

Increasing Patient Safety by Decreasing Medication Usage in the Long Term Care Setting

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Learning Objectives

1. Participants should be able to identify why the elderly are especially at risk for medication-related problems.
2. Participants should become familiar with major conclusions of the medication reduction literature.
3. Participants should be able to explain how medication utilization can be successfully decreased in the long term care setting using a team consensus approach coupled with utilization review.

Background

Although, pharmaceutical advances are likely the single most important factor in improving quality of life for seniors, the elderly are especially at risk for medication-related problems.

WHY???

Background (cont'd)

- There are many reasons for this increased risk:
 1. A higher incidence of multiple chronic diseases and conditions.
 2. Physiological changes of aging.
 3. Greater consumption of prescription and over-the-counter medications.

Rationale

- According to the American Society of Consultant Pharmacists (ASCP), the economic impact of medication-related problems in persons over the age of 65 now rivals that of Alzheimer's disease, cancer, cardiovascular disease, and diabetes.
- Medication-related problems are estimated to be one of the top five causes of death in that age group, and a major cause of confusion, depression, falls, disability, and loss of independence.
- Many of these negative outcomes are also quality indicators for nursing facilities.

Hypothesis

- A significant, safe reduction in the number of medications used by long-term care residents.
- 16 week program implementation of a program review process at Parker Jewish Institute for Health Care and Rehabilitation.
- **Use the researched standard that a threshold of 9 or more medications was considered excessive.**

Methodology

- The study population selected were 164 long term care residents.
- A one-group, pre-test/post-test design was utilized.
- The intervention consisted of unit-specific meetings with the attending physician, medical fellow, director of pharmacy, pharmacy consultant, head nurse and nurse manager.
- The charts of each resident on the unit were reviewed, treatments were discussed, as well as behaviors, vital signs, and weight loss/gain.

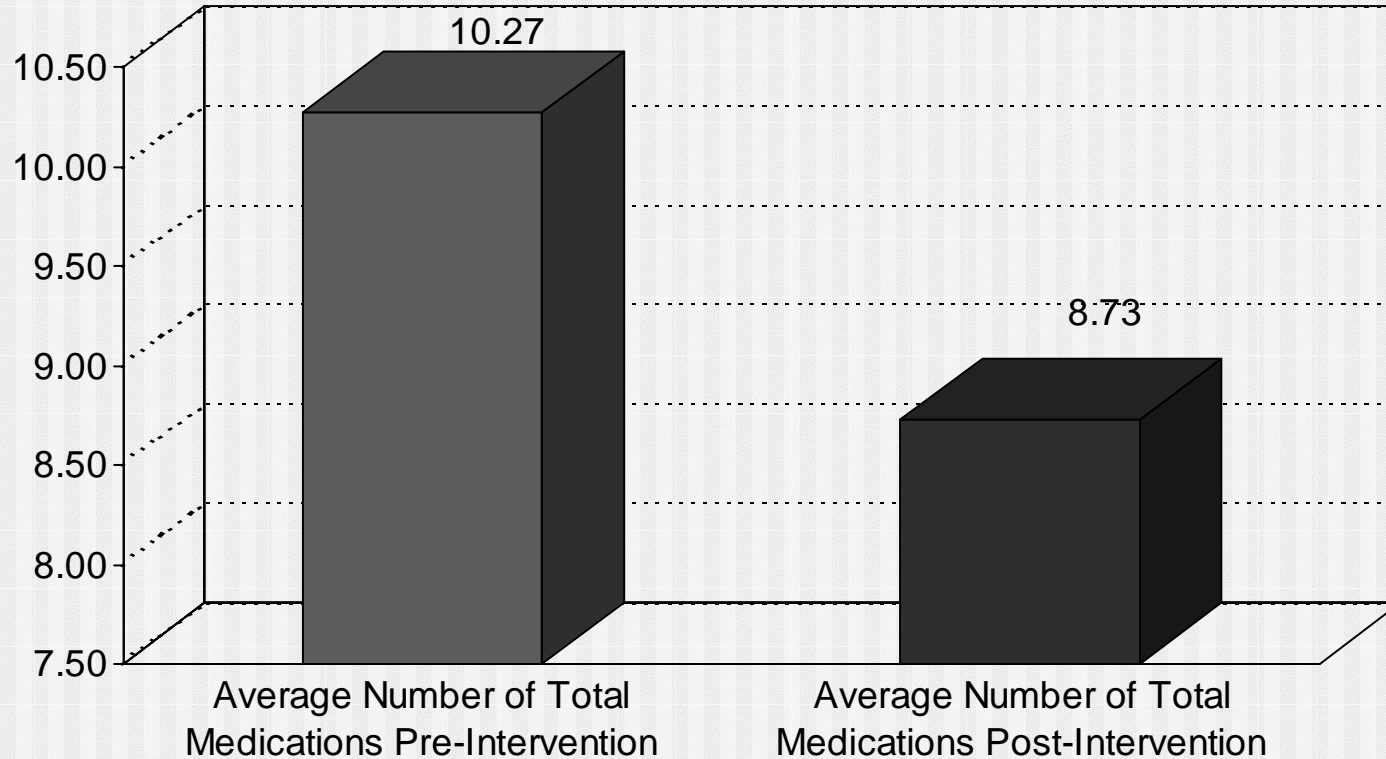
Methodology (cont'd)

- Nurses and physicians provided input/feedback, and a collective decision was implemented immediately.
- It should be noted that to ensure resident safety, discontinuance of a medication was implemented only if all parties agreed that the change was beneficial to the resident.
- Program efficacy was measured specifically through:
 - total number of medications,
 - total number of PRN orders and,
 - total number of treatments.

