

Research Supporting Clinical Pharmacists on the Wards

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Clinical Pharmacy

- Is a health science discipline
- Pharmacists provide patient centered care
- Multidisciplinary practice
- Optimizes medication therapy and promotes health, wellness, and disease prevention or improve Quality Use of Medicine

American College of Clinical Pharmacy (ACCP)

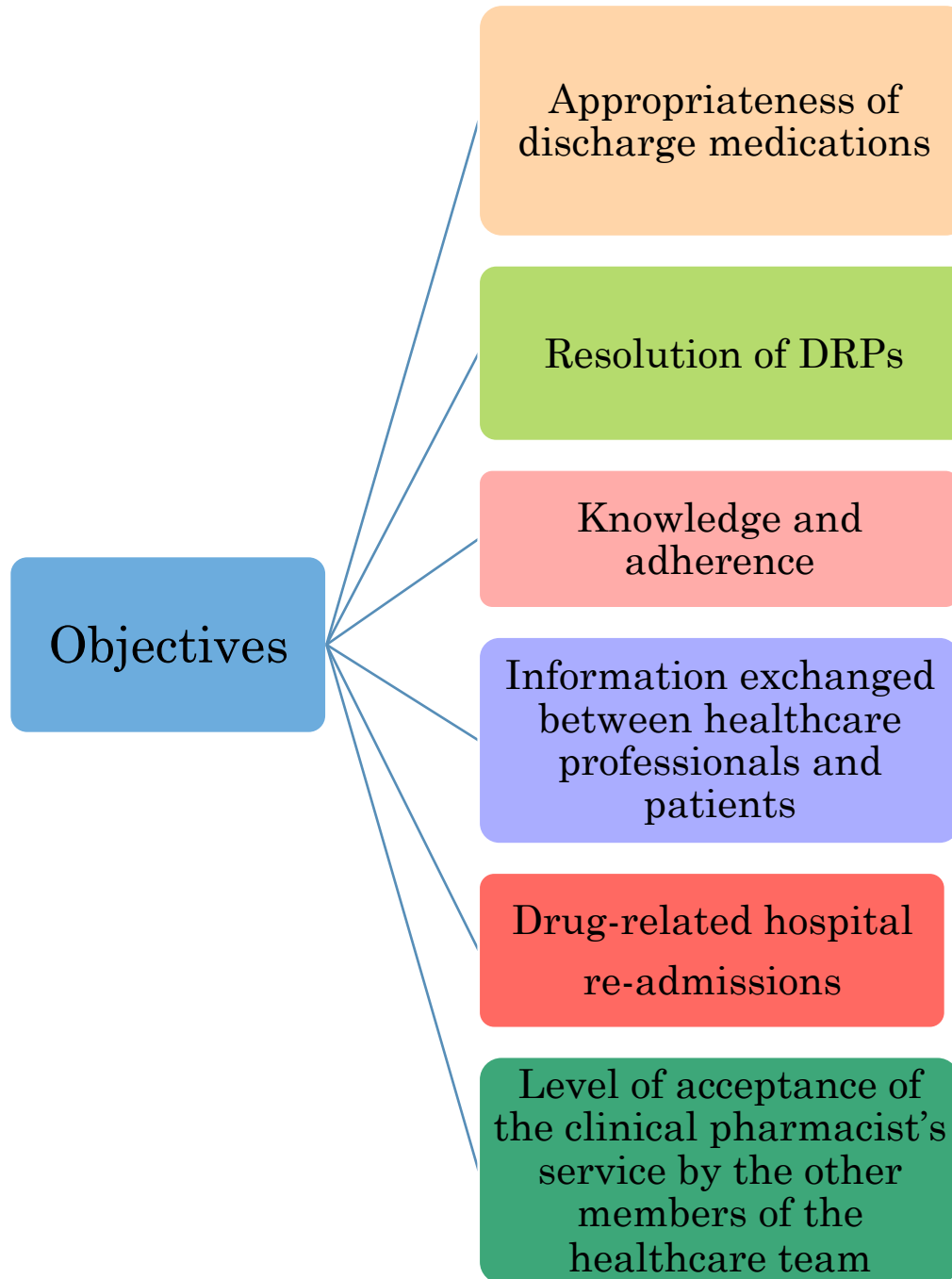


Introduction

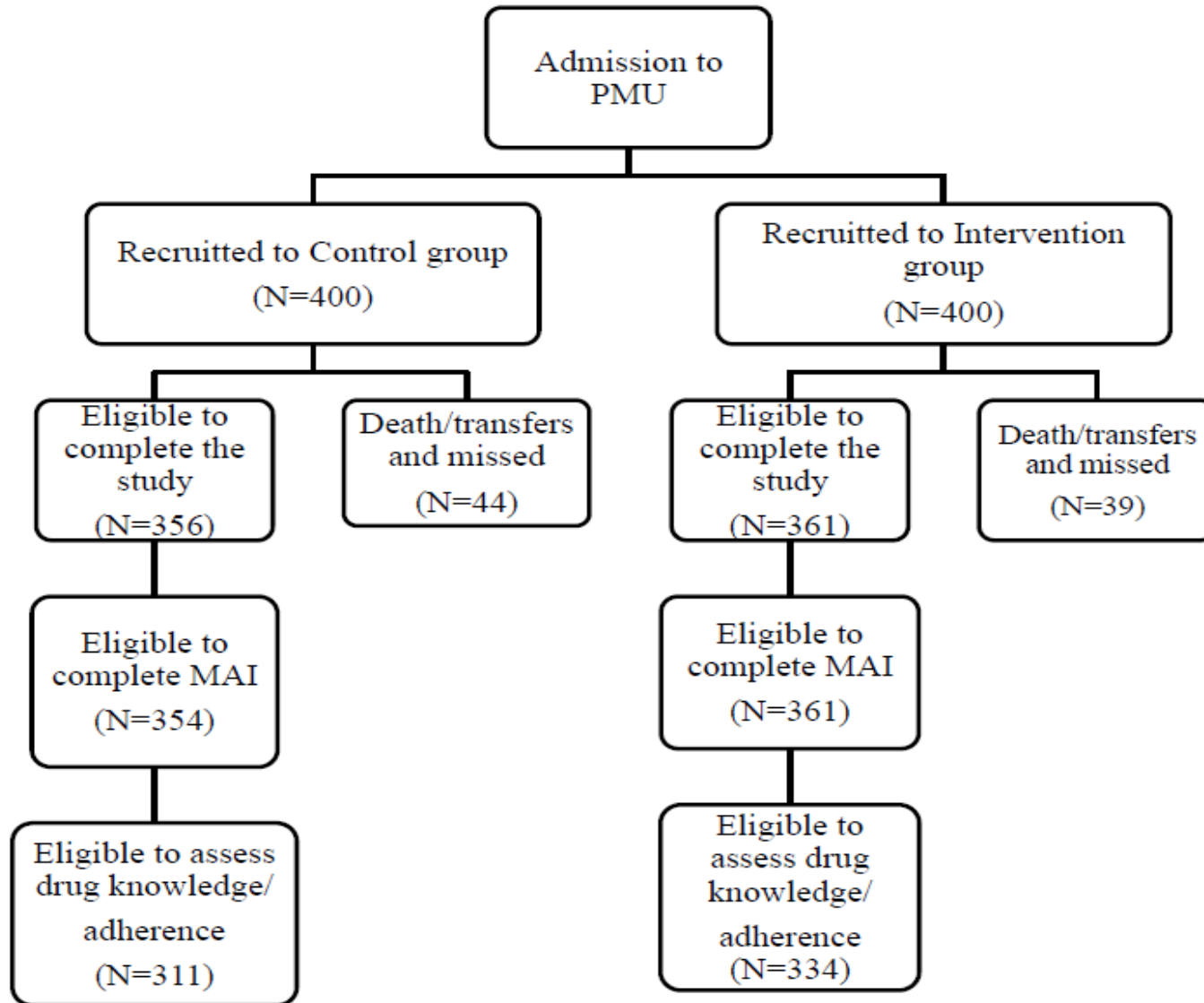
- This clinical pharmacy project was a collaboration between Sri Lanka and Australia
- Funded from South Asian Clinical Toxicology Research Collaboration (Australian NHMRC Grant 630650)
- Planned as a one year observational study
- Depends on observational study data we developed an interventional study

