Performance of Older Adult Regarding Their Health Maintenance Measures

Sabreen Omar Mohamed*, Prof. Dr. Hanan IbrahimAhmed,**

Ass. Prof. Dr. Mona Abo BakrAbd-Ellatef***

Bsc. Nursing El Minia University*, Professor of Community Health Nursing**, Assistant Professor of Community Health Nursing***, Faculty of Nursing, Ain Shams University

Abstract

Background: Aging is a natural process which results in loss of body function caused by changes in cells and tissues, aimed to assessing performance of older adults regarding their health maintenance measures. **Research design:** A descriptive design was used to conduct this study. **Sample:** Convenience sample was conducted among all older adults attended Geriatric Club. **Setting:** Geriatric Club at EL-Minia City which is affiliated to medical center deposit. **Tools:** two tools were used to collect data: **First**an interviewing questionnaire pre-designed including the following parts: **Part I:** older adults Socio-demographic characteristics, **Part II:** Older adults knowledge regarding their health maintenance measures, **Part III:** Reported performance of older adults regarding their health maintenance measures, **Second tool:** An interviewing questionnaire of older adults attitude. **Result:** Revealed that more than half of older adults had satisfactory level of knowledge regarding their health maintenance measures, less than half of older adults had satisfactory level of performance regarding their health maintenance measures, less than half of older adults had positive attitude regarding their health maintenance measures. **Conclusion:** There were highly statistically significant between total level of knowledge and total level performance and total level of attitude. **Recommendation:** Designed education program for older adults to improve their Knowledge and performance and attitude regarding their health maintenance measures.

Key words: Performance and Health Maintenance Measures.

Introduction:

Aging is a natural process which results in loss of body function caused by changes in cells and tissues, which leads to a decline in function and neuro-muscular performance, causing decreased functional capacity in older adults. This process makes functional limitations more prevalent, but physical performance is a dynamic health aspect and recovery from limitations is possible ***(Germano et al., 2021).***

Aging has been recognized as a risk factor for most chronic diseases. It is an inevitable progression towards dysfunction and ultimately death across most living organisms, especially mammals. With aging, there is accumulation of damage that leads to an increase in disease vulnerability and death. However, despite years of intense research, the exact underlying mechanisms that govern aging processes remain poorly understood. Why and how we age still remains a mystery ***(Gonzalez et al., 2020).***

Complex health conditions among older people are often defined as geriatric syndromes, referred to as conditions linked to accumulated aging-related impairments in multiple organ systems. Geriatric syndromes are defined as phonotypical presentations of accumulated and underlying aging-related dysfunctions spanning over different organ systems. Geriatric syndromes include among others falls, depressive symptoms, and vision and hearing impairment. The presence of geriatric syndromes indicates a decline in health and is associated with subsequent disability, institutiona-lization, hospitalization, and mortality **(*Rausch et al., 2021).***

One of the great successes of modern medicine is that increasing numbers of us are

living to an older age, and many previously life-threatening diseases are now chronic diseases. Geriatric medicine is the care of (typically older) people who are getting frailer and have a number of chronic medical issues. It is provided by not just specialist doctors, but multidisciplinary teams (MDTs) working together ***(Wilkinson & Harper, 2020).***

To help maintain or promote health and wellbeing in ageing populations, more opportunities must be created for older people to participate in, and contribute to, their communities. Community engagement could potentially encourage older adults to be more cognitively and physically active, and socially connected, while facilitating their health and independence. Enabling people to do meaningful work more flexibly in later life may also reduce demand on health and care services ***(Krzecz kowska et al., 2021).***

Community health nursing could play a vital role in promoting healthy, successful aging even in the face of increased prevalence of chronic diseases. Furthermore, actively engaging adults in prevention and wellness along with involving their caregivers (i.e., the family and friends of older adults who provide them with unpaid and informal support and services) could serve to prevent or delay the onset of physical disabilities and cognitive decline ***(Olivari et al., 2018).***

Adults often are reluctant to discuss their concerns about worsening memory with their health care providers although such discussions could lead to earlier diagnosis and better care, planning, and support. As advances in public health and health care have helped increase life expectancy, public health professionals and health care providers have the opportunity to improve the quality of life for older adults and their caregivers and reduce the burdens associated with aging ***(Olivari et al., 2018).***