Results

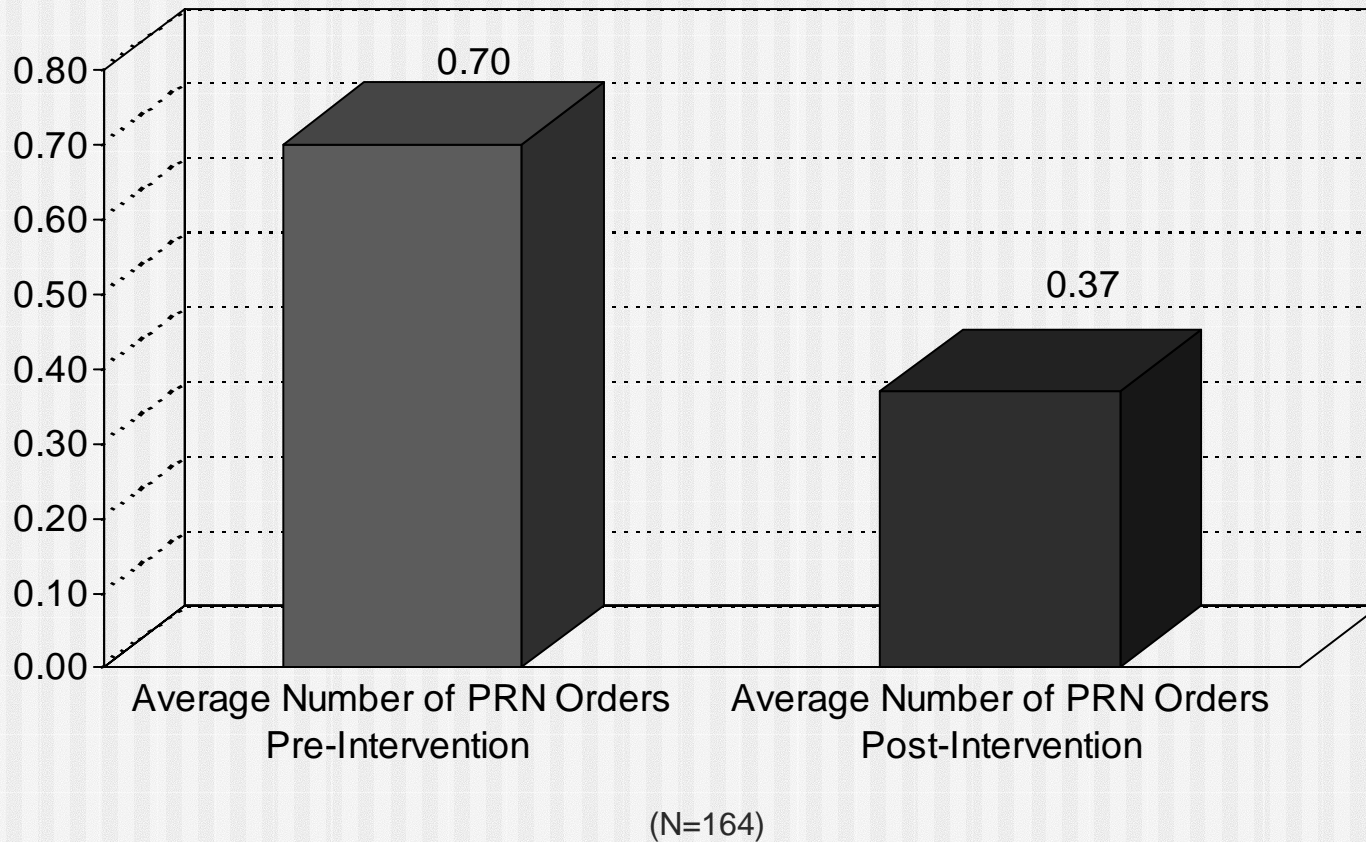
- Data, mainly on the three measures listed above, was analyzed using SPSS (Statistical Package for the Social Sciences).
- Pre-intervention numbers, collected at the start of the four-month implementation period, were compared to post-implementation numbers. The results of these comparisons were tested for significance by using paired-samples t-tests.
- Four units received the intervention, targeting 164 patients (or 31% of total number of residents residing at the facility).

Number of Medications

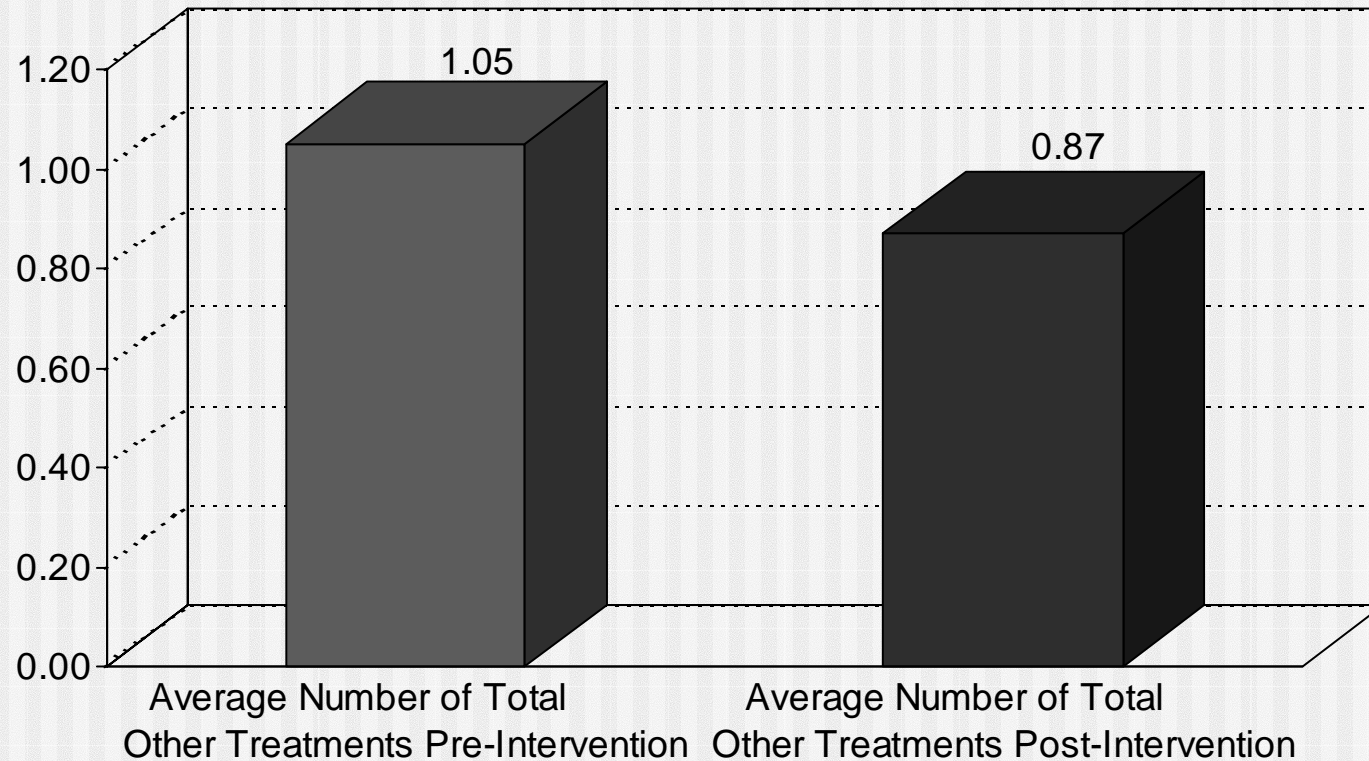


(N=164)

