Assistive Devices in Context: Association between Knowledge, Attitude and Self-Care Practice of Older Adults

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Abstract

Background: Understanding older adults' knowledge, attitude, and self-care practices is crucial for effective utilization of assistive devices in their daily lives. **Aim of the study:** Assess knowledge, attitudes & self-care practices of older adults towards use of assistive devices. **Subjects and Methods: Research design:** Descriptive research design. **Setting:** The study was conducted in outpatient clinics at Zagazig University Hospital. **Subjects:** **Sample:** The study involved 120 older adults as a purposive sample. **Tools of data collection:** Data collection was conducted using two primary tools: **Tool *1*:** A structured questionnaire was used to assess demographic characteristics, medical history, assistive device use history, knowledge, and attitudes of older adults regarding assistive devices. **Tool 2:** The questionnaire sheet provides information on self-care practices for using assistive devices. **Results:** The study found that 50.8% of older adults aged 70-80 years, with a mean of 70.36 ± 6.37, 65.8% of them were male. 75%, 65% and 45% respectively of older adults had unsatisfactory level of knowledge, self-care practice, and negative attitude. **Conclusion:** Most older adults lack knowledge and had negative attitudes towards assistive devices, but there was a significant positive correlation between older adults' knowledge, attitudes, and self-care practices. **Recommendations:** Simple brochures should be designed and distributed among older adults and older adults' caregivers to increase their awareness about importance of using assistive devices.

Keywords: *Assistive Devices, Attitudes, Knowledge, Older Adults, Self-Care practices.*

Introduction

As people age, their independence decreases, and nine in 10 older adults plan to continue living in their current homes for the next five to ten years **(Kaiser, 2022)**. Over 9% of people currently trust multiple mobility devices, marking the first time a significant proportion of older adults use multiple devices **(Prajapati and Sharmila, 2020)**. Physically disabled elderly adults often face mobility challenges and rely heavily on family and others for daily tasks. However, assistive devices and adaptable equipment can help them regain control and become more independent **(Farida et al., 2022)**.

Assistive devices are crucial tools for improving mobility and daily life, they aim to maintain or enhance an individual's independence, facilitate participation, and enhance overall well-being **(WHO, 2021)**. Assistive devices are tools designed to enhance the functionality and independence of people with disabilities, enabling them to participate in daily activities **(Mahmoudi-Dehaki, Nasr-Esfahani and Vasan, 2025)**.The use of assistive devices is influenced by various factors like living conditions, income, caregiver costs, age, caregivers, somatic impairment, and disability level. Variables like somatic disability, educational background, income, living situation, caregiver fees, access, length of use, assistive device education, and satisfaction also impact device usage frequency **(Tang et al., 2024)**.

The awareness of assistive devices among older individuals can vary significantly based on their personal experiences, exposure, and information availability **(Mohammed et al., 2022)**. Assistive devices (AD) improve older persons' daily activities, but their acceptance faces challenges due to potential users' ignorance of the disease **(Orellano-Colon et al., 2024)**. Many elderly Egyptians struggle with mobility issues and are hesitant to use assistive devices, influenced by their attitude and subjective norms **(Khalil et al., 2024)**. Self-care involves self-care and achieving good health, influenced by culture and situation. Personal characteristics like literacy, talents, values, and control impact effort. Self-concept can range from relying on medical assistance to managing own health care **(Mohamed et al., 2022)**.

Gerontological nurses are essential in helping older adults who utilize assistive devices because of their specific geriatric care knowledge and abilities, which allow them to offer comprehensive care and meet the distinctive needs of these individuals **(Tohmola et al., 2022)**. Additionally, nurses may be involved in the selection of assistive devices and services that aid people with disabilities and achieve self-care **(Jeddi et al., 2023)**. Therefore, choosing assistive device that supports older people with disabilities and helps them preserve their independence is a crucial task for gerontological nurses **(Khalil et al., 2024)**.

Significance of the Study:

As people age, they face two main challenges: progressive loss of vision, hearing, and movement, and an increased likelihood of developing chronic diseases like arthritis, cataracts, and heart disease **(Thakur et al., 2018)**. The aging population is expected to increase the demand for assistive devices, yet only 5-15% of those in low-income countries have limited access to them **(Chan, Lee and Teh, 2023)**. Assistive devices enhance self-care, independence, and safety, reducing healthcare costs and institutionalization risk. However, non-use can weaken health and limit community participation **(Orellano-Colon et al., 2024)**.

Aim of the study:

The aim of this study was to assess knowledge, attitudes & self-care practices of older adults towards use of assistive devices.

Research questions:

- What is the level of knowledge of older adults towards the use of assistive devices?
- What are attitudes of older adults towards the use of assistive devices?
- What are self-care practices of older adults towards the use of assistive devices?

Subjects and methods:

Research design:

To conduct this study, a descriptive research design was utilized.

Study setting:

The study was conducted in outpatient clinics of Zagazig university hospital, affiliated to Ministry of health, Sharkia governorate.

Study subjects:

A purposive sample of 120 elderly selected from the above-mentioned outpatient clinics based on the *following inclusion criteria;*

- Older adults age ≥ 60 years.
- Able to communicate.
- Agree to participate in the study.

Exclusion criteria:

- Older adults diagnosed with mental or psychological disease.

Tool for data collection:

Tool 1: A structured interview questionnaire with five parts was used to collect data;

Part I: Demographic characteristics: It was used to assess demographic characteristics of the older adults and included data about elderly's age, gender, educational level, marital status, occupation before retirement, monthly income, ...…...etc.

Part II: Medical history for elderly people: It was used to collect medical data about elderly people and included chronic diseases and number of currently used medications

Part III: History of assistive devices use for the elderly: It was used to collect data about elderly people history of assistive devices use and included using of assistive devices, onset of using assistive devices, number of utilized assistive devices, previous training regarding assistive devices, regular checkup and maintenance of assistive devices.

Part IV: Assistive devices knowledge questionnaire sheet: This part was developed by the researcher after reviewing the relevant literature *(Omar et al., 2024)*. The study aimed to gather data on elderly individuals' understanding of assistive devices, including their definition, purpose, care, usage, and types, by asking questions about their knowledge and ability to use these devices.

Scoring system:

The questionnaire contained 5 items, using a 3-point scale that ranged from 2"complete answer", 1 "incomplete answer", zero "incorrect answer". The total score was 10 grades. These scores were summed and converted into a percent score. It was classified into 2 categories:

- **Satisfactory** if score ≥ 60%. (6-10 grades).

- **Unsatisfactory** if score from <60%. (0-5 grades).

Part V: Assistive devices attitudes questionnaire sheet: This tool was developed by the researcher after reviewing the relevant literature **(Omar et al., 2024)**. This part was used to collect data about elderly people's attitudes toward use of assistive devices and included questions such as Using assistive devices means reduces the burden on family members, Assistive devices help in carrying out daily activities, etc.… Older adults' responses rated on three-point Likert scale from disagree=1. I ̓m not sure=2. Agree=3.

Scoring system:

This scale contained 16 items rated on a three-point Likert scale scored from disagree to agree. The scores were 1 for "disagree", 2 for "I'm not sure ", and 3 for "Agree ", except the attitude number 38&39. The scoring was reversed for negative items as the following: 1 for disagree, 2 for I ̓m not sure, 3 for agree. The highest score is 48 points. It was classified into 2 categories:

-**Positive** if score ≥ 60%. (30-48 grades).

-**Negative** if score from <60%. (16-29 grades).

Tool 2: The Self-Care practices questionnaire sheet: This part was developed by the researcher after reviewing the relevant literature **(Cook and Polgar, 2014).** This part was used to collect data about self-care practices of older adult toward the use of assistive devices. It included questions such as how frequently do you use assistive device (s)? & how comfortable do you feel while using assistive device (s)?...etc.…

Scoring system:

The questionnaire contained 11 items; the total score was 30 grades. It was classified into 2 categories:

- **Satisfactory** if score ≥ 60%. (18-30 grades).

- **Unsatisfactory** if score from <60%. (0-17 grades).

Content validity and reliability:

Two community health nursing experts and one psychiatric and mental health nursing expert at Zagazig University revised and modified a study tool to ensure its content validity. The tool was evaluated for its relevance and appropriateness to measure individual items, ensuring the tool's effectiveness in its intended purpose.

The tools' internal consistency was tested, revealing good reliability with Cronbach's Alpha, with knowledge at 0.803, attitudes at 0.881, and self-care practices at 0.702.

Field work:

After obtaining permission for the study, the researcher prepared a data collection schedule by visiting the study setting, observing elderly participants, and answering questionnaires privately. The researcher interviewed each elderly patient individually, ensuring their information was confidential and not used for any other purpose. The study aimed to understand the work process and time management of elderly patients, ensuring a comprehensive understanding of the study's objectives. The interview questionnaire took 20-30 minutes to complete, and the fieldwork was conducted over six months, from July 2024 to December 2024, on Saturdays and Thursdays from 9.00 am to 12.00 pm.

Pilot study:

A pilot study was conducted on 10% of study subjects to assess the clarity of instructions, questionnaire format, comprehension of items, and estimated time required for questionnaire filling. The participants in the pilot study were included in the main study sample without any modifications to the study tool.

Administration and ethical consideration:

The study proposal was approved by the research Ethics and postgraduate committees of the Faculty of Nursing at Zagazig University. Participants were given oral informed consent after understanding the study's purpose. They had the option to withdraw at any stage and anonymity was protected by assigning code numbers for each elderly participant (M.D.ZU.NUR\213\10\6\2024). The information was kept confidential and used for research purposes only. An official letter from the Dean of the Faculty of Nursing Zagazig University to the Director of Zagazig University Hospitals Administration was issued to clarify the study's nature and researcher role.

Statistical analysis:

The statistical analysis of data was done by using the computer software of Microsoft Excel Program and Statistical Package for Social Science (SPSS) version 25. Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data, the mean (X) and standard deviation (SD) for quantitative data. Chi square test used to assess the association between two variables. Correlation coefficient test (r) was used to test the correlation between studied variables. Linear regression model was used to analysis of the relation between knowledge, attitudes, and self-care practices. Reliability of the study tools was done using Cronbach's Alpha.

Results:

Table 1: The study found that 82.5% of older adults have chronic diseases and regular treatments, 73.3% have hypertension, and 49.5% use 1-<5 treatments. 73.3% use medical glasses and 41.7% use assistive device for over 10 years. 40.0% received training, and 60.0% inspect and maintain their devices.

Figure 1: shows that, 75.0% of studied older adults had unsatisfactory level of total knowledge about assistive devices. While 25.0% of them have satisfactory level.

Figure 2: shows that, 51.7% of the studied older adults had negative attitude regarding assistive devices. While, 48.3% of them had positive attitude.

Figure 3: shows that, 65.0% of the studied older adults had unsatisfactory level of self-care practices regarding assistive devices. While 35.0% of them had satisfactory level.

Table 2 displays that, there was highly statistically significant relation between total knowledge, and also total attitudes of the studied older adults with their demographic characteristics as age, gender, educational level, living condition, occupation, and monthly income at (P= < 0.01). While there was no statistically significant relation with their residence and marital status at (P= > 0.05).

Table 3: displays that, there was highly statistically significant relation between total knowledge and also total attitudes of the studied older adults and their medical history as history from chronic diseases, regular treatments, number of assistive devices used, duration of using assistive devices, training to use the assistive devices, inspection and maintaining assistive devices at (P= < 0.01).

Table 4: indicates that, there was highly statistically significant positive correlation between total older adults' knowledge score and total attitudes score (r=0.582), and total self-care practices score (r=0.633) at p < 0.01. Also, there was highly statistically significant positive correlation between total older adults' attitudes score and total self-care practices score (r=0.755) at p < 0.01.

Table 5: shows the presence of a highly significant **model 1**, as indicated by the F-test result of 78.59 with a p-value of 0.000. This model explains 67.0% of the variation in total older adult's knowledge, with an R-squared value of 0.670. Also, it revealed that the domain of older adults' self-care practices score had a strong positive effect on older adults' knowledge with (B 0.562 and Beta 0.619).

Also, the presence of a highly significant **model 2**, as indicated by the F-test result of 104.33 with a p-value of 0.000. This model explains 73.0% of the variation in total older adult's attitudes, with an R-squared value of 0.730. Also, it revealed that the domain of older adults' self-care practices score had a strong positive effect on older adults' attitudes with (B 0.410 and Beta 0.392).

Moreover, the presence of a highly significant **model 3**, as indicated by the F-test result of 118.59 with a p-value of 0.000. This model explains 75.4% of the variation in total older adult's self-care practices, with an R-squared value of 0.754. Also, it revealed that the domain of older adults' knowledge score had a strong positive effect on older adults' self-care practices with (B 0.509 and Beta 0.462).

Table (1): Frequency distribution of the studied older adults according to their medical history and history of using assistive devices (n=120).

| Medical history and history of using assistive devices	No.	%
History from chronic diseases		
Yes	**99**	**82.5**
No	21	17.5
If yes, what is the disease? (n=99)		
High blood pressure	**88**	**73.3**
Diabetes mellitus	54	45.0
Heart diseases	16	13.3
Bone and joint diseases	38	38.3
Respiratory diseases	8	6.6
Kidney and urinary diseases	10	10.1
Chronic liver diseases	6	5.0
Regular treatments		
Yes	**99**	**82.5**
No	21	17.5
If yes, how many treatments are being used? (n=99)		
1-<5	**49**	**49.5**
5-<10	48	48.5
≥ 10	2	2.0
History Of Using Assistive Devices	No.	%
Assistive devices		
Cane	58	48.3
Walker	10	8.3
Wheelchair	6	5.0
Medical glasses	**88**	**73.3**
Hearing aids	36	30.0
Crutch	24	20.0
Number of assistive devices used		
One	**54**	**45.0**
Two	30	25.0
Three and more	36	30.0
Duration of using (Years)		
1-<5	36	30.0
5-<10	34	28.3
≥ 10	**50**	**41.7**
Mean ± SD 8.57 ± 3.87		
Training for use assistive devices		
Yes	**48**	**40.0**
No	72	60.0
If yes, who trained you?? (n=48)		
Health care provider	**41**	**85.4**
Sons	7	16.4
Inspection and maintaining assistive devices		
Yes	**72**	**60.0**
No	48	40.0
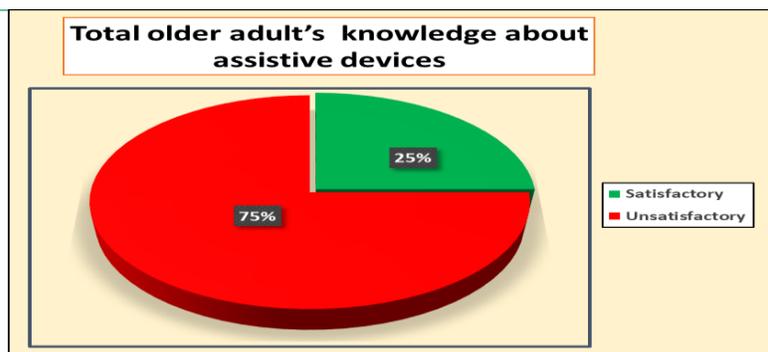
Figure (1): Percentage distribution of the studied older adults according to their total knowledge about assistive devices **(n=120)**.
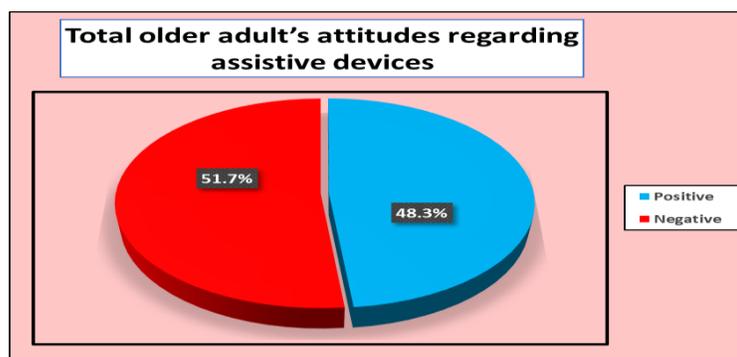
Figure (2): Percentage distribution of the studied older adults according to their total attitudes regarding assistive devices **(n=120).**
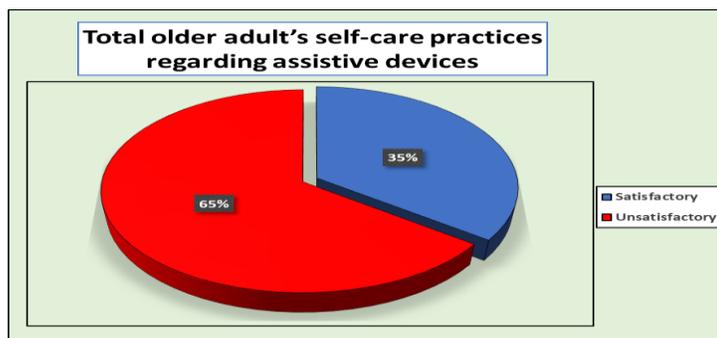
Figure (3): Percentage distribution of the studied older adults according to their total self-care practices regarding assistive devices (n=120).

