

Antenatal care

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Recommendations

- * Women who plan to get pregnant should start with folic acid (Vit B9) 0.4 mg daily (Strong recommendation)
- * All pregnant women should participate in the antenatal care program (Strong recommendation)
- * The first antenatal care visit should take place in gestational week 8-12 (Strong recommendation)
- * Antenatal care performers should be a midwife or a general practitioner, or shared care where doctor and midwife cooperate (Strong recommendation)
- * The standard preformed antenatal record "Helsekort for gravide" should be used and the woman should keep the record (Strong recommendation)
- * Continuity of care should be attempted so that the woman know her caretakers (Strong recommendation)
- * In healthy pregnant women, a basis program is recommended comprising 8 antenatal care visits up to and including the visit in week 40 (Recommendation)
- * All pregnant women should have one routine ultrasound examination in week 17-19 (Strong recommendation)
- * The attendancy rates as well as the patterns of antenatal care use, the content of the care provided care as well as the results of antenatal care should be routinely monitored (Proposal)

Definition

Antenatal care is the routine health control of presumed healthy pregnant women without symptoms (screening), in order to diagnose diseases or complicating obstetric conditions without symptoms, and to provide information about lifestyle, pregnancy and delivery.

In Norway, primary health care (community care) is responsible for antenatal care. Each community should have a plan for antenatal care, and the communities are obliged by law to offer antenatal care provided by midwife. Specialists in obstetrics and gynecology also offer antenatal care to healthy pregnant women.

Incidence/epidemiology

Annually, approximately 60 000 women give birth in Norway. In 2000, a study showed that the women who delivered had had on average 12 antenatal care visits (1). Almost half of the visits (44 %) was performed by midwives. The rate of non-attenders, that is women who delivered without having attended to the antenatal care program, was 2 of 1000. Despite that antenatal care is the largest preventive care program; there are no routine collection of statistics as to the attendancy, the number of visits, the content of the provided care and the results of antenatal care.

National guidelines for antenatal care.

The Health authorities issued national guidelines in 1984 (2) and in 2005 (3). The guidelines from 2005 are based on the evidence-based guidelines issued by NICE (National Institute for Health and Care Excellence) in 2003. These guidelines are revised regularly, a revised version was issued in 2008 (4) with some adjustments in 2010 and a new revision was planned in 2014. NICE has recently published a quality standard for antenatal care (5) and a list of actions that is not recommended (6).

The Norwegian Directorate of Health has not decided when the guidelines for antenatal care will be revised, and when the antenatal care record ("Helsekort for gravide") from 1984 will be revised.

Scope and limitations

The present chapter relies on the guidelines for antenatal care provided by the Norwegian Directorate of Health in 2005 (3) and the updated NICE guidelines (4). No systematic search of literature has been performed.

The level of documentation and the grading of the recommendations is adapted from the guidelines (3,4). This chapter contains the standard antenatal care program for healthy singleton pregnant women up to term. Topics beyond this scope are dealt with in the other chapters in the guidelines.

Organization of antenatal care

Randomized trials indicate that antenatal care should be provided in a cooperation between general practitioner and midwife (Ia). If specialist care is needed, the woman should be referred to specialist in obstetrics and gynecology (specialist in private practice or hospital based outpatient clinic). Continuity of care, that is to pursue the women meets the same care provider throughout her pregnancy, increases the satisfaction (Ia).

It is documented that use of a structured antenatal record ("Helsekort for gravide") improves the quality of the anamnesis (Ia). When the record is kept by the woman, satisfaction and coping increases (Ia). In addition, the care providers (general practitioner/midwife) must keep their own records.

Number of antenatal care visits and interval

The national antenatal care program from 2005 (3) recommends a standard program with eight visits inclusive the routine ultrasound examination up to week 40. Also in 1984, a reduction of the number of routine visits was recommended (2) but later studies showed that these recommendations had limited effect on clinical practice. It is well documented that the number of visits can be reduced without negative impact on the results (Ia), but with reduced patient satisfaction (Ia).

There are no clinical studies available to determine the optimal control intervals. Thus, the standard program (Table 1) is constructed from standard programs in other countries and clinical judgement (IV).

Table1. Recommended control visits and intervals for healthy singleton pregnant women (3).

	Gestational week
1. visit	8-12
2. visit (routine ultrasound)	17-19
3. visit	24
4. visit	28
5. visit	32
6. visit	36
7. visit	38
8. visit	40

First visit

The woman should visit the care provider soon after pregnancy is diagnosed so that life style advice, information about tobacco and alcohol, and information about use of drugs can be given and necessary corrections made as early as possible. In particular, it is prudent to stop with drugs that can harm the fetus (III). Most women seek their general practitioner for the first antenatal care visit because she/he knows the woman and may contribute with important information. Some women, particularly those who know the midwife from an earlier pregnancy, seek a midwife for the first visit. There is evidence that pregnant women should be free to choose her care provider. The most important aspect is continuity of care.

At the first visit, women in need of specialist care (for example women with diabetes) should be identified and referred.

Medical history

An accurate and systematic medical history should be addressed. The antenatal record "Helsekort for gravide" serves as a check list. The current use of drugs is an important topic. It is also important to record previous pregnancies and their outcome, and get relevant information from the department of obstetrics where she delivered. Relevant information should be noted in the «Helsekort for gravide».

