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The expectations of antenatal screening and experiences of the first-trimester screening scan

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ABSTRACT

Aim: to describe the expectations to and knowledge of antenatal screening of expecting parents, and their experiences concerning the first-trimester screening scan.
Design: survey study with a consecutive sampling method.
Setting: two hospital districts in Finland, namely the capital area and Eastern Finland. Together these two districts include the six different municipal units in which the first-trimester screening scans discussed in the study were done during spring 2015.
Participants: 1037 participants: 654 pregnant women and 346 partners.
Measurements and findings: the survey was based on an electronic questionnaire containing 29 questions. Almost all the pregnant women involved had received information on screenings during antenatal care, but only 20% reported a good level of familiarity with the various screening methods. Of the respondents, around 30% of the partners and 26% of all participants with lower education considered their knowledge to be poor. Around 30% of nulliparous respondents reported a need for further information. The experiences of the first-trimester screening scans were generally positive, though some of the partners felt they were treated too impersonally. Parents were well informed during the scan.
Key conclusions: the expectations of the antenatal screening of the parents-to-be were realistic, even for those whose knowledge of antenatal screening by their own estimation inadequate. Nulliparous and highly-educated respondents would have needed more counselling. For all respondents the first trimester screening scan generally reinforced the sense of becoming a parent.
Implications for practice: new ways to provide information on antenatal screening are needed. In particular, there should be a focus on making the information more understandable and accessible both to pregnant women and to partners. The results of this study could be used in developing such means of providing such information during antenatal care and services in ultrasound units. The results would also be helpful for improving professional skills of the medical personnel performing the scans, and for providing information on them.

Introduction

Participating in antenatal screening is a part of routine antenatal care and screening in Finland, and a part of the country's preventive health services. Finnish screening programmes are based on the general principles of screening set out by the World Healthcare Organization (WHO) (Wilson and Jungner, 1968; Autti-Rämö et al., 2005). Routine antenatal screening is free of charge nationwide, and consists of a general ultrasound in early pregnancy at 10–13 weeks gestation; testing for risk of chromosomal abnormalities by blood test at 9–12 weeks gestation and nuchal translucency (NT) measurement at 11–13 weeks gestation; and ultrasound examination for detecting severe structural abnormalities at 18–21 weeks gestation. For the purposes of the present study, the ultrasound examination in early pregnancy at 10–13 weeks gestation with or without NT-measurement is called in this article the first-trimester screening scan. The main goal

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of antenatal screening is to enhance care during pregnancy and childbirth, because detecting possible foetal abnormality by screening may help in planning pregnancy monitoring, and in preparing for childbirth and postnatal care. Under the Act on Induced Abortion (239/1970), pregnant women in Finland have the right to decide on possible termination of pregnancy on the grounds of a diseased fetus up until 24 weeks of pregnancy. Participating in antenatal screening is voluntary in Finland, but most women (70%) participate (The National Institute for Health and Welfare, THL, 2014a). The pregnant woman can choose to participate only in a part of the screening, for example she can choose to participate in early pregnant ultrasound with nuchal translucency measurement but chooses not to have the blood test. The national guidelines for maternity care recommend counselling relating to antenatal screening during the first antenatal visit (at around eight weeks gestation). Counselling contains information about aim, affects and consequences of antenatal screening, facts about the screening methods and further testing after antenatal screening and information about possible disadvantages of the screening. The National Institute for Health and Welfare and some hospitals have prepared information booklets for parents-to-be. The recommendation in Finland is that counselling should be given orally and in writing. Expecting parents have a discussion with their care provider and they are handed an information booklet. In Finland, the counselling is given by public health nurses during antenatal visits in the maternity clinics outside hospitals free of charge.

Previous international research indicates that pregnant women generally have a poor understanding of antenatal screening methods and of the interpretation of their numerical results (Garcia et al. 2002; Green et al. 2004). Pregnant women may have exaggerated expectations of antenatal screening (Lalor and Devane, 2007). Providing information in writing increases knowledge, but however some gaps remain (Green et al. 2004). In Sweden, parents were offered a separate visit to a midwife specializing in counselling for antenatal screening. Expecting parents generally found the extra visit helpful, and it helped them focus on antenatal screening (Wätterbjörk et al., 2012). It seems that the educational level of the expecting mother is also relevant: less-educated pregnant women know less about screening (Santalahti, 1998).

