Improving the quality of sexual and reproductive health and rights (SRHR) through pre-service training, research, and evidence-based clinical care delivery in Sub-Saharan Africa



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## Uptake and Factors Associated with Obstetric Ultrasound Scans before 24 weeks of gestation among Pregnant Women attending Antenatal Care in Gulu Regional Referral Hospital, Gulu City: A Cross sectional Study

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Background: Obstetric ultrasound scans are essential for prenatal care, but the evidence of their uptake is still low in Low and Middle income countries (Kim et al., 2018). Ultrasound scans enable early detection of potential complications and improving maternal and fetal health outcomes(Lagrone et al., 2012). Obstetric ultrasonography is important in determining the presence and location of the pregnancy, estimating the age of pregnancy, placenta localization; amniotic fluid assessment, and assessing fetal anatomy among others. The WHO recommends that at least two obstetric ultrasound scans, one before 24 weeks of gestation.

We wanted to determine the prevalence of uptake of obstetric ultrasound scans before 24 weeks of gestation and associated factors among pregnant women attending Antenatal Care (ANC) at Gulu Regional Referral Hospital.

Methods: A cross-sectional study was conducted among 428 pregnant women attending ANC at a tertiary hospital (Gulu Regional Referral Hospital) in Gulu City. A systematic sampling technique was used to select study participants. Data was collected using a structured questionnaire and analyzed using descriptive statistics and logistic regression. Logistic regression analysis was performed to determine the association between the explanatory and response variables. The strength of association of dependent and independent variables was presented as crude and adjusted odds ratio (AOR) at a 95% confidence interval. The level of significance was declared at a P-value of less than 0.5 in multivariable logistic regression. Narratives, figures, and tables were used to obtain the results.

Results: Out of the 428 respondents: 180 (42.06%) had not undergone any ultrasound scan, 248 (57.94%) had at least one ultrasound during the current pregnancy

This study found a 57.94% ultrasound uptake rate among pregnant women in Gulu District, higher than some rural areas in Uganda but still below WHO recommendations

Residence in Laroo sub-county was significantly associated with higher uptake of obstetric ultrasound scans. This suggests that geographic location plays a critical role, possibly due to better health service access, infrastructure, or active community engagement in maternal health within this sub-county. The result highlights the importance of addressing geographic disparities in availability and accessibility of ultrasound service among other health services and scaling up successful strategies used in Laroo to other sub-counties.

Other sub-locations, such as Layibi, did not statistically significantly influence uptake, indicating potential disparities in healthcare delivery or awareness that require further exploration.

Participants whose husbands had attained tertiary education were significantly more likely to utilize ultrasound services

Women who had a previous birth with a congenital abnormality were significantly less likely to utilize ultrasound services in subsequent pregnancies

Conclusion: My findings can guide healthcare providers and policymakers in developing targeted interven-

tions to enhance ultrasound scan utilization improving timely diagnosis of complications in great number of women improving maternal and fetal health outcomes in Gulu City and all of Uganda.

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