



ASSOCIATION BETWEEN NUMBER OF MEDICATIONS AND NUTRITIONAL STATUS WITH FRAILITY IN LITHUANIAN OLDER ADULTS



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INTRODUCTION

Frailty is a geriatric syndrome and one of the increasing age-related health problems worldwide, which can lead to such adverse health outcomes as falls, increased hospitalisation and death^{1,2}. Older adults with known malnutrition are at a higher risk of frailty³. Polypharmacy is also prevalent among older adults especially in those with frailty. Therefore it is useful to know if these conditions have an impact on each other.

OBJECTIVE

The aim of this study was to investigate the association between number of medications and nutritional status with frailty in community-dwelling older adults from Lithuania.

MATERIALS AND METHODS

The study included 63 community dwelling older adults (aged 79.5 ± 8.2 years): 16 (25.4%) men and 47 (74.6%) women. An inclusion criterion to this cross-sectional study were: age 65 or more years, unrestricted mobility, Mini-Mental State Examination (MMSE) ≥ 21. Medication use was evaluated using total medication count. Polypharmacy was defined as using ≥ 5 medications regularly. Nutritional status (normal nutritional status, at risk of malnutrition and malnutrition) was assessed by Mini Nutritional Assessment Short Form (MNA-SF). A score of ≤7 was associated with malnutrition. Frailty status was defined using Fried’s criteria: weakness, low walking speed, low physical activity, weight loss, exhaustion. Participants were classified as robust, prefrail and frail if they scored 0, 1–2, 3 points, respectively. The relationship between number of medications, polypharmacy, nutritional score and frailty was examined using a multinomial logistic regression model.

RESULTS

Basic descriptive characteristics of study participants are summarized in Table 1.

Table 1. Basic descriptive characteristics of study participants

Characteristic	All participants (n = 63)	Robust (n = 14)	Prefrailty (n = 26)	Frailty (n = 23)	p
Age, years	79.5 ± 8.2	76.43 ± 5.66	76.58 ± 7.81	84.74 ± 7.37	0.001
Number of women (%)	47 (74.6)	10 (71.4)	22 (84.6)	15 (65.2)	0.289
Height, cm	167.24 ± 7.86	169.1 ± 7.74	167.12 ± 6.88	166.23 ± 8.99	0.406
Weight, kg	73.72 ± 13.45	76.58 ± 10.64	77.76 ± 13.99	67.59 ± 12.58	0.048
BMI, kg/m ²	26.38 ± 4.79	26.89 ± 4.29	27.88 ± 5.04	24.45 ± 4.28	0.016
Number of diseases	4.48 ± 1.87	3 ± 1.2	3.46 ± 1.48	6.52 ± 2.25	<0.001
Number of medications	5.14 ± 3.13	3.79 ± 1.51	4.65 ± 1.49	6.82 ± 2.66	0.051
Polypharmacy (%)	36 (57.1)	5 (35.7)	17 (65.4)	14 (60.9)	0.181
MNA-SF, score	10.92 ± 3.1	13.21 ± 1.05	12.31 ± 2.05	7.96 ± 2.62	<0.001

BMI – body mass index, MNA-SF - Mini Nutritional Assessment short form

Frailty was diagnosed in 23 (35.9%) participants and prefrailty in 26 (40.6%) subjects. Mean number of medications taken was 5.14 ± 3.13. Polypharmacy was observed in 36 (56.3%) participants. A risk of malnutrition was evaluated in 19 (29.7%) participants while malnutrition was assessed in 10 (15.6%) subjects. Logistic regression analysis showed that the risk of frailty was associated with an increase in medication number (OR: 1.45 (1.01-2.07)) as shown in Table 2. Higher score on MNA-SF was associated with lower risk of frailty (OR: 0.32 (0.17-0.59)). No associations were found in prefrailty category.

Table 2. Logistic regression for the association of number of medications, polypharmacy, MNA-SF score, nutritional status and frailty

	Odds ratio (95% CI)	p value
Number of medications	1.45 (1.01-2.07)	0.039
Polypharmacy	0.3 (0.07-1.21)	0.091
MNA-SF score	0.32 (0.17-0.59)	<0.001
Nutritional status	1.01 (0.47-2.53)	0.83

Adjusted for age, sex, height, body mass index, number of diseases; 95% CI – 95% confidence interval. MNA-SF - Mini Nutritional Assessment short form

CONCLUSION

Our study showed that in older adults frailty is associated with increased number of medications taken and malnutrition.

DISCLOSURE

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