Number of PRN Medications



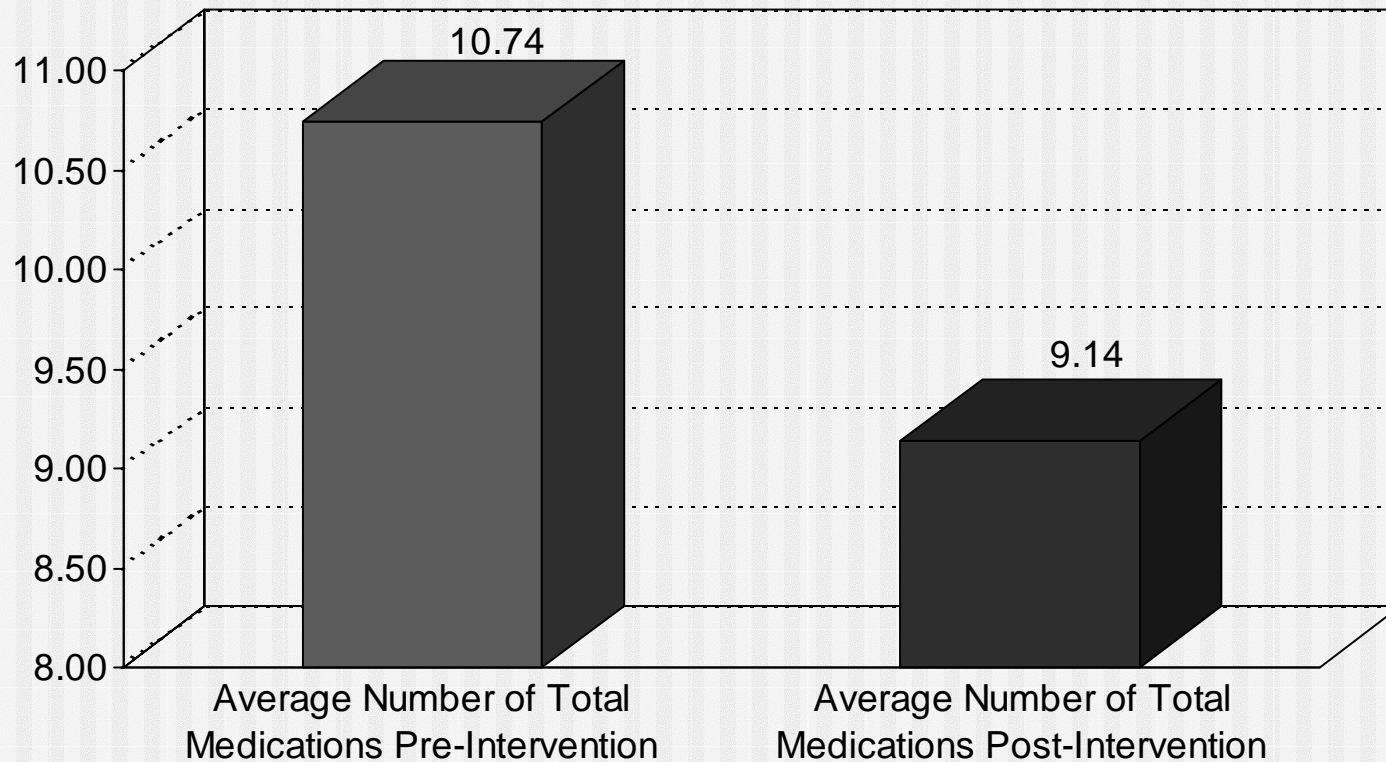
Number of Other Treatments



(N=164)

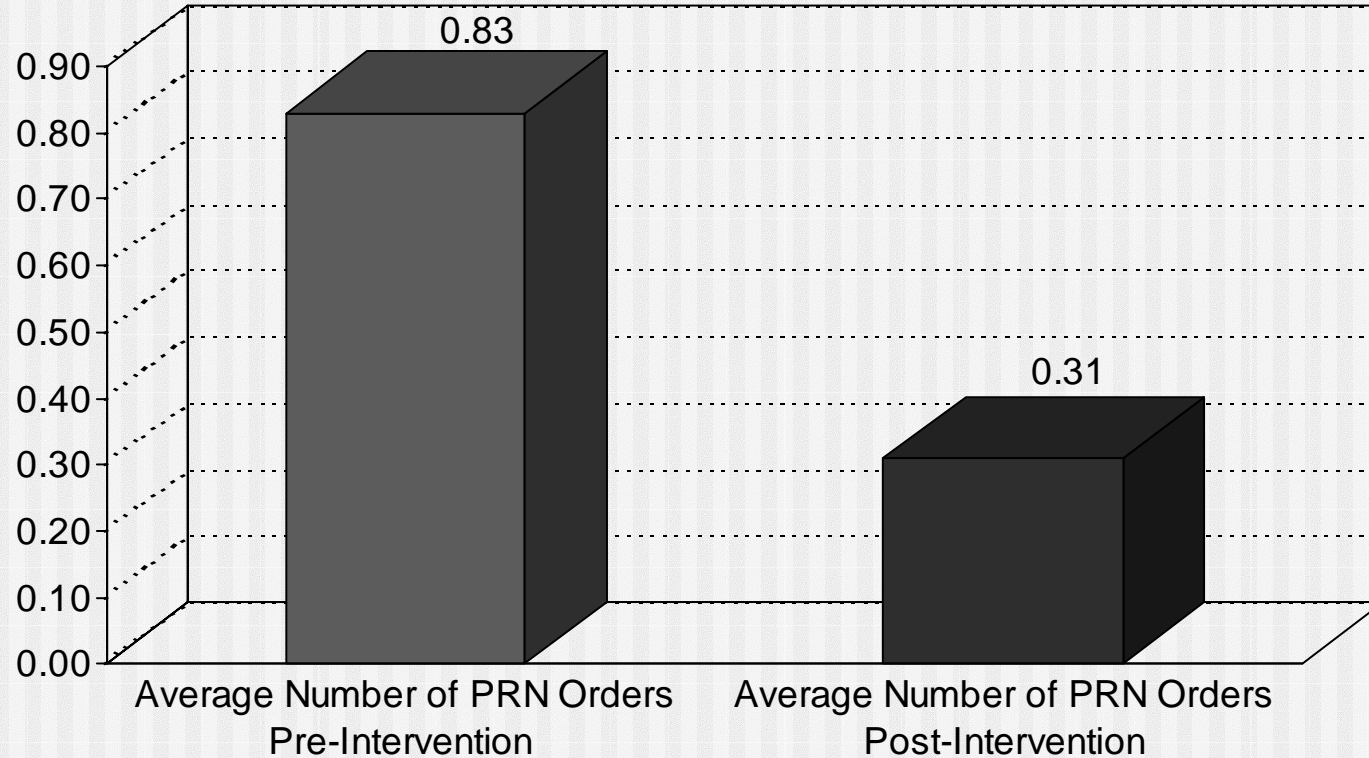
* Prescription non-oral medications such as lotions, creams, salves*

