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Increasing possibilities – Increasing dilemmas: A qualitative study of Swedish midwives' experiences of ultrasound use in pregnancy

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ABSTRACT

Objective: to explore Swedish midwives' experiences and views of the use of obstetric ultrasound in clinical management of pregnancy, and in situations where maternal and fetal health interests conflict.
Design: an exploratory qualitative study based on focus group discussions (FGDs) was undertaken in 2013 as part of the CROss Country Ultrasound Study (CROCUS). Data were analysed using qualitative content analysis.
Setting and participants: midwives ($N=25$) were recruited from four public hospitals located in the northern and central parts of Sweden.
Findings: the analysis resulted in three categories. The first *'Acknowledging ultrasound as optimising care but also as creating worry and ethical dilemmas'* reflects midwives' experiences of two different aspects of ultrasound use, one being recognition of ultrasound as an important tool to optimise care and pregnancy outcomes, the other being the dilemmas that arise for maternity care in situations of uncertain or unwanted findings. The second category *'Dealing with insufficient informed consent processes and differing expectations of ultrasound'* describes routine ultrasound as an unquestioned norm that means its full purpose and use is not always well communicated to, or understood by, expectant parents, resulting in differing expectations of ultrasound outcomes between caregivers and expectant parents. Midwives also experienced expectant parents as having great trust in ultrasound, with perceptions of 'all clear' scan as a 'guarantee' for a healthy baby. The third category *'Balancing maternal and fetal health interests in a context of medico-technical development'* included experiences of the fetus being given greater importance in maternity care as diagnostic and fetal treatment possibilities increase; that new methods are often introduced without appropriate ethical discussion; and also that ethical challenges will increase in line with increasing demand for 'quality assurance' in pregnancy.
Key conclusions and implications for practice: midwives described ultrasound as a vital tool in pregnancy surveillance and management, facilitating conditions to be optimised for the woman and her baby during pregnancy, birth and the postpartum period. However, the increasing possibility of obtaining detailed information about the fetus was also experienced as increasing ethical dilemmas in maternity care. This study indicates that there is a need to improve informed consent processes regarding the use of ultrasound for prenatal screening and diagnostic purposes. The ambivalence midwives expressed in relation to management of ultrasound findings furthermore indicates a need for ongoing training for maternity care professionals to increase confidence in counselling women and to promote consistency in management. Finally, it is important to monitor any increasing focus on the fetus by care providers for potential impacts on women's autonomy to make their own decisions about pregnancy and birth.

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Background

Obstetric ultrasound has come to play an increasingly important role in antenatal care (ANC) worldwide (Sippel et al., 2011; Whitworth et al., 2015). The advantages of routine use of ultrasound include early detection of multiple pregnancy, improved gestational dating, and detection of fetal anomaly (Whitworth et al., 2015). Doppler ultrasound can be a valuable tool in high-risk pregnancy for detection of abnormal blood flow patterns in fetal circulation, an intervention that has been shown to reduce risk of perinatal death and to lower the number of obstetric interventions in high-risk pregnancies (Alfirevic et al., 2013). Ultrasound also plays a significant role in first-trimester screening for chromosomal abnormality, where a measurement of nuchal translucency combined with a maternal blood test, the 'Combined Ultrasound and Biochemical test' (CUB), can provide an estimation of the combined risk of Down syndrome (trisomy 21) and of trisomy 13 and 18 (Stenhouse et al., 2004). The approach to prenatal screening and diagnostic procedures varies between countries. So do availability of resources, laws regarding prenatal diagnosis and termination of pregnancy, cultural and social factors which all influence the way in which ultrasound is utilised in each setting (European Surveillance of Congenital Anomalies (EUROCAT), 2010).

