To Explore the Prevalence and Related Factors of Potential Inappropriate Medication Use in Older Adults

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Background:

Older adults usually were admitted for acute conditions. Due to multimorbidity they had high chances for taking polypharmacy and then caused high risks of potentially inappropriate medications (PIM). At least one potentially inappropriate medication (PIM) was prescribed to older patients at admission. However, it is not clear whether or not PIM was decreased at discharge.

Purpose:

To understand the prevalence and related factors of PIM in older adults in hospitalization.

Methods:

Longitudinal and correlational method was conducted, and 502 subjects were recruited from a medical center in northern Taiwan. Charlson Comorbidity Index (CCI), cognitive and functional status, medication adherence, and 2015 Beers Criteria were used for data collection. Data were assessed using independent t-test, one way ANOVA, Pearson correlation, and logistic regression.

Results:

At least one PIM was prescribed to 76.3%, 80.9% and 70% subjects at admission, during hospitalization and at discharge, respectively. There are no significant differences and correlations between PIM and subjects' age, sex, education level, marital status, economic status, number of disease, cognitive status, functional status, and medication adherence. However, there are significant correlations between PIM and CCI, and number of medication taken. Logistic regression identified CCI [odds ratio (OR) 1.075; 95% confidence interval (CI):1.004-1.152, P<.039] and number of medication taken (OR 1.240; 95% CI: 1.165–1.320, P<.000) at admission, number of medication taken (OR 1.165; 95% CI: 1.104–1.230, P<.000) during hospitalization, and CCI [OR 1.080; 95% CI:1.012-1.152, P<.020], and number of medication taken (OR 1.159; 95% CI: 1.087–1.235, P<.000) at discharge, as factors associated with an increased risk of use of inappropriate medication.

Conclusion:

This study suggests that CCI and number of medication taken were significant predictors of PIM in older adults. The health care professionals are responsible for medication review in older adults. Especially, it is needed to review medication carefully while the number of medication taken is increased due to increased severity of disease in older adults.

Keywords:
Beers Criteria, older adults and potentially inappropriate medications

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Abstract Summary:
The medical professionals are responsible for medication review in older adults. Especially, it is needed to review medication carefully while the number of medication taken is increased due to increased severity of disease in older adults.

Content Outline:
<div align="center">I. Introduction</div>

Older adults usually were admitted for acute conditions. Due to multimorbidity they had high chances for taking polypharmacy and then caused high risks of potentially inappropriate medications (PIM). At least

one potentially inappropriate medication (PIM) was prescribed to older patients at admission. However, it is not clear whether or not PIM was decreased at discharge.

II. Body

A. Main Point

#1. To understand the prevalence of PIM in older adults in hospitalization.

1. Supporting point

At least one PIM was prescribed to 76.3%, 80.9% and 70% subjects at admission, during hospitalization and at discharge, respectively.

B. Main Point

#2. To understand the related factors of PIM in older adults in hospitalization.

1. Supporting point #1

a) There are no significant differences and correlations between PIM and subjects' age, sex, education level, marital status, economic status, number of disease, cognitive status, functional status, and medication adherence.

b) However, there are significant correlations between PIM and CCI, and number of medication taken.

c) Logistic regression identified CCI [odds ratio (OR) 1.075; 95% confidence interval (CI):1.004-1.152, P<.039] and number of medication taken (OR 1.240; 95% CI: 1.165–1.320, P<.000) at admission, and CCI [OR 1.080; 95% CI:1.012-1.152, P<.020], number of medication taken (OR 1.165; 95% CI: 1.104–1.230, P<.000) during hospitalization, and number of medication taken (OR 1.159; 95% CI: 1.087–1.235, P<.000) at discharge, as factors associated with an increased risk of use of inappropriate medication.

III. Conclusion

A. This study suggests that CCI and number of medication taken were significant predictors of PIM in older adults.

B. The health care professionals are responsible for medication review in older adults. Especially, it is needed to review medication carefully while the number of medication taken is increased due to increased severity of disease in older adults.

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