Methodology

- Intervention study - Controlled Clinical Trial
- Professorial Medical Unit, tertiary care hospital in the Colombo district
- Thirteen months period (From March 2013-March 2014)
- Recruited patients with non communicable chronic diseases



Summary of study population



1. **Appropriateness** of discharge medications prescribed for individual patients

- The percentage of patients with all appropriate medicines at discharge was significantly higher in the intervention group compared to the control group, 56.0% (202/361) and 29.7% (105/354) in intervention and control group respectively (P<0.0001)

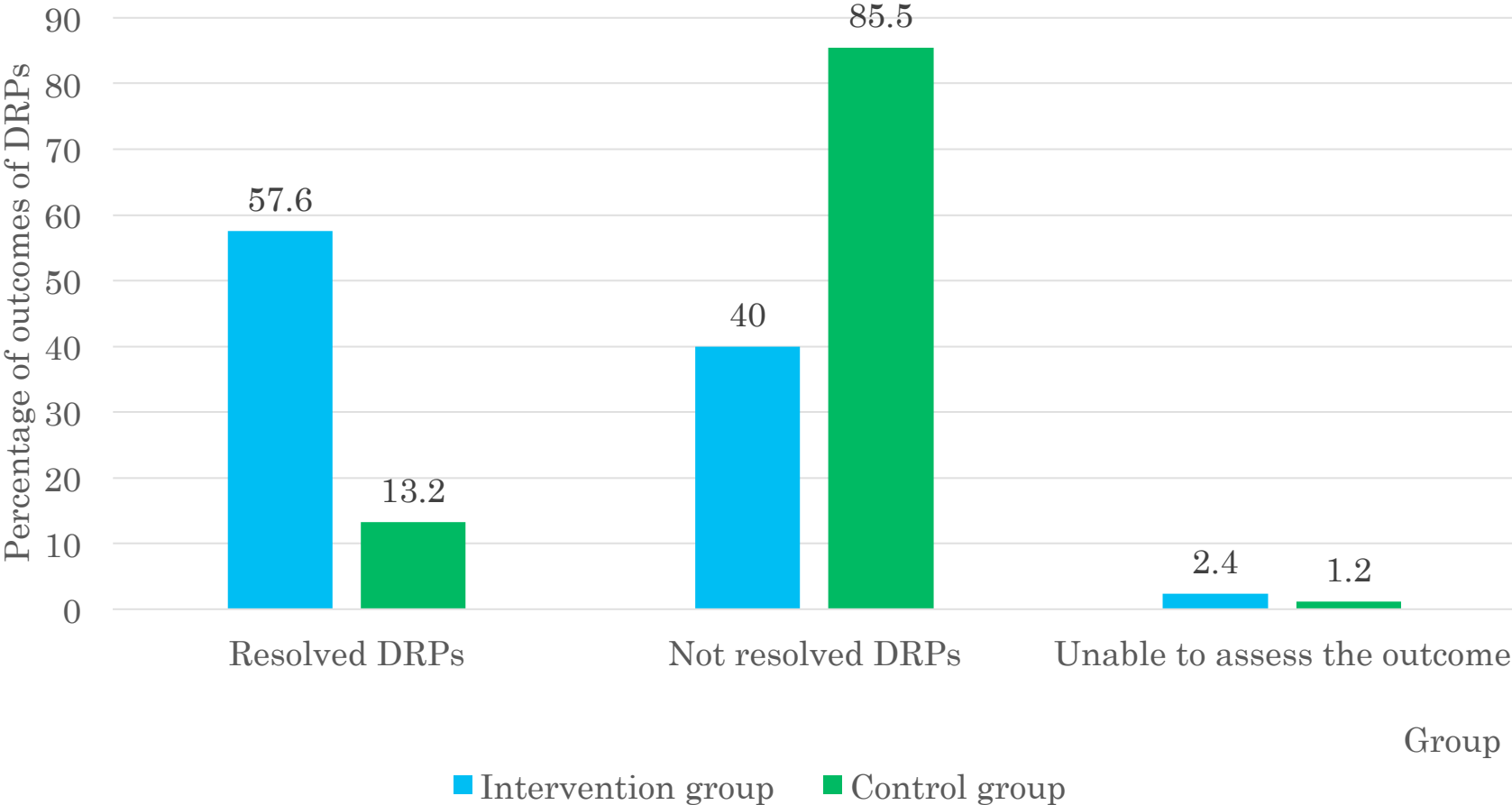
Appropriateness of discharge medications prescribed for individual patients