5 North (Long Term Care Unit) Number of Medications



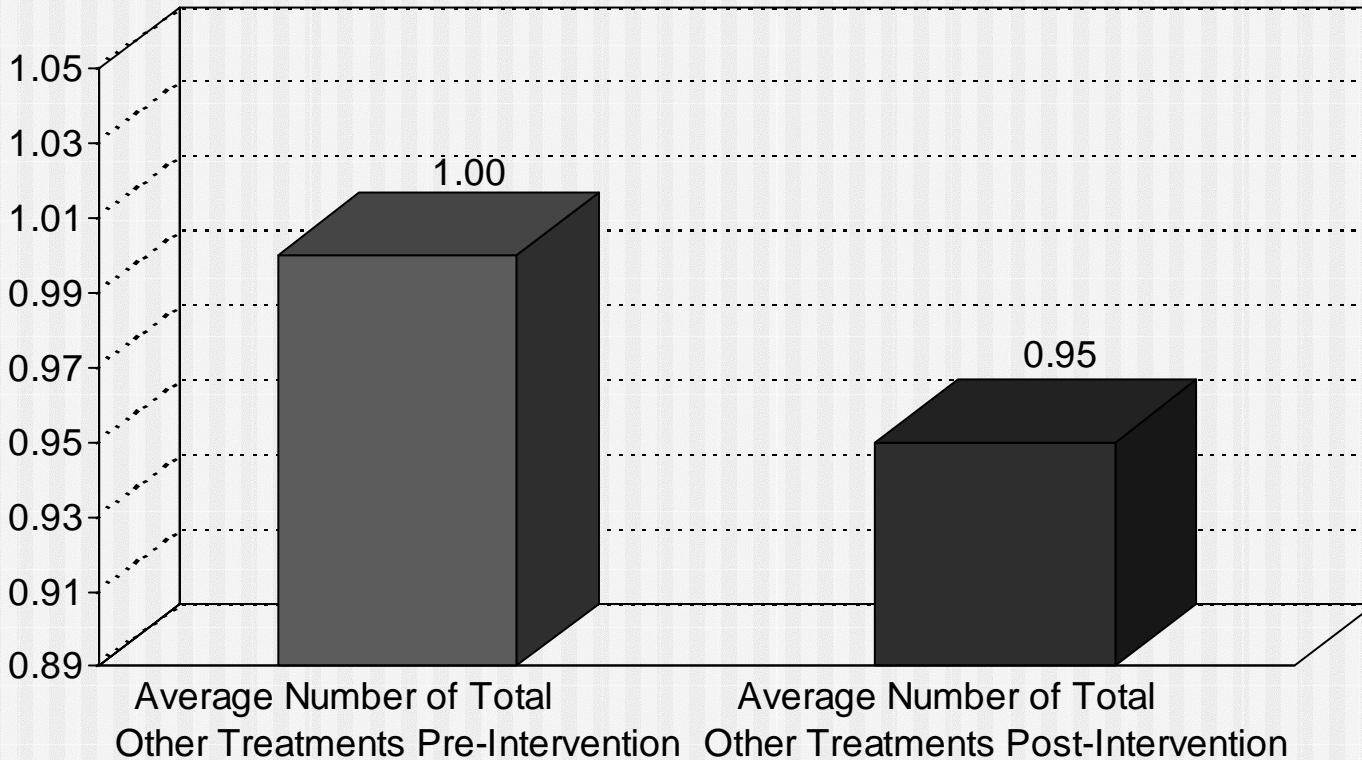
(N=42)

5 North (Long Term Care Unit) Number of PRN Orders



(N=42)

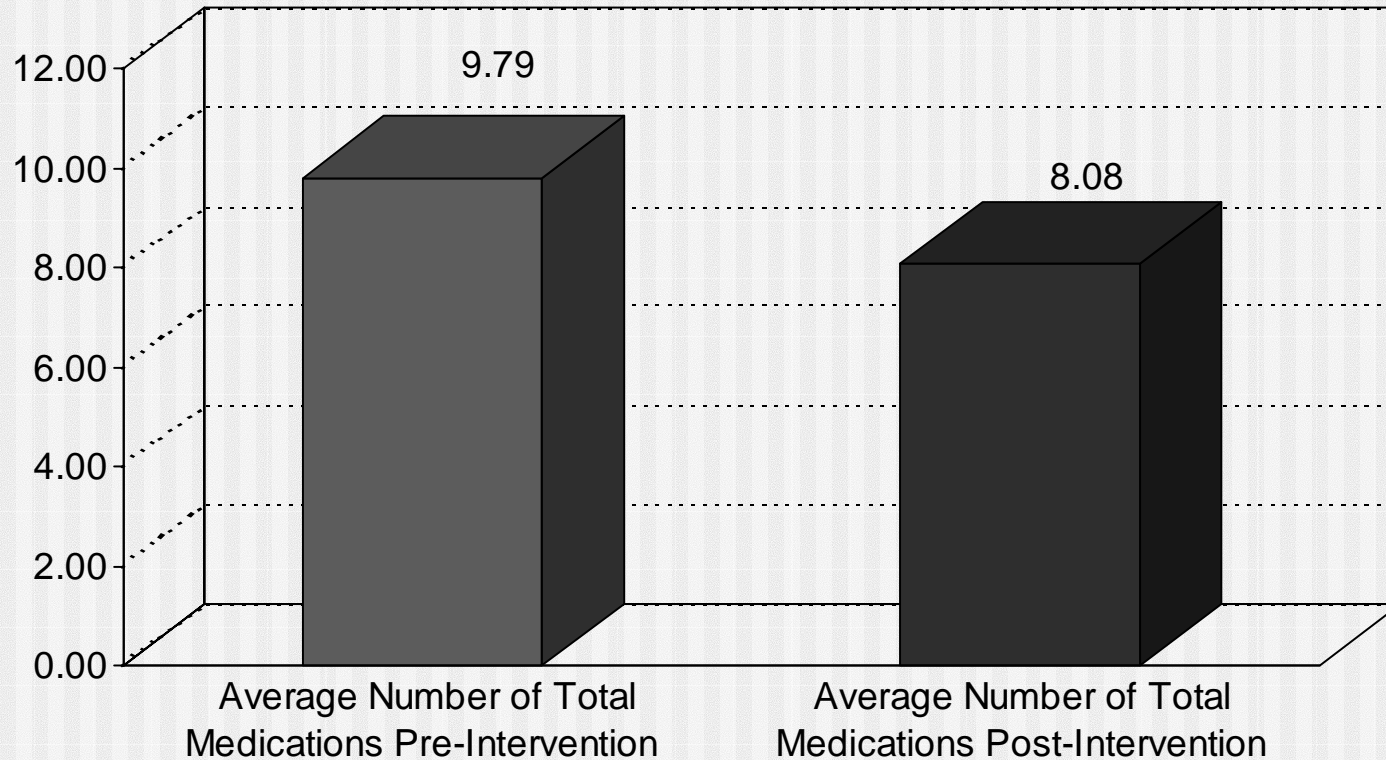
5 North (Long Term Care Unit) Number of Treatments



(N=42)

