

Assessment and Implementation of Medication Emergency Preparedness in Chronic Hemodialysis Patients at Saint Paul's Hospital

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Background

- Emergency (ER) preparedness minimizes disruption in patients' medications during disaster
- "ER Preparedness Information for Hemodialysis (HD) Patients" booklet produced in Sept 2012 by St. Paul's Hospital (SPH), Providence Health Care (PHC) as part of the BC Provincial Renal Agency's Renal ER Management Group initiative
- The medication section of the booklet recommends:
 - Know medication names, strengths, dosing intervals
 - Know which medications are necessary for survival
 - Carry a current list of medications
 - Keep a two-week emergency supply of medications
 - Know community pharmacy contact information
- Dissemination of the booklet and ER medication education has been inconsistent; therefore, knowledge assessment and pharmacy intervention will help with patient disaster preparation

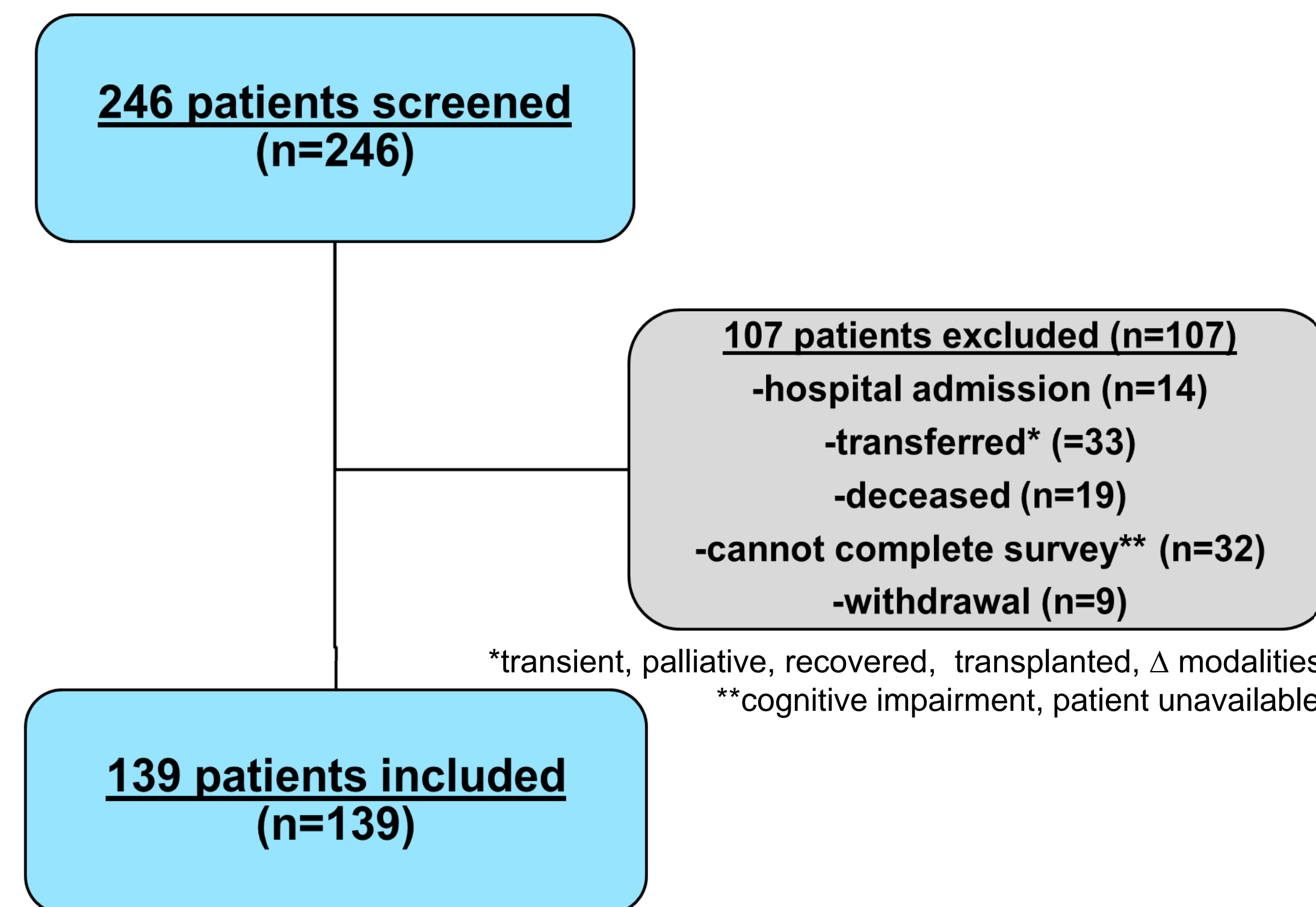
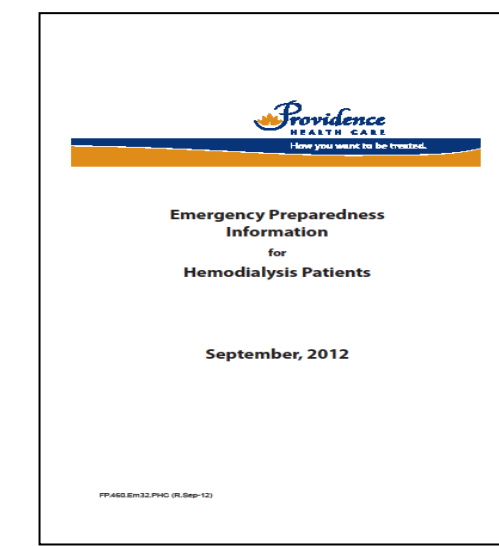