Table (2): Relation between demographic data of the studied older adults and their total knowledge and total attitudes regarding use of assistive devices **(n=120).**

Demographic data		Levels of total knowledge score				X^2	P-Value	Levels of total attitudes score				X^2	P-Value
		Satisfactory (n=30)		Unsatisfactory (n=90)				Positive (n=58)		Negative (n=62)			
		No.	%	No.	%			No.	%	No.	%		
Age (years)	60-<70	30	100.0	21	23.3	**54.11**	**0.000****	48	82.8	3	4.8	**75.21**	**0.000****
	70-<80	0	0.0	61	67.8			10	17.2	51	82.3		
	≥ 80	0	0.0	8	8.9			0	0.0	8	12.9		
Gender	Male	26	86.7	53	58.9	**7.71**	**0.005****	41	70.7	38	61.3	**1.17**	0.278
	Female	4	13.3	37	41.1			17	29.3	24	38.7		
Residence	Rural	20	66.7	61	67.8	**0.013**	0.910	38	65.5	43	69.4	**0.201**	0.654
	Urban	10	33.3	29	32.2			20	34.5	19	30.6		
Marital status	Single	0	0.0	4	4.4	**4.61**	0.203	2	3.4	2	3.2	**4.08**	0.253
	Married	22	73.3	61	67.8			41	70.7	42	67.8		
	Divorced	2	6.7	1	1.1			3	5.2	0	0.0		
	Widow	6	20.0	24	26.7			12	20.7	18	29.0		
Educational Level	Illiterate	0	0.0	21	23.3	**51.58**	**0.000****	0	0.0	21	33.9	**113.3**	**0.000****
	Read and write	0	0.0	31	34.5			0	0.0	31	50.0		
	Primary education	0	0.0	12	13.3			2	3.4	10	16.1		
	Preparatory education	2	6.7	6	6.7			8	13.8	0	0.0		
	Secondary education	18	60.0	16	17.8			34	58.7	0	0.0		
	University education	10	33.3	4	4.4			14	24.1	0	0.0		
Occupation	Works	5	16.7	4	4.4	**4.84**	0.028*	9	15.5	0	0.0	**10.40**	**0.000****
	Doesn't work	25	83.3	86	95.6			49	84.5	62	100.0		
Living condition	Family	30	100.0	47	52.2	**22.33**	**0.000****	53	91.4	24	38.7	**36.15**	**0.000****
	Alone	0	0.0	43	47.8			5	8.6	38	61.3		
Monthly income	Not enough	0	0.0	69	76.7	**61.45**	**0.000****	17	29.3	52	83.9	**37.75**	**0.000****
	Enough	23	76.7	21	23.3			34	58.6	10	16.1		
	Enough and save	7	23.3	0	0.0			7	12.1	0	0.0		

X^2= Chi-square test. No statistically significant at p > 0.05. ***S**tatistically significant at p ‹ 0.01. ****** Highly statistically significant at p ‹ 0.01.

