Clinical Utility of the 10-Minute Geriatric Screener Among Older Patients at the Outpatient Department in Southern Philippines Medical Center: A Pilot Study

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Background: Aging is an inevitable aspect of life, and to create a plan for healthy aging, it is crucial to determine the prevalence of geriatric syndromes. This information is essential to reduce morbidity and mortality and to develop tailored intervention programs.
Objective: To determine the clinical utility of the 10-minute Geriatric Screener as a screening tool at the Outpatient Department in Southern Philippines Medical Center; and to determine the prevalence of geriatric syndrome and its associated risk factors.
Methods: Prospective cross-sectional study design. The study was conducted in the Southern Philippines Medical Center Outpatient Department. This study evaluated 170 geriatric patients at the Southern Philippines Medical Center.
Results: There were 110 cases (164.71%) classified as a low-risk level and 60 (35.29%) as high-risk. Sex does not significantly dictate a pattern of geriatric syndrome classification (X^2=0.006; p=0.936). However, a marginal significance was seen for civil status, where widowed patients have a high risk of geriatric syndrome (X^2=7.506; p=0.057). Patients with a high risk of geriatric syndrome are significantly older (69$\pm$5.91 vs. 65$\pm$.98; t=4.014; p<.001). Furthermore, patients with visual impairment are at high risk of geriatric syndrome (X^2=3.406; p=0.065). Hearing problem was not seen to be significant (X^2=1.585; p=0.208). The same pattern was reflected for leg mobility issues and weight loss (X^2=0.652; p=0.419; X^2=2.580; p=0.108). A higher percentage of patients with physical disability were classified at high risk of geriatric syndrome (X^2=5.191; p=0.023).
Conclusion: Those patients aged more than 70 years old, widowed, visually impaired, and with physical disability will more likely be classified as high-risk geriatric syndrome. These findings underscore the complex interplay of age and specific health conditions in determining risk profiles, suggesting the need for targeted interventions and further investigation into the nuanced factors influencing health risks in similar populations.

Key words: Geriatric patients, geriatric syndrome, 10 minute Geriatric Screene

Introduction

The Philippines is progressing toward an aging population similar to Japan, leading to an increase in patients with multi-morbidity, which poses challenges for health services. Geriatric syndrome, characterized by multifactorial health conditions resulting from accumulated impairments, makes individuals vulnerable. These syndromes can be managed even without fully understanding their causes. A patient-centered approach that focuses on assessing and managing geriatric syndromes supports independence and autonomy, key factors in improving the quality of life for elderly patients.

It addresses both vision and hearing, and key sensory modalities, and includes inquiries regarding urinary incontinence; this is an often-overlooked problem that greatly affects social implications and self-esteem in the geriatric population. All visits or consultations are possible opportunities for the promotion of health and counseling directed to assisting the patient's independence and achieving their highest level of functioning. Although the goals of care may differ, the primary focus here is the preservation of the patient's functional status otherwise known as the "sixth vital sign."

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The country consists of approximately 103.8 million inhabitants based on a census done in 2018, with less than 5% of the country's population of elderlies which belongs to the (60 years and older) age group. Despite the larger number of young Filipinos, the 60-year-old and older bracket in the population of the Philippines is expected to rise by 4.2%, whereas the 80-year-old and older population bracket is expected to increase by 0.4% from 2010 to 2030. The Philippines' population was raised by over 35% over the last 20 years with the older adult population expected to overwhelm those aged 0–14 years old by 2065. The improvement in life expectancy in the country can be attributed to improvements and advances in public health, all of which have either reduced or eradicated many of the illnesses that once caused early death in Filipinos.[1] Based on the census of the Geriatric Club in the Southern Philippines Medical Center FAMED last 2023, the said OPD caters to approximately 600 walk-in geriatric patients per month seeking consultation. The 3 most common reasons for walk-in consults are prescription refills, general work-up, and hypertension. Among those walk-in consultations, only 4 – 5 are referred for Comprehensive Geriatric Assessment per week. The ratio of patients being assessed by a screening tool is only 3% of the total number seen per month at the FAMED OPD due to time constraints.

With this presented data, the increasing geriatric population warrants increased geriatric assessment. The gradual increase in the statistical figures among Filipinos aged 60 years old and above might bring a crisis in medical care and social welfare. Policies on health systems and social services are revised to adjust to the emerging and rapidly rising elderly population. From a medical standpoint, primary physicians should identify problems prevalent among the geriatric population who fall in the 60 – 85 years old age bracket.[2] Early identification with proper assessment of risk fall and functional decline can lead to referrals/interventions that optimize independence and safety. Effective multifactorial interventions such as constant balance training and exercise, minimizing use of multiple drugs, treating visual impairments, treating hypotension, and utilization of proper foot protection can decrease the frequency of falls and may assist in maintaining optimal functional status.[1-2]

Research and testing are underway to develop efficient and user-friendly tools for geriatric assessment in primary care, primarily aimed at identifying frail elderly individuals. The focus of this study is the 10-minute Geriatric Screener, adapted from the WHO 10-minute screening tool. This innovative approach not only seeks to identify patients who may need a referral to a geriatrician but also emphasizes the importance of implementing first-line interventions directly within the primary care setting. Upon completion of the screening, healthcare providers should compile a comprehensive problem list that highlights potential geriatric syndromes, allowing for the creation of personalized care plans that align with each patient's unique goals and preferences.[3] This proactive strategy aims to enhance the quality of care for older adults, ensuring they receive timely and appropriate interventions that can significantly improve their health outcomes and overall well-being.

This study aimed to determine the clinical utility of the 10-minute Geriatric Screener as a screening tool in the Outpatient Department at Southern Philippines Medical Center.

Methods

This study utilized a prospective cross-sectional design that involved the use of a geriatric screening tool among older patients of the Southern Philippines Medical Center Outpatient Department. The study was conducted in JICA – OPD or Geriatric Club of Southern Philippines Medical Center in Bajada, Davao City.

The specific inclusion criteria for the study were patients aged 60 years and older, in accordance with RA 9994 (Expanded Senior Citizen's Act of 2010). Conversely, the specific exclusion criteria did not include individuals with terminal illnesses, known pre-existing diagnoses of severe dementia, or known psychiatric disorders. Additionally, patients residing in nursing homes and those unwilling to provide written informed consent were also excluded. Furthermore, patients who were bound to a stretcher or wheelchair were not included, as the screening test required participants to stand up, walk forward, and sit down again.

Before data collection, this topic was submitted to the Southern Philippines Medical Center Department Research Committee for technical approval. This research protocol was also submitted to the Department of Health Region XI Cluster Ethics Review Committee for ethics review and approval. During the dates approved for data gathering, the details of this 1-month prospective study were discussed to target respondents in the Southern Philippines Medical Center JICA OPD based on the inclusion and exclusion criteria. Those who were willing to participate were included in the study. Prior to the start of the screening process, every participant was given 2 copies of the informed consent. They were given the time to read, to ask questions, and to be explained if there were items not clear to them whether in Tagalog, English, or Bisaya. They were asked to complete the informed consent by their full name, signature, and date of completion of the said form. All information given was strictly confidential. The second copy was given to the participants.

Whenever participants tested positive for the 10-minute geriatric screening tool and were classified as high risk (indicating falls, dementia, depression, and urinary incontinence), they were referred to the department's geriatrician consultant, for management and re-assessment through a comprehensive geriatric assessment. While further referrals to multidisciplinary departments such as Psychiatry and Internal Medicine are not required, they may be made if deemed necessary by the department geriatrician; however, interventions and comparisons were not studied at this point in time. Once the screening process was completed, all forms were compiled for data processing, and patients were discharged from the outpatient department (OPD) with the appropriate referrals, medications, advice, and follow-up schedule.

The study's main objective was to ascertain the use of the 10–minute geriatric screening tool among those who were >60 years old in the OPD. At least 15 geriatric patients are consulting every day at the SPMC JICA OPD which gives the hospital roughly about 300 patients seeking consult face-to-face. The study needed to include at least 168 research respondents to be surveyed using a 50% assumption and a confidence level of 95%. The sample size was computed using Epidemiologic Information Software en-US 7.5.1.2 (Epi Info ™7).

Data were recorded on a pre-designed data collection form. The demographic and biomedical data were encoded using Microsoft Excel 2007. Data on patients' characteristics, geriatric syndromes, and history of falls were processed using Epidemiological Information Software en-US 7.5.1.2 (Epi Info™ 7.2.6.0). Descriptive statistics like means, percentages, and standard deviations were generated. Pearson Chi-square test statistics and t-tests for independent samples were also utilized to test inferences.

Results

This prospective study evaluated 170 geriatric patients at Southern Philippines Medical Center.

There were 114 (67.05%) male and 56 (32.94%) female, with an average age of 67±5.0. Moreover, most of the cases were still living together with their partners which accounted for 69.41% (118/1170), followed by those who were already their partners with 15.29% (26/170). There were 10.59% (18/170) who prefer to be living alone in the geriatric stage and 4.71% who are already separated.

Clinical characteristics were also taken into account by the respondents. Data shows that almost 50% of them are suffering from visual impairment. Only 26 (15.295%) have problems with hearing. Leg mobility is a concern for over a quarter of the respondents, indicating a notable minority with mobility issues with 46 cases (27.06%) of the participants. Only 29 (17.06%) of patients have experienced weight loss. Similar to nutrition, physical disabilities affecting daily activities are relatively less common but still present in about one-sixth of the population surveyed.

Table 3 shows the rest of the association of demographic and clinical characteristics on patients' risk of geriatric syndrome. Respondents with a high risk of geriatric syndrome are significantly older (69±5.91 vs. 65±.98) than those with low risk ($t=4.014$; $p<.001$). Sex does not significantly dictate a pattern of geriatric syndrome classification ($X^2=0.006$; $p=0.936$). However, a marginal significance was seen for civil status, where widowed patients have a high risk of geriatric syndrome ($X^2=7.506$; $p=0.057$).

A higher percentage of patients with physical disability were classified at high risk of geriatric syndrome ($X^2=5.191$; $p=0.023$). Although not statistically significant, patients with visual impairment are at high risk of geriatric syndrome ($X^2=3.406$; $p=0.065$). This clinical significance already suggests a contextualized intervention addressing those elders with visual problems. Hearing problem was not seen to be significant ($X^2=1.585$; $p=0.208$), same pattern was reflected for leg mobility issues and weight loss ($X^2=0.652$; $p=0.419$; $X^2=2.580$; $p=0.108$).

Table 1. Baseline characteristics with known clinical characteristics.

Characteristics	Results (n=170)
Age in years, x (+/-SD)	67 (5.43)
Sex, n (%)	
Male	114 (67.05%)
Female	56 (32.94%)
Civil status, n (%)	
Single	18 (10.59%)
Married	118 (69.41%)
Separated	8 (4.71%)
Widowed	26 (15.29%)
Vision Impairment, n (%)	
Yes	69 (40.59%)
No	101 (59.41%)
Hearing Impairment	
Yes	26 (15.29%)
No	144 (84.72%)
Leg Mobility	
Yes	46 (27.06%)
No	124 (72.94%)
Nutrition Status and Weight Loss	
Yes	29 (17.06%)
No	141 (82.94%)
Activities of Daily Living/Physical Disability	
Yes	30 (17.64%)
No	140 (82.35%)
Cognitive Impairment (3-item recall)	
Yes	16 (9.42%)
No	154 (90.59%)
Urinary Incontinence	
Yes	15 (8.82%)
No	155 (91.18%)
Depressive Mood	
Yes	37 (21.77%)
No	133 (78.24%)
Fall history (fallen > 2 times in the past 12 months)	
Yes	6 (3.53%)
No	164 (96.47%)

Table 2. Risk for geriatric syndromes.

Geriatric Syndrome, n (%)	Results (n=170)
Low Risk	110 (64.71%)
High Risk	60 (35.29%)

Discussion

The end target of this study is to screen geriatric patients at risk for geriatric syndrome using the 10-minute geriatric screening tool seeking consultation at the Southern Philippines Medical Center Department of Family and Community Medicine - OPD. The results showed that there was no significant association between geriatric syndrome risk and factors such as hearing problems, leg mobility issues, and weight loss. However, the findings highlight the need for targeted interventions for elderly individuals, especially those with visual impairments and physical disabilities, to reduce the risk of developing geriatric syndrome.[16]

This prospective study evaluated 170 geriatric patients at Southern Philippines Medical Center. In terms of clinical characteristics, Mobility issues are present in a notable portion of the population. The

Table 3. Association of demographic and clinical characteristics and risk of geriatric syndrome.

Demographic	High Risk	Low Risk	X^2/t-value	p-value
Sex				
Female	40 (35.09)	74 (64.91)	0.006	0.936
Male	20 (35.71)	36 (64.29)		
Civil Status				
Married	34 (28.81)	84 (71.19)	7.506	0.057
Separated	4 (50.0)	4 (50.00)		
Single	8 (44.44)	10 (55.56)		
Widow	14 (53.95)	12 (46.15)		
Age	69±5.91	65±.98	4.014	<.001*
Clinical				
Vision				
Negative	30 (29.70)	71 (70.30)	3.406	0.065
Positive	30 (43.48)	39 (56.52)		
Hearing				
Negative	48 (33.33)	96 (66.67)	1.585	0.208
Positive	12 (46.15)	14 (53.85)		
Leg Mobility				
Negative	46 (37.10)	78 (62.90)	0.652	0.419
Positive	14 (30.44)	32 (69.57)		
Nutrition/Weight/Loss				
Negative	46 (32.62)	95 (67.38)	2.580	0.108
Positive	14 (48.28)	15 (51.72)		
Physical Disability				
Negative	44 (31.43)	96 (68.57)	5.191	0.023*
Positive	16 (53.33)	14 (46.67)		

**Statistically significant*

nutrition Status and Weight Loss issues are less common, affecting a smaller segment of the respondents. Similar to nutrition, daily living activities and physical disabilities affect a minority. A similar finding was found that only twelve percent of the participants reported weight loss in the previous 6 months[15]. Visual impairment was seen to be relatively higher among cases in the present study, this finding concurs with the international data, where the prevalence of low visual acuity among people ages 50 years and older is at 36%[16]. A small portion of the population is currently experiencing hearing problems. This percentage is relatively smaller as compared to United States data where 30% of people aged 70 years and older and 50% aged 80 years and older reported hearing losses[17]. In a cross-sectional study in Moscow Russia among 1220 geriatric patients there were 58.3% reported visual or hearing impairment, relatively higher than the current findings[20].

This study confirmed that age, civil status, vision, and physical disability, are risk factors that significantly dictate the classification of geriatric syndrome among cases. Older patients were seen to have a high risk of geriatric syndrome and even was seen as significant to those old and homeless adults[18,21]. Sex was not also associated with the risk of geriatric syndrome in a cross-sectional study conducted among 200 older adults admitted in general medical and geriatric wards in a tertiary hospital in India[19,21].

Data also confirmed that males surfaced a relatively higher percentage of patients with geriatric syndrome. This finding negates the result of the study conducted in Mexico where females predominate over males. The latter claim is also supported by a study where data from Stockholm County Council Public Health Surveys in 2006, 2010, and 2014 were used, where females surfaced a significantly higher percentage over time. In terms of geriatric syndrome risk levels, while most respondents are at low risk for geriatric syndromes, a significant minority (35.29%) are at high risk.

Several limitations were considered. The study was only conducted in the Southern Philippines Medical Center Outpatient Department, and this data may not be reflected in other hospital settings. Therefore, a more comprehensive picture can be achieved by considering data from other hospitals. Other factors may not be captured in the study,

demographic and clinical profiles were limited to what is considered were only explored.

Conclusion

A substantial portion (35.29%) of patients are at high risk on geriatric syndrome classification, indicating that over one-third of the respondents face significant risks associated with geriatric syndromes. This study examined various demographic and clinical factors associated with risk levels among the studied population. Several key findings emerged from the analysis. Married individuals showing a trend towards lower risk compared to other statuses Widowed individuals exhibited the highest risk levels among marital statuses studied. Age demonstrated a statistically significant association with risk levels indicating that older individuals were more likely to be categorized as high-risk. Certain clinical conditions showed notable associations with risk. Individuals with positive results in physical disability had significantly higher risk levels highlighting the impact of physical disabilities on overall risk. Vision impairment also showed a trend towards significance suggesting a potential association with increased risk.

Recommendations

The authors recommend several strategies to mitigate the risks associated with geriatric syndromes: suggesting developing targeted interventions for high-risk groups, particularly widowed individuals and those with physical disabilities, through personalized care plans and support services. Comprehensive assessments of geriatric patients should include evaluations of demographic and clinical factors to better identify at-risk individuals. Additionally, initiatives to enhance physical health and mobility, along with increased awareness and access to vision care services, are crucial. Among health workers, further studies such as ease of use and acceptability of a 10-minute geriatric screener among resident physicians may be an interesting study to delve into. Finally, educating and training caregivers and healthcare professionals on recognizing and addressing risk factors related to geriatric syndromes is vital for providing effective support.

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