Figure 1: Patient Flow Diagram

Objectives

Primary

- To compare pre/post intervention, the number of participants who:
 - Have good, moderate, poor understanding of medications
 - Have received the booklet
 - Carry a current list of medications
 - Keep a two-week emergency supply of medications
 - Know their pharmacy contact information

Secondary

- The number of participants who:
 - Require ER medication & supply counseling*
 - Require communication with community pharmacy (Rx)**
 - Found ER medication supply counseling helpful

*If medication knowledge score < 75%
**If no 2-wk supply and required assistance

Definitions:

Understanding of medications: ability to provide name, strength, dosing interval, and ID medications necessary for survival

Good: >75%, Moderate: 40 to 75%, Poor: <40%

Medications necessary for survival: see list provided

Methods

Prospective, quality assurance study (Sep 2013 - Apr 2014)

- Phase 1: Pre-interventions assessment - survey
- Phase 2: Interventions: handbook distribution, counselling, and/or community pharmacy coordination
- Phase 3: Post-interventions assessment - survey

Inclusion criteria:

- Chronic HD patient
- ≥ 19 years of age

Exclusion criteria:

- Admitted to hospital
- Unable to complete survey

Patient Characteristics	N=139
Age (years, mean ± SD)	68.4 ± 14.2
Male (%)	55.4
Co-morbidities (%)	
• Cardiovascular	43.1
• Hypertension	90.7
• Diabetes mellitus	50.4
• Psychiatric illness	13.7
Medications (number, mean ± SD)	
• All medications	10.8 ± 3.8
• Medications necessary for survival	4.4 ± 2.4
Primary language spoken (%)	
• English	41.1
• Cantonese/Mandarin	28.0
• Punjabi	3.6
• Other	15.1
Living arrangement (%)	
• Independent living (house/apartment/townhouse)	92.1
• Nursing home	7.9
Household members (number, mean ± SD)	2.9 ± 2.1
Caregiver assistance(%)	16.6

