



**COLLEGE OF HEALTH SCIENCES**

**SCHOOL OF NURSING AND MIDWIFERY**

**DEPARTMENT OF ADULT HEALTH NURSING**

**ASSESSMENT OF KNOWLEDGE AND PRACTICE  
TOWARDS CARE OF ELDERLY PATIENTS AND  
ASSOCIATED FACTORS AMONG NURSES IN ADULT  
CARE UNITS AT SELECTED GOVERNMENT  
HOSPITALS IN ADDIS ABABA, ETHIOPIA, 2021.**

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**A Thesis Submitted to Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery for Partial Fulfillment of The Requirements for the Degree of Masters of Science in Adult Health Nursing.**

**JUNE, 2021**

**ADDIS ABABA, ETHIOPIA**

**ADDIS ABABA UNIVERSITY  
COLLEGE OF HEALTH SCIENCES  
SCHOOL OF NURSING AND MIDWIFERY  
MASTERS OF SCIENCE RESEARCH THESIS**

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CARE OF ELDERLY PATIENTS AND ASSOCIATED FACTORS  
AMONG NURSES IN ADULT CARE UNITS AT SELECTED  
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## STATEMENT OF DECLARATION

Hereby, I undersigned to declare and affirm that this thesis is my own work. I have followed all ethical principles of in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

I surely declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree or diploma.

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## **ACKNOWLEDGEMENT**

First of all, I would like to thank my almighty of God who give me all thing I need for my life. Then I would like to thank Addis Ababa University, College of health sciences, department of nursing and midwifery for providing the opportunity to learn and conduct this thesis. I would like to pass my gratitude to my advisors, Daniel Mengistu (MSc, PhD fellow) and Emebet Berhane (MSc, PhD fellow) for their unlimited constructive comments and suggestions throughout the study.

Then my sincerely gratitude goes to Addis Ababa health bureau, Tikur Anbessa specialized hospital, Minilik II hospital and St. peter specialized hospital for their cooperation during data collection time. Finally, my sincere appreciation goes to my family, relatives and friends for their moral and material support and encouragement during thesis writing and Mr. Efiiong. M (BSc, MSc) for his permission to use the research tools.

## **ABBREVIATIONS AND ACRONYMS**

AAHB IRB	Addis Ababa Health Bureau Institutional Review Board
DC	Data collectors
ETB	Ethiopian birr
ERC	Ethical review committee
FMoH	Federal ministry of health
NPC	National population commission
PI	Principal Investigator
SPSS	Statistical package for social science
TASH	Tikur Anbessa specialized hospital

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## ABSTRACT

**Background:** Ageing is the accumulation of a series of changes in a person over time. Nurses have the duty of care for all age ranges that considers knowledge of developmental stages specific to client/patient center need. However, there is limited information on nurses' knowledge and practice of care of the elderly in Ethiopia. Therefore, studying knowledge and practice of nurses towards elderly patients has an important outcome on elderly care.

**Objective:** Assess knowledge and practice towards care of elderly patients and associated factors among nurses in adult care units at selected government hospitals in Addis Ababa, Ethiopia, 2021.

**Method:** Institution based cross sectional quantitative study design was conducted on 310 nurses in three selected government hospitals in Addis Ababa. Multi stage sampling was used to select study participants. The study was conducted from February, 2021- March, 2021. Structured self-administered questionnaire was used.

**Result:** Among 310 respondents, 125(40.3%) of nurses' have good knowledge toward care of elder patient whereas 118(38.1%) nurses have highly practiced toward care of elder patient. The result showed that age and year of experience were significantly associated with nurse's knowledge toward care of elder patient. Similarly, sex, level of education, year of experience in nursing profession, and taking training were significantly associated with nurse's practice toward care of elderly patient.

**Conclusion and recommendations:** Majority of nurses had poor knowledge and poor practice toward care of elderly patient. Age and year of experience were significantly associated with knowledge. On the other hand, sex, level of education, year of experience, and taking training were significantly associated with nurse's practice toward care of elder patient. Therefore, federal ministry of health, hospital managers and nursing department should work cooperatively in order to improve nurse's knowledge and enhance their practice toward care of elder patient.

**Keywords:** Knowledge, practice, nurse, elderly care.

# CHAPTER I: INTRODUCTION

## 1.1 Background

Ageing is the accumulation of a series of changes in a person over time. Ageing is not a disease; but phase of life where there is retrograde biological process in growth and development which leads to decreased powers for existence and adjustment. Ageing involves a multidimensional procedure of physical, psychological and social change. Some dimensions of aging grow and develop over time, while others decline(1).

Old age is a period when permanent physiological, chronological, spiritual and social changes and losses of roles are experienced and the adaptation of the system to the environment declines. Elderly individuals often experience many health problem and visit health institution usually(2).

Older population continues to grow fast as fertility rates have fallen to very low levels in most world regions and people tend to live longer(2). According to National Population Commission (NPC, 2006), persons who are old enough to receive pension who are between ages of 60 and above years are regarded as the elderly. The elderly are classified by age into young old for those aged 60-74years, middle old for those aged 75-84years, old for those aged 85-94 years and oldest old for those 95years and above(1). According to the UN definition, elder people are those people whose age is 60 years and above. This also corresponds with Ethiopia's official retirement age(3).

Globally, there are an estimate of 605 million people aged 60 years and above. One out of ten person is 60 years or above. Further by 2050, it will be one out of five and after a century by 2150, one out of three will be persons are 60 years or older. The ageing population is one of the most challenging problems of contemporary societies which has a direct effect upon public health and social care systems(4). Globally, an estimate of 100,000 people died of age related causes each day(2). Though population of the elderly in the world is increasing rapidly according to United Nations, (2004), the rate of increase is higher in developing countries(1). In 2015, there were 46 million people aged 60 years or over in sub-Saharan Africa that is double from the report of

1990, 23 million. In 2050, an estimate of 161 million older persons will reside in the region(2).

The elderly people are characterized by unique and varied entities which require nurses with special knowledge and skill to meet their healthcare needs. Therefore, the care of elderly people as a specialty in nursing is growing, as nurses are at the head of generous care to the elderly and caring for the elderly people demands specific knowledge and skills. Existing demographic and health consumption trends indicates a fast-growing mandate for nurses who are well qualified to care for elderly. However, the role of nurses in caring of the elderly people is too many; which includes direct care, and teaching of adaptable risk factors (e.g., healthy diet, physical activity, and stress management), as a manager and as an advocate(5).

Care of elderly is the fulfillment of the special needs and requirements that are unique to senior citizens. It covers such services as assisted living, adult day care, long term care, nursing homes, and home care. The length of the period of old age brings increased need for long-term care. Elderly care emphasizes the social and personal requirements of senior citizens who need some assistance with activities of daily life and health care, but who desire to age with dignity(6).