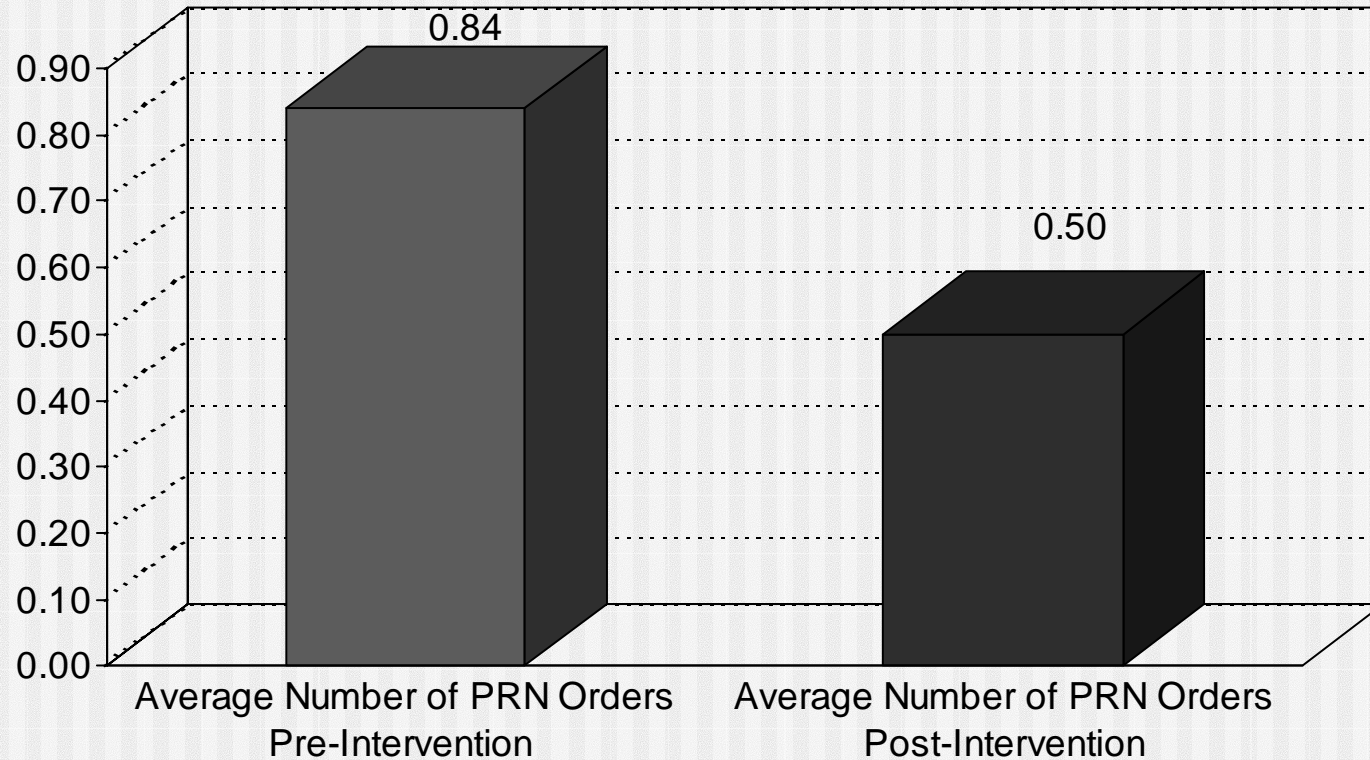
* Prescription non-oral medications such as lotions, creams, salves*

6 North (Long Term Care Unit) Number of Medications



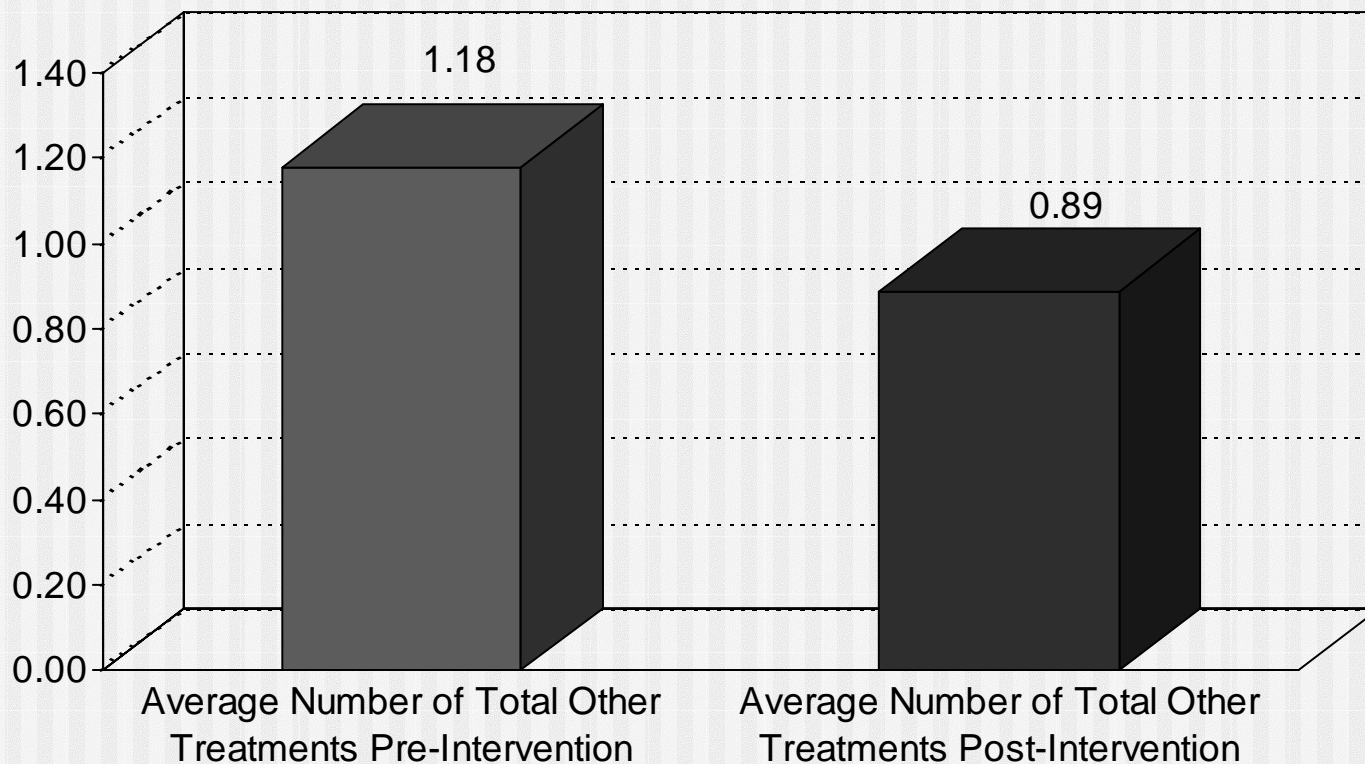
(N=38)

6 North (Long Term Care Unit) Number of PRN Orders



(N=38)

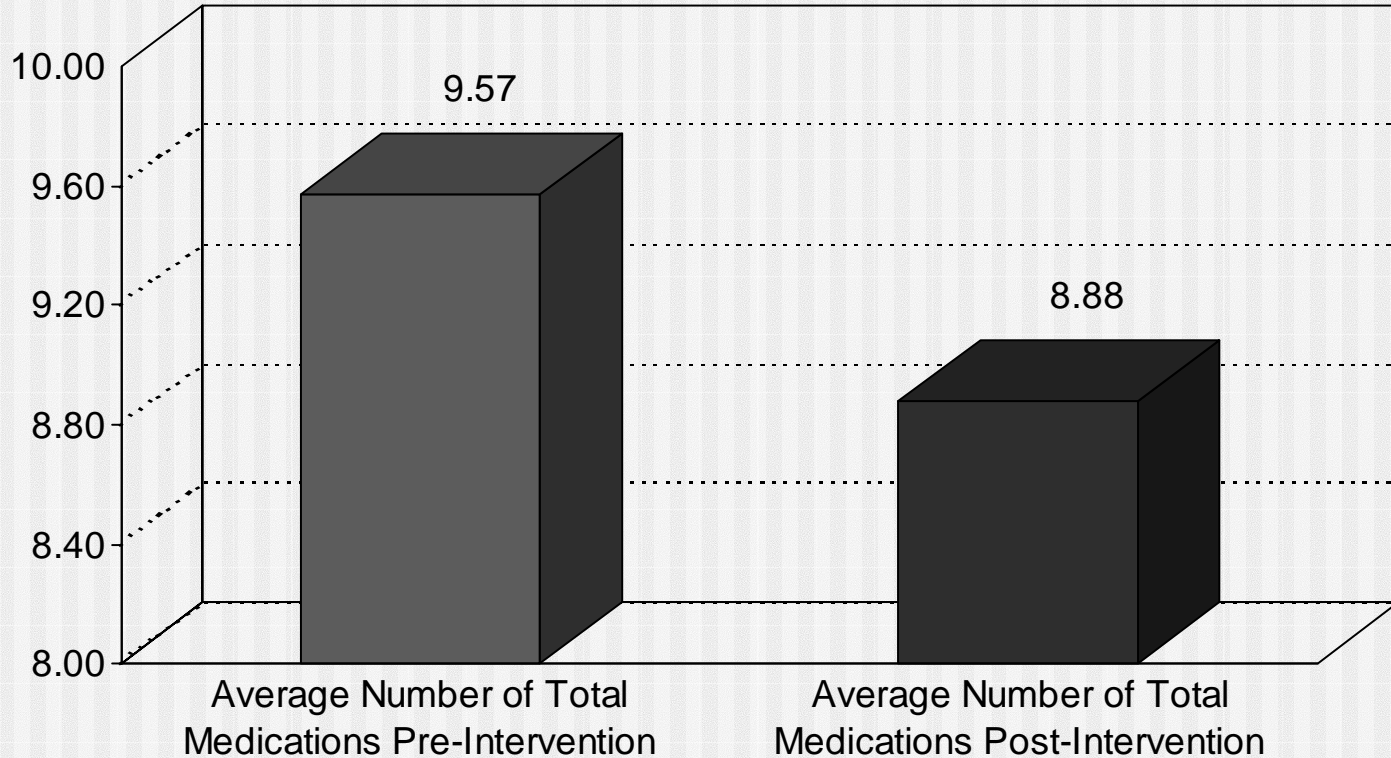
6 North (Long Term Care Unit) Number of Other Treatments