Ultrasound is generally very attractive to pregnant women and their partners for the reasons that an ultrasound examination gives the expectant parents visual confirmation of the reality of the pregnancy, a chance to 'meet the baby' and also a sense of reassurance of fetal well-being in the absence of deviation (Garcia et al., 2002; Ekelin et al., 2004; Georgsson Ohman and Waldenstrom, 2008). Previous studies have shown however, that pregnant women often lack information about the purpose of an ultrasound examination and what the results of the examination can lead to. This means that pregnant women and their partners often have insufficient knowledge to make an informed decision about prenatal diagnosis, inaccurate expectations, and are often unprepared for adverse findings (Garcia et al., 2002; Lalor and Devane, 2007). There have been significant changes in the scope of prenatal ultrasound screening since its introduction in the 1980s, and the advancing imaging technology has led to increased possibilities of detection of pregnancy deviations, including soft markers for fetal chromosomal aberrations and more subtle fetal abnormalities (Getz and Kirkengen, 2003). Fetal soft markers, which can be found in 5.9% of fetuses in a low-risk population (Ahman et al., 2014), are structural changes that are often of no clinical importance or may be transient. However, the occurrence of more than one ultrasound marker is associated with an increased likelihood of chromosomal abnormality (Getz and Kirkengen, 2003; Intressegruppen för mödrahälsovård inom SFOG, 2008). There has been ambiguity in relation to the clinical significance of different markers, which has given rise to many counselling dilemmas in maternity care (Getz and Kirkengen, 2003), particularly since disclosure of findings may cause often unnecessary, worry and anxiety for expectant parents (Getz and Kirkengen, 2003; Ahman et al., 2010, 2012).

The Swedish setting

In Sweden midwives provide routine ANC, including routine ultrasound examinations. Swedish midwives also have a central role at the birth, as they are responsible for management of uncomplicated birth in delivery wards. They are also involved in complicated births in collaboration with obstetricians, and they provide postpartum care on hospital (The National Board of Health and Welfare, 2006). The requirements for becoming a midwife include three years of university studies to graduate as a registered nurse, followed by 18 months of university studies to graduate as a registered midwife (The Swedish Association of Midwives, 2015). Midwives practising ultrasound have further in-depth training. Pregnant women are offered seven to ten visits to a midwife in community-based ANC during pregnancy, with additional visits to a physician if required (Intressegruppen för mödrahälsovård inom SFOG, 2008). According to Swedish legislation, all pregnant women in Sweden should be offered general information on opportunities for prenatal diagnosis (SFS 2006:351, 2006). It is generally the responsibility of midwives in community-based ANC to provide this information (Intressegruppen för mödrahälsovård inom SFOG, 2008; Ingvoldstad et al., 2014), while routine ultrasound examinations are predominantly performed by ultrasound-trained midwives at hospital obstetric clinics (Hayat Roshanai et al., 2015).

Routine ultrasound screening has been offered in Sweden since the 1980s, initially with the primary aims to determine gestational age, placental localisation, and number of fetuses. Examination of fetal anatomy to detect abnormality later became recommended as a part of the routine ultrasound examination (Intressegruppen för mödrahälsovård inom SFOG, 2008). The examination, which is taken up by 98% of pregnant women, is usually performed in the second trimester at a gestational age of 18–20 weeks (Petersson, 2016). The uptake of the CUB screening test is lower, and there are inequalities in Sweden with regards to the possibility of access to the test. While a few counties offer CUB to all women, others have different age cut-offs, and the fee varies from being a free test to a small charge or full payment (Ingvoldstad et al., 2014). In 2013 32% of pregnant women in Sweden underwent this screening (Petersson, 2016).

Experiences and views concerning the use of ultrasound have so far been explored predominantly from the perspectives of pregnant women or expectant parents. In this study, we aimed to explore Swedish midwives' experiences and views of the use of obstetric ultrasound in clinical management of pregnancy, and in situations where maternal and fetal health interest conflict.

Methods

Study design

An exploratory qualitative study with focus group discussions (FGDs) was undertaken as part of the CROss Country Ultrasound Study (CROCUS), which is an international research project exploring midwives' and obstetricians' experiences and views on the use of ultrasound in pregnancy management in low-, middle-, and high-income countries. The countries involved in CROCUS are Australia, Norway, Sweden, Rwanda, Tanzania and Vietnam. The CROCUS study involves qualitative exploratory studies in each country, followed by national surveys. The countries have been selected to represent a variety of contexts, including economy, legislation, culture, gender perspectives, religion, as well as organisation of obstetric and maternal health care, and organisation of and access to ultrasound examinations during pregnancy (Edvardsson et al., 2014, 2015a, 2015b, 2015c; Åhman et al., 2015; Ahman et al., 2016; Edvardsson et al., 2016).

Recruitment and participant characteristics

Twenty-five participants were recruited from Departments of Obstetrics at four hospitals located in the northern and central parts of Sweden. The number of births at each hospital ranged between 800 and 4000. The largest hospital was a university hospital providing highly specialised care. The smallest hospital had ANC integrated within the Department of Obstetrics. The heads of the Department of Obstetrics were contacted by the