- 474 (22.1%) medications in the control group and 173 (7.8%) medications in the intervention group met one or more inappropriate criteria of the MAI ($P < 0.001$)

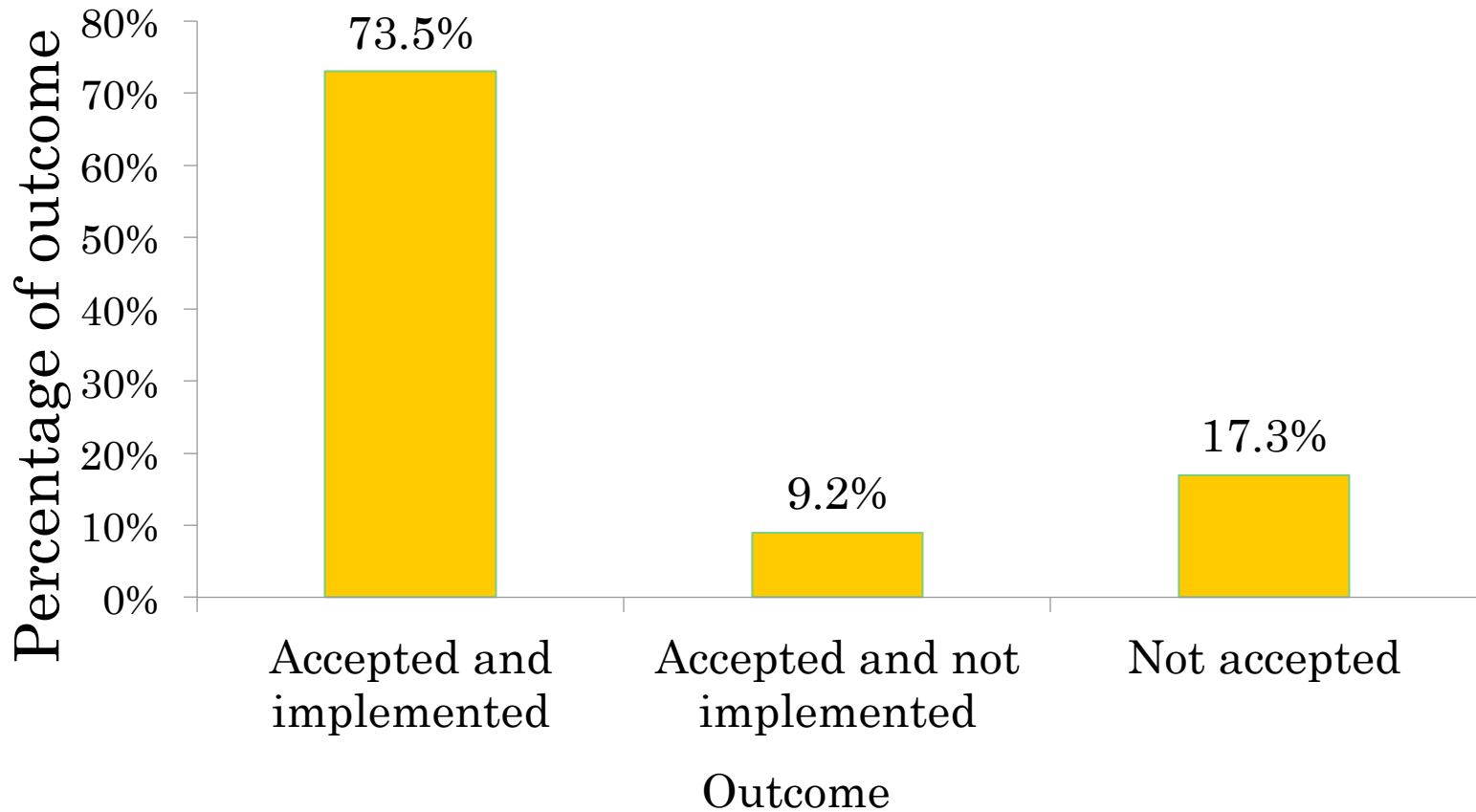
2. Resolution of **Drug related problems**