Blood tests- screening

At the first antenatal visit, the following tests should be taken (general screening):

Hb – screening for anemia

Rhesus and erythrocyte antibodies (Ia) (see "Immunisation")

HIV (Ia)

Syphilis (Ia)

Hepatitis B (see chapter 12): In UK general screening is recommended (4) (Ia), this has also been implemented in Denmark and USA. The arguments for general screening is that selective screening is inefficient, and that transfer of Hepatitis B virus to the newborn can be prevented. In Norway, the official recommendation is selective screening based on risk factors (3), but there are good reasons to recommend general routine screening.

The following serologic tests are taken on indication (selective screening), the indications and required follow up in case of positive tests are discussed in separate chapters.

Hepatitis C (see "Viral infections in pregnancy") (Ib)

Rubella-antibodies (see "Viral infections in pregnancy") (Ib)

Other tests at the first antenatal care visit

Asymptomatic bacteriuria

It is likely (4) that treatment of asymptomatic bacteriuria can prevent pyelonephritis (Ia), but a recommendation of screening depends on the prevalence in the population. The prevalence of asymptomatic bacteriuria has not been investigated in Norway. If the prevalence in Norway is similar to that reported from Sweden, a general screening in Norway would not be cost effective. The official Norwegian recommendation is selective screening of women with frequent urinary tract infections (3) because the prevalence of asymptomatic bacteriuria is higher in this group. We support this view and our opinion is that general screening in Norway should not be recommended, contrary to the UK recommendation (4)

Chlamydia testing

The official guidelines (3) recommend that pregnant women < 25 years should be tested for chlamydia (possibly in a urine sample), but it is stated that the evidence is not sufficient to recommend screening. In the last NICE guidelines (4), general screening is not recommended in antenatal care because of lack of evidence of a positive influence on the pregnancy outcome. t

Somatic examinations

Blood pressure is measured and the urine is tested for protein. If the woman is healthy, no further somatic examinations are required. Further somatic examinations are performed on indications. Routine gynecologic examination and routine examination of the breasts is not recommended. BMI (body mass index) is recorded on the «Helsekort for gravide». Weight is not routinely measured at later antenatal visits, unless when it is necessary for treatment. Information is given about the routine ultrasound examination in week 17-19. Women who are or will be 38 years of age at delivery, or women with other indications for fetal diagnostics, should be offered early ultrasound examination in gestational week 12 (see chapter 4 "Ultrasound in the routine antenatal care").

The general content of antenatal care visits

- SF-measurement: The effectiveness of routine measurement of the symphysis-fundus distance to detect intrauterine growth restriction is limited; sensitivities of 15 to 30 % are reported. No controlled randomized studies have been reported, so the influence on pregnancy outcome cannot be assessed. Despite limited knowledge (III), it is recommended to obtain the SF measure at all antenatal care visits from gestational week 24. The standard SF curve in the «Helsekort for gravide» is outdated and is misprinted.

Because the curve is too low, intrauterine growth restriction may be overlooked if the official antenatal record “Helsekort for gravide” is used. A newly introduced SF normal curve is based on a large Swedish material (7), and this curve should be preferred.

- Blood pressure measurement and urinalysis
- Palpation of abdomen with assessment of fetal position and palpation of the fetal head (Leopold’s maneuver): This is performed at all antenatal care visits starting in week 36. If cephalic position cannot be ascertained, the patient should be referred.
- Fetal heart sounds: Auscultation of fetal heart sound is not necessary if the woman feels fetal movements. If fetal movements are reduced, she should contact her department of obstetrics.

Second visit (week 17-19)

In healthy women with normal singleton pregnancies at first antenatal care visit, no control is required before week 17-19. At this time in pregnancy, the only required measure is routine ultrasound examination.

Third visit (week 24)

The routine examinations comprise SF measurement, measurement of blood pressure and urinalysis for proteinuria. The chapter «Immunisation» argues for introduction of maternal blood tests to detect fetal RhD-positive fetuses and administer anti-D as prophylactic measure in week 29. The current plan where maternal RhD-antibodies in RhD negative women are routinely tested in week 28 and 36 will be discontinued if the Health Authorities decide to implement the new strategy.

Fourth and later visits

4. visit (week 28): SF measurement, blood pressure, urinalysis, Hb and test for Rh-antibodies in Rh-negative
5. visit (week 32): SF measurement, blood pressure, urinalysis
6. visit (week 36): SF measurement, blood pressure, urinalysis and test for Rh-antibodies in Rh-negative
7. visit (week 38): SF measurement, blood pressure, urinalysis, fetal position/presentation
8. visit (week 40): SF measurement, blood pressure, urinalysis, fetal position/presentation

At the visits in week 32 and week 36, information should be given (breast feeding, labour and delivery, selection to differentiated obstetric care).

At the 40 weeks visit, the woman is referred to the actual obstetric department for a visit in week 41, where further management will be decided according to the department's routines (see "Postdate pregnancy").

Differentiated obstetric care

Healthy women with normal singleton pregnancies and assumed normal births should be offered to deliver at a low risk unit, alternatively she may have a home delivery if she wants to and this type of midwife service is available.

Differentiated obstetric care should also be offered in obstetric units without separate low risk units. Different models of organization are now tried out. In principle, a low risk patient should labour and deliver without use of unnecessary electronic fetal monitoring (see chapter "Fetal monitoring in labour").

Patient information

The national official guidelines for antenatal care and a patient information leaflet is available on <https://helsedirektoratet.no/>. Advices for nutrition, physical activity and weight increase can be looked up through Helseportalen <https://helsenorge.no/>

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