As the population of older adults grows, healthcare professionals and delivery organizations alike are tasked with developing new skills and integrating new processes to meet older adults' unique health needs. Care of older adults is complex due to normal changes associated with aging often coupled with the presence of multiple chronic illnesses. High quality care for older adults begins with comprehensive assessment leading to person-centered care that promotes function, independence, and quality of life. A comprehensive nursing assessment of the older adult incorporates information on physical health; functional status; psychological health, including cognitive and affective status; and socio environmental factors ***(Gilmartin, 2020).***

Significance of the study

Life expectancy has increased dramatically over the last century, leading to changes in the world's demography. It is predicted that by the year 2050, about 2 billion people, accounting for 20% of the global population, will be 60 years or older. This has generated, among other things, a growing interest focused on successful aging factors for obtaining a healthy and happy life in old age and in an aging society ***(Gutiérrez et al., 2018).***

The number of older adults in Egypt is about 7 million, representing 7.1% of the total population on 2020, and this percentage is expected to rise to 17.9% in 2052.The number of older adults males reached 3.5 million, representing 6.9% of the total male population, while the number of older adults females reached 3.5 million, representing 7.3% of the total female population. Life expectancy increased from 73.9 years in 2019 to 74.3 years in 2020 (73 years for males, 75.5 years for females)***(CAPMAS, 2020).***

Aim of the study:

This study aims to assessing performance of older adults regarding their health maintenance measures through:

1-Assess older adult knowledge level toward health maintenance measures.

2-Assess older adult performance level toward health maintenance measures.

3-Assess older adult attitude level toward health maintenance measures.

Research Questions

1-What are older adult knowledge level toward health maintenance measures?
2- What are older adult performance level toward health maintenance measures?
3- What are older adult attitude level toward health maintenance measures?
4- Is there a relationship between older adult knowledge and performance?
5- Is there a relationship between older adult knowledge and attitude?
6- Is there a relationship between older adult performance and attitude?

Subjects and Methods

The study portrayed under the four main designs as following:

I. Technical Design
II. Operational Design
III. Administrative Design
IV. Statistical Design

I- Technical Design:

Technical Design for this study included description of research design, settings, subjects and tools of data collection.

Research design:

A descriptive research design utilized to conduct this study to assess performance of older adults regarding their health maintenance measures.

Research Setting:

This study was carried out at geriatric club at EL-Minia city. This geriatric club affiliated to medical center deposit. It contains two floors. It provides entertainment, treatment and outpatient clinic. This club is the only one serve older adult people in all center of EL-Minia city.

Sample type: convenient sample.

The study is composed of 130 older adult considered all members of the geriatric club and outpatients.

Sample size:

The estimated sample size is 100 older adults, at confidence level 95% and precision rate at 0.05 by using **Steven equation, 2012**. Since the total number of them is 130.

$$n=\frac{N\times p(1-p)}{\left[\left[N-1\times\left(d^2\div z^2\right)\right]+p(1-p)\right]}$$

While:

P= 0.5
N= Total population
Z= Z value
D= Error
N= sample size

Tools for data collection:

Two tools will be used for data collection.

First tool: pre-designed an interviewing questionnaire form was done by the investigator in the light of literature review. It was written in simple Arabic language to suit the understanding level of the older adults, it was consisted of the following parts:

- **Part one:** it included MCQ about the older adult's demographic characteristics question from (1-5). Demographic characteristics of older adult's which include age, gender, social status, level of education and residence.

- **Part two:** Assessing older adult's knowledge level regarding their health maintenance measures adopted from ***Spital, (2000)*** and modified by investigator. This tool was consisted of 61 items, divided on seven parts to assess older adults' knowledge about chronic diseases (12) items, medications (9) items, healthy food measures (8) items, general preventive measures (9) items, comfort and exercise measures (7) items, mental health measures (8) items and social health measures (8) items.

❖ **Scoring System**:

For knowledge using (Satisfactory=1, Unsatisfactory=0) the total score of response was 61 point of MCQ questions that took about 10 minutes. Score of less than 75% (0-45) was unsatisfactory level and the score equal or more than 75% (46-61) was satisfactory level.

Score for each answer was given as follows:

- (Zero) for incorrect answer
- (1grade) for correct answer

• **Part three:** Assessing older adult's reported performance regarding their health maintenance measures adopted from ***Choi, (2001)*** and modified by the investigator. This tool was consisted of 65 items, divided on five parts to assess older adults' performance about measures to maintain nutrition (11) items, general preventive measures (24) items, comfort and exercise measures (9) items, mental health measures (11) items and social health measures (10) items.

❖ **Scoring System**:

For performance using (Competent=1, Incompetent =0) the total score of response was 65point of MCQ question that took about 10 minutes. Score of less than 60% (0-39) was Incompetent and the score equal or more than 60% (40-65) was Competent.

Score for each answer was given as follows:

- Not done <60%
- Done ≥60%

Second tool: Assessing older adult's attitude regarding their health maintenance measures adopted from ***Spital, (2000)*** and modified by the investigator. This tool was consisted of 60 items, divided on five parts to assess older adults' attitude about, healthy food measures (11) items, general preventive measures (21) items, comfort and exercise measures (8) items, mental health measures (11) items and social health measures (9) items.

❖ **Scoring System**

For attitude using rating ranging from 0 to 4, was 0 represent (Never), 1 represent (Rarely), 2 represent (Sometime), 3 represent (Usually) and 4 represent (Always) point for each item. The total score of attitude was 60 point equal 240 that took 10 minutes. Score of less than 50% (0-119) was Never and Rarely, Sometime and Usually was from>50%to <75% (119-180) and the score equal or more than 75%(181-240) was Always.

II- Operational design:

The operational design involved description of preparatory phase, pilot study and field work.

Preparatory phase:

It included reviewing of the past and current local and international related literature and theoretical knowledge of various aspects of the study using books, articles, papers, and scientific magazines to develop tools for data collection.

Validity:

The study tool for data collection was reviewed by three experts in the field community health nursing at Ain Shams University to test its content for validity.

Alpha Cronbach Reliability Analysis of the used Tool

Items	Alpha Cronbach	f	p-value
knowledge regarding their health maintenance measures	0.791	2.3	0.001
Reported performance of older adults regarding their health maintenance measures	0.821	3.447	0.031
Older adults' attitude	0.768	4.126	.000
Total	**0.803**	**29.21**	**.001**

This table show Reliability in Knowledge, Reported performance and Older adults' attitude when Alpha Cronbach was >0.5.

The reliability was scaled as follows: <0-0.25 weak reliability, 0.25-0.75 moderate reliability, 0.75-<1strong reliability and I is optimum. The reliability for this questionnaire was 0.80.

III- Administrative design:

An official letter from the faculty of nursing was delivered to the director of the geriatric club at EL-Minia city. A full explanation about the aim of the study was

explored; oral consent was obtained from older adults to carry out this study.

Ethical Considerations:

Ethical approval was obtained from Scientific Research Ethical Committee in Faculty of Nursing at Ain Shams University. Oral consent was obtained from each older adult to participate in the study after explaining the objectives of the study, it wasn't any harmful effect on them, and the researcher clarified the objective and the aim of the study to older adults included in the study. The researcher assured maintaining anonymity and confidentiality of the subject's data.

Pilot study:

A pilot study was carried out after the development of the tool and before starting the actual data collection, on (10%) 10 patients for testing clarity, relevance and estimate the time required for interview and filling in the sheets based on the result of pilot study, the necessary modifications and clarification of some questions were done to have more applicable tools for data collection. In the pilot study, subjected who participate excluded from the main study sample to investigate the feasibility of data collection tool, their content, clarify and simplicity. Some changes were done accordingly and questions were adapted to older adults and their caregivers understanding and level of education. It took about two weeks at the end of the February 2020.Then were excluded from study sample.

Field work:

The study was carried out three days per week. The actual work of started and completed within 6 months from the beginning of March (2020) to August (2020), data were collected by the researcher during interview three days (Monday, Tuesday and Wednesday) per week from 9Am - 1 pm. Using the previously mentioned study tools where 4older adults /day for each older adults about 40 minutes. An oral consent was obtained from each older adult. The researcher explained simply the purpose of the study to older adults before starting the interview assured that the data collected would be confidential and would be only used to achieve the purpose of the study and was explained to clients.

IV-Statistical Design:

The collected data were organized, categorized, tabulated, and statistically analyzed using the statistical package for social science (SPSS) version to assess performance of older adults. Data were presented in tables and graphs. The statistical analysis included; number (N), percentage (%), the arithmetic mean, standard deviation (SD), Pearson correlation (R), and Chi square.

The observed difference and associations were considered as follows:

- No statistical significant difference ($P>0.05$).
- Statistical significant difference ($P<0.05$).

$$\textbf{Mean} = \frac{\sum x}{n}$$

Where $\sum$ = sum & n = number of observations.

Standard Deviation [SD]:

$$\textbf{SD}: \sqrt{\frac{\Sigma |x - \bar{x}|^2}{n-1}}$$

Chi-square

The hypothesis that the row and column variables are independent, without indicating strength or direction of the relationship. Pearson chi-square and likelihood-ratio chi square. Fisher's exact test and Yates' corrected chi-square are computed for 2x2 table.

Linear **Correlation Coefficient [r]:**

$$r = \frac{\Sigma (X - \bar{X})(y - \bar{y})}{\sqrt{\{\Sigma (X - \bar{x})2\}\{\Sigma (y - \bar{y})2\}}}$$

Where:

X= Independent variable.

Y= Dependent variable.

Linear Correlation coefficient was used for detection of correlation between two quantitative variables in one group.

Level of significant:
Not significant (NS) P value > 0.05
- Significant (S) P value <0.05*
- Highly significant P value <0.001*

Result:

Table (1): showed that the mean age of older adults was 67.73 ± 6.87 years, 62 % of them were male and 46% were married. Moreover, this table showed that 34% of older adults had intermediate education and 56% of them were lived in urban area.

Fig (1): Show that 59% of older adults had satisfactory level of knowledge regarding their health maintenance measures, while 41%of them had unsatisfactory knowledge regarding their health maintenance measures

Fig (2): Show that 44% of older adults had competent level of performance regarding their health maintenance measures, while 56%of them had incompetent level of performance regarding their health maintenance measures

Fig (3): Show that 47% of older adults had positive attitude regarding their health maintenance measures, while 53%of them had negative attitude regarding their health maintenance measures.

Table (2): Show that there are highly statistically significant relation between total level of knowledge with total level of performance with p-value was<0.001**

Table (3): Show that there are highly statistically significant relation between total level of knowledge with total level of attitude with p-value was<0.001**

Table (4): Show that there are highly statistically significant relation between total level of performance with total level of attitude with p-value was<0.001**

Table (1): Distribution of older adults according to their demographic characteristics (N=100).

Demographic data characteristics	No.	%
Age (years)		
60-<65 years	39	39.0
65-<70 years	32	32.0
70-<75 years	18	18.0
≥75 years	11	11.0
Mean±SD	67.73±6.87	
Gender		
Male	62	62.0
Female	38	38.0
Social status:		
Single	6	6.0
Married	46	46.0
Divorced	17	17.0
Widower	31	31.0
Level of Education		
Not read and write	21	21.0
Read and write	19	19.0
Intermediate education	34	34.0
University	19	19.0
Post graduate	7	7.0
Residence		
Urban	56	56.0
Rural	44	44.0

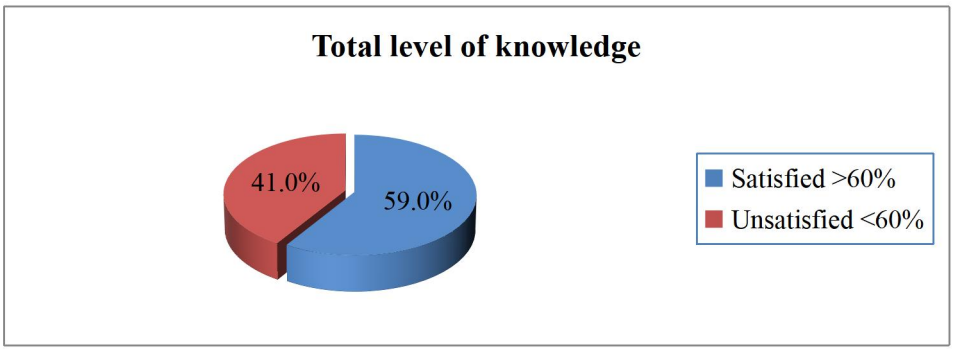

Figure (1): Distribution of total older adult's knowledge regarding their health maintenance measures (N=100).

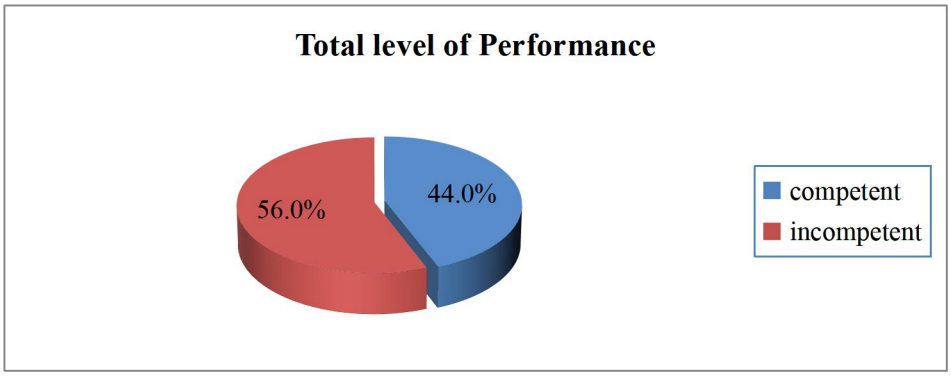

Figure (2): Distribution of total older adult's reported performance regarding their health maintenance measures (N=100)

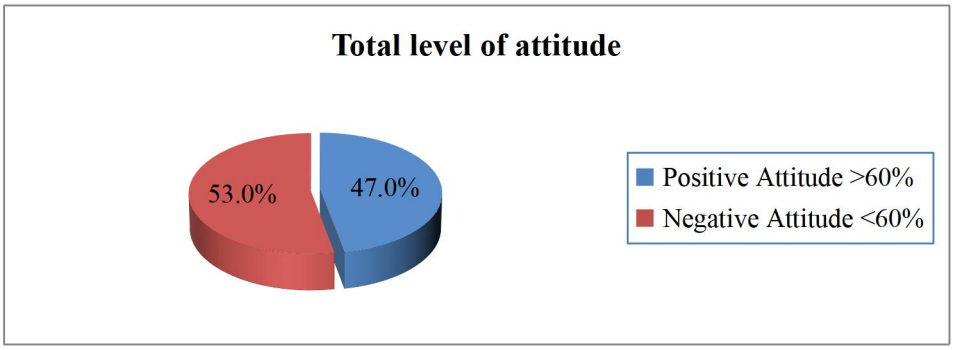

Figure (3): Distribution of total older adult's attitude regarding their health maintenance measures (N=100)

Table (2): Relation between total level of knowledge and Total level of Performance of older adults (N=100).

Total level of Performance	Total level of knowledge				Total		Chi-square test	
	Satisfied (n=59)		Unsatisfied (n=41)		No.	%	x2	p-value
	No.	%	No.	%				
Done	39	66.1	5	12.2	44	44		
Not Done	20	33.9	36	87.8	56	56	26.382	<0.001**
Total	59	100.0	41	100.0	100	100		

Table (3): Relation between total level of knowledge and Total level of attitude of older adults (N=100)

Total level of attitude	Total level of knowledge				Total		Chi-square test	
	Satisfied (n=59)		Unsatisfied (n=41)		No.	%	x2	p-value
	No.	%	No.	%				
Positive Attitude	42	71.2	5	12.2	47	47		
Negative Attitude	17	28.8	36	87.8	53	53	31.467	<0.001**
Total	59	100.0	41	100.0	100	100		

Table (4): Relationship between total level of performance and Total level of attitude of older adults (N=100).

Total level of attitude	Total level of Performance				Total		Chi-square test	
	Done (n=44)		Not Done (n=56)		No.	%	x2	p-value
	No.	%	No.	%				
Positive Attitude	33	75.0	14	25.0	47	47		
Negative Attitude	11	25.0	42	75.0	53	53	22.763	<0.001**
Total	44	100.0	56	100.0	100	100		

Discussion:

The current study showed that more than one third of older adults were 60-65 years old **(Table1).**This result in the same line with ***Datta et al., (2015)*** who studied association of quality of life of elderly with socio-demographic factors in India demonstrated that more than one third of older adults were 60-64 years old. This result agree with ***Mwangi & Kulane, (2015)*** who studied chronic diseases among the elderly in a rural Vietnam: prevalence, associated socio-demographic factors and health care expenditures. The reason for the result may be related to social interaction decreases with increased age.

The current study revealed that less than two third of older adults were male **(Table 1).** This result was consisting with ***AJAO et al. (2020)*** who studied socio-demographic characteristics and client care satisfaction among older- adult admitted in the two tertiary hospital in Osun state in Nigeria and revealed that less than half of cases were male while this result not on the same line with ***Zhang et al. (2020)*** who studied prevalence and socio-demographic correlates of poor sleep quality among older adults in Hebei province, China. The reason for the result may be related to that more than half of older adults from urban.

The current study revealed that less than half of older adults were married **(Table 1)**. This result disagree with ***Manasatchakun et al. (2016)*** who studied factors associated with healthy aging among older people in northeastern Thailand. The reason for the result may be related to support from their spouse or children is connected to positive effects on individual health

The current study showed that more than one third of older adults were intermediate education **(Table 1)**. This result agree with ***Zhang et al. (2020)*** who studied prevalence and socio-demographic correlates of poor sleep quality among older adults in Hebei province, China. The reason for the result may be related to lower income.

The current study revealed that more than one half of older adults were from urban **(Table 1)**. This result agree with ***Yang, (2015)*** who studied socio-demographic characteristics, nutrient intakes and mental health status of older Korean adults depending on household food security: based on the 2008-2010 Korea national health and nutrition examination survey in korea. The reason for the result may be related to the environmental factors.

There was a statistically significant relation between total level of knowledge with total level of performance. This result is in agreement with ***Lee et al. (2021)***who studied The effectiveness of the information-motivation-behavioral skills model-based intervention on preventive behaviors against respiratory infection among community-dwelling older adults and revealed that were a statistically significant relation between total level of knowledge with total level of performance.

There was a statistically significant relationship between total level of knowledge and total level of attitude. This result is in agreement with ***Suh et al. (2012)*** who studied the Association Between Knowledge and Attitude About Aging and Life Satisfaction Among Older Koreans and revealed that there were a statistically significant relation between knowledge and attitude and also agree with ***Lima et al. (2020)*** who studied Knowledge and attitude towards type 2 diabetes among older adults: a population-based study and revealed that there were a statistically significant relation between knowledge and attitude. These results indicated that participants with greater knowledge had a higher life satisfaction with more positive attitude about aging which showed a higher life satisfaction.

There was a statistically significant relation between total level of performance with total level of attitude**)**. This result is in agreement with `***Rodríguez-Cifuentes et al. (2018)*** who studied Older Worker Identity and Job Performance: The Moderator Role of Subjective Age and Self-Efficacy and revealed that there were a statistically significant relation between performance and attitude.

Conclusion:

Based on the results of the present study, the following conclusion showed:

More than half of older adults had satisfactory level of knowledge regarding their health maintenance measures, less than half of older adults had satisfactory level of performance regarding their health maintenance measures and less than half of the older adults had positive attitude regarding their health maintenance measures.

Recommendations:

Based on the study results, the following recommendations are suggested:

1. Preparation of educational program for older adults about performance during the follow up visits to upgrade their knowledge and performance.
2. Provide older adults with updated pamphlets, posters and Arabic booklets which contain guideline and information about successful aging to improving their knowledge.
3. Older adult care classes should be encouraged in geriatric club to acquire knowledge.
4. Health awareness campaign aimed to educate the older adults with healthy performance.
5. Further studies to detect the predictive factors affecting needs and problems of older adult.
6. Stablisment of a unit in every center to identify the needs and the problems of older adults and put plan to meet their needs and solve the problems

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