## **1.2 Statement of the problem**

The growing number of elderly occurs a thoughtful challenge of health care system, especially for nurses who proceed care to elderly as initial care givers assigning with the acute and chronic disorders experienced by this age group(5). Health systems in low and middle-income countries in parts of Asia, the Middle East, and particularly, in sub-Sahara Africa may lack specialized and adequately trained personnel and infrastructure to provide comprehensive care for the older adult population(7).

Most patients seen in health systems are older adults and the number of patients in this age group is increasing. So, it is important to the institutions to focus their attention on this segment of the population(8). In Ethiopia, the proportion of elderly seems to be gradually increasing currently reached over five percent (3.6 million ) and anticipated nearly to nine percent by 2050 (9).

About 75% of elder people suffer from at least one chronic disease and 77.5% of them undergoing medical treatment. Eye problem, arthritis and hypertension are the three most common diseases experienced with older people(2). The increasing number of older adults with chronic problems have a profound impact on nursing profession(10). Nurses have less accurate knowledge and skills about aging process and express more anxiety to care for older patients(11).

Elderly care requires nurses with skills associated with an understanding of the biological, psychological, social and cultural theories related to aging. Nurses with better knowledge and skills towards elderly care are highly needed and critically important for better healthcare and wellbeing of elderly population(12). Nurses are more preferred to work with younger population than providing care for elder patient(2). The study in Swiss emergency showed that 51.9% had poor knowledge and in Nigeria 19% had poor practice of care of elderly patients among nurses(13).

Nurses have the duty of care for all age ranges that considers knowledge of developmental stages specific to patient center need. So, there is a need to consider continuing education, in service training and reconstituting roles to enable them to stay current with the changes in the health care practice(14). The study conducted in Nigeria proved that most curricula of nurse professionals, little or nothing is indicated

about the care of elderly showing absolute neglect in this area and most nurses have very poor knowledge and skills in the care of elderly patients(1). Caring for the elderly has an important role in that nurses play in the wellbeing of the society. The provision of elderly care requires special knowledge and skills and is a discipline that is challenged to meet its workforce requirements(15).

The quality of nursing service towards the care of elder people is highly dependent on the preparedness of nurses and with the increase ageing population and associated chronic illness as well decrease physical functionality and increase dependency, the need with adequate knowledge and skill will also be increase(5). Study in Australia showed that there is a significant gap in understanding in the areas of age related sensory loss, lung function changes, learning abilities and criticized as lack of nursing focus and generalist approach(16).

In Ethiopia, there is lack of published research regarding the knowledge and practice towards the care of elderly patients. Therefore, this thesis will assess the level of knowledge, practice and associated factors towards the care of elderly patients among nurses in selected hospitals in Addis Ababa.

### **1.3 Significance of the study**

The research result was showed the gap of knowledge and practice of nurses on care of elderly patients by using different literatures in order to influence the programs and the decision making of the organizations to intervene the problem as well as contribute to the solution of the problems by implementing the study to improve knowledge and practice of nurses on care of elderly patients. The extent level of assessing knowledge and practice of nurses on care of elderly patients in this study was contributed to understand knowledge and practice towards care of elderly patients and associated factors among nurses in adult healthcare units.

Therefore, the information generated by this study will be used by policy makers, health care managers, any stakeholders, and health care professionals to promote and provide good awareness about knowledge and practice towards care of elderly patients and reduces the factors that bring not to have good knowledge and practice towards care of elderly patients. From my clinical experience there is frequent misunderstanding between elderly patients and nursing care. Based on this, the researcher seeks to find out the problems of knowledge and practice of care of the elderly among nurses at selected government hospitals in Addis Ababa.



#### **1.4 Justification of the study**

There is an increase in elderly population in Ethiopia. These elderly population suffered from many health problems and easily prone to such problems. Even if nurses play a pivotal role in the care of elderly patients, their level of knowledge and practice towards care of elderly patients is not assessed. This study was assessed the level of knowledge, practice and associated factors towards care of elderly patients among nurses and quantify the gap and set solution.

## **CHAPTER II: LITERATURE REVIEW**

### **2.1 Nursing care of Elderly population**

Ageing is a universal phenomenon that is obvious and inevitable. Old age is a significant stage in life and normally related to life expectancy of given area, hence the conditions and the needs of the aged becomes imperative. Ageing can be observed as a consistent pattern of change that every human being undergoes, starting at a very low rate at around age 30, and progressing at a more rapid rate beyond age 60. Ageing is a sensitive and seriously viewed issue and is process of becoming older(1).

Ageing is the normal process of human circle. It is a human nature to promote their life. Care of older adults is challenges for nurses that require a good skilled and creativity planning to benefits the outcomes(17). The elderly is more likely to seek emergency care and usually admitted to the hospital as often as young individuals. The elderly suffer from more complex health problems and they need specialized care(18).

Elderly care requires specific skills from nursing, associated with an understanding of the biological, psychological, social and cultural theories that permeate aging among others. Therefore, the nurses' approach to the elderly care should be implemented with respect, valuation of these human beings and understanding of their life process, beyond simple care for the disease. Care is the essence of nursing but a new emerging context is observed in health services, which is the elderly people's greater demand for care. Assessing elderly people's health conditions is a highly complex task as the family arrangement and the care support network are influential, such as the available health services, the family and the elderly's income, the beliefs, values, among others. Nursing is responsible for presenting the evidence of elderly care and make it available to society(19).

## **2.2 Knowledge of nurses towards elderly care**

The study in Indian with 267 nurses revealed that most of the subjects (76.4%) had good knowledge regarding care of elderly. 23.2% of subjects had average knowledge. Only 0.4% of subjects had poor knowledge regarding care of elderly(20). Being knowledgeable includes nurses able to manage time and prioritize tasks effectively in the care of elderly. Each event of care for the older person requires knowledge about multiple problems and complex interventions(21).

The study in Australia confirmed that nurses has deficit of knowledge base about the normal processes of ageing, as well as common disease faced by older people, altered symptom presentation in older people, and adverse drug reaction associated with older patients(22). The study conducted in Brazil a cross sectional qualitative study among 56 nurses revealed that nurses have adequate knowledge about sexuality in old age. The mean score in the knowledge dimension was 29.95 (SD=2.21), in a range of 20 to 60(23).

The study conducted in low- and middle-income countries revealed that nurses reported having moderate to insufficient knowledge in the care of older adults in the majority of the studies. This study shows that nurses had insufficient knowledge in the care of older adults and a low preference for working with older adults and the inadequate preparation of nurses in the care of older adults(7).

