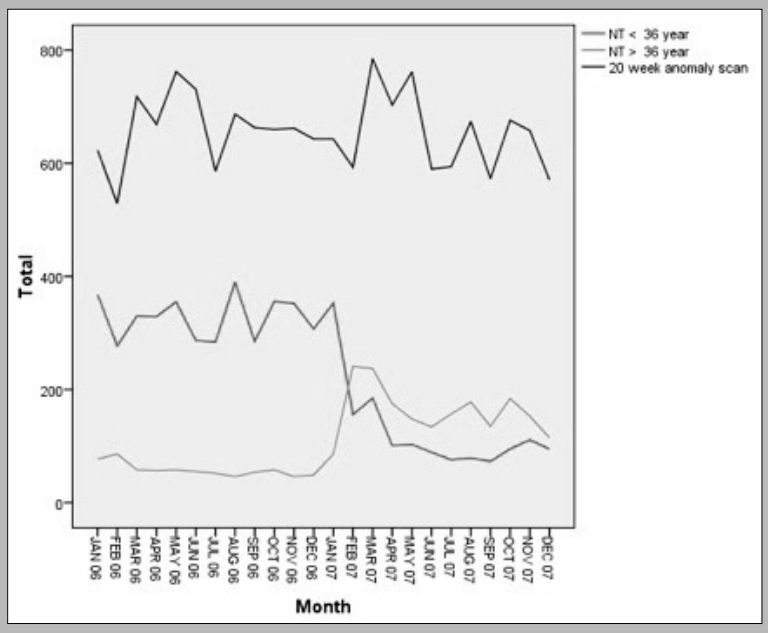

Figure 1. *shows a significant decline of FCT (serummarkers and NT) in January 2007 for women <36 year. The 20-week anomaly scan is used as a reference*

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