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Professional Improvement for Early Diagnosis of Elderly People with Gait Disorders

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Abstract: Introduction: Professional development is a multidimensional growth process that requires effort, discipline, determination and responsibility in order to achieve the desired impact. In view of the ageing population in the community, it is essential to have well-trained and qualified human resources. Objective: To describe the professional development status of Comprehensive General Medicine specialists in relation to their performance in the early diagnosis of gait disorders in elderly patients. Method: An exploratory study was conducted at the 30 de Noviembre Polyclinic in Santiago de Cuba from January to December 2021. The professional development of 22 Comprehensive General Medicine specialists in the early diagnosis of gait disorders in elderly patients was evaluated using a professional performance observation guide validated by specialist criteria. The guide was evaluated using a Likert scale to allow for a description of the current status. Results: Insufficient knowledge of organismal ageing, limited diagnostic assessment skills and a lack of participation in events, scientific research or publications were identified, as was a lack of training in gait disorders in the elderly. Conclusions: The insufficient research, knowledge of ageing and skills to apply the clinical-epidemiological method to the early diagnosis of elderly patients with gait disorders justify the need for training.

Key words: elderly; early diagnosis; gait

1. Introduction

The world has united around the 2030 Agenda for Sustainable Development: all countries and stakeholders have committed to leaving no one behind and have set out to ensure that all people can realize their potential with dignity and equality in a healthy environment. [1]

According to the United Nations (UN), the world's population is aging rapidly. In 2015, it was reported that there were 901 million people over the age of 60 worldwide. This figure is expected to rise to 1.4 billion by 2030 and 2.1 billion by 2050. This accelerated population aging brings significant socioeconomic challenges that impact the health sector due to the number of morbidities, disabilities, and dependencies that old age brings.[1, 2]

For the World Health Organization (WHO), the goal must be to ensure that all elderly persons can access the health services they need, regardless of who they are and where they live; However, according to the UN, even in developed countries, it is not guaranteed that older people receive the healthcare they need. [1, 2]

According to Cuban statistics, accidents are among the leading causes of death, ranking fifth among people over 60

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years of age. Within this same age group, falls rank first, hence the importance of developing prevention strategies for the country. [3-5]

In an investigation conducted by researchers in the Department of Social Assistance and Health Areas of the province of Santiago de Cuba. The lack of awareness and quantification of geriatric syndrome (gait and balance disorders) was noted. However, the number of disabled people is reported by the type of disability and not by age. Furthermore, this geriatric syndrome is not recognized in the health statistics yearbook issued by the National Office of Statistics and Information. [3-5]

The aforementioned issue minimizes the interest of specialists in Comprehensive General Medicine (CGM) in making an early diagnosis of gait disorders in the elderly and preventing the catastrophic consequences they can cause to the older adult. [4, 5]

The detection of these disorders can be done at any level of care, so the physician must be prepared to perform a comprehensive evaluation and initiate a timely multifactorial intervention that will have a good response. However, the interest of researchers is contextualized at the primary care level because they are in contact with the elderly within their family. [4, 5]

Numerous inadequacies affect the quality of care. Primary health care (PHC) for older adults poses a challenge, as Bouza G. points out in her research. CGM specialists have an inadequate level of knowledge regarding the National Comprehensive Care Program for Older Adults, and medical records lack the required quality. There is also poor geriatric training for undergraduate human resources and limited professional development, among other issues. [6]

The quality of geriatric training received by CGM specialists in such a complex level of care is worrying. Learning needs are evident that undermine the quality of medical care for older adults. This requires the intervention of multiple factors between this and the university. [6-8]

The aforementioned background and the experience accumulated by some of the researchers for over 25 years as specialists in CGM and with a second degree in Gerontology and Geriatrics, with work carried out in community outreach, made it possible to identify problematic situations for the early diagnosis of elderly people with gait disorders. These situations are expressed in:

- Limitations in the knowledge and skills of CGM specialists for the early diagnosis of elderly people with gait disorders.
- Lack of improvement actions aimed at CGM specialists that enable the early diagnosis of elderly people with gait disorders.

Therefore, it is recognized as a scientific problem: how can we contribute to the professional development of Comprehensive General Medicine specialists in the early diagnosis of elderly people with gait disorders? The authors' commitment to this research is to describe the state of professional development of Comprehensive General Medicine specialists in relation to professional performance for the early diagnosis of elderly people with gait disorders.

2. Methods

An exploratory study was conducted in a health area of Santiago de Cuba from January to December 2021. The objective was to describe the professional development status of Comprehensive General Medicine specialists in relation to their professional performance in the early diagnosis of elderly patients with gait disorders at the 30 de Noviembre Polyclinic in Santiago de Cuba.

2.1 Definition of the population and selection criteria

The population was selected through a non-probabilistic and intentional process. This method allowed for the direct

and explicit selection of the most accessible subjects who were considered most likely to provide the greatest amount of information. The population consisted of 22 comprehensive general medicine specialists working in the aforementioned health area at that time and linked to primary health care functions. Those who did not provide consent or were absent from work sessions were excluded.

2.2 Procedural techniques and information processing

To measure the single variable, professional development for the early diagnosis of elderly patients with gait disorders, parameterization was used. This allowed for the definition of three dimensions to be explored and 15 indicators. These were analyzed and validated by the criteria of 13 specialists in three rounds.

As an empirical method, a professional performance guide created for this purpose through scientific observation was used, validated by the criteria of specialists (supplementary files). The guide was evaluated according to a Likert scale as follows: the categories observed (O) 3 points, slightly observed (SO) 2 points, and not observed (NO) 1 point. This guide was applied to the 22 CGM specialists. The results obtained were averaged and evaluated by percentages to obtain the relative frequency. The following decision scale was used: affected from 61 to 100%, slightly affected from 30 to 60%, and not affected from 0 to 29%.

The results of the procedures outlined allowed for an assessment of the current status of the single variable under study and the specific characteristics of the institution where it is applied.

Data processing was performed using the SPSS statistical package, version 23. The results were presented in double-entry tables for better understanding. Descriptive statistics were used. The information was summarized in absolute and relative frequencies, allowing for analysis of the results, conclusions, and recommendations.

The research adhered to the principles of voluntariness, impartiality, and confidentiality of the information obtained. The research protocol was previously approved by the institution's scientific council and ethics committee.

3. Results

When assessing the application of the professional performance guide to CGM specialists, taking into account the scientific observation of the different dimensions with their respective indicators, the following results were obtained:

Table 1. Results of the professional performance guide for the cognitive dimension of CGM specialists at the 30 de Noviembre Polyclinic in Santiago de Cuba

Dimension 1. Cognitive						
Indicator	Evaluation scale					
	Observed		Slightly observed		Not observed	
	No.	%	No.	%	No.	%
1.1	0	0	3	27.27	19	86.36
1.2	5	68.18	5	45.45	12	54.54
1.3	1	13.63	3	27.27	18	81.81
1.4	1	13.63	0	0	21	95.45
1.5	1	13.63	0	0	21	95.45
Total	1.6	7.27	2.2	10.00	18.20	82.73

In Table 1, the cognitive dimension reported 7.27% in the observed category; 10% is observed little and not observed in 82.73%. The most affected indicators were noted: (1.1) the level of knowledge about the individual (organismal) aging process and the influence of that aging on gait in 86.36%; (1.4) the particularities for the physical examination of the

elderly with suspected gait disorders and (1.5) the interpretation of specific instruments or tests for the evaluation of gait with 95.45% respectively.

Table 2. Results of the professional performance guide for the healthcare dimension

Dimension 2. Healthcare						
Indicator	Evaluation scale					
	Observed		Slightly observed		Not observed	
	No.	%	No.	%	No.	%
2.1	1	3.63	2	18.18	19	86.36
2.2	1	3.63	1	9.09	20	90.91
2.3	0	0	0	0	22	100
2.4	1	3.63	1	9.09	20	90.91
2.5	1	3.63	2	18.18	19	86.36
Total	0.8	3.64	1.2	5.45	20	90.91

When evaluating the results of the application of the professional performance guide in Dimension 2, Assistance, the categories show a 3.64% improvement; a 5.45% improvement; and a 90.91% improvement. The indicators most affected are (2.2) the ability to understand the specifics of applying the clinical-epidemiological method; (2.3) related to the ability to interpret complementary studies for diagnosis, with 100%; and (2.4) the ability to document a clinical history for elderly patients with suspected gait disorders, with 90.91% respectively.

The skills in care for the interpretation of complementary studies, the application of the specifics of the clinical-epidemiological method, and the adequate preparation of the clinical history of elderly patients were found to be inadequate.

Table 3. Results of the professional performance guide for the scientific-research dimension

Dimension 3. Scientific-research						
Indicator	Evaluation scale					
	Observed		Slightly observed		Not observed	
	No.	%	No.	%	No.	%
3.1	0	0	0	0	22	100
3.2	0	0	0	0	22	100
3.3	0	0	0	0	22	100
3.4	0	0	3	27.27	19	86.36
3.5	0	0	1	9.09	21	95.45
Total	0	0	0,8	3.64	21.20	96.36

Table 3 represents the results of Dimension 3, Research scientist. No positive responses regarding observation were reported. There were only two categories: "slightly observed" (3.64%) and "not observed" (96.36%). The indicators (3.3) scientific publications, (3.2) preparation and presentation of papers at scientific events, and (3.1) research on aging and early diagnosis of gait disorders in elderly patients were frequently affected in all of those observed.

Table 4 summarizes the results of the observation according to the application of the professional performance guide to CGM specialists for the three dimensions. It represents the status of the single variable of professional development for the early diagnosis of gait disorders in elderly patients.