The study in Swiss emergency department shows that the overall score in the knowledge test is considered low (51.9 %; SD  $\pm$  12.5). This indicates that nurse respondents show little elderly nursing care knowledge(13). The study in Iran showed that the knowledge score is 54% among staff nurses regarding ageing process and normal change of ageing(24). The study conducted in Nigeria, Calabar teaching hospital revealed that categorization of knowledge score regarding the care of the elderly, most of the subjects (95%) had good knowledge regarding care of the elderly, 4.3% had average knowledge while 0.7% of the subjects had poor knowledge regarding care of the elderly with mean knowledge score was 16.2 SD  $\pm$  1.4 with the range of 01-18(1).

The study in Dar Alagza, & AlMosah Hospital states that for majority of the questions, more than 90% of the subjects answer the questions correctly with mean

knowledge score was  $24.68 \pm 1.87$  with the range of 09-27. About two third of the study sample (65.0%) had good knowledge regarding care of elderly, 21.0% of the study sample had average knowledge and 14.0% of the study sample had poor knowledge regarding care of elderly(5).

The study held in Zanzibar shows that among a total of 393 study participant only 17% (69) of the participants had good level of knowledge towards elderly care(12).

The study in Addis Ababa selected hospitals on a total of 457 nurses showed that the majority of nurses who participated in the study had poor knowledge score, 326 (71.3%) and the rest of 131(28.7%) had good knowledge towards care of elderly patients(2).

### **2.3 Practice of nurses towards elderly care**

Evidences shows that the practice of holistic care, which is the very essence of nursing, very low relating to nurse to patient ratios(25). According to the study in Korea among 188 nurses revealed that their nursing practice score was 3.54 out of 4 that is good practice of elderly care(26). The study in Sweden showed that the major nursing-staff group in elderly care has no university education and among all respondents, 28% reported that they used research findings in daily practice and had good practice of care(27).

The study in Swiss emergency department indicates that the practical skills is estimated at an average of 1.54 on a 3-point scale, which can be interpreted at a level between medium and low and consider their level of skills to be mid-range or low. This is definitely a challenge for training, education and research for practice of nurse in elderly nursing care (13). The study in Urmia, Iran among 50 nurses proved that 61% had optimal performance and the rest 39% had poor practice of care towards elderly. It showed that there is a significant relation between nurses experiences and their safe practice ( $p \leq 0.05$ )(28).

The study conducted in Nigeria, Calabar teaching hospital shows that practice of care of elderly, 246 (54%) and 208 (45%) respectively accepted that they always and sometimes give prompt attention to the elderly. 236(51%) and 206 (45%) respondents accepted respectively that they always and sometimes carryout assessment and evaluation for

effective care while 14 (3%) never to do it. On the importance of nutritional assessment 288 (63%) accepted carrying it out always, 156(34%) sometimes while 16 (4%) never did it. The responses given by respondents on their practice of care of the elderly is 170 (36.9%) highly practiced (always) care of the elderly, 203 (44.1%) moderately (sometimes) practiced care of the elderly while 87 (19%) never practiced care of the elderly. Mean practice score was  $12.02 \text{ SD} \pm 4.27$  with the range of 01-18(1).

According to Okoye and Asa (2011) providing care to the elderly, takes a huge toll, both physically and emotionally on the caregiver. With the population of the elderly one of the emerging issues is the care and support of elderly persons in years to come. Few people are prepared for the responsibilities and tasks of caring for the aged because of the stress involved. In a study conducted in Nsukka Enugu State by Okoye and Asa (2011) to investigate the experiences of caregivers of elderly relatives. Questionnaires were distributed to 330 respondents result shows that there exists a significant relationship between caregiver's age and level of stress ( $P = 0.001$ ). The sex of the receiver, the level of education of caregivers, level of education of care receiver are all significantly related to the level of practice(6).

#### **2.4 Factors associated with knowledge and practice towards elderly care among nurses**

According to Oyetunde, Ojo & Ojewale (2013) studies show that effective care of the elderly requires special training, adequate space, adequate staffing to reduce stress and improve quality of care(22). The study conducted in Hong Kong among 219 nurses' knowledge assessment states that ninety-four participants (42.9%) have been living with the elderly but only 58 participants (26.5%) had the experience of caring for the elderly. Only 40 participants (18.3%) had ever studied about elderly care before. However, 96 (43.8%) participants reported that they had studied the theoretical aspects of about elderly care; whilst 100 (50.2%) participants reported that they had studied the clinical aspect of elderly care. These indicated that increased level of study might significantly improve the knowledge of nurses about the care of elderly(21).

Evidence in Australia showed that nurses do not routinely receive the education required to understand the physiological ageing process and undergraduate nursing curricula either do not contain an appropriate amount of elderly care or contain too much theory and provide little practical exposure to older patients. Nurses' seniority (years of experience) has been shown to correlate with effective elderly nursing care and knowledge of best practice. A nurse may be proficient in his or her specialty, but experience in other areas does not correspond to experience in caring for older patient(25).

The study conducted in Netherland on nurse's knowledge toward care of elder patient investigated that educational level and year of experience in nursing profession had significant association with knowledge toward care of elder patient. There was smaller increase of knowledge among nurses with first 5 years of working experience. The group of nurses having 6-15 years of experience has the highest mean knowledge score. The mean difference in knowledge between nurses remains significant ( $p < .001$ ) in the first 15 years of experience. Results confirming that educational qualifications play a role in the quality of care older people receive(2).

According to the study in Korea among 188 nurses revealed that there was significant difference in nursing practice among the subjects due to age, duration of employment, current elderly nursing education, and living with the elderly people. There were significant correlations among knowledge and nursing practice. According to the research, influencing factors of practice of the nurses-towards the elderly in adult care units included knowledge and current elderly care nursing education(26).

The study conducted in Brazil among 56 nurses revealed that investing in processes of continuing health education can improve the knowledge and practice of nurses. Participants who declared receiving permanent and continuing health education on elderly care presented a significantly favorable knowledge(23).

According to the study in Portuguese with 1068 nurse's majority of 922 (86.3%) reported that no having received elderly care training, 94 (8.8%) short courses and 52(4.9%) had received training. Nurses who worked in medical unit perceived more barriers to provide a good quality of care to older patients(29). In a study done by

Mandy, Mitchel & O' Niel (2011) in Ireland reported that higher level of education increases the nurses knowledge of care of the elderly(1). The study in Zanzibar proves that living with an elderly person at home were associated with good level of knowledge towards elderly care(12).

The study conducted in Addis Ababa in selected hospitals examined that sex, age, marital status, level of education, year of experiences in nursing profession and living with elderly people were significantly associated with knowledge towards care of elder patients at  $p\text{-value} < 0.05$  with 95% C.I. But, the type of unit has no statistical association with knowledge towards care of elderly patients. Nurse participants between ages of 30-39 were 3 times more knowledgeable than those who are 20-29. Similarly, nurses' participants who were  $\geq 40$  years were 5 times more knowledgeable than those who are 20-29.

