

Effectiveness of a short message reminder on compliance to follow-up after cataract surgery in an outreach setting in Zamfara State, Nigeria: a randomized controlled trial

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Background: Cataract outreach programs aim to deliver cataract surgical services to individuals with cataracts in their communities.¹ Poor follow-up compliance has been one of the major drawbacks of outreach surgery.² Various interventions were found to improve follow-up compliance.³

The aim of this study was to assess whether a short message service (SMS) reminder would improve compliance with post-operative follow-up and to determine the visual outcome of cataract surgery in patients operated on in an outreach setting.

Methods: The study was a randomized controlled trial, registered with the Pan African clinical trials registry (RCT-PACTR20231075160700). Ethical clearance was obtained from the Research and Ethics Committee of the National Eye Centre Kaduna and administrative permission was also obtained from the authorities of the Ministry of Health Zamfara State. Written informed consent was obtained from each patient. A total of 125 patients with cataract were recruited. Block randomization was conducted, and randomization codes were generated using Research Randomizer computer software (www.randomiser.org). Sixty-two participants were randomly allocated to the SMS intervention group and 63 participants to the control group. Automated SMS reminders were sent using a Bulk SMS software platform on each follow-up visit. A semi-structured

interviewer-administered questionnaire was administered. The data collected included socio-demographic information, follow up visit at day one, weeks one, six and twelve after surgery respectively; pre-operative and post-operative follow up examination findings including visual acuity, anterior segment and fundal examination of all the patients on the scheduled follow up visit.

Results: The age range of participants was between 30 and 87 years, with a mean of 63.00 ± 8.99 years. The sociodemographic characteristics of study participants in the 2 groups were similar (Table 1). Seventy-three (58.4%) of the patients owned a mobile phone, and 52 (41.6%) lived with phone owners; there was no significant difference in phone ownership status between the control and study groups ($p > 0.05$). All the participants turned up for follow-up on day one and week one. But there was a decline in attendance at the subsequent visits at six and twelve weeks. There was no statistically significant difference with respect to follow-up compliance between the groups (Table 2).

Among the participants, 22(35.5%) attended the 12 week follow-up in the intervention and 15(23.8%) in the control groups respectively. There was no statistically significant difference in follow-up between the intervention and control groups ($p > 0.05$).

Discussion: Socio-demographic distribution between the study groups was similar; this enables more reliable comparison of outcomes. Access to mobile phones was similar, indicating that SMS interventions were practical and well-suited for this setting. The decline in follow-up highlights the challenges of maintaining long-term follow-up in an outreach setting. Combining SMS reminders and additional incentives has been shown to improve follow-up.³ All the participants that completed the study achieved good visual acuity.

Conclusion: The study evaluated whether an SMS reminder would increase follow-up

Table 1: Demographic characteristics of study participants

Variables	Study Groups Intervention (%)	Control (%)	Total (%)	p-value
Age (years)				0.429
<40	0(0.0)	2(3.2)	2(1.6)	
40-49	5(8.1)	2(3.2)	7(5.6)	
50-59	15(24.2)	15(23.8)	30(24.0)	
≥60	42(67.7)	44(69.8)	86(68.8)	
Total	62(100.0)	63(100.0)	125(100.0)	
Mean age ±(SD) in years	63.03±(8.12)	62.97±(9.66)	63.00±(8.99)	
Gender				0.318
Males	37(59.7)	43(68.3)	80(64.0)	
Females	25(40.3)	20(31.7)	45(36.0)	
Total	62(100.0)	63(100.0)	125(100.0)	
Religion				0.496
Islam	61(98.4)	63(100.0)	124(99.2)	
Christianity	1(1.6)	0(0.0)	1(0.8)	
Total	62(100.0)	63(100.0)	125(100.0)	
Education level				0.849
Qur'anic	46(74.2)	45(71.4)	91(72.8)	
Primary	5(8.1)	4(6.3)	9(7.2)	
Secondary	3(4.8)	6(9.5)	9(7.2)	
Tertiary	8(12.9)	8(12.7)	16(12.8)	
Total	62(100.0)	63(100.0)	125(100.0)	
Employment				0.626
Employed	7(11.3)	6(9.5)	13(10.4)	
Famer	23(37.1)	25(39.7)	48(38.4)	
Business	10(16.1)	15(23.8)	25(20.0)	
Others	22(35.5)	17(27.0)	39(31.2)	
Total	62(100.0)	63(100.0)	125(100.0)	
Residence Status				0.94
Rural	26(41.9)	26(41.3)	52(41.6)	
Urban	36(58.1)	37(58.7)	73(58.4)	
Total	62(100.0)	63(100.0)	125(100.0)	

Table 2. Distribution of participants by follow-up after cataract surgery

Variables	Study Group Intervention (%)	Control(%)	Total (%)	P-value
Day One Follow Up Visit				-
Yes	62(100.0)	63(100.0)	125(100.0)	
No	0(0.0)	0(0.0)	0(0.0)	
Total	62(100.0)	63(100.0)	125(100.0)	
Week One Follow Up Visit				-
Yes	62(100.0)	63(100.0)	125(100.0)	
No	0(0.0)	0(0.0)	0(0.0)	
Total	62(100.0)	63(100.0)	125(100.0)	
Six Weeks Follow Up				0.325
Yes	34(54.8)	29(46.0)	63(50.4)	
No	28(45.2)	34(54.0)	62(49.6)	
Total	62(100.0)	63(100.0)	125(100.0)	
Twelve Week Follow Up				0.153
Yes	22(35.5)	15(23.8)	37(29.6)	
No	40(64.5)	48(76.2)	88(70.4)	
Total	62(100.0)	63(100.0)	125(100.0)	

compliance following cataract surgery in an outreach setting. The intervention group's compliance was slightly higher; but the difference was not statistically significant. This suggests that SMS reminders alone may not be sufficient to ensure long-term follow-up.

References

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