(N=38)

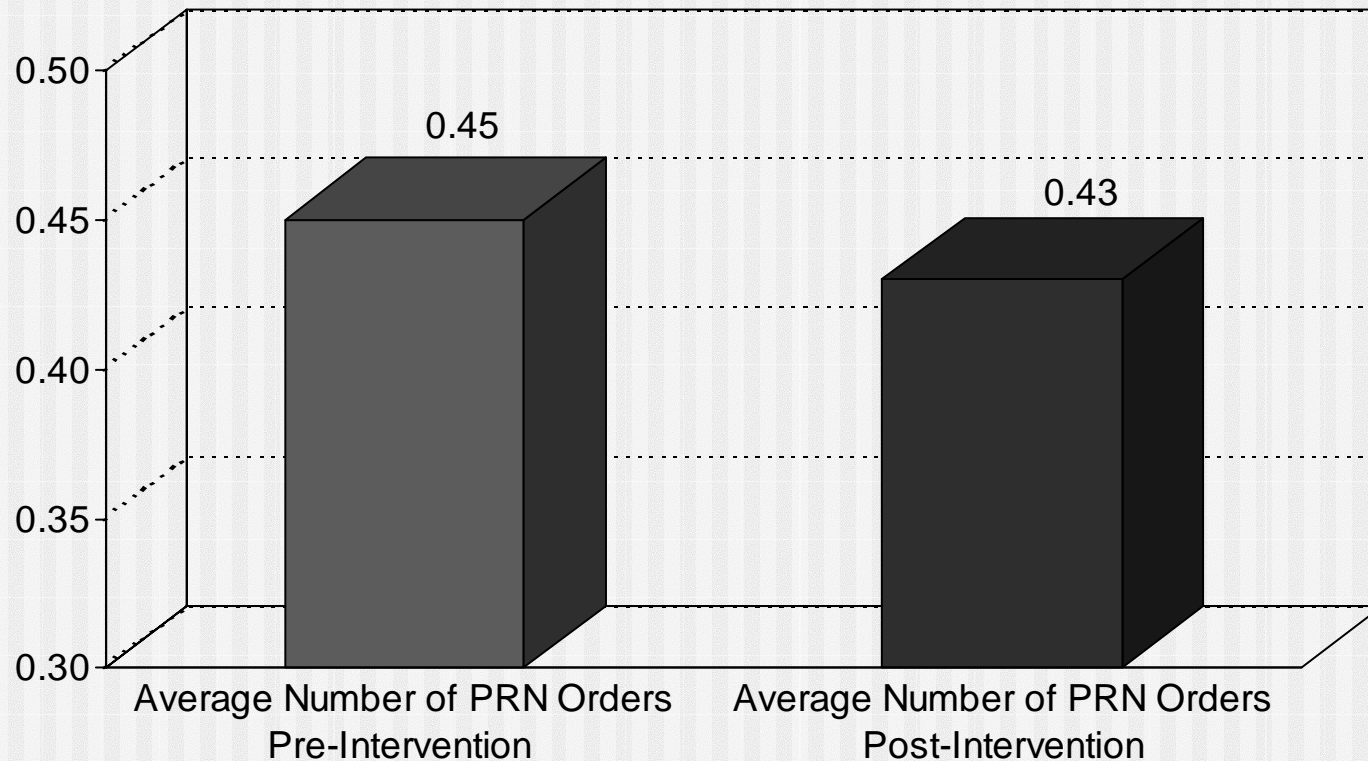
* Prescription non-oral medications such as lotions, creams, salves*

7 North(Long Term Care Unit) Number of Medications



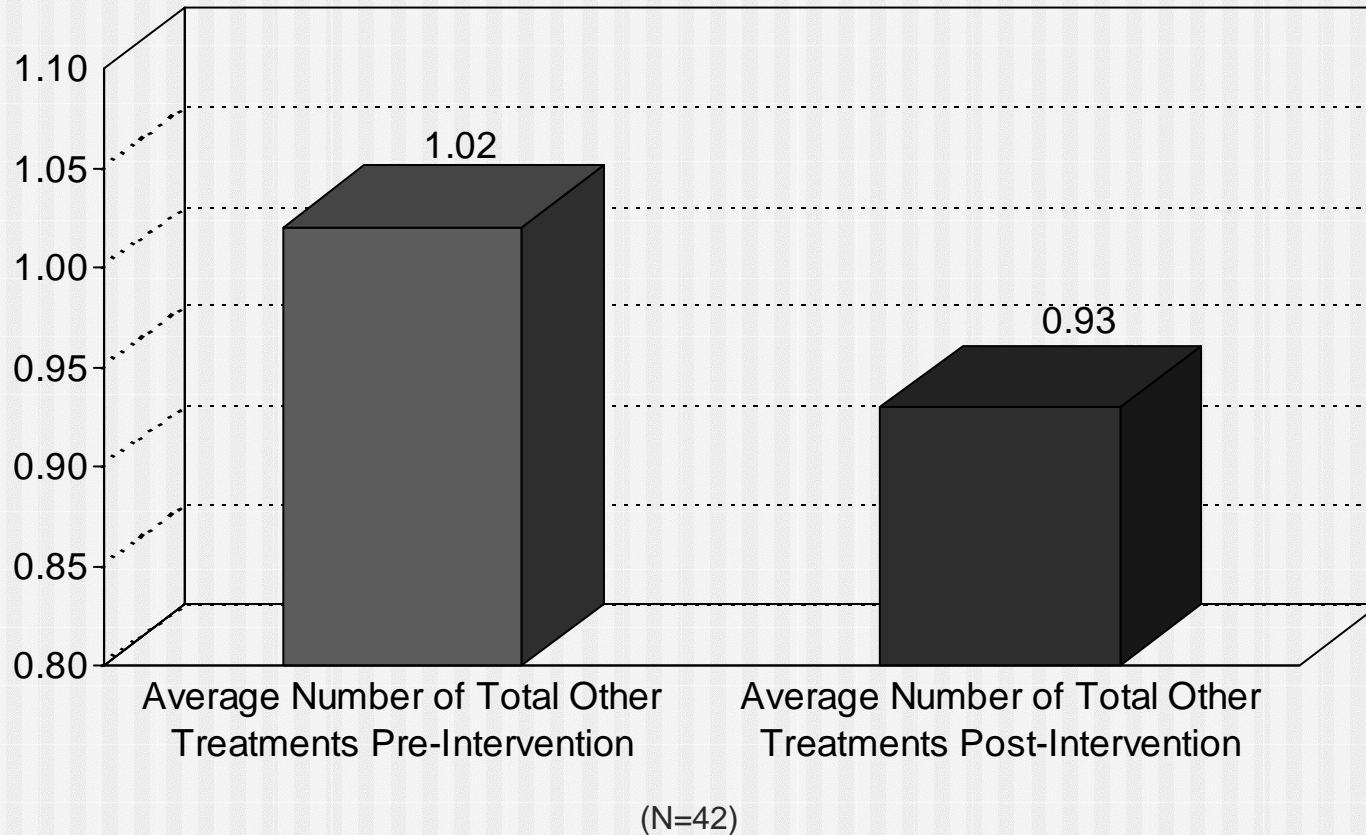
(N=42)