Regarding year of experiences, nurse participants who have 6-10 years' work experiences in nursing profession 2.4 times more knowledgeable than those who have 1-5 work experiences in nursing profession and those who have  $> 10$  years experiences in nursing profession were 3.2 time more knowledgeable than those who have 1-5 year of experiences in nursing profession(2).

In general, the percentage of aged population 60 years and above is globally increasing. Knowledge regarding older people investigated in a few studies indicated that nurses have low to average knowledge with the care of elder patient. Factors that influence nurse's knowledge and practice toward care of elder patient includes nurse's demographics (age, sex, level of education, and year of experience), special training, type of unit/ward, adequacy of space. In Ethiopia, the problems of older people had not addressed adequately and there is no study on nurse's knowledge and practice toward care of elder patient.

## CONCEPTUAL FRAMEWORK

This conceptual framework was developed from the literature review that was searched from different published journals and fits with this thesis and developed by the principal investigator of this proposal (2, 12, 22).

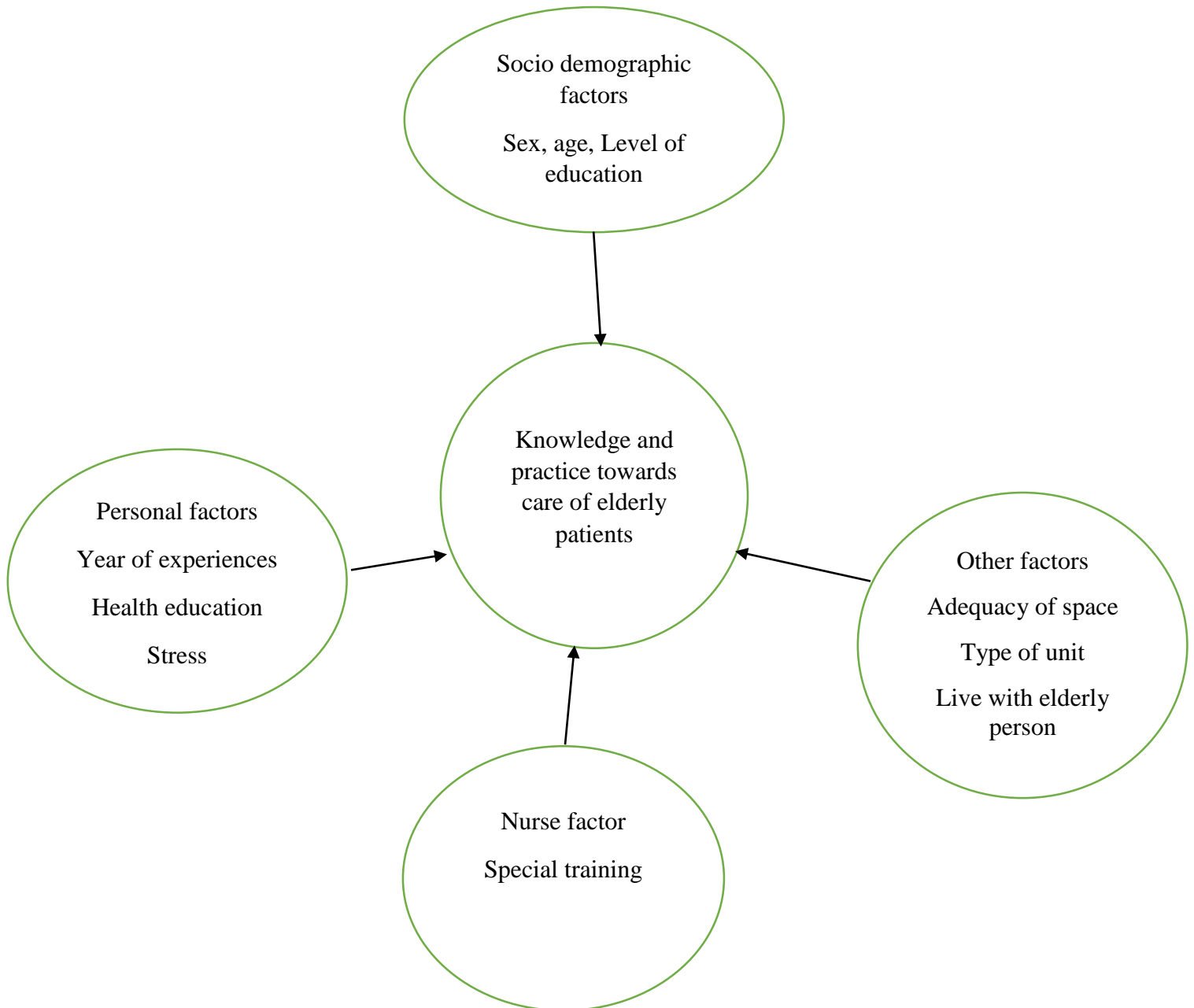


Figure 1: Conceptual framework of knowledge and practice towards care of elderly patients and associated factors among nurses in adult care units at selected government hospitals in Addis Ababa, Ethiopia, 2021.



## **CHAPTER III: OBJECTIVES**

### **3.1 General objective**

Assess knowledge and practice towards care of elderly patients and associated factors among nurses in adult care units at selected government hospitals in Addis Ababa, Ethiopia, 2020/2021.

### **3.2 Specific objectives**

Assess nurses' knowledge of elderly patients care in selected government hospitals in Addis Ababa, Ethiopia, 2021.

Assess nurses' practice of elderly patients care in selected government hospitals in Addis Ababa, Ethiopia, 2021.

Identify factors associated with knowledge of care of elderly patients among nurses in adult care units at selected government hospitals in Addis Ababa, Ethiopia, 2021.

Identify factors associated with practice of care of elderly patients among nurses in adult care units at selected government hospitals in Addis Ababa, Ethiopia, 2021.

## **CHAPTER IV: METHODS AND MATERIALS**

### **4.1 Study area**

The study was conducted in selected government hospitals in Addis Ababa. Addis Ababa is the capital city of Ethiopia, which is located in the center of the nation in the foothills of mount Entoto about 2500 meters above sea level. The city has a population of about 4,794,000 inhabitants and fourteen government hospitals. Addis Ababa is the political capital of Africa and the African Union is headquartered. It is also the location for the United Nations Economic Commission of Africa. The religious beliefs in Addis Ababa are orthodox Christian (76%), Muslims (16.2%), protestant (7.7%), and catholic (0.48%)(30). The study was undertaken on nurses working in adult care unit in three randomly selected government Hospital namely TASH, St. Peters hospital and Minilik II hospital.

### **4.2 Study period**

The study was conducted for a period of one month from February - March, 2021.

### **4.3 Study design**

Institution based cross sectional quantitative study design was conducted.

### **4.4 Population**

#### **4.4.1 Source population**

All nurses who were working in government hospitals in Addis Ababa.

