Can mobile phone messages linked to telephone counselling improve use of contraception following menstrual regulation? Findings from a randomised controlled trial in Bangladesh

Kate Reiss[1,2], Kathryn Andersen[3], Fahmida Taleb[4], Erin Pearson[3], Kamal Biswas[3], Sadid Nuremowla[4], James Carpenter[2,5], Kathryn Church[1], Altaf Hossain[6], Mohammad Zobai[6], Jamie Menzel[3], Hassan Mahmood[7], Sharmani Barnard[8], Thoai D Ngo[9], Christopher Smith[2] , Katherine Keenan[1], Katharine Footman[1], Megan Douthwaite[1], Barbara Reichwein[1], Caroline Free[2]

[1] Marie Stopes International, [2] London School of Hygiene and Tropical Medicine, [3] Ipas, [4] Marie Stopes Bangladesh, [5] MRC Clinical Trials Unit at UCL, [6] BAPSA, [7] icddr,b, [8] Kings College London, [9] Population Council

Background

An RCT in Cambodia found that a counselling intervention delivered by mobile phones increased post-abortion contraceptive use 4 months post-procedure.

Evidence is needed to establish whether this type of intervention can work in other contexts and whether a more automated intervention (which will be cheaper to deliver) is still effective.

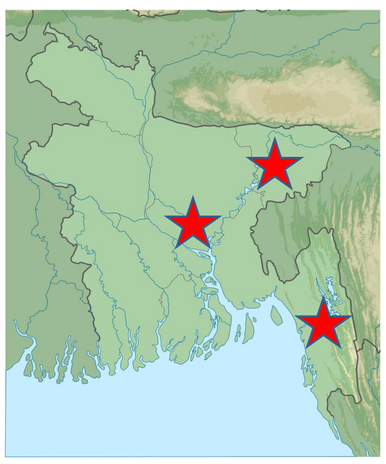
Study setting

Bangladesh (Chittagong, Dhaka and Sylhet Divisions)

- Abortion: legal to save a woman's life
- Menstrual regulation (MR) officially recognized as an interim method for establishing non-pregnancy
- MR services use vacuum aspiration <12 weeks or mifepristone + misoprostol < 9 weeks
- Post-menstrual regulation family planning update is dominated by short term methods which are less effective and have higher rates of discontinuation than long-acting and reversible contraceptives (LARCs): the IUD and the implant.

Aim

To assess whether a mobile phone-based intervention can increase use of LARCs and other effective modern contraceptive methods (pill and injectable) among women in Bangladesh who have undergone a clinic-based menstrual regulation procedure.



Methods

972 women recruited after their MR procedure and post-procedure counselling from 41 Marie Stopes Bangladesh and Government clinics supported by Ipas

→

Eligibility criteria:
- Aged 18-49
- Had an MR procedure
- No general anaesthetic
- Don't want to conceive and don't plan to use sterilisation in next 6 months
- Have a personal mobile phone

Consent to receive voice messages about contraception on their phone

↓

Participant randomised 1:1 to control or intervention group

Control: Call centre number

Intervention: Given call centre number and sent 11 interactive voice messages about contraception over 4 months. Messages were free and allowed connection to call centre

←

Participant interviewed in person at baseline and via phone at 2 weeks and 4 months post procedure

In-depth interviews with approximately 30 trial participants are currently underway to explore the study findings.

Privacy

✓No reference to MR in messages
✓Consent to send messages
✓Supported involvement of husband and/or others during recruitment if the client chose
✓Checked for potential problems during recruitment by playing an example message and asking what would happen if it was overheard

Results

Participants

- At baseline: 11.6% took a LARC on the day of their procedure,
- At baseline: 12.8% reported having experienced physical intimate partner violence and 26.3% forced sex by their husband in the last year
- 80% were interviewed at 4 months

Contraceptive use and knowledge/attitudes at 4 months

- The intervention had no effect on contraceptive use at 4 months post procedure
- Positive change in some indicators of knowledge/attitudes to LARCs

Violence during the intervention period

- Intervention participants were more likely than control participants to report physical intimate partner violence
- No argument or violence was reported in response to the open question*: "Did anything happen to you as a result of taking part in this study, good or bad?"*

Table 1: Effect of the mobile phone intervention at 4-months on primary and secondary outcomes

	Intervention group	Control group	Adjusted OR (95% CI)[1]
Outcome	No. /total no. of respondents (%)	No. /total no. of respondents (%)	
Primary Outcome			
Self-reported LARC use	46/373 (12.3)	55/365 (15.1)	1.058 (0.528-2.120)
Self-reported LARC use with multiple imputation			0.974 (0.506-1.875)
Secondary Outcome			
Self-reported use of a modern method of contraception	205/373 (55.0)	197/365 (54.0)	1.028 (0.744-1.421)
Subsequent pregnancy	5/375 (1.3)	10/367 (2.7)	0.484 (0.164-1.435)
Subsequent MR or abortion	2/375 (0.5)	4/367 (1.1)	0.429 (0.077-2.393)
Physical violence from partner	41/372 (11.0)	25/364 (6.9)	1.972 (1.125-3.456)
Sexual violence from partner	47/373 (12.6)	36/360 (10.0)	1.253 (0.776-2.025)

[1]All outcomes adjusted for age and poverty level (PPI score). Where possible (contraceptive and violence outcomes) model also adjusted for baseline measure of outcome e.g. LARC use was adjusted for age, poverty level and baseline LARC use.

Violence finding:

Hypothesised mechanisms

1. Content (contraception) and/or context (post-abortion) related

Content not acceptable to husband/others
Content led others to suspect infidelity

Content led to disclosure of reproductive behaviours

2. Delivery mechanism: Phone-intervention related

Conflict around phone use e,g. calls from an unknown number unacceptable

Calls led to disclosure of study participation which was problematic

3. Delivery mechanism: The intervention targeted women's empowerment

The intervention empowered women and challenged existing power dynamics

4. Reporting bias

The intervention could have led to an increase in self-efficacy and/or trust in the study team

5. Chance finding

There is a 1 in 31 chance that this is not a true finding

Implications

- **mHealth interventions targeted at women need to carefully consider possible impact on inter-personal relations**
- **Intervention that may impact on inter-personal relations need to include intimate partner violence as an outcome and measure it using direct, closed answer questions**
- **Further research is required to explore the mechanism behind the violence finding and the reason the intervention did not increase contraceptive use**

STEP UP STRENGTHENING EVIDENCE FOR PROGRAMMING ON UNINTENDED PREGNANCY
UKaid from the British people
Ipas Health. Access. Rights.
E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL