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Falls incidence and identification of a fall risk profile in community-dwelling older adults in Greece

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ABSTRACT

Falls in older adults is a major health issue in contemporary ageing societies. Falls prevention strategies start with identifying older adults at high fall risk, then applying appropriate interventions, including exercise. The present study aimed to report on falls incidence and identify a profile of at-risk individuals among community-dwelling older adults in Greece. A total of 207 participants (mean age 72.7±6.3 years, 83% women), primarily from community centers and older adults' groups in the Department of Rodopi[1], Greece were assessed with regard to known fall risk factors, including demographic, clinical, psychological characteristics and physical performance. Chi-squared test and multivariate logistic regression analysis were applied. 37.6% of participants had a recent falls history. In the regression model, declining balance, depression, female gender and tertiary education significantly predicted fall risk: there was a 14.8% increase in odds of falling for one-unit decrease in the Berg Balance Scale score, three times higher odds of falling for older adults with depressive symptoms, women had 3.4 times and individuals with tertiary education 1.6 times higher odds of falling. These findings should raise awareness both among community members and professionals of various specialties, especially regarding encouragement of exercise uptake in older adults matching this profile.

Key words: falls; fall risk factors; older adults; Greece.

Introduction

European populations are ageing at a fast pace (Grundy & Murphy, 2017) and Greece is no exception (Lamnisos, Giannakou, & Jakovljevic, 2021). Falls become more frequent with age and can lead to impaired musculoskeletal health due to injuries and fractures and therefore, threaten older adults' capacity for physical activity, independent living and 'healthy ageing' (Briggs et al., 2016).

[1] Rodopi consists one of the 51 Departments in Greece according to the the Kallikratis Plan (Law 3852/2010) that came into effect in 2011 and concerns the administrative organization of Greece.

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The proportion of elderly adults reported falling at least once per year oscillate between 30% to 40% (Sherrington et al., 2019).

Falls prevention strategies comprise exercise and/or tailored multicomponent interventions including exercise, optimization of prescribed medication, management of falls-related health conditions and assessment of home safety (National Institute for Health and Care Excellence [NICE], 2013). However, recent evidence has showed that these may not be effective (Hopewell et al., 2019), hence exercise remains a first line approach in falls prevention in the elderly (NICE, 2019). Indeed, a recent systematic review involving 25.160 participants from 116 randomized controlled trials report 23% decrease in rate of falling following exercise interventions (Sherrington et al., 2020). Effective programs included balance and functional exercise (especially those lasting ≥3h/week), multi-type exercise (e.g., balance and functional plus resistance) and Tai chi, whereas the effects of programs based primarily on resistance exercise, dance or walking were uncertain.

Falls prevention strategies start with regular screening of older adults to identify those at risk of falling, then further assess those and apply interventions (Stevens & Phelan, 2013). Given the increasing demand and limited resources in healthcare, identification of older adults at risk of falling, and subsequent exercise prescription, should take place at a wider scale involving the community. Considering also that falls are multifactorial, there is an inherent difficulty in determining individuals at risk. Various factors related to clinical characteristics and physical fitness are considered high-risk for falling. Health conditions associated with increased rate of falling for older adults include hypertension (Abu Bakar, Kadir, Idris, & Nawi, 2021), arthritis (Stanmore et al., 2013), osteoporosis (Meyer, König, & Hayek, 2019), neurological conditions (Lima et al., 2022), stroke (Ng, Hill, Batchelor, & Burton, 2017), epilepsy (Strzelczyk, Griebel, Lux, Rosenow, & Reese, 2017), vertigo (Fernández, Breinbauer, & Delano, 2015) and others. Commonly used medications, such as antidepressants, benzodiazepines, psychotropic, diuretics, as well as polypharmacy, also increase the risk of falling (de Vries et al., 2018; Seppala, van de Glind, et al., 2018; Seppala, Wermelink, et al., 2018). The link between muscle weakness and balance problems with falls incidence is well-established (Santos, Souza, Virtuoso, Tavares, & Mazo, 2011). Fear of falling (FoF) (Enderlin et al., 2015) and depressive symptoms have also been linked to higher fall risk (Iaboni & Flint, 2013). Except for age, other socio-demographic factors are less often studied. Evidence shows that women (Dos Santos et al., 2019) and older adults living alone and being single (Kim, Choi, & Xiong, 2020) exhibit higher rates of falling, although mixed results are reported with regard to education level (Qian et al., 2021), varying by country and study populations.

Different types of the above fall risk factors are included in fall risk assessment tools, from generic ones including questions on falls history, fear of falling and feeling unsteady when walking (Stevens & Phelan, 2013), to questionnaires with detailed reporting of clinical characteristics (Hnizdo, Archuleta, Taylor, & Kim, 2013). Combining tools to identify individuals at risk, with inclusion of physical performance tests, like the Berg Balance Scale, has also been suggested (Lusardi et al., 2017). In Greece there are no official falls prevention policies in place. Also, to the authors' knowledge limited evidence has been published on determining fall risk in older adults. A study among fallers only found that the use of psychotropic medications, vision problems, poorer static balance, lower limb strength and higher fear of falling was associated with higher fall rates (Lytras et al., 2022). Identifying the current profile of older adults at risk of falling could increase awareness in public and among professionals (healthcare, social care, exercise etc.) and facilitate the implementation of falls prevention measures, like availability of and participation in exercise classes.

The aim of the present study was therefore to 1) report on epidemiological data on falls in older adults in Greece, i.e. incidence and number of falls, injurious falls and falls related hospitalization, and 2) identify the profile of older adults at higher fall risk based on a selection of the risk factors most strongly associated to falls in this population. The study has an exploratory hypothesis, i.e. that the certain factors among the demographic, clinical, psychological characteristics, and physical performance, will be associated with an increased occurrence of falls among older community-dwelling adults in Greece. The distinct sociocultural and contextual attributes of this group will be distinguishing them from populations in other countries where comparable studies have been conducted.

Methods

Participants

A total of 207 individuals residing in the Department of Rodopi, participated in the study. Participants were recruited via local community centers, social services, cultural groups, adverts and word of mouth, hence it was a convenience sample. Participants were eligible to participate if they were ≥60 years of age, able to walk independently or with the help of a walking stick and had fluency in Greek. Exclusion criteria included any health or cognitive limitations that could impede participation.

Measures

Self-report

Falls incidence and clinical fall risk factors. Single item questions (yes/no responses) assessed: 1) falls incidence, number of falls, injurious falls and falls-related hospitalization in the past 12 months; 2) health conditions associated with fall risk, i.e. hypertension, arthritis, osteoporosis, Parkinson's, dementia, stroke, epilepsy, vertigo, fractures, and limb loss; 3) medication associated with fall risk, i.e., hypertensives, diuretics, psychotropic, benzodiazepines, sedatives, hypnotics, hypoglycemic, antihistamine, antiepileptic, laxatives.

Fear of falling was assessed by the 16-item Falls Efficacy Scale-International (FES-I) that assesses older adults' concerns about falling during daily activities in a 4-point response scale ("not at all" to "very" concerned) (Yardley et al., 2005). Cut-off points 1.6 and 2.4 in the average score were applied to categorise individuals in low, moderate and high FoF (Brodowski, Strutz, Mueller-Werdan, & Kiselev, 2022). Both English and Greek versions have good psychometric properties (Billis et al., 2011; Yardley et al., 2005). Internal reliability was high, i.e. Cronbach's a=0.91, for this study.

Depressive symptoms were assessed using the 15-item Geriatric Depression Scale (GDS), with yes/no reponses (Sheikh & Yesavage, 1986). A cut-off ≥6 was applied to signify depression (Fountoulakis et al., 1999). GDS-15 is an accurate tool for assessing depression in older adults (Park & Kwak, 2021), with Cronbach's a=0.78 for the present study, which is considered acceptable. Its use in fall risk assessment is also recommended (Lusardi et al., 2017) .

Socio-demographic characteristics. Participants' age (years), gender (male, female), education (primary, secondary, tertiary), marital (married, single, divorced, widowed) and cohabitation (living alone, cohabiting) status were recorded.

Anthropometric

Height (rounded to 0.01m) was measured using a stadiometer, weight (rounded to 0.1kg) and BMI using a digital scale.

Physical Performance

Physical function. Dynamic balance, lower limb strength and aerobic fitness were assessed with the 8ft Timed Up-and-Go (TUG), 30sec Chair-stand and 2min Step Test from the Senior Fitness Test, a well-established measure of physical function in the elderly with good psychometric properties (Rikli & Jones, 1999). Based on existing literature, cut-offs were applied signifying high fall risk, i.e., ≥10sec for TUG (Eagles et al., 2017), ≤8 repetitions for Chair-stand (Bruun, Mogensen, Nørgaard, Schiøttz-Christensen, & Maribo, 2019), ≤60 steps for the Step-test (Poncumhak, Amput, Sangkarit, Promsrisuk, & Srithawong, 2023).

Static balance was assessed with the Berg Balance Scale (BBS), which consists of 14 simple balance tasks each scored 0-4 points and a sum is calculated (Berg, Wood-Dauphinee, Williams, & Maki, 1992). Although cut-offs have been proposed for identifying high fall risk individuals (Lima, Ricci, Nogueira, & Perracini, 2018), sensitivity has been equivocal (Muir, Berg, Chesworth, & Speechley, 2008), hence BBS is used a continuous variable.

Settings and Procedures

Eligible individuals from active members of community centers, cultural groups etc. were invited by a member of staff or board to take part in the study. Individuals interested through local adverts and word of mouth could contact the research team themselves and book an appointment. Verbal and written study information was provided and written informed consent was signed prior to data collection. Participants visited the local center where they completed an interview-administered questionnaire pack, anthropometric measures, then fitness and balance tests. The study received ethical approval from the Democritus University of Thrace Research Ethics Committee (DUTH/EHDE/28061/165).

Study Design

The present paper reports baseline (cross-sectional) data from an observational study with 12-month follow-up. Data was collected from October 2022 to March 2023.

Data Analysis

Data were analyzed and visualized using the R language (R_Core_Team, 2023). Descriptive statistics were used to provide information about the participants' demographic and health characteristics. The 'psych' package of the R (Revelle, 2023) was used to calculate internal reliability using Cronbach's a. Chi-square tests explored pair-wise associations between the "fall incidence" dependent variable and categorical explanatory variables. Explanatory variables included age, sex, education, marital status, cohabitation status, FoF, depressive symptoms, multimorbidity, polypharmacy, BMI, the TUG, Chair-stand, Step Tests and the BBS. Multivariate logistic regression analysis was used to construct a model estimating the probability of falls incidence based on a combination of the explanatory variables. The Adjusted Odds Ratio (AOR) for each independent variable, i.e. its relative importance, is provided. An AOR greater than 1 indicates that the categories have higher fall risk than the reference category, while AOR less than 1 indicates lower fall risk (concerning categorical variables). Regarding continuous variables, an AOR higher than one indicates that as the variable increases by one point, the risk of fall also increases. The Maximum Likelihood approach and the Conditional Forward Stepwise procedure were applied (Agresti, 2015; Cox & Snell, 1989; Dobson & Barnett, 2018). Stepwise methods like the forward methods have been criticized due to the fact that they rely on the computer selecting variables based upon mathematical

criteria (Field, Miles, & Field 2012). Thus, the Forced Entry Method (Field, Miles, & Field, op. cit.) is also used to decide on the predictors to be included in the model. Gender, GDS, and BBS were included in the model due to being associated with a higher risk of falling in previous studies and in the present study. Socio-demographic variables were added to the final model to control for confounding and on the basis on their association with falls in existing research.

The significance level for the current study was set at α=0.05, a commonly adopted practice in the scientific community (Shreffler & Huecker, 2021). The selection of a significance level of p=0.05 indicates that when the p-value is less than 0.05, it is appropriate to reject the Null Hypothesis. The Null Hypothesis posits that there is no association between the independent variable under investigation (fall incidence) and a potential explanatory variable (such as gender or depression).

The Hosmer-Lemeshow (HL) Test was used to assess the goodness of fit of the model (binary outcomes, ungrouped data) (Hosmer & Lemeshow, 1980). The HL test in the R programming language was conducted using the 'ResourceSelection' package (Subhash, Keim, & Solymos, 2009). The Null Hypothesis is that ‘the model fits the data well’. Therefore, for p-values >.05 the model has a good fit. The HL test has received criticism as it provides diverging results when different numbers of groups (g) of individuals are used (e.g., it will give a different result for g=5 and g=8). This obstacle may be overpassed by performing HL tests on various numbers of groups of individuals (3, 4, …, 10) (Paul, Pennell, & Lemeshow, 2013). P-values >.05 in each and every one of these HL tests, mark a significant level of confidence that the model has a good fit. Lastly, the predictive ability of the model was tested using the ROC (probability) curves. The Area Under the Curve (AUC) measures how much the model is capable of distinguishing between cases. The higher the AUC (it takes values from 0 to 1), the better the predictive ability of the model (Melo, 2013).

Results

Participants’ characteristics and incidence of falls

Participant characteristics are presented in Table 1 for continuous and Table 2 for categorical variables. Among participants 37.6% reported having fallen in the past 12 months. Among fallers 30% were multiple-fallers, i.e., fell at least twice, 38% had sustained an injurious fall and 15% were hospitalized at least once.

Table 1. Descriptive statistics of continuous study variables

	Mean±SD			Range
	Total	Fallers	Non-fallers	
Age	72.7 ±6.3	72.6 ± 6.2	72.8 ± 6.3	60-90
BMI	31.4±4.9	31.7 ± 5.2	31.3 ± 4.7	22.3-56.0
Fear of Falling	1.6±0.5	1.7 ± 0.6	1.5 ± 0.5	1.0-3.9
Depression	3.0±2.7	3.7 ± 3.2	2.6 ± 2.4	0-13
8ft Timed Up-and-Go test	7.72±3.1	8.0 ± 3.2	7.6 ± 3.1	4.33-26.6
30s Chair Stand test	11.9±3.3	11.4 ± 3.4	12.2 ± 3.3	0-22
2min Step test	91.6±33.0	89.2 ± 35.2	93.1 ± 31.7	14-182
Berg Balance Scale	53.7±3.7	52.8 ± 5.1	54.4 ± 2.4	29-56

Table 2. Frequencies of categorical study variables

	%

	Total	Fallers	Non-fallers
Gender			
Male	17	17	83
Female	83	42	58
Education			
Primary	55	36	64
Secondary	26	29	71
Tertiary	19	47	53
Marital status			
Married	63	34	66
Single	3	83	17
Divorced	3	43	57
Widowed	31	41	59
Cohabitation			
Yes	75	34	66
No	25	48	52
Fear of Falling			
Low	63	31	69
Moderate	28	46	54
High	9	50	50
Depression			
No	83	32	68
Yes	17	62	38
Health conditions			
None	10	33	67
One	29	48	52
Two	31	38	62
Three	19	32	68
Four+	11	45	55
Medicine			
None	47	36	64
One	27	31	69
Two	20	46	54
Three+	6	54	46
Body Mass Index			
Normal	8	53	47
Overweight	32	25	75
Obese	60	40	60
Timed Up and Go Test			
<10 seconds	89	35	65
≥10 seconds	11	57	43
30-second Chair-Stand Test			
>8 stands	89	35	65
≤8 stands	11	52	48
2-min Step Test			
>60 steps	85	36	64
≤60 steps	15	48	52

Factors associated with increased risk of falling

The results of the chi-square tests for the associations between falls and categorical explanatory variables are presented in Table 3. Rates of falling were significantly higher among females (p=.01), participants with depression (p=.002) and balance problems as indicated by the BBS score (p=.002).

Table 3. Chi-square tests between falls and categorical explanatory variables

	Chi-square value	Degrees of freedom
Gender	6.551*	1
Education	1.971	1
Marital Status	3.665	1
Cohabitation	1.944	1
Fear of falling	5.065	2
Depression	9.213**	1
Multimorbidity	0.317	1
Polypharmacy	2.807	1
Body Mass Index	1.556	1
8ft Timed Up-and-Go	3.222	1
30s Chair Stand	1.787	1
2min Step Test	1.105	1
Berg Balance Scale	9.869**	1

**p<.05, **p<.01*

Modelling factors associated with increasing fall rates

A multivariate logistic regression model (Conditional Forward Stepwise procedure) explored the combined influence of factors associated with older adults' falls incidence, dichotomous response. The predictors included in the model were: age, BBS, GDS, Education, Gender and Marital Status. The methods detailed earlier led to the construction of the model in Table 4, that is described by the following equation:

$\log\left(\frac{\pi}{1-\pi}\right)$ = -2.648 -0.001*(age-60) -0.138*(BBS-56) + 1.379*GDS + 0.950*education +1.481*gender +2.161*marital status.

Table 4. Results of the logistic regression model

	B	S.E.	Exp(B)
Constant	-2.648***	2.575	0.073
Age (years)	-0.001	0.033	0.999
Berg Balance Scale (score)	-0.138*	0.066	0.871
Depressive Symptoms (yes/no)	1.379**	0.45	3.971
Education (Tertiary)	0.950*	0.462	2.586
Gender (Female)	1.481*	0.588	4.398
Marital Status (Single)	2.161	1.141	8.677

** p<.05, **p<.01,***p<.001*

The results show that the odds of falling decline as the BBS Score increases (p=.037). Specifically, the odds of falling[2] decrease by 12.3% for one-unit increase in the BBS score (the odds of falling increase by 14.8% for one-unit reduction in the BBS score). Participants with depressive symptoms had almost 3 times higher odds of falling than those without (p=.002). Participants with tertiary education had 1.6 times higher odds of falling than those with lower educational attainment (p=.040). Women had 3.4 times higher odds of falling than men (p=.012). There was also a trend for higher rates of falling in singles, namely 7.7 times higher than those having been married (married, divorced or widow) (p=.058). The constant informs us a 60-year-old man from the aforementioned group with the best BBS score (=56), without depression, of primary or secondary education, who is married, divorced or widowed, has 6.6% probability of falling, in a sample with 37.6% of the participants reporting falls incidence. The methodology also predicts the probability of falling for an individual with specified characteristics. Hence, it may identify the profile of an individual who has a specific probability of falling. For instance, the highest risk (99.8%) of falling concerns a person 1) 90-years-old, 2) with the lowest BBS score (=29), 3) with depressive symptoms, 4) who has attended up to secondary education, 5) is female and 6) single. Similarly, the characteristics- age, gender, BBS score, GDS score, educational level, gender and marital status- of any individual may be used in order to predict his/her probability of falling. This can be done by entering the values describing his/her characteristics in the model's equation.

Table 5 shows that the model fitted the data extremely well for different numbers of groups (g=3, 4, 5, 6, 7, 8, 9, 10) for the HL test (1980), as p-values exceed 0.435 in all of them. Thus, these results do not provide us with enough evidence to reject the null hypothesis which implies a good fit of the model (at a=5%). Additionally, the model's predictive ability is satisfactory as the Area Under Curve (AUC) is 0.733 (Melo, 2013). Figure 1 shows the ROC curve for the model, from which it's AUC is calculated. The curve visualises the good fit of the model.

Table 5. Hosmer and Lemeshow goodness of fit (GOF) test (g=3, 4, 5, 6, 7, 8, 9, 10) results and Area Under Curve (AUC) of the logistic regression model

g	Chi-square value	Degrees of freedom	Significance	Area Under Curve (AUC)
3	0.306	1	0.580	
4	0.212	2	0.900	
5	2.731	3	0.435	
6	1.527	4	0.822	0.733
7	2.301	5	0.806	
8	2.213	6	0.899	
9	2.380	7	0.936	
10	4.231	8	0.836	

[2] It is an Adjusted Odds Ratio (AOR) due to the fact that a multivariate model was constructed. The association of each dependent variable (e.g. BBS) to the dichotomous categorical outcome (fell or did not fall) are "controlled for" or "adjusted" by the other variables in the model.

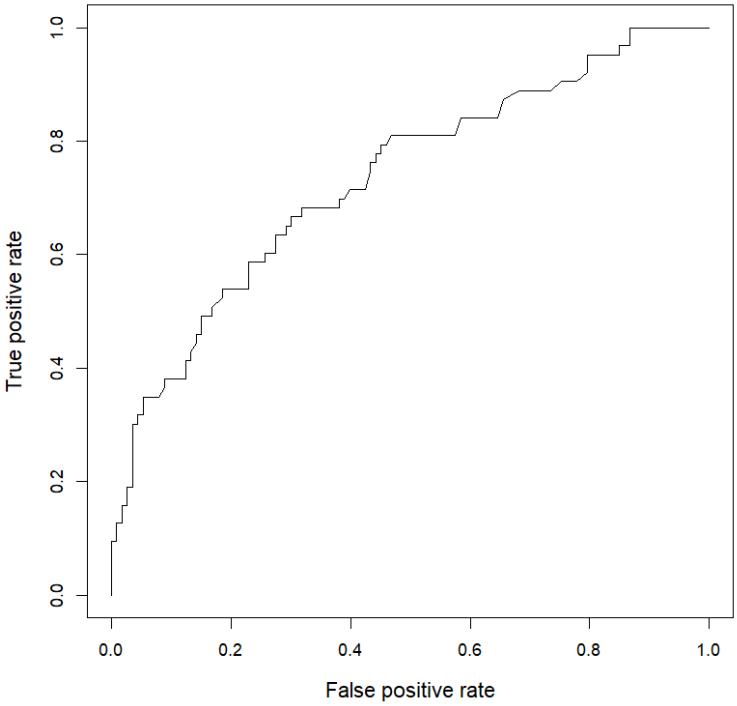

Figure 1. ROC curve for the logistic regression model

Discussion

Falls consist a threat to older adults' independency and well-being and preventative measures involve provision of interventions to individuals at risk of falling. The present study has reported on falls incidence and identified characteristics of individuals at risk among community-dwelling older adults in Greece. A 37.6% of this population had sustained at least one fall in the last year, a proportion within the expected range (Sherrington et al., 2019). To the authors' knowledge this is the first study attempting to determine a fall risk profile in this population by assessing a plethora of established fall risk factors, including demographic, clinical, psychological characteristics and physical function. The characteristics found to be significantly linked to an increased risk of falling were worse balance (BBS score), having depressive symptoms (GDS≥6), female gender and tertiary education. Specifically, there was a 14.8% increase in odds of falling for one-unit decrease in the BBS score and three times higher odds of falling for older adults with depressive symptoms. Women were remarkably more prone to falling than men (3.4 times higher odds) and individuals with tertiary education had higher risk of falls than those with lower educational attainment (1.6 times higher odds).

These findings are in line with existing systematic reviews on fall risk assessment in community-dwelling seniors highlighting that no single tool alone can effectively identify high fall risk individuals (Beck Jepsen et al., 2022; Gade et al., 2021; Park, 2018). Lusardi et al (2017), who examined multi-type measures, proposed the combination of five medical history questions, two self-report (including GDS) and five performance-based measures (including BBS) as potentially having clinical usefulness for cumulative fall risk assessment. The present study proposes a smaller set of measures, which are also low-cost and relatively easy to apply, i.e., assessment of the 15-item GDS and 14-short task BBS can be completed in approximately 15 minutes, with minimal equipment. The

BBS and GDS are among the tools with the strongest predictive ability for falls (Lusardi et al., 2017; Park et al., 2018). This finding adds to the importance of managing depression in older populations, to limit its impact on overall health and well-being. Notably, exercise interventions can have positive effects both for balance problems (Flynn, Allen, Dennis, Canning, & Preston et al., 2019) and depression (Cooney et al., 2013). Female gender has also been marked as a fall risk factor in previous research (Dos Santos et al., 2019; Gade et al., 2021), whereas findings on the role of education are mixed (Qian et al, 2021) and the reasons for these associations are difficult to interpret.

Other factors we assessed appear to influence falls to a lesser extent. Inconsistent evidence regarding the predictive ability of commonly used tools, like medical questions and TUG, have been reported (Beck Jepsen et al., 2022; Lusardi et al., 2017). Inconsistencies in the literature may be due to the variety in populations, settings and conditions where the various studies are conducted (Gade et al. 2021). Interestingly, single participants in the present study reported falling in greater proportions than those who have been married, whereas cohabiting participants reported falling in lower proportions than those living alone, although the tests applied did not reach statistical significance. However, as the number of people who are single and live alone in older age in Greece will undoubtedly increase dramatically in the decades to come (Kontogiannis, 2022), these factors may be of importance in the future.

The present study supports the concept of a multimodal interventions and a holistic approach to falls prevention. With regard to exercise promotion, besides encouragement of exercise uptake by all older adults, balance, functional or multi-type exercise may prove particularly beneficial in reducing fall risk for those with declining balance ability and those with depressive symptoms, especially women of higher education among them. Very few of the fallers in this sample reported discussing with their healthcare professionals about falls prevention, which potentially reflects limited awareness of such pathways. The study is a novel approach to falls literature in Greece, it has assessed a comprehensive list of fall risk factors and applied rigorous data analysis. It also has certain limitations. The sample is not randomly selected, rather a convenience one, and comes from one Department. Also, men are underrepresented and this is probably the case for single individuals. Hence, findings may not be generalizable to the whole Greek or wider older adult population. Still, the sample includes a wide range of participants with regard to socio-demographic and clinical characteristics, fall history, clinical characteristics and physical function. The retrospective record of falls incidence is contingent upon the participants' ability to recall information (Talari & Goyal, 2020) and may be susceptible to recall and information bias. Prospective data to be collected from this sample will enable further validation of the proposed model. Choice of variable operationalization, e.g. examining the effects of polypharmacy, not individual types of medications, may have an influence on the results, but this is justified by the need to have a regression model as concise as possible.

Conclusions

In the present study, 37.6% of community-dwelling Greek older adults had a fall incidence in the last 12 months. Worse balance (performance on BBS), presence of depressive symptoms (GDS), being a woman and having tertiary educations characterized a higher fall risk profile. This should raise awareness both among professionals of various specialties and community members. For example, professionals should encourage exercise uptake or discuss falls prevention strategies with older adults matching this profile among their service users, also based of course on clinical

judgement and individual needs. Increasing awareness on fall risk and falls prevention, including the role of exercise, should be part of future public health policies.

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ΑΘΛΗΣΗ & ΚΟΙΝΩΝΙΑ
ΠΕΡΙΟΔΙΚΟ ΑΘΛΗΤΙΚΗΣ ΕΠΙΣΤΗΜΗΣ

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Συχνότητα εμφάνισης πτώσεων και προσδιορισμός προφίλ κινδύνου πτώσεων σε άτομα τρίτης ηλικίας στην Ελλάδα

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ΠΕΡΙΛΗΨΗ

Οι πτώσεις στην τρίτη ηλικία είναι ένα μείζον ζήτημα δημόσιας υγείας στις σύγχρονες γηράσκουσες κοινωνίες. Η πρόληψη πτώσεων ξεκινά με τον εντοπισμό ατόμων υψηλού κινδύνου πτώσης ώστε να γίνουν οι κατάλληλες παρεμβάσεις, περιλαμβανομένων παρεμβάσεων άσκησης. Η παρούσα έρευνα είχε στόχο να καταγράψει τη συχνότητα εμφάνισης πτώσεων και να προσδιορίσει ένα προφίλ υψηλού κινδύνου πτώσεων σε άτομα τρίτης ηλικίας στην Ελλάδα. Συνολικά 207 άτομα (μέση ηλικία 72.7±6.3 έτη, 83% γυναίκες), που προσκλήθηκαν κυρίως μέσα από Κ.Α.Π.Η. και πολιτιστικούς συλλόγους του Νομού Ροδόπης, αξιολογήθηκαν ως προς μια σειρά γνωστών παραγόντων κινδύνου, συμπεριλαμβανομένων δημογραφικών, κλινικών, ψυχολογικών χαρακτηριστικών και φυσικής κατάστασης. Εφαρμόστηκαν Τεστ χ2 και πολυπαραγοντική λογιστική παλινδρόμηση για την ανάλυση των δεδομένων. Στο μοντέλο της παλινδρόμησης σημαντικοί προβλεπτικοί παράγοντες κινδύνου πτώσης ήταν προβλήματα ισορροπίας, κατάθλιψη, φύλο και εκπαιδευτικό επίπεδο. Συγκεκριμένα, για μία μονάδα μείωση στην κλίμακα Berg Balance Scale υπήρχε 14.8% αύξηση στην πιθανότητα πτώσης, άτομα με κατάθλιψη διέτρεχαν σχεδόν τρεις φορές μεγαλύτερο κίνδυνο πτώσης, γυναίκες 3.4 φορές και άτομα με τριτοβάθμια εκπαίδευση 1.6 φορές περισσότερες πιθανότητες πτώσης. Τα ευρήματα αυτά μπορούν να συμβάλουν στην ευαισθητοποίηση πολιτών και επαγγελματιών διαφόρων ειδικοτήτων, ως προς την ανάγκη για πρόληψη πτώσεων και συγκεκριμένα προαγωγής της άσκησης ειδικά σε άτομα τρίτης ηλικίας που έχουν το παραπάνω προφίλ.

Λέξεις κλειδιά: πτώσεις, παράγοντες κινδύνου πτώσεων, άτομα τρίτης ηλικίας, Ελλάδα.

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