Table 1: Baseline Patient Characteristics

Results

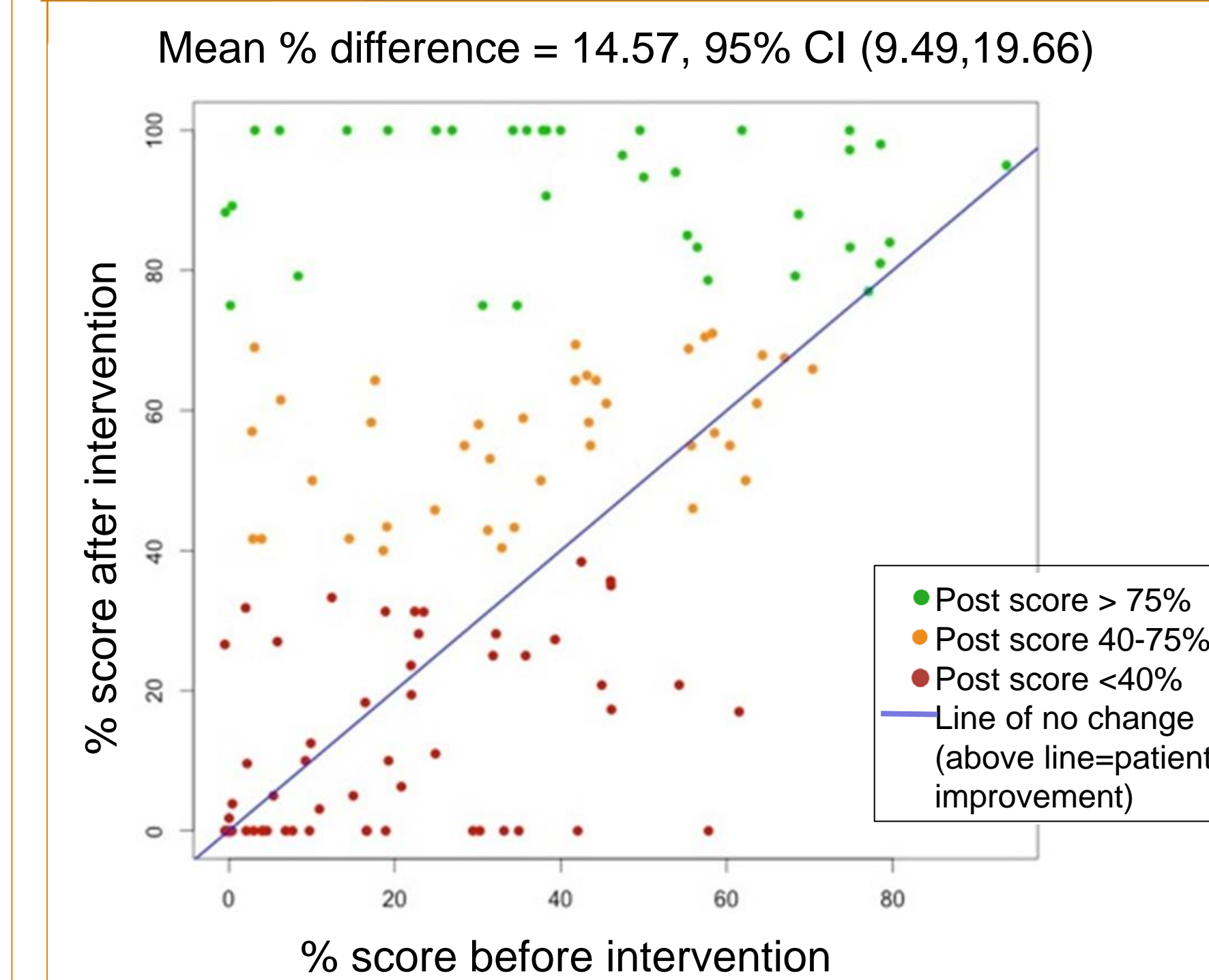


Figure 2: Scatterplot of ALL medication knowledge before