#### **4.4.2 Study population**

All nurses who were working in adult healthcare units and who fulfilled the inclusion criteria in selected government hospitals in Addis Ababa.

### **4.5 Eligibility criteria**

#### **4.5.1 Inclusion criteria**

1. Nurses who were willing to participate in the study
2. Nurses who had at least six-month work experiences in nursing profession.

#### **4.5.2 Exclusion criteria**

1. Nurses who were not available (who were in leave) at the time of the study.
2. Nurses who were working in pediatrics unit.

#### 4.6 Sample size determination

The sample size was determined by single population proportion formula by considering Confidence level = 95%, Critical value  $Z_{\alpha/2} = 1.96$ , Degree of precision  $d = 0.05$ . The proportion ( $p$ ) = 50% (0.5) (lack of study in Ethiopia concerning knowledge, practice and associated factors of nurses toward care of elder patient).

$$n = \frac{Z_{\alpha/2}^2 P(1-P)}{d^2}$$

$$n = \frac{(1.96)^2 * (0.5) * (0.5)}{(0.05)^2} = 384$$

Number of nurses in each hospital: St. Peters hospital= 267

Mimili II hospital= 382

Tikur Anbessa hospital= 800

Total nurses=1,449

Use correction formula since the total population is <10,000 and use Epi Info

software (Version 7)  $n = 384, N = 1,449$

$$n_{final} = \frac{n}{1 + \frac{n}{N}}$$

$$n_{final} = 384 / (1 + 384/1449) = 304$$

10% non-respondent rate=304\*10%=31. Total sample size was 304+31=335

Nurses proportionate in each hospital: St. Peters hospital=267\*335/1449=62

Tikur Anbessa hospital=800\*335/1449=185

Minilik II hospital= 382\*335/1449=88

#### 4.7 Sampling technique and procedure

Multistage sampling technique was used to select the study participants. There are fourteen government hospitals in Addis Ababa. Among these hospitals, three government hospitals (St. Peter's specialized hospital, Tikur Anbessa specialized hospital, Minilik II hospital) were selected by using simple random sampling. The hospitals were selected based on feasibility of resources. The sample size was proportionally allocated in to each hospital. The allocated nurses for each hospital were again proportionally divided to each unit/ward. Finally, from each unit/ward nurses were selected by using simple random sampling.

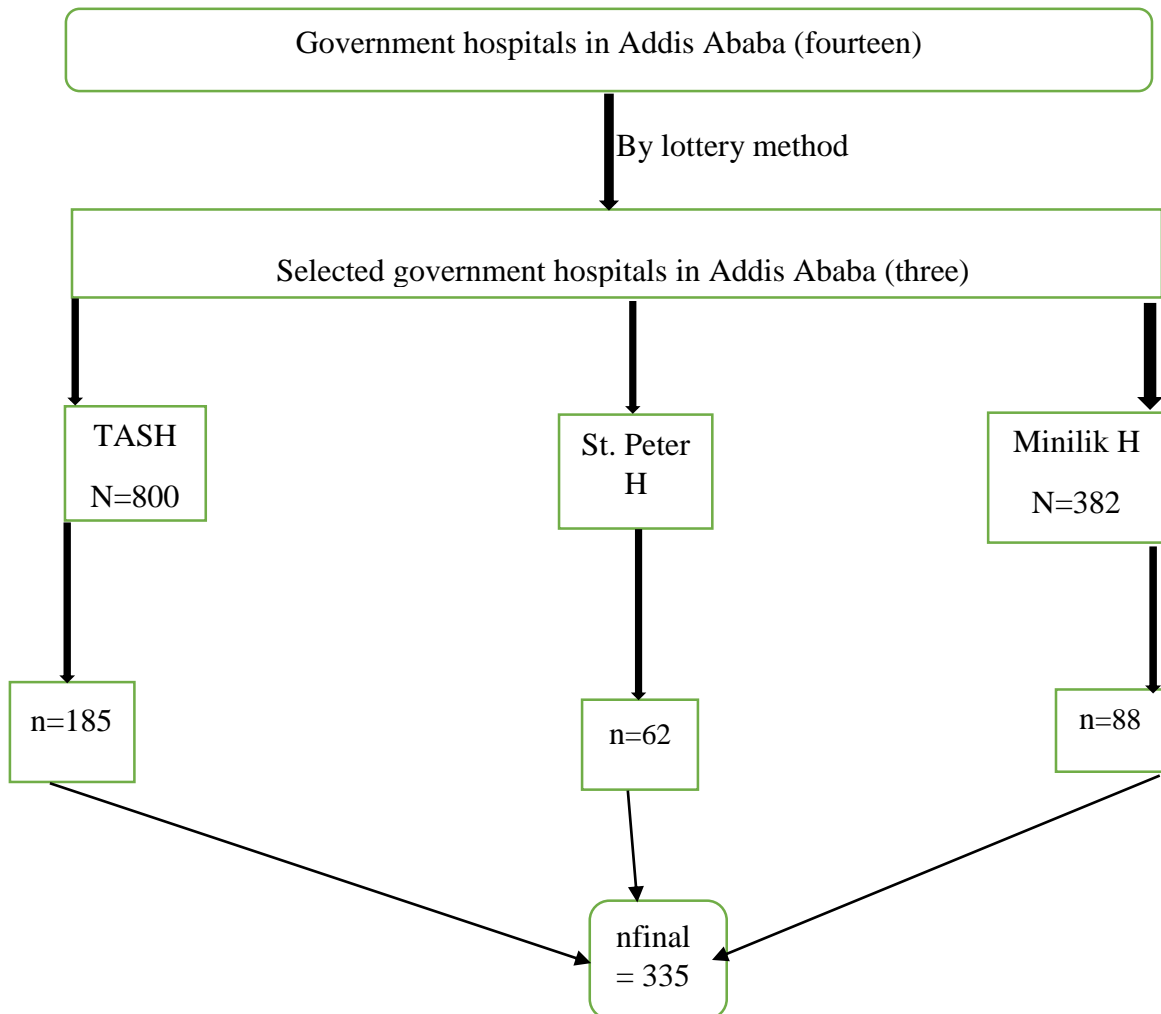


Figure 2: Schematic representation of sampling procedure in selected hospitals in Addis Ababa, Ethiopia, 2021.

#### **4.8 Operational definitions**

Knowledge –Refers respondents understanding of elderly care. The participants understanding were measured by 18 yes/no measuring items. Knowledge was scored by the proportion of correctly answered items. The total knowledge score was from 0 to 100%.

Good knowledge –score above the mean (by the Nurse’s Knowledge of Elderly Patients Quiz (NKEPQ)(16).

Poor knowledge – score below the mean (based on the Nurse’s Knowledge of Elderly Patients Quiz (NKEPQ)(16).