For most pregnant women, the main reason for participating in antenatal screening is to ensure the health of the baby (Santalahti, 1998; Ekelin et al. 2004; Garcia et al. 2008; Georgsson Öhman and Waldenström, 2008; Hawthorne and Ahern, 2009; De Vleminck et al., 2012; Aune and Möller, 2012; Garsía et al., 2012; Murakami et al. 2012). It is generally important to the partner of the expecting mother also (Ekelin et al. 2004). For many, the ultrasound scan in effect acts as a confirmation of the pregnancy (Ekelin et al. 2004; Georgsson Öhman and Waldenström, 2008; Molander et al. 2010; Andersson et al. 2011). It is also taken as confirmation that the pregnancy is normal (Hawthorne and Ahern, 2009; Murakami et al. 2012). In some cases parents-to-be consider antenatal screening to be helpful in preparing them for the birth of a infant with a disability or disorder (Santalahti, 1998; Garsía et al., 2012; Murakami et al. 2012). Some women expect screening to provide them with knowledge needed for making decisions about diagnostic tests (Garcia et al. 2008).

Ultrasound scan makes the pregnancy seem more concrete (Garcia et al. 2002; Ekelin et al. 2004; Ranji et al. 2012), and reassures parents of the infant's wellbeing (Garcia et al. 2002; Ranji et al. 2012). For many women, seeing the fetus onscreen helps them form a stronger connection with the infant (Garcia et al. 2002; Aune and Möller, 2012). This happens with most partners too (Garcia et al. 2002; Dheensa et al. 2013). After ultrasound scan, parents begin to more clearly think of the fetus as their child, and imagine themselves as mother or father (Ekelin et al. 2004). Most women see ultrasound scan as a positive experience. Women with ambivalent feelings about their pregnancy may have less positive feelings about it (Georgsson Öhman and Waldenström, 2008.) Professionals performing the ultrasound scan have an important role in how the expecting mother and her partner understand the ultrasound image and how they see their baby in it (Garcia et al. 2002; Van der Zalm and Byrne, 2006; Ekelin et al. 2009). The person performing the ultrasound can influence the experience of the parents (Ekelin et al. 2009).

In Finland, there is no up-to-date knowledge of expectations concerning antenatal screening and experiences concerning the first-trimester screening scan of parents-to-be. As such, there is no data on how to improve our knowledge of these issues. The main aim of this study is to describe the expectations of expecting parents relating to antenatal screening, and their experiences concerning the first-trimester screening scan. Secondary aims are to compare the expectations and experiences of pregnant women to those of their partners, to compare the expectations and experiences of nulliparous to multiparous individuals; and to compare the expectations and experiences of women who have had a miscarriage with those of women who have not.

Methods

The setting and participants

The study population consisted of pregnant women and their partners who had the first-trimester screening scan in two areas in Finland. The first was the Hospital District of Helsinki and Uusimaa (i.e. the capital region), and the second was at Kuopio University Hospital in Eastern Finland. Together, these two areas give a total of six different municipal units conducting first-trimester screening scans. A consecutive sampling method was used. Upon registration for the first-trimester screening scan, a midwife or a secretary gave written information on the study and a consent form to all eligible women. Each woman returned her consent form to the same person during her visit (either before or after ultrasound scan). The only criterion for inclusion in the study was a sufficient level of Finnish, Swedish or English to understand the procedure. No exclusion criteria were applied. The women who voluntarily confirmed their participation in the survey were asked to give the contact information of their partner in their consent form. The access links to the electronic questionnaire – one for the pregnant woman and one for her partner – were sent by e-mail. In the case of the partners, responding to the survey was taken as evidence of consent to the study. In Finland, the participation of survey/filling the questionnaire is a sign of agreement and no separate informed consent is needed. Two reminders were sent by email if we did not receive questionnaire back during three weeks or an announcement for participant's withdrawal.

The material for the present study was collected during March-May 2015. The plan was to collect responses relating to as many as 2.5% of the annual deliveries in each hospital area. Recruitment discontinued in the ultrasound unit in question when the planned number of participants was met. The materials were prepared in cooperation with the Finnish National Institute for Health and Welfare (THL). The study was carried out in accordance with The Code of Ethics of the World Medical Association, 2014 (Declaration of Helsinki 2014). To ensure respondent anonymity all research material was encoded before storage. In the information leaflet and in the covering email it was clarified to all participants that participation is entirely voluntary, and that they were free to withdraw their participation at any time. Ethical approval for the study was granted by the National Institute for Health and Welfare (THL/1520/6.02.01/2014) and it was sufficient to all ultrasound units. Thus no separate approvals were needed from the clinics. Research permits were obtained from both study site organizations.

The questionnaire

The questionnaire was compiled using existing scales. Questions that measured expectations and experiences were taken from the