and after intervention

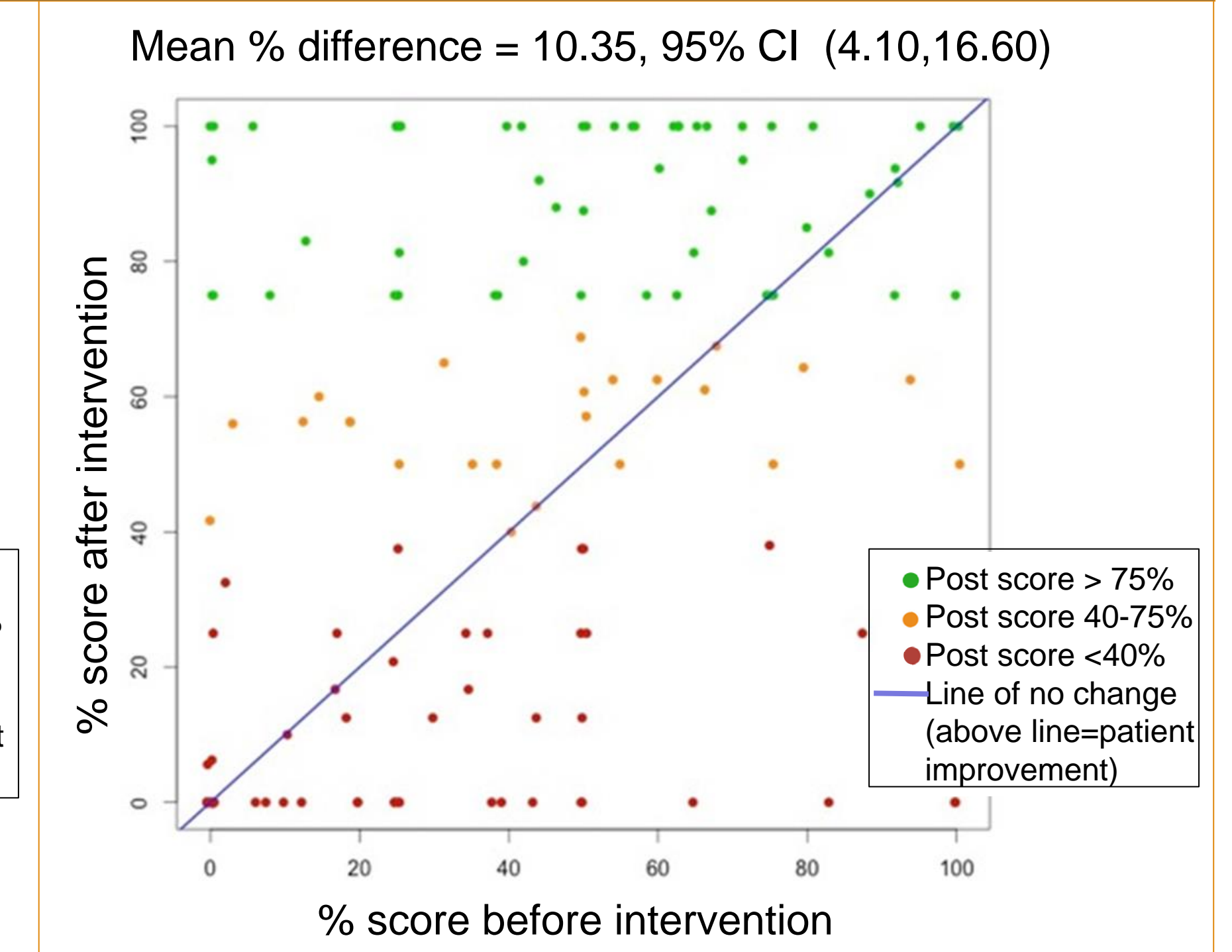


Figure 3: Scatterplot of SURVIVAL medication knowledge before and after intervention