- A total of 1217 DRPs (3.4 DRPs per patient) and 1027 DRPs (2.8 DRPs per patient) were identified in the control and intervention group, respectively

Outcomes of DRPs vs. Study groups



Acceptance of pharmacist's recommendations by doctors



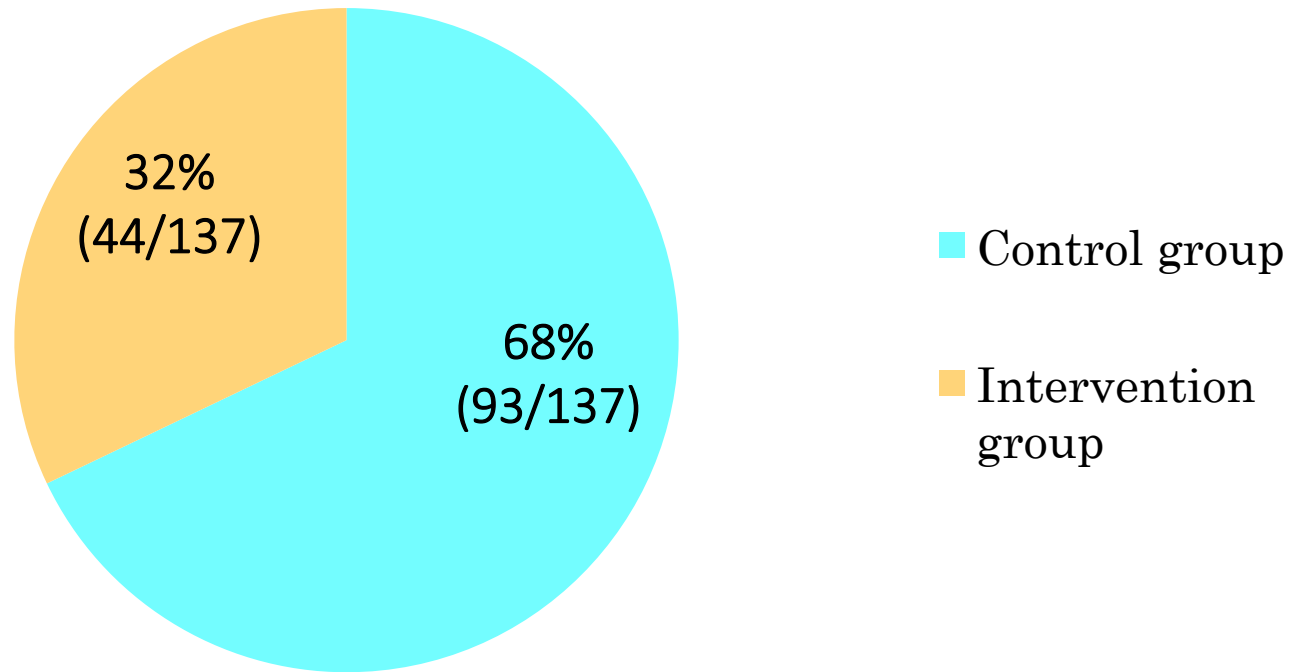
- This study showed that the **addition of a clinical pharmacist to the study setting was positively received by the attending doctors**
- An **acceptance rate of 83.0% of pharmacists' recommendations regarding DRPs by doctors** was comparable to **developed world** settings where acceptance rates range between **63% - 90%**