Practice- refers to respondents’ skills of elderly care. The participants’ skills were measured by 9 always, sometimes and never measuring items. Practice was scored by the proportion of correctly answered items. The total practice score was from 0 to 100%.

Good practice- practice score above the mean(1).

Poor practice- practice score below the mean(1).

#### **4.9 Data collection tools**

Data were collected by using a structured self-administered questionnaire. The questionnaires were adapted from validated tool ( face and content validity was done by researchers supervisors, a community health specialists, and two others who are experts in measurement and evaluation and also has reliability coefficient of 0.91)(1) developed from Nigeria University of Calabar Teaching hospital by Efiang, Mercy B. All questionnaires were assessed by expertise and pre-tested on 5% of the sample (17 nurses) at St. Peters hospital one week prior to data collection and had four sections. Demographic data includes age, sex, year of experience and educational level. Nurses' knowledge about care of elderly contains eighteen with yes/no response, the practice contains nine questions with always, sometimes and never response and the associated factors consists of four self-administered questionnaires.

#### **4.10 Study variables**

##### **4.10.1 Dependent variable**

Nurses' knowledge and practice towards care of elderly patients.

##### **4.10.2 Independent variables**

Socio-demographic- age, sex, level of education.

Personal factors- year of experience, health education, stress

Other factors- type of unit, adequacy of space, live with elderly persons

Nurse factor- special training.

#### **4.11 Data collection procedures**

Structured self-administered and pretested questionnaires were used to collect the data. The data collection procedure was conducted over a period of one month and facilitated by three trained data collectors from staff nurses who were BSc nurses and supervised by two supervisors who were BSc nurses. Data was collected at three randomly selected government hospitals.

#### **4.12 Data quality assurance**

All questionnaires were assessed by expertise and pre-tested. One day training was given to orient data collectors and supervisor on the questionnaires.

#### **4.13 Data processing and Analysis**

After data collection, each questionnaire was checked for completeness, edited, cleaned missed values and missed variables. The coded data was also checked, cleaned and entered into Epi data version 4.6 and then exported into SPSS (statistical package for social science) window version 25.0 for analysis. Bivariate and multivariate logistic regression was performed to assess the relationship between outcomes and variables. The strength of association was interpreted using odds ratio and confidence interval. P-value < 0.05 was considered statistically significant in this study.

#### **4.14 Ethical consideration**

Ethical approval was obtained from Institutional Review board of Addis Ababa University, College of health science, school of nursing and midwifery and Addis Ababa Health Bureau Institutional Review Board (AAHB-IRB), TASH, Minilik II hospital and St. Peters hospital. Official letter of permission from the department was submitted to Addis Ababa Health Bureau Institutional Review Board (AAHB-IRB), TASH and St. Peters hospital. Written informed consent was obtained from the study participants. To ensure confidentiality, names or identifying information was not be indicated on the questionnaires.

## 5. RESULTS

### 5.1 Descriptive analysis

#### 5.1.1 Socio demographic characteristics of Nurses

Out of 335 nurses working in the selected governmental hospitals, 310(92.5%) were responded the questionnaire. Regarding age of respondents, 140 (45.2%) of the respondents were in the age group 20-29 years. The minimum and maximum age of the respondents was 20 and 55 years respectively and the mean, median and SD was 33.5, 31 and 10.5 respectively. Regarding sex of respondents more than half of the respondents 181 (58.4%) were male. On level of education most of the respondents, 145 (46.8 %) were BSc degree in nursing and the year of experiences of the respondents more than half, 172 (55.5%) had 1-5 years' work experiences.

**Table 1: Socio-demographic characteristics of nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)**

s/no	Socio demographic characteristics	Frequency	Percent (%)
1	<b>Age</b>		
	20-29	140	45.2
	30-39	69	22.3
	40-49	54	17.4
	>=50	47	15.2
2	<b>Sex</b>		
	Male	181	58.4
	Female	129	41.6
3	<b>Level of education</b>		
	Diploma in nursing	74	23.9
	Degree in nursing	145	46.8
	Masters in nursing	91	29.4
4	<b>Year of experience</b>		
	1-5	172	55.5
	6-10	71	22.9
	>=10	67	21.6



About one fourth, 82(26.5%) of the respondents were male and in the age group 20-29. On educational status 79(25.5%) of them were male and had degree and 101(32.6%) of male respondents had 1-5 years of work experience in nursing profession.

**Table 1: Socio-demographic characteristics of nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310) cont....**

Gender	Age group			
	20-29	30-39	40-49	>=50
Male	82	37	29	33
Female	58	32	25	14
Total	140	69	54	47
	Educational level			
	Diploma	Degree	Masters	Total
Male	46	79	56	181
Female	28	66	35	129
Total	74	145	91	310
	Year of experience			
	1-5	6-10	>10	
Male	101	42	38	181
Female	71	29	29	129
Total	172	71	67	310

## **5.2 Nurses knowledge towards elderly care**

The knowledge of nurses regarding elder patients' care based on 18 knowledge test questions. Overall, 125(40.3%) of nurses' have good knowledge, which were above mean score and the rest those scored below mean 185(59.7%) have poor knowledge toward care of elder patients. Nurses who answered above the mean were categorized as having good knowledge and those who answered below the mean were categorized as having poor knowledge towards care of elderly patients (fig 3). The mean score of knowledge was 13.6. Highest percentage of nurses who answered items correctly and incorrectly regarding nurses' knowledge of care of elder patient.

Those items the highest percentage of nurses answered correctly includes: Aging process will lead to anatomical and physiological changes (94.5%). Proper mouth care is a basic need for the elderly (94.2%). Health education is needed to the elderly patients (94.2%). Elderly people need to eat regularly and properly (90.6%). Bedsores in the elderly is prevented by keeping the skin clean and dry and bed lines wrinkle free and dry (90.6%). The elderly people need regular exercise (90%).

On the other hand, those items the highest percentage of nurses answered incorrectly includes: Majority of the elderly are able to adapt to change more easily compared to young people (39%). Sleep patterns among the elderly steadily increase compared to person under 60 years (31.3%). As a healthy person reaches old age, his/her voluntary participation in organization usually declines (30.6%). We age because of wear and tear of important organs by continuous functioning (27.1%). Elderly workers have the highest rates of absenteeism than younger workers (25.8%).