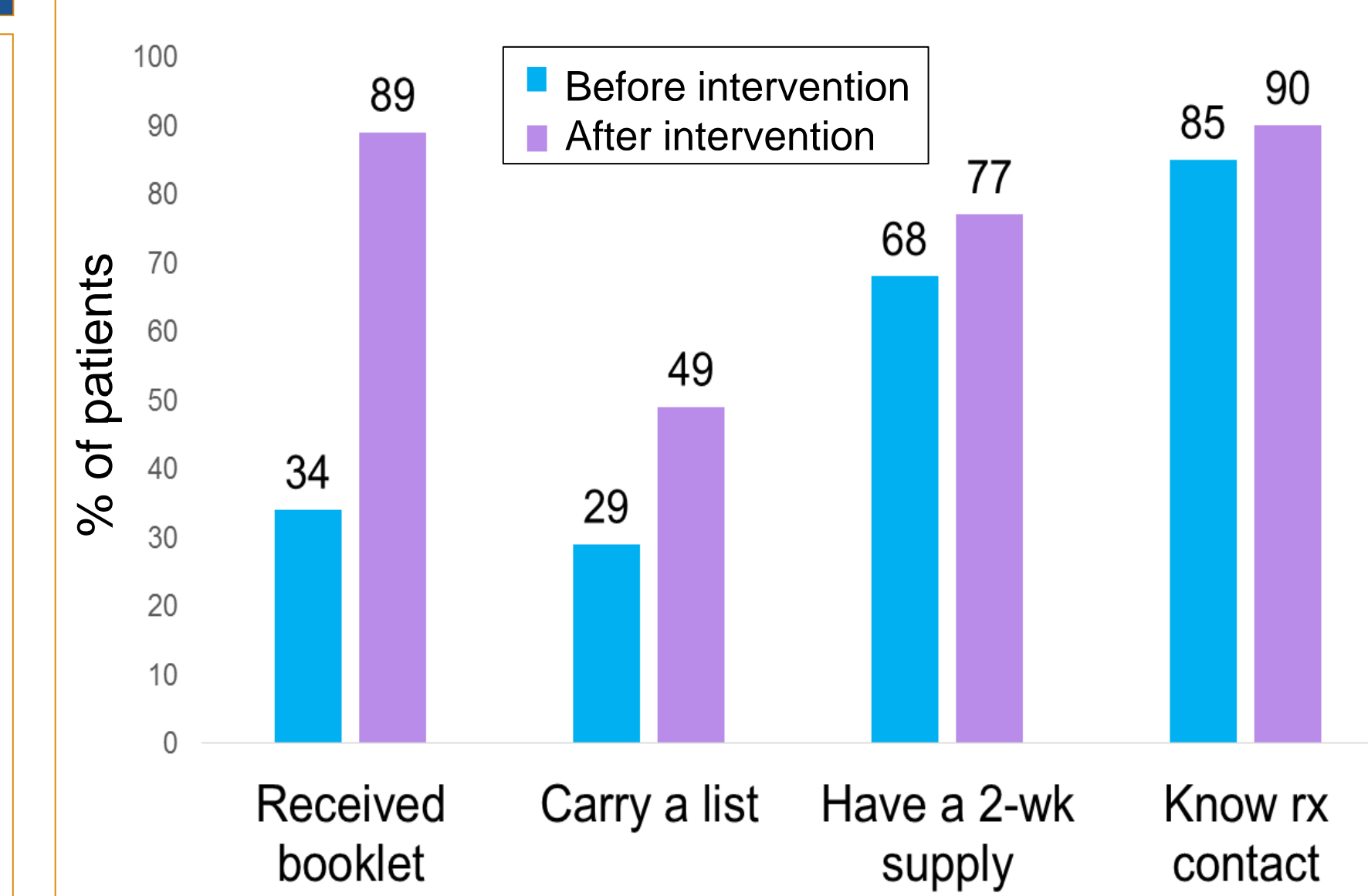


Figure 4: Comparison of primary outcomes before and after intervention

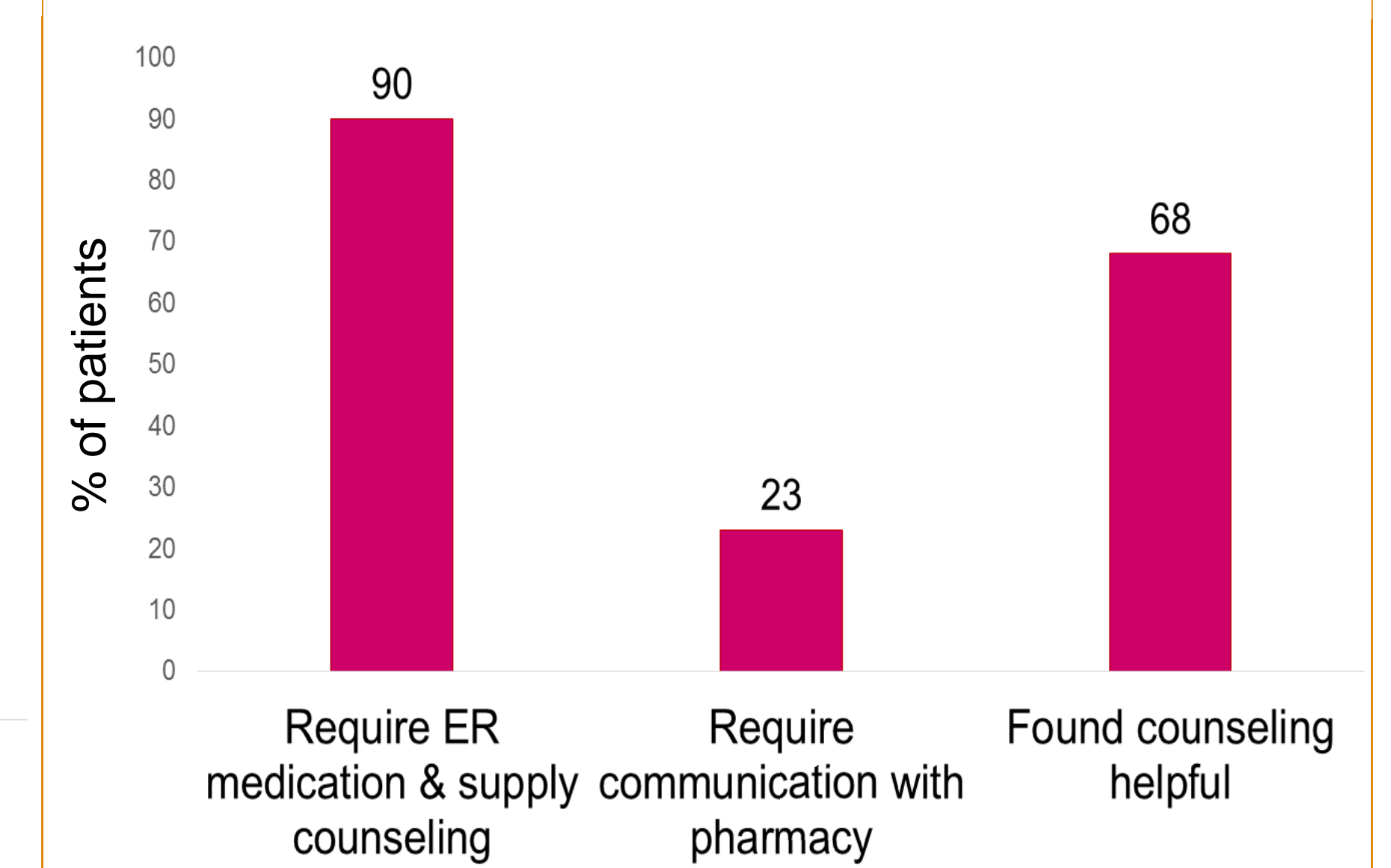


Figure 5: Secondary outcomes

Limitations

- Observational study
- High exclusion rate
- Variable patient reliability
- Language barrier
- May not apply to other HD unit (e.g. community dialysis)

Conclusions

- Post-intervention:
 - Statistically significant ↑ medication knowledge
 - ↑ % received booklet & carry a list (moderate impact)
 - ↑ % have a 2-wk supply & know Rx contact (minimal impact)
- Majority required counseling & found it helpful
- Small % required liaising with community Rx
- Information will be used to create a standardized protocol for ER medication preparation for chronic HD patients