¹Bergkvist et al. Int J Clin Pharm. 2011; 33(6): 1010-8

²Galindo C et al. Pharm World Sci. 2003; 25(2): 56-64

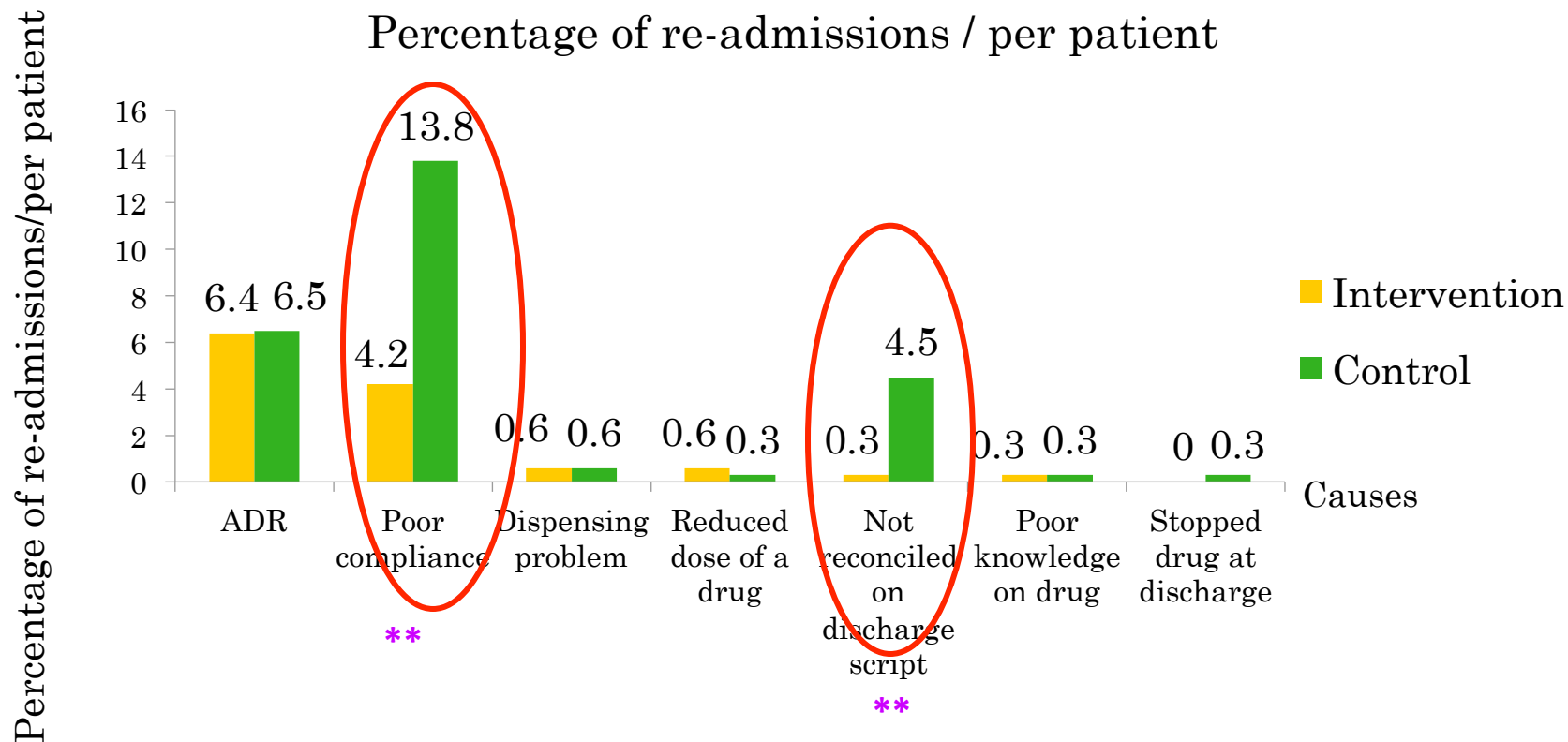
³Stemer G Int J Clin Pharm. 2011; 33(5): 759-62

