

Does Shared Decision-making Reduce Irrational Antibiotic Prescriptions for Acute Diarrhoeal Diseases by Primary Care Physicians?

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There was a **36% reduction in irrational antibiotic prescriptions** for Acute Diarrhoeal Diseases in the Shared Decision Making intervention group compared to the control group

BACKGROUND

- Antimicrobial Resistance (AMR) poses a significant global health challenge, driven largely by the overuse of antibiotics.
- Though antibiotics are not advised for most diarrheal episodes they are prescribed in about 82% of cases in community settings.
- It is seen that patient preferences and demands are one of the primary reasons for irrational antibiotic prescriptions.
- Therefore, this study was planned to see whether shared decision-making (SDM) intervention reduces irrational antibiotic prescriptions for acute diarrheal diseases (ADD) by primary care physicians in Punjab, North India.

RESULTS

- There was a 36% reduction in irrational antibiotic prescriptions for ADD in the intervention group compared to the control group after adjustment for patient and doctor characteristics. (DiD estimate: -36%; 95% CI: -51.3% to -20.7%, $p < 0.001$) (Fig 2).
- Irrational antibiotic prescriptions were significantly higher among younger physicians (21-30 years) as compared to older physicians (31-40 years) ($p = 0.001$).
- Patients aged 40 years and above received significantly more irrational antibiotic prescriptions compared to younger patients (<5 years) ($p = 0.002$).

METHODS

- A quasi-experimental study design was done in two block Primary Health Centres (BPHCs), one intervention and one control, comprising seven physicians in each BPHC.
- The physicians in the intervention group were trained in shared decision-making in a one-day workshop with the tools shown in Figure 1.



Fig 1: SDM Intervention tools

- Twenty ADD prescriptions from each physician were collected at pre-intervention ($n=140$ from each group) and post-intervention ($n=140$ from each group). A total of 560 prescriptions were analysed for irrational antibiotic use.
- Difference-in-Differences (DiD) analysis was done using multivariable logistic regression adjusting for doctor and patient characteristics (STATA version 17).

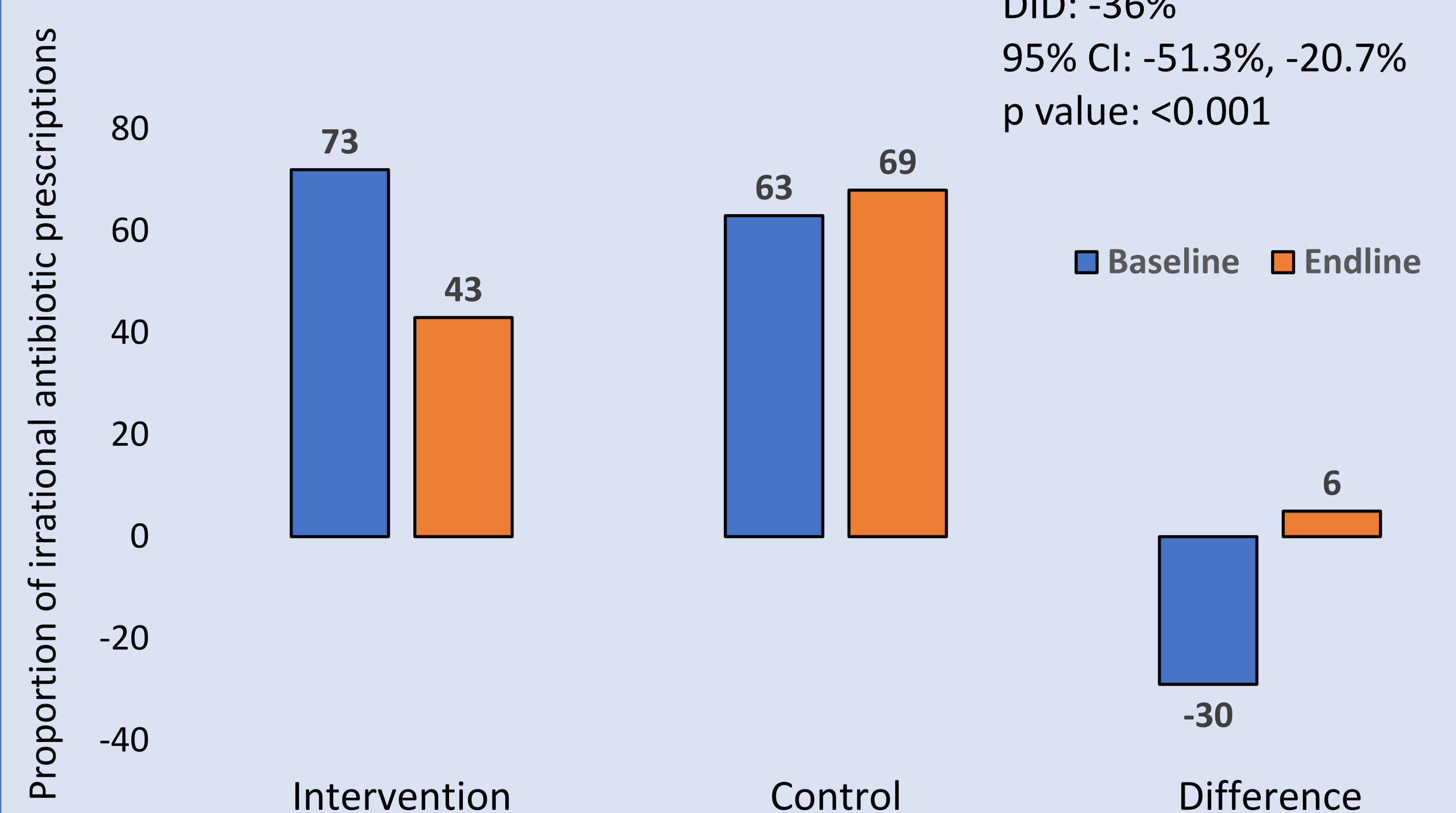


Fig 2: Irrational antibiotic prescription among the intervention and control groups for ADD adjusted for patients' and doctors' characteristics

CONCLUSION

- The findings demonstrate that the SDM intervention has effectively reduced the irrational antibiotic prescription for ADD in primary care settings.
- It highlights the necessity of personalised communication tactics and focused training to enhance doctor and patient involvement in antibiotic decision-making in primary care.
- This needs to be studied in wider settings for generalisability.

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