Table (3): Relation between Medical history & history of using assistive devices of the studied older adults and their total knowledge and total attitudes regarding use of assistive devices **(n=120).**

Medical history & history of using assistive devices		Levels of total knowledge score				X^2	P-Value	Levels of total attitudes score				X^2	P-Value
		Satisfactory (n=30)		Unsatisfactory (n=90)				Positive (n=58)		Negative (n=62)			
		No.	%	No.	%			No.	%	No.	%		
History from chronic diseases	Yes	18	60.0	81	90.0	**14.02**	**0.000****	39	67.2	60	96.8	**18.10**	**0.000****
	No	12	40.0	9	10.0			19	32.8	2	3.2		
Regular treatments	Yes	18	60.0	81	90.0	**14.02**	**0.000****	39	67.2	60	96.8	**18.10**	**0.000****
	No	12	40.0	9	10.0			19	32.8	2	3.2		
Number of assistive devices used	One	22	73.3	32	35.6	**19.18**	**0.000****	42	72.4	12	19.4	**52.72**	**0.000****
	Two	8	26.7	22	24.4			16	27.6	14	22.6		
	Three and more	0	0.0	36	40.0			0	0.0	36	58.0		
Duration of using assistive devices	1-<5	18	60.0	18	20.0	**30.58**	**0.000****	26	44.8	10	16.1	**21.58**	**0.000****
	5-<10	12	40.0	22	24.4			20	34.5	14	22.6		
	≥ 10	0	0.0	50	55.6			12	20.7	38	61.3		
Training to use the assistive devices	Yes	28	93.3	20	22.2	**47.40**	**0.000****	36	62.1	12	19.4	**22.78**	**0.000****
	No	2	6.7	70	77.8			22	37.9	50	80.6		
Inspection and maintain assistive devices	Yes	28	93.3	44	48.9	**18.51**	**0.000****	46	79.3	26	41.9	**17.44**	**0.000****
	No	2	6.7	46	51.1			12	20.7	36	58.1		

X^2= Chi-square test. No statistically significant at p > 0.05. * Statistically significant at p ‹ 0.05. ** Highly statistically significant at p ‹ 0.01.

Table (4): Correlation between total older adult's knowledge score, total attitudes score, total self-care practices score for using assistive devices **(n=120).**

Variables		Total knowledge score	Total attitudes score	Total self-care practices score
Total attitudes score	r	0.582		
	p	0.000**		
Total self-care practices score	r	0.633	0.755	
	p	0.000**	0.000**	

r= Correlation coefficient test. (-): Negative correlation. **highly statistically significant at p ‹ 0.01.

Table (5): Multiple linear regression model examining the association between older adult's knowledge, attitudes and self-care practices for using assistive devices **(n=120)**.

Items	B	Std. Error	Beta	t	P. value	95% Confidence interval		R²	ANOVA	
						Lower	Upper		F	P. value
Total knowledge score										
Model 1								0.670	78.59	0.000**
(Constant)	1.364	.265		5.147	.000**	.839	1.889			
Total attitudes score	.211	.087	.244	2.439	.016*	.383	.040			
Total self-care practices score	.562	.082	.619	6.817	.000**	.399	.726			
Total barriers score	-.224-	.053	-.448-	-4.244-	.000**	-.328-	-.119-			
Total attitudes score										
Model 2								0.730	104.33	0.000**
(Constant)	2.179	.231		9.442	.000**	1.722	2.637			
Total knowledge score	.231	.095	.200	2.439	.016*	.418	.043			
Total self-care practices score	.410	.095	.392	4.335	.000**	.223	.598			
Total barriers score	-.385-	.047	-.667-	-8.129-	.000**	-.478-	-.291-			
Total self-care practices score										
Model 3								0.754	118.59	0.000**
(Constant)	.421	.277		1.522	.131	-.127-	.969			
Total knowledge score	.509	.075	.462	6.817	.000**	.361	.657			
Total attitudes score	.340	.078	.356	4.335	.000**	.185	.495			
Total barriers score	-.084-	.053	-.153-	-1.581-	.016*	-.190-	.021			