Table 4. Status of the professional development variable for the early diagnosis of elderly people with gait disorders at the 30 de Noviembre polyclinic in Santiago de Cuba

Dimension	Observation					
	Observed		Slightly observed		Not observed	
	No	%	No	%	No	%
Cognitive	1.6	7.27	2.2	10.00	18.20	82.73
Healthcare	0.8	3.64	1.2	5.45	20.00	90.91
Scientific-research	0	0.0	0.8	3.64	21.20	96.36
Total	0.8	3.64	1.4	6.36	19.8	90.00

When analyzing the status of the professional development variable for the early diagnosis of elderly people with gait disorders, according to the results of the application of the professional performance guide to CGM specialists, it can be noted that the predominance of the category is not observed in all dimensions at 90%.

4. Discussion

There was a lack of knowledge regarding the physiological changes associated with aging, their influence on gait, and the physical examination of elderly patients. Additionally, there was a lack of understanding about how to interpret instruments used to diagnose gait disorders in this age group.

It is necessary to emphasize that multidisciplinary research projects are required to address scientific challenges and, in this regard, to sustain projects and lines of research that enable the improvement of the quality of life of this population group.

This research revealed the shortcomings found in the professional performance of CGM specialists in the diagnostic evaluation of gait disorders in the elderly, thus reflecting a negative impact on the single variable under study. Therefore, the variable of professional development for the early diagnosis of elderly people with gait disorders at the 30 de Noviembre Polyclinic in Santiago de Cuba is severely affected and requires timely intervention. From the perspective of medical professional development, various studies have been conducted. Representatively, we can cite Suarez J et al. [9] for their development strategy aimed at gynecological ultrasound imaging technologists for laparoscopic surgery. The results were similar to those obtained in this study. This allowed, on the one hand, to demonstrate the link between development and professional performance, as a way to achieve professionals capable of assuming the impact of advances in science and technology in a creative and innovative manner. [9]

Furthermore, it is asserted that the implementation of the development strategy resulted in positive changes in the professional performance of imaging technologists when interacting with the multidisciplinary team. This demonstrates the close link between development and performance improvement, which benefits the country economically and socially. [9]

Another study by Céspedes et al. [10] yielded similar results to the current study and emphasized the need for professional development for coloproctology specialists. The study recommends periodic, systematic training to update knowledge and skills in diagnosing anal cancer.

Furthermore, with the development of the professional development strategy, changes occurred in the professional performance of coloproctology specialists in the early diagnosis of anal cancer. [10]

Other authors have obtained equivalent results, such as Abreu et al. [11], who highlighted the importance of professional development for nutrition graduates to achieve excellent performance. In conclusion, the professional development of nutrition graduates must align with the region's primary health issues and identified learning needs. [11].

This development guarantees higher-quality healthcare for the population and serves as a means of continuing education. Through training, it enables the acquisition and continuous improvement of the basic and specialized knowledge and skills necessary for them to perform their responsibilities and job functions better, as well as for their comprehensive development. [11]

Other authors from the Medical Education Sciences have conducted research on the professional development of CGM to improve performance in medical care for older adults, with results similar to those obtained in this study. These authors include Candelaria JC et al. [12, 13], Ramos L et al. [14], and Delgado E et al. [15]. These studies provide operational definitions and strategies aimed at improving the professional development process for CGM specialists serving in PHC. An example of this was the one carried out by Candelaria JC and others, [12, 13]in which the strategy for improvement for the professional performance of the family doctor in nephrogeriatrics is defined for their research, as:

"Professional development is closely linked to ongoing preparation. It is the space where individuals reach intellectual maturity through the construction and reconstruction of knowledge, achieving flexible, committed, responsible, and participative performances. It also involves maintaining a daily commitment to quality and evaluation on the path to achieving professional improvement." [12, 13]

This operational definition is consistent with the results obtained in this research, which assumes professional development as the process of updating the knowledge and skills necessary to provide quality medical care to a vulnerable population.

In their study, "The Update on the Rational Use of Medications in the Process of Improvement of the Comprehensive General Physician in Cuba," researchers such as Ramos L et al. concluded that important gaps exist in the design of professional development regarding the rational use of medications in primary health care (PHC). However, the social significance of this issue is recognized by the relevant management levels. This improvement contributes to better performance and competency in providing medical care to the population. [14]

Delgado et al. fully agree with the results of the current research and argue that the improvement strategy for health promotion in older adults with hip fractures demonstrates the desired transformation in family physicians' preparation to carry out quality health promotion actions and meet their learning needs. This improves these physicians' professional performance in fulfilling their social mandate. [15].

Previous research on the professional development of CGM specialists allows us to recognize theoretical and practical limitations, and specific pedagogical and methodological foundations for structuring specific professional development in medical care for the elderly from both a social and individual perspective. [15]

5. Conclusions

This study revealed gaps in knowledge and research on aging and skills for applying the clinical-epidemiological method in the early diagnosis of elderly people with gait disorders, justifying the need for improvement.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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Authors' Contribution

Eloy Turro Caró: Conceptualization, data curation, formal analysis, research, supervision, original draft, review, and editing. 50%

Rita María Mesa Valiente: Data curation, formal analysis, research, original draft, review, and editing. 25%

Lucia Nivia Turro Mesa: Methodology, validation, visualization, original draft, review, and editing. 25%