3. Drug related re-admissions



P < 0.001

Reasons for drug related readmissions

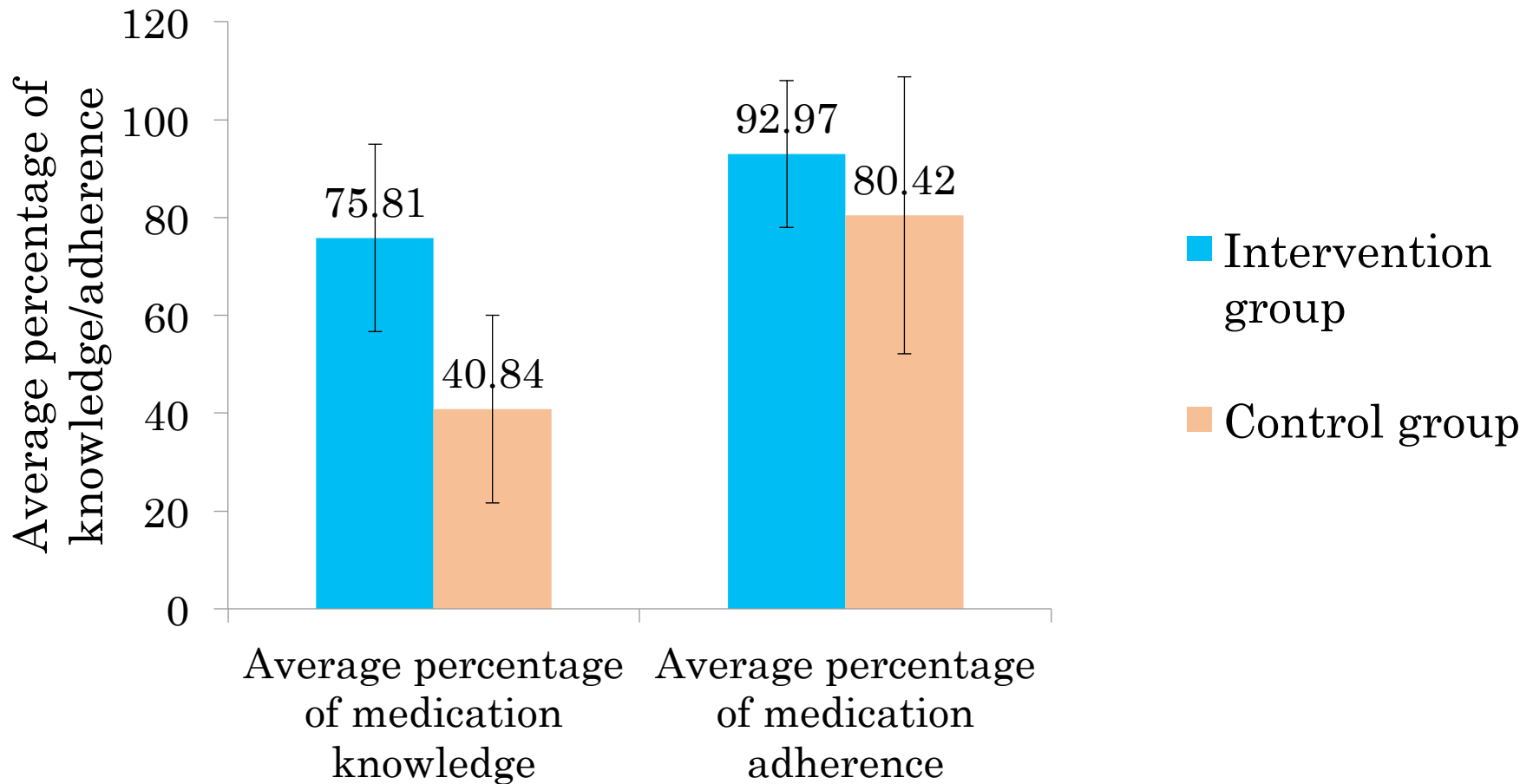


** = P < 0.001

4. Adverse drug reactions

- There was no difference between the intervention and control group with regard to the total number of reported ADRs during the study period (hospital stay + during six month of post-discharge)
- Clinical pharmacist's interventions aided to stop 81% of offending medications in the intervention group whereas only 35% medications were stopped in the control group