**Table 2: Frequency distribution of knowledge of nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)**

s/no	Variables	Yes		No	
		frequen cy	%	Frequen cy	%
5	The elderly people need regular exercise.	279	90%	31	10%
6	Proper mouth care is a basic need for the elderly	292	94.2%	18	5.8%
7	Aging process will lead to anatomical and physiological changes.	293	94.5%	17	5.5%
8	Dehydration can be prevented in elderly by assessing skin turgor, mucous membrane and urine output.	261	84.2%	49	15.8%
9	Elderly people need to eat regularly and properly.	281	90.6%	29	9.4%
10	Lung capacity tends to decline in old age.	260	83.9%	50	16.1%
11	The fear and anxiety related to inability to perform usual roles by the elderly can be reduced by maintain calm, unhurried confident manner when interacting with the patient	250	80.6%	60	19.4%
12	Sound sleep in the elderly can be encouraged by restricting visitors during rest periods and providing care in groups	236	76.1%	74	23.9%
13	Bedsore in the elderly is prevented by keeping the skin clean and dry and bed lines wrinkle free and dry	281	90.6%	29	9.4%
14	Memorizing capability in the elderly person is affected due to structural changes in the brain	234	75.5%	76	24.5%
15	Care can be rendered to the elderly with altered sensory perception by reducing louder and slowly with nonverbal cues when appropriate	241	77.7%	69	22.3%

**Table 3: Frequency distribution of knowledge of nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310) cont.....**

16	Sleep patterns among the elderly steadily increase compared to person under 60 years	213	68.7%	97	31.3%
17	The adequate respiratory function can be maintained in elderly by instructing the client deep breathing exercises.	277	89.4%	33	10.6%
18	Elderly workers have the highest rates of absenteeism than younger workers	230	74.2%	80	25.8%
19	Majority of the elderly are able to adapt to change more easily compared to young people	189	61%	121	39%
20	As a healthy person reaches old age, his/her voluntary participation in organization usually declines	215	69.4%	95	30.6%
21	We age because of wear and tear of important organs by continuous functioning.	226	72.9%	84	27.1%
22	Health education is needed to the elderly patients	292	94.2%	18	5.8%

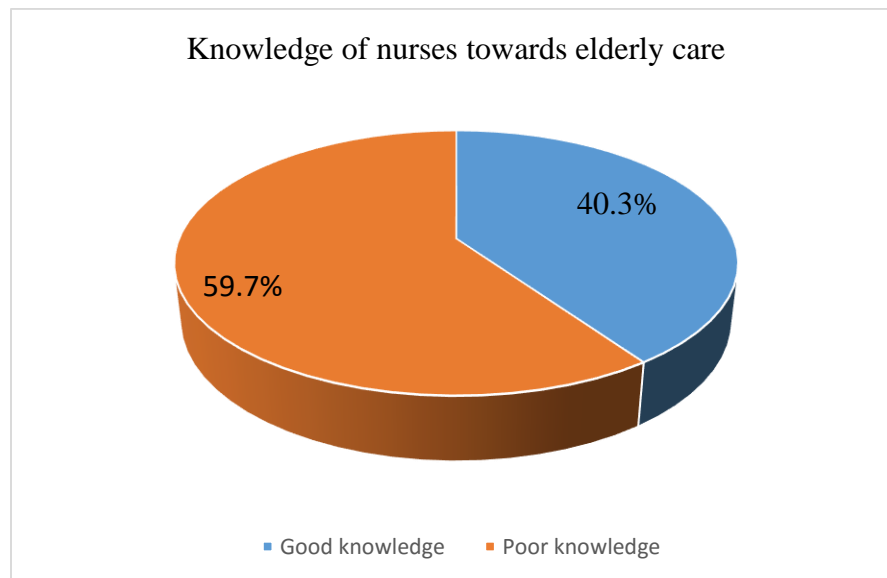


Figure 3: knowledge of nurses towards elderly care in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)

The respondents who were score above the mean considered as having good knowledge and below the mean were poor knowledge. The overall knowledge score regarding care of elder patients was obtained by recording every correct item into 1 and incorrect item 0.

### **5.2.1 Regression analysis of Nurses' Knowledge toward care of elder patient with related variables**

Bivariate and multivariate logistic regression analysis was computed to identify the factors that are associated to nurses' knowledge towards care of elderly patients. On binary logistic regression analysis age, sex, level of education, year of experience in nursing profession, taking training, living with elder were statistically significant and taken into multivariate analysis with knowledge toward care of elder patient.

But adequacy of space and type of unit were not statistically significantly associated with knowledge toward care of elder patient. Those variables, which were significant entered for further multivariate analysis. By adjusting potential confounders in multivariate logistic regression analysis, nurse participants who were between age of 30- 39 were 0.29 times more likely knowledgeable than those who are between age of 20-29 [AOR:0.29; 95% C.I (0.15-0.58)]. similarly, Nurse participants who were  $\geq 40$  years were 0.48 times more likely knowledgeable than those who were between age of 20-29 [AOR:0.48; 95% C.I (0.22, 0.96)].

In case of level of education, those nurse participants who were degree in nursing profession were 1.4 times more likely knowledgeable than those who were diploma in nursing profession [AOR:1.4; 95% C.I (1.02,1.99)]. Similarly, those nurse participants who were masters in nursing profession were 1.6 times more likely knowledgeable than those who were diploma in nursing profession. [AOR: 1.6, 95%; C. I (1.04, 2.8)].

**Table 4: Regression analysis of associated factors of knowledge toward care of elder patient among nurses working in adult care units at selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)**

Variables	Knowledge of nurses towards elderly care				
	Good	Poor	AOR	p-value	95% CI
	Frequency (%)	Frequency (%)			
Age					
20-29	45(14.5)	95(30.6)			
30-39	30(9.6)	39(12.5)	0.29	0.006	(0.15,0.58)
40-49	21(6.77)	33(10.6)	0.48		(0.22,0.96)
>=50	29(9.35)	18(5.8)	0.40	0.02	(0.18,0.88)
Sex				0.035	(0.38,0.96)
Male	82(26.4)	99(31.9)	1.60		(1.04,2.64)
Female	43(13.8)	86(27.7)			
Educational level				0.03	(1.02,1.99)
Diploma	34(10.9)	78(25.1)		0.013	
Degree	59(19.0)	57(18.3)	1.4	0.023	(1.02,1.99)
Masters	32(10.3)	50(16.1)	1.6		(1.04,2.80)
Year(s) of experience			0.77	0.013	(0.55,0.89)
1-5	75(24.4)	97(31.2)		0.008	
6-10	34(10.0)	37(11.9)	2.46	0.006	(1.3,4.6)
>10	16(5.1)	51(16.4)	2.93	0.004	(1.4,6.1)
Training taken				0.025	(0.37,0.93)
Yes	56(18.0)	107(34.5)	0.60		
No	69(22.2)	78(25.1)			
Nurses who were work in adequate space				0.84	(0.6,1.5)
Yes	58(18.7)	88(28.3)	0.95		
No	67(21.6)	97(31.2)			
Live with elderly				0.039	(0.37,0.97)
Yes	78(25.1)	136(43.8)	0.60		
No	47(15.1)	49(15.8)			
Type of unit					
Medical	18(5.8)	40(12.9)	1	0.25	(0.37,3.9)
Surgical	25(8.0)	27(8.7)	0.82	0.64	(0.37,1.84)
Emergency	23(7.4)	27(8.7)	1.70	0.19	(0.77,3.74)
OR	18(5.8)	34(10.9)	1.56	0.27	(0.70,3.47)
orthopedics	23(7.4)	24(7.7)	0.97	0.94	(0.43,2.18)
ICU	18(5.8)	33(10.6)	1.75	0.17	(0.78,3.95)

P- Value < 0.05 was statistically significant.