Notes: B=Unstandardized Coefficients.   **Beta**=Standardized Coefficients.   **t:** Independent t-test. **R²** = Coefficient of multiple.   * $p < 0.05$. ** $p < 0.01$

Discussion:

The study found that the mean age of the studied older adults was 70.36 ± 6.37 years, with males being more prevalent and married. They work before retirement, live with their families, and have limited education. The average age of the population was higher in rural areas, where marriage was deeply ingrained, and providing economic stability. Older adults in Egypt still live in extended families, with limited access to education and low pensions. Similarly, studies conducted in Egypt, Brazil, Iran, China, and India by **Mohamed et al. (2022)**; **Semprebom, Batista and Almeida (2024)**; **Mohamadzadeh et al. (2021)**; **Yu et al. (2022) & Prajapati and Sharmila (2023)** respectively, had shown that a significant number of older adults were male, with 65.1%, 54.9%, and 76.3% of participants being men. In Brazil, 79.7% of participants were married. In Iran, 69.23% of participants were married, while in China, 82% and 51% were married and workers before retirement. In India, 25.5% of older adults were educated up to secondary level. These findings highlight the diverse demographics and living arrangements of older adults in different countries.

Dissimilarly, research on older adults in Egypt, Germany, Nebraska, China, India, Finland, and Iraq by **Omar et al. (2024)**; **Fotteler et al. (2021)**; **Idachaba et al. (2021)**; **Yu et al. (2022)**; **Prajapati and Sharmila (2023)**; **Viljanen et al. (2024) & Abdulkader et al. (2023)** respectively, revealed varying demographics and income levels. In Egypt, the mean age of older adults was 65.03 ± 4.19 years, with 47.8% being widowed and 51.3%

illiterate. In Germany, the mean age was 72.7 years, and all subjects lived alone. In Nebraska, the average age was 69.3 ± 9.9 years, with 77.3% being female. In China, 55.4% of participants were female. In India, 55% were unemployed before entering old age. In Finland, 58.1% had enough monthly income. In Iraq, 86% had enough income, with pension being their primary source of income. These findings highlight the diverse demographics and income levels of older adults in different countries.

A study revealed that a significant number of older adults suffer from hypertension, with half taking less than five types of medication daily. This is attributed to factors like age, physiological changes, unhealthy lifestyle behaviors, and complex health profiles, including mobility issues and comorbidities. Study in Turkey by **Isik, Manav and Yesilot (2021)** found hypertension as the most common chronic disease among older adults. **Sheikh-Taha and Asmar (2021)** In the United States found that 43% of elderly individuals took four medications daily, while in Egypt by **Mohamed et al. (2022)**, 53.1% took more than five types of medication daily. These findings underscored the need for more comprehensive research on chronic diseases among older adults.

The study found that nearly three-quarters of older adults use assistive devices, with eyeglasses being the most frequently used. These devices are essential for individuals with age-related health challenges, chronic conditions, and disabilities, such as arthritis, vision and hearing impairments, and mobility issues. Eyeglasses are effective in addressing these changes, offering ease of use, customization options, and positive social acceptance. Study in Egypt by **Omar et al. (2024)** had also found similar results, with studies showing that 61.60% of older adults use assistive devices, while 42% use them occasionally. However, the results differ from previous studies in India, China, and Brazil, **by Thakur et al. (2018)**; **Yu et al. (2022)** and **Silva et al. (2022)** which found that 52.8% of elderly use orthoses or prostheses, and 48% use wheelchairs.

