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# The Impact of Text Message Reminders on Adherence to Antimalarial Treatment in Northern Ghana: A Randomized Trial

Background: Low rates of adherence to artemisinin-based combination therapy (ACT) regimens increase the risk of treatment failure and may lead to drug resistance, threatening the sustainability of current anti-malarial efforts. We assessed the impact of text message reminders on adherence to ACT regimens.

**Methods:** Health workers at hospitals, clinics, pharmacies, and other stationary ACT distributors in Tamale, Ghana provided flyers advertising free mobile health information to individuals receiving malaria treatment. The messaging system automatically randomized self-enrolled individuals to the control group or the treatment group with equal probability; those in the treatment group were further randomly assigned to receive a simple text message reminder or the simple reminder plus an additional statement about adherence in 12-hour intervals. The main outcome was self-reported adherence based on follow-up interviews occurring three days after treatment initiation. We estimated the impact of the messages on treatment completion using logistic regression.

**Results:** 1140 individuals enrolled in both the study and the text reminder system. Among individuals in the control group, 61.5% took the full course of treatment. The simple text message reminders increased the odds of adherence (adjusted OR 1.45, 95% CI [1.03 to 2.04], p-value 0.028). Receiving an additional message did not result in a significant change in adherence (adjusted OR 0.77, 95% CI [0.50 to 1.20], p-value 0.252).

**Conclusion:** The results of this study suggest that a simple text message reminder can increase adherence to antimalarial treatment and that additional information included in messages does not have a significant impact on completion of ACT treatment. Further research is needed to develop the most effective text message content and frequency.

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