4. Medication knowledge and adherence



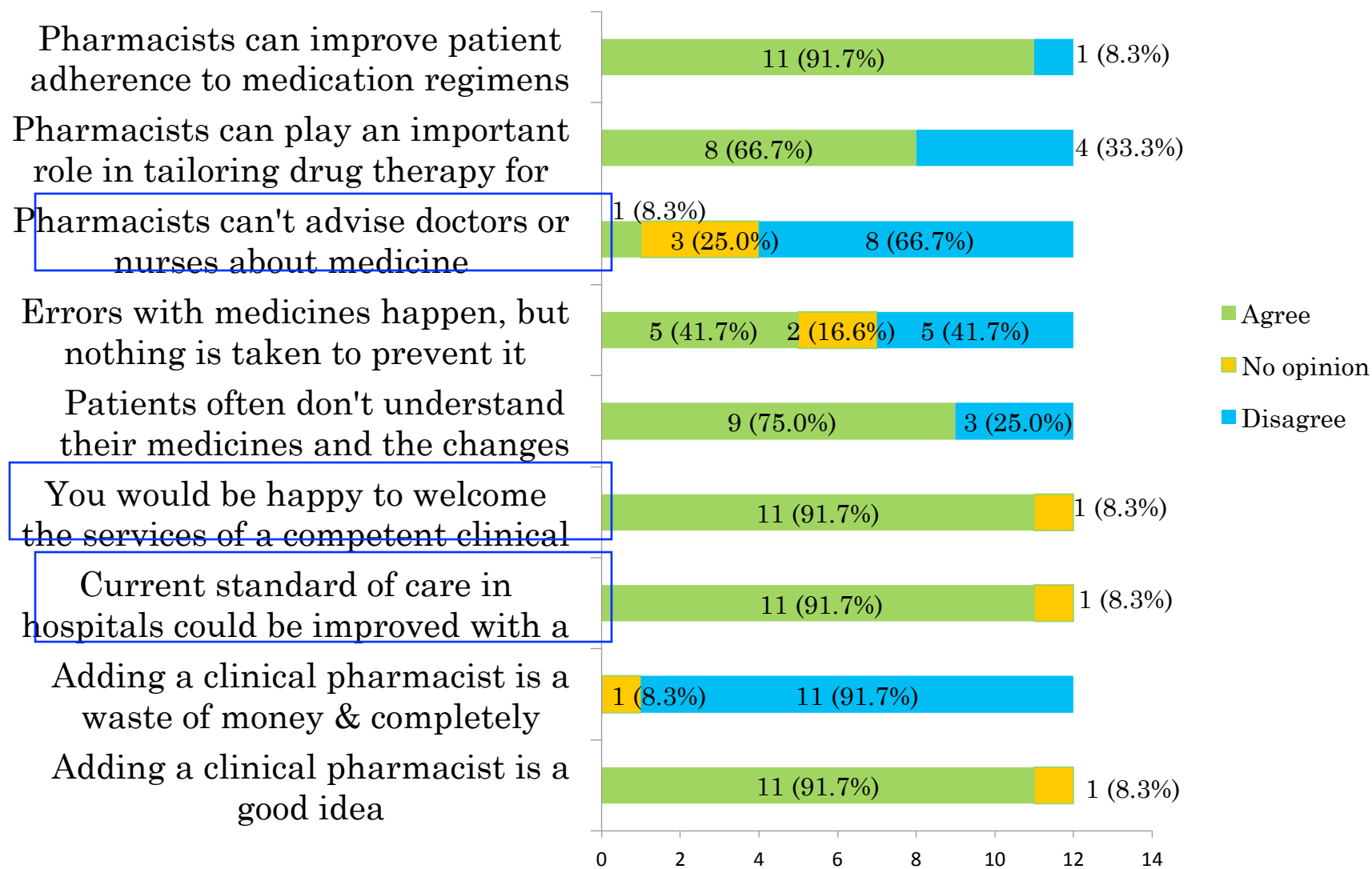
P value < 0.001

5. **Exchange of drug information** between healthcare professionals and patients

- More than 70% patients in the control group admitted that they have not received any information on the indications, side effects and precautionary actions about side effects during their hospital stay

- The rate of the response to the questionnaire from doctors was higher at the end of the survey compared to the baseline survey [67% (8 / 12) at baseline and 92.3% (12 / 13) at the end]

Doctors Survey at the end of the study



Nurses Survey at baseline

- The survey response rate of nursing staff was 80% at baseline
- The perspectives of nursing staff at baseline was negative
- 58.3% (95%CI 27.7% - 84.8%; $P > 0.05$) stated that there is no need of clinical pharmacy service to the ward
- 67% (95%CI 35% - 90%; $P > 0.05$) were not happy to welcome this service

Essential Partners or Optional
Extras?