Over two-thirds of older adults lack knowledge about assistive devices, possibly due to difficulty accessing information and lack of familiarity with technology incorporation. In the same line of current results, a study done in Egypt by **Mohamed et al. (2022)**, who found also that 73.3% of study subjects had poor knowledge about assistive devices. In addition, a study done in Australia by **Yusif, Soar and Hafeez-Baig (2016)**, who found that there was general lack of knowledge about the assistive devices' needs of elderly people. In contrast with a study done in India by **Thakur et al. (2018)**, who found that 77% of the study subjects were having good awareness regarding the use of assistive devices.

The study revealed that over half of seniors had negative attitudes towards assistive devices, possibly due to a lack of awareness about available options, their potential to address specific challenges, or a preference for familiar methods. This is in agreement with a study done in Egypt by **Mohamed et al. (2022)**, who found that there is 61.6% of elderly had negative attitudes regarding the use of assistive devices and a study done in Australia by **Yusif, Soar and Hafeez-Baig (2016)**, who found that there's 59% of elderly had negative attitude towards assistive devices. In contrast with a study done by **Fiorini et al. (2021)**, who confirmed that 70% of elders' participants showed a positive attitude regarding use of assistive devices. The study found that nearly two-thirds of older adults have unsatisfactory self-care practices regarding assistive devices, possibly due to factors such as limited healthcare access, lack of knowledge, social support, financial constraints, and insufficient training. These results go in line with a study carried in Brazil by **Semprebom, Batista and Almeida (2024)**, who found that most of participants 53.9% had negative self-care practices.

The study revealed a significant correlation between knowledge, attitudes, and self-care practices and demographic factors like education, income, age, gender, occupation, and living condition. Higher-educated older adults have better access to assistive device information, while retired individuals may have fewer opportunities due to lower income. A study in Egypt by **Mohamed et al. (2022)** found a significant relationship between knowledge level and demographic characteristics of older adults, including their educational level, current work, and monthly income. This finding aligns with a study in Brazil by **Nappo and Bigal (2021)**, which found that individuals with lower education levels have less awareness, unlike **Omar et al. (2024)**'s findings that there was no statistically significant relation between attitude and demographic characteristics regarding older adult's age.

The study found a significant correlation between the self-care practices of older adults and their use of assistive devices, indicating their effectiveness in enhancing autonomy and quality of life, and indicating the need for broader intervention. These findings go in line with a study in Egypt by **Mohamed et al. (2022)**, who found that 51.1% and 41.9% of elderly people reported that using assistive devices improved their self-care abilities, physical wellbeing, and social wellbeing, while 57.0% and 50.0% reported that these devices moderately affected their daily activities and emotional wellbeing. Additionally, the study found a significant positive correlation between older adults' knowledge, attitudes, and self-care practices. Elderly individuals with higher knowledge tend to have more positive attitudes and engage in more self-care practices related to assistive device use. A study by **Ibrahim et al. (2023)** in Egypt found a strong positive correlation between the total knowledge score of the elderly, all total practices, and total attitudes scores.

Conclusion:

The study revealed that males were more prevalent in older adults, and eyeglasses were the most commonly used assistive devices. However, three-quarters had unsatisfactory knowledge about assistive device use, over half had negative attitudes, and nearly two-thirds had unsatisfactory self-care practices. A significant positive correlation was found between the total knowledge, attitudes, and self-care practices of older adults regarding assistive device use.

Recommendations:

Based on findings, the study recommended support groups and peer monitoring programs for older adults can help them integrate assistive devices into their lives, while educational programs aim to raise awareness about using these devices.

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AUTHOUR'S CONTRIBUTIONS

S.M.A.: Conceptualized the study and designed the research framework. E.S.A.: Led data collection and coordinated fieldwork activities. S.G.M.: Performed statistical analysis and interpretation of data. All authors participated, revised, and approved the final manuscript.

DECLARATION OF CONFLICTING INTERESTS

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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