MAKERERE UNIVERSITY

RESEARCH BRIEF

Project supported by:
Grand Challenges Canada®
Grands Défis Canada

Detection of pregnancy complications and determinants of service attendance using outreach obstetric ultrasound in Eastern Uganda

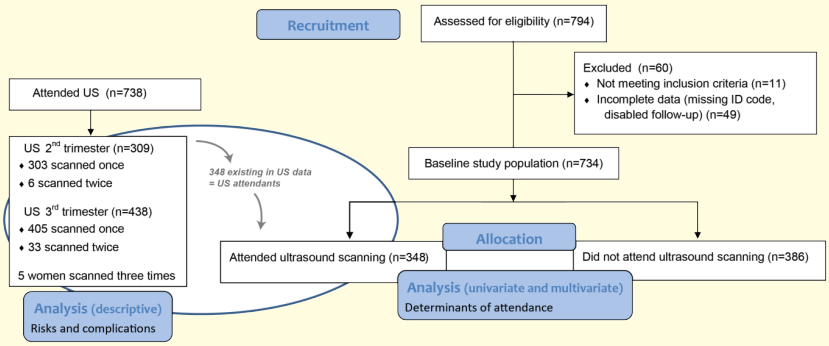
Introduction

Research has shown that obstetric ultrasound (US) examination is an effective and safe means of determining gestational age and detecting maternal and perinatal risk factors. Identifying, monitoring and managing other risks and complications is dependent on knowing the gestational age. US can improve the detection of multiple pregnancies (associated with increased perinatal morbidity and mortality) and fetal abnormalities . It can also improve the detection of fetal growth abnormality, amniotic fluid abnormality, placental abnormalities such as placenta previa, fetal abnormalities and fetal malpresentations.

With support from Grand Challenges Canada, we conducted a pilot to determine the prevalence of pregnancy risk factors detected by ultrasound scanning, and the determinants of attendance at outreach obstetric ultrasound examination services in one district in Eastern Uganda.

What was done?

Conducted in Bukooma Sub County in Luuka District, the pilot employed a cross-sectional study design conducted in the period 2014-2015. The district had a population of about 40,000 of which 5% of women between 15 - 49 years were estimated to be pregnant.



Results:

734 women attended ultrasound examinations. Pregnancy risks or abnormalities including breech presentation, transverse lie, multiple pregnancy, maternal cyst, splenomegaly, were detected in 5% in the second trimester and 9% in the third trimester, which was at levels similar to previous studies. The US scanning also detected three cases where no pregnancy was seen and one case of intra uterine fetal death.

Pregnancy complication or risk	N (%) 2nd trimester	N (%)3rd trimester
No complication observed(viable, Cephalic)	299 (94.9%)	428 (90.9%)
Breech presentation	4(1.3%)	28(5.9%)
Transverse lie	1(0.3%)	4(0.8%)
Multiple pregnancies	3(1.0%)	6(1.3%)
No pregnancy seen	2(0.6%)	1(0.2%)
Fetal death	0(0.0%)	1(0.2%)
Splenomegaly appendicitis, maternal cyst	6(1.9%)	3(0.6%)
Total complication detected	16(5.1%)	43(9.1%)
	315(100%)	471(100%)

Lessons learnt:

It is possible to engage local service providers to offer ultrasound scanning services in rural communities. However the Ministry of Health policy is limiting especially in rural settings.

It is possible to identify risky pregnancies at community level and refer mothers following ultra sound scanning. However, this is not enough in providing a continuum of care. A case in point is when a mother who had been referred died at the referral point when she found no blood at the referral point.

It is possible to improve uptake of maternal and newborn care services in rural settings by offering outreach ultra sound scan services (case: Naigobya Health Centre III). However, the challenge lies on the sustainability side.

It is possible to do integrated outreach ultra sound services in rural settings though this calls for increased resources to improve the Health Workers' skills in sonography.

Recommendations

i. From a health system and policy perspective, more research is needed in the potential of integrating ultrasound examinations in a comprehensive maternal health care system; the continuum of care from components of the CHW visits to delivery and newborn care.
ii. The implementation of ultrasound needs to consider other key components in the continuum of care. Sensitizing and educating the communities, as well as providing the means to increase health care utilization before, during and after pregnancy are essential steps to overcome the barriers that the study identified which affect ultrasound examination attendance.

Conclusion

Undetected pregnancy risks and complications accounts for a substantial proportion of maternal and newborn morbidity and mortality in Uganda and in many other low-income countries. The results from this pilot highlighted the importance of knowledge and awareness about pregnancy risks and complications for attending ultrasound examinations.

Key Contact: Ms Sarah Namutamba, Email: *sarah.namutamba@gmail.com*