### **5.3 Practice of nurses towards elderly care**

Nurses' practices of care of the elderly, 213(68.7%) and 93(30.0%) respectively accepted that they always and sometimes give prompt attention to the elderly even in emergency. Two hundred and thirteen (68.7%) and 87(28.1%) respondents accepted respectively that they always and sometimes carry out assessment and evaluation for effective care while 10(3.2%) opined never to do it. On the importance of nutritional assessment 198(63.9%) accepted carrying it out always 108(34.8%) sometimes while 4(1.3%) never did it. This illustrated that highest percentage of nurses who answered highly practiced, moderately practiced and never practiced regarding nurses' practice of care of elder patient.

Those items the highest percentage of nurses highly practiced includes: Do you assess and evaluate elderly patients for effective care and have you given prompt attention to elderly patients even in emergency 213(68.7%). Encourage the elderly to eat adequately and at times assists in feeding them 198(63.9%) and do you like taking care of older people 175(56.5%).

Those items the highest percentage of nurses sometimes practiced includes: Have you got so stressed up when taking care of the aged 190(61.3%). Is taking care of the aged time consuming 163(52.6%) and decreased mental ability of elderly patients often caused by aging process and illness affect response to care 155(50%). Conversely items the highest percentage of nurses never practiced includes: Have you neglected yourself and concentrated only on the aged when taking care of them 98(31.6%). Have you got so stressed up when taking care of the aged 51(16.5%) and taking care of the aged time consuming 33(10.6%). Mean practice score was 10.44.

**Table 5: Frequency distribution of practice toward care of elder patient among nurses working in adult care units at selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)**

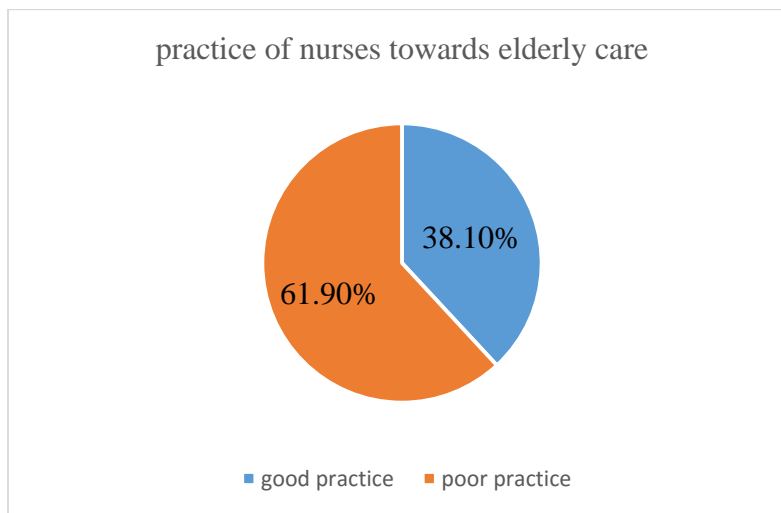
	Variables	Always	Sometimes	Never
2 3	Do you like taking care of older people?	175(56.5%)	133(42.9%)	2(0.6%)
2 4	Have you attached titles to the names of the elderly while taking care of them to create relationship?	131(42.3%)	143(46.1%)	36(11.6%)
2 5	Do you encourage the elderly to eat adequately and at times assists in feeding them?	198(63.9%)	108(34.8%)	4(1.3%)
2 6	Have you given prompt attention to elderly patients even in emergency?	213(68.7%)	93(30.0%)	4(1.3%)
2 7	Do you assess and evaluate elderly patients for effective care?	213(68.7%)	87(28.1%)	10(3.2%)
2 8	Is decreased mental ability of elderly patients often caused by aging process and illness affect response to care?	134(43.2%)	155(50.0%)	21(6.8%)
2 9	Have you got so stressed up when taking care of the aged?	69(22.3%)	190(61.3%)	51(16.5%)
3 0	Is taking care of the aged time consuming?	114(36.8%)	163(52.6%)	33(10.6%)
3 1	Have you neglected yourself and concentrated only on the aged when taking care of them?	75(24.2%)	137(44.2%)	98(31.6%)



Based on the participants' responses the nurses' practice on elderly care is categorized in to good and poor categorization. Therefore, 118(38.1%) highly practiced care of the elderly and 192(61.9%) poor practiced care of the elderly. Mean practice score was 10.44 SD  $\pm$  4.5 with the range of 01-18.

**Table 6: categorization of practice of nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)**

Categorization of practice	Frequency	Percent (%)
Good practice	118	38.1
Poor practice	192	61.9



**Figure 4: categorization of practice of nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)**

The respondents who were score above the mean considered as having good practice and below the mean were poor practice.

### **5.3.1 Regression analysis of nurses' practice towards care of elderly patients**

Bivariate and multivariate logistic regression analysis was used to identify the factors that are associated to nurses' practice towards care of elderly patients. On binary logistic regression analysis age, sex, level of education, year of experience in nursing profession, and taking training were statistically significant associated with practice of nurses toward care of elder patient at p-value <0.05 with 95% C.I.

But adequacy of space, living with elderly persons and type of unit were not statistically significant. Those variables, which were significantly associated with practice were entered for further multivariate analysis. By adjusting potential confounders in multivariate logistic regression analysis, nurse participants who were between age of 30- 39 were 1.6 times more likely to practice elders care than those who are between age of 20-29 [AOR:1.6; 95% C. I (1.2, 2.9)]. similarly, Nurse participants who were 40-49 years were 1.5 times more likely practiced than those who are between age of 20-29 [AOR:1.5; 95% C. I (1.15, 2.8)].

In case of level of education, those nurse participants who were degree in nursing profession were 2 times more likely practiced than those who were diploma in nursing profession [AOR:2.0; 95% C. I (1.01, 3.7)]. Similarly, those nurse participants who were masters in nursing profession were 1.8 times more likely practiced than those who were diploma in nursing profession. [AOR: 1.8, 95%; C.I (1.03, 3.4)]. Regarding sex of participants, male participants were 1.6 times more likely to have high practice than female participants [AOR: 1.6; 95% C.I (1.04, 2.7)].

Regarding year of experience, those nurse participants who have 6-10 years of experience in nursing profession were 2.14 times more likely have highly practiced than those who had 1-5 years of experience in nursing profession [AOR: 2.14; 95% C.I (1.13, 4.05)]. Similarly, those nurse participants who have  $\geq