7 North (Long Term Care Unit) Number of PRN Orders



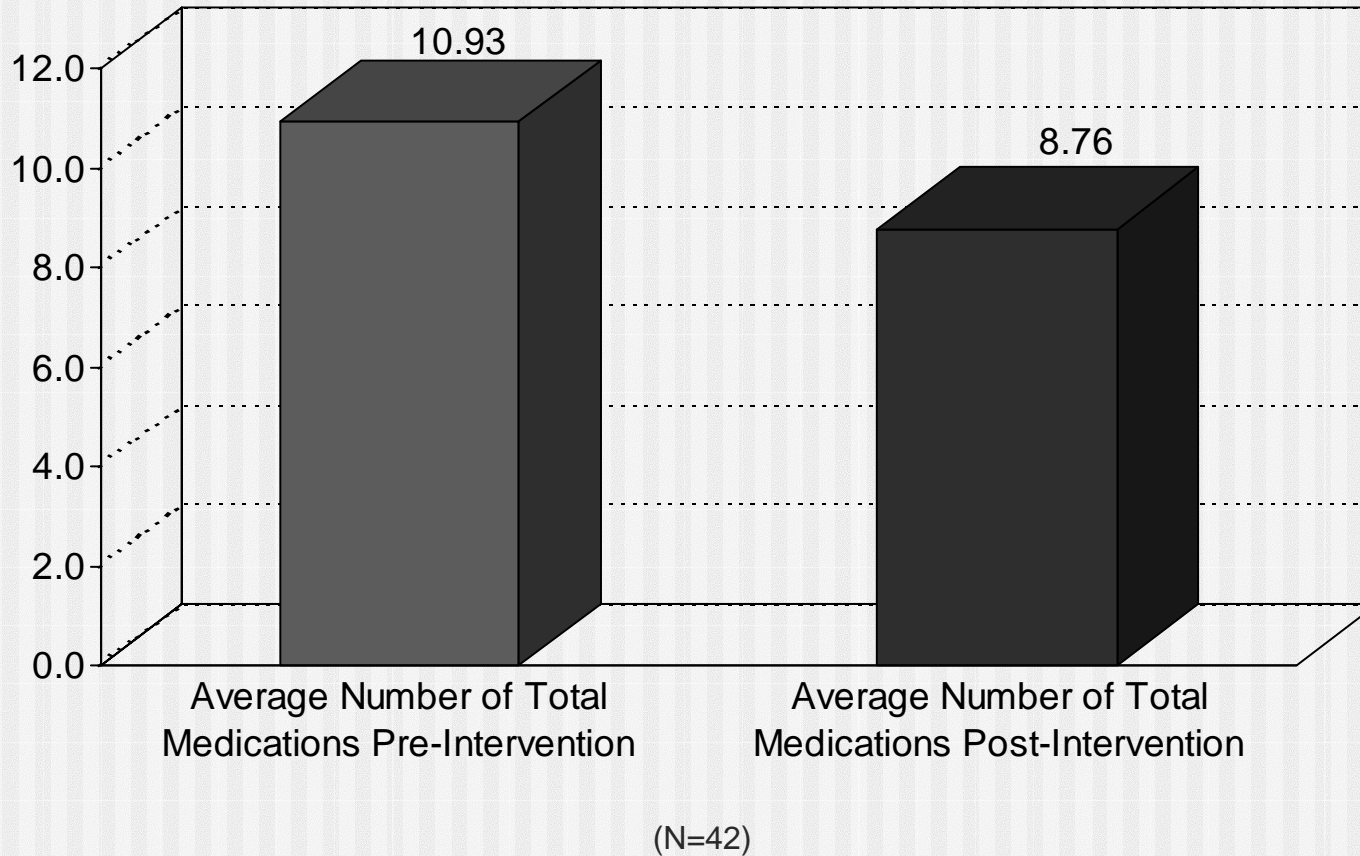
(N=42)

