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# Differences in Perceived Patient Mobility Barriers Among Nurses from Various Departments and Location Work-Sites

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## Background and Purpose

- Early mobilization is critical to expedited recovery times of hospitalized patients<sup>1</sup>
- Health care providers experience barriers to the early mobilization of hospitalized patients; However, differences in mobility barriers between nurses, nursing departments and their facilities are not well understood<sup>2</sup>
- The purpose of this study was to examine differences in perceived early mobility barriers between registered nurses (RNs) and nurse assistants (NAs), and whether differences in barriers exist among nurses working in different departments or hospital sites

## Methods

- Hospital nurses from the Inland Northwest were asked to complete the Patient Mobilization Knowledge, Attitudes, and Behaviors (PMKAB) survey on their perceived mobility barriers to early patient mobilization
- 387 Registered Nurses (RNs) and 110 Nurse Assistants (NAs) completed the survey for a total of 497 nursing responders
- Nursing responders came from 4 different departments (Medical, Surgical, Telemetry, and Float Pool) and 8 hospitals of varying sizes (bed size range: 22-650)
- PMKAB global scores, and PMKAB knowledge, attitude, and behavior subscale scores were calculated for each subject
  - PMKAB consists of 25 survey items
  - Each PMKAB survey item is scored on an ordinal scale from 0 to 4, for a global score of up to 100 points possible
  - Higher scores indicate more perceived mobility barriers
- Mann Whitney U-Tests and Kruskal Wallis tests (with pairwise comparisons and Bonferroni adjustments) were conducted with SPSS version 26

## Results

**Table 1: Differences in PMKAB Scores between RNs and NAs**

| Score Category     | PMKAB Scores (Mean ± SE) |              | P      |
|--------------------|--------------------------|--------------|--------|
|                    | RNs (n=387)              | NAs (n=110)  |        |
| Knowledge Subscale | 3.09 ± 0.08              | 3.42 ± 0.20  | 0.133  |
| Attitude Subscale  | 13.29 ± 0.23             | 12.50 ± 0.42 | 0.091  |
| Behavior Subscale  | 22.36 ± 0.32             | 20.01 ± 0.63 | <0.001 |
| Global Score       | 38.74 ± 0.55             | 35.93 ± 1.05 | 0.008  |

- RNs reported significantly greater perceived mobility barriers than NAs on the PMKAB global score (p=0.008) and behavior subscale (p<0.001) (Table 1)

## Results

**Table 2: Differences in PMKAB Scores between Nurses from Various Departments**

| Score Category      | PMKAB Scores (Mean ± SE) for Different Departments |                  |                   |                   |
|---------------------|--|------------------|-------------------|-------------------|
|                     | Medical (n=154)                                    | Surgical (n=114) | Telemetry (n=141) | Float Pool (n=65) |
| Knowledge Subscale* | 3.26 ± 0.14  | 2.64 ± 0.17      | 3.23 ± 0.14       | 3.66 ± 0.22       |
| Attitude Subscale*  | 13.73 ± 0.35                                       | 11.68 ± 0.46     | 13.47 ± 0.38      | 13.63 ± 0.51      |
| Behavior Subscale*  | 22.19 ± 0.50                                       | 19.82 ± 0.63     | 22.38 ± 0.54      | 23.62 ± 0.72      |
| Global Score*       | 39.19 ± 0.85                                       | 34.15 ± 1.10     | 39.08 ± 0.91      | 40.91 ± 1.16      |

\* Indicates overall significant difference between departments (p<0.01)

- There were significant differences between departments in PMKAB global scores and all three subscales (Table 2); Pairwise comparisons with Bonferroni adjustments revealed:
  - Significant differences between the Surgical Department and every other department in the PMKAB global score (p<0.02 for all), attitude subscale (p<0.04 for all), and behavior subscale (p<0.04 for all)
  - Significant differences between the Surgical Department and the Medical (p=0.02) and Telemetry (p=0.03) Departments in the knowledge subscale
  - No other significant differences between other departments

**Table 3: Differences in PMKAB Scores between Nurses from Different Hospitals with Varying Bed Sizes**

| Score Category      | PMKAB Scores (Mean ± SE) for Different Hospitals |                  |                  |                 |                 |                 |                |                |
|---------------------|--|------------------|------------------|-----------------|-----------------|-----------------|----------------|----------------|
|                     | 650 beds (n=166)                                 | 530 beds (n=107) | 390 beds (n=103) | 230 beds (n=45) | 180 beds (n=25) | 127 beds (n=19) | 25 beds (n=19) | 22 beds (n=13) |
| Knowledge Subscale* | 3.63 ± 0.13                                      | 2.78 ± 0.18      | 2.90 ± 0.15      | 3.47 ± 0.33     | 3.16 ± 0.38     | 2.66 ± 0.26     | 2.89 ± 0.45    | 2.69 ± 0.40    |
| Attitude Subscale*  | 13.90 ± 0.33                                     | 12.80 ± 0.47     | 13.39 ± 0.41     | 12.38 ± 0.66    | 12.84 ± 1.18    | 11.00 ± 0.82    | 11.84 ± 1.03   | 11.38 ± 1.03   |
| Behavior Subscale*  | 23.36 ± 0.51                                     | 21.02 ± 0.63     | 22.16 ± 0.61     | 20.11 ± 0.97    | 20.88 ± 1.15    | 21.16 ± 1.29    | 20.11 ± 1.50   | 18.00 ± 1.50   |
| Global Score*       | 40.89 ± 0.84                                     | 36.60 ± 1.08     | 38.44 ± 0.99     | 35.96 ± 1.76    | 36.88 ± 2.30    | 34.82 ± 1.86    | 34.84 ± 2.68   | 32.08 ± 2.52   |

\* Indicates overall significant difference between hospitals (p<0.01)

- There were significant differences between hospitals in PMKAB global scores and all three subscales (Table 3); Pairwise comparisons with Bonferroni adjustments revealed significantly higher perceived barriers between the 650-bed facility and the:
  - 530-bed hospital in the global score, knowledge subscale, and behavior subscale (p<0.02 for all)
  - 390-bed hospital in the knowledge subscale (p=0.03)
  - 230-bed hospital in the behavior subscale (p=0.02)

## Discussion

- Results suggest that differences in perceived barriers to early patient mobilization do exist between RNs and NAs
- Findings indicate RNs had greater perceived mobility barriers than NAs in PMKAB global scores and in the behavior subscale, and a trend toward significantly greater perceived mobility barriers in the attitude subscale
- Our results are in-line with the common clinical practices of NAs, whose primary roles often entail assisting patients with bed mobility, transfers, and other mobilization techniques associated with toilet management tasks and other activities of daily living<sup>3</sup>
- Findings indicate the need for targeted interventions for RNs to improve attitudes and behaviors regarding perceived barriers to early mobilization of hospitalized patients
- Of the 4 departments, the surgical department showed the lowest PMKAB scores in all categories indicating high levels of confidence with early mobilization of hospitalized patients; results are consistent with the complex patient management and early mobilization orders frequently prescribed by surgeons for patients within surgical departments
- Of the 8 hospitals, the facility with 650 beds had the highest levels of perceived barriers to early patient mobilization; findings may not be associated with bed-size, and further investigation is needed to understand the driving forces behind these differences
- Future work should emphasize targeted interventions among nursing staff, especially in specialties or work locations with higher reported mobility barriers, to address barriers and enhance patient mobilization activities<sup>4-5</sup>

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