Background: Pregnant women living with HIV have difficulties in reaching adequate levels of adherence to treatment. One way to intervene is sending reminder cues using short message service (SMS) texts. We conducted a pilot study on the use of SMS among pregnant and breastfeeding women living with HIV in Kilimanjaro, Tanzania. The objective was to investigate technical feasibility of sending SMS reminders.

Methods: We enrolled adult (age 18-45) pregnant or breastfeeding women with HIV from Kilimanjaro region, Tanzania. Women received a reminder SMS 30 minutes before usual time of intake. One hour after usual time of intake, they received an SMS asking whether she took medication. The women had to reply with 'Yes' or 'No'. SMSes were sent less-than-daily and randomly distributed over the week. We did descriptive analyses of sent messages, delivered messages and estimation of adherence based on messages.

Results: We enrolled 25 women. In total, 4963 messages were sent of which 40 failed to be delivered (1%). 1664 SMS were sent with a question if medication was taken, with a received answer 1580 times (91%). The answer was ‘Yes’ in 1137 times (65%), ‘No’ in 10 times (0.6%) and indefinable 433 times (26%). The median adherence based on ‘Yes’-answers was 74% [Range 24-99]. If also counting the indefinable answer, the mean adherence was 100% [range 95-100].

Conclusion: Despite a few technical issues, we believe using SMS for reminder cues in Tanzania works well. The number of failed deliveries is nearly zero and women have replied the majority of SMS. Efforts are needed to instruct women better on replying and on detecting the right answer in case of typing errors. We conclude that SMS is a potential way to improve adherence and should be further investigated in clinical trials to determine the effect on adherence to treatment.