7 North (Long Term Care Unit) Number of Treatments

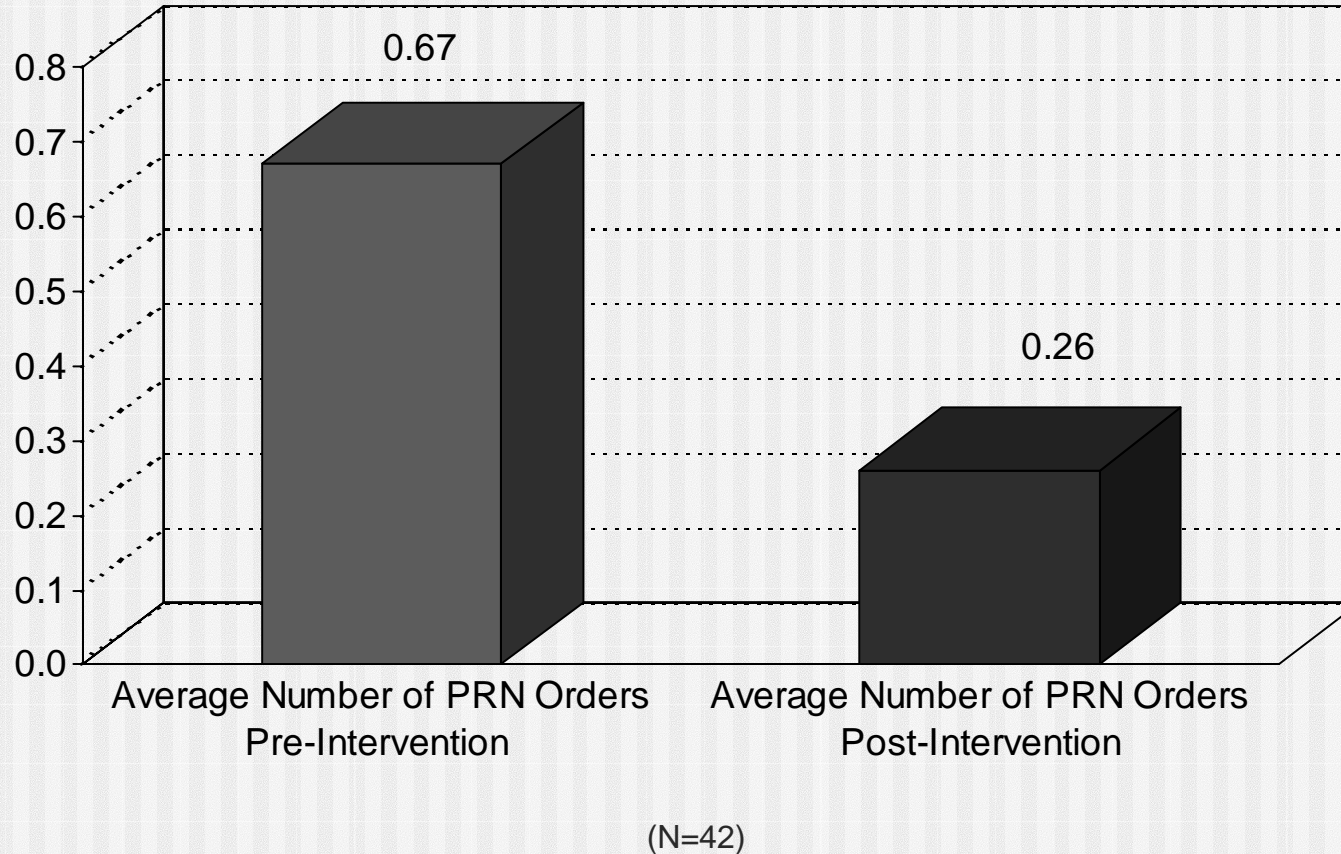


* Prescription and over the counter non-oral medications such as lotions, creams, salves*

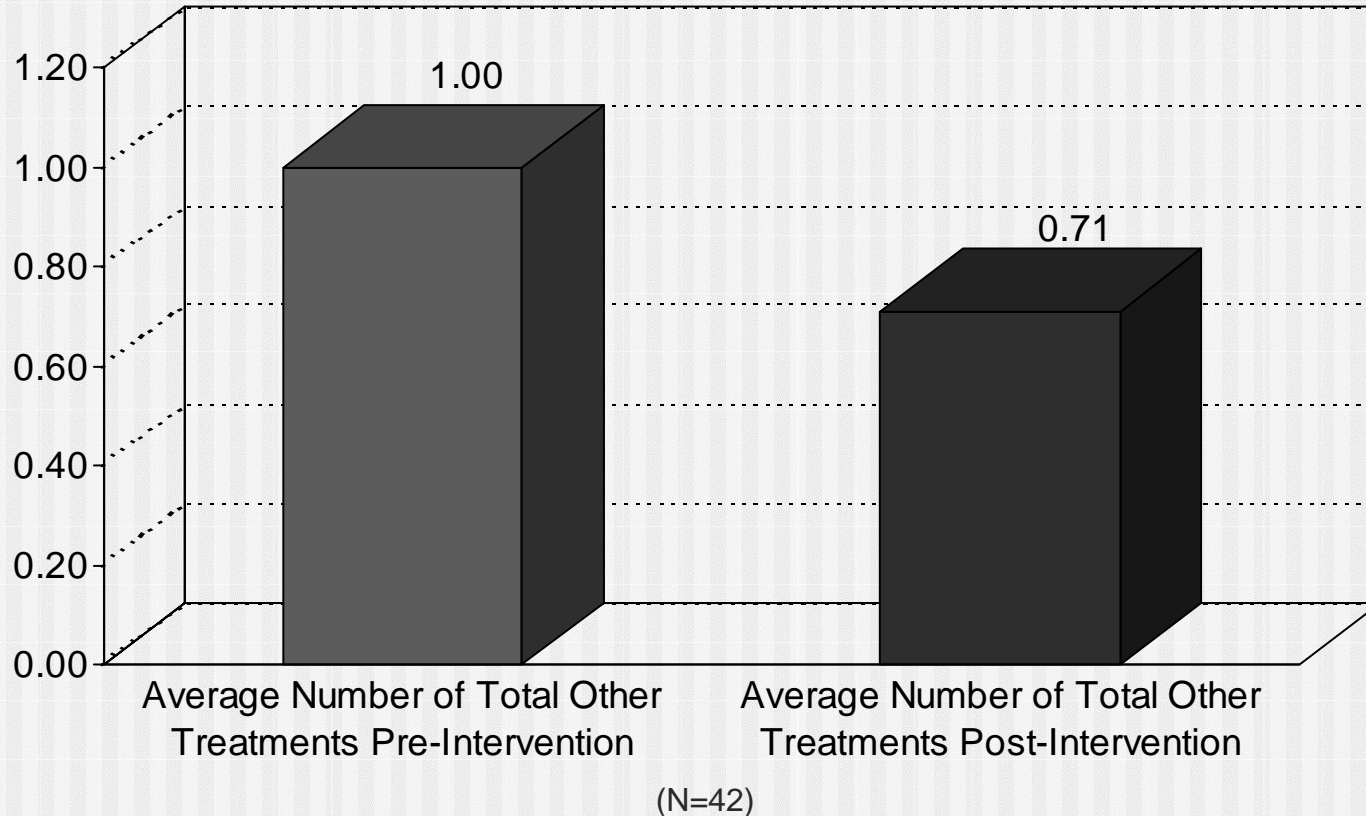
7 South (Long Term Care Unit) Number of Medications



7 South (Long Term Care Unit) Number of PRN Orders



7 South (Long Term Care Unit) Number of Treatments



* Prescription non-oral medications such as lotions, creams, salves*

Results (cont'd)

- The intervention was found to have a significant impact on utilization across targeted units:

For the four units combined, all three outcome measures showed statistically lower medication utilization.

Results (cont'd)

BEFORE Intervention:

(n=164)

- Total number of medications = 10.27

t=10.534, $\alpha = .000$

- Total number of PRNs = 0.70

t=6.066, $\alpha = .000$

- Total number of treatments = 1.05

t=3.8, $\alpha = .000$

AFTER Intervention:

(n=164)

- Total number of medications = 8.73

- Total number of PRNs = 0.37

- Total number of treatments = 0.87

Conclusion

- The results of this study suggest that it is possible to safely reduce medication utilization in the nursing home environment.
- This very simple intervention was found to be effective in that:
 1. all three outcome measures showed statistically lower medication utilization overall,
 2. 9 out of 12 or 75% of unit-specific analyses also showed statistically lower medication utilization and,
 3. achieved significant cost savings from decreased utilization.
- Need to monitor for recidivism.

Areas for Further Research

- Further research must be conducted to determine the impact of medication utilization decreases on therapeutic outcomes and medication-related problems.
- In addition to the potential for improvement in residents' health, there are economic implications of decreased medication utilization.
- More widespread awareness of these issues may lead to betterment of quality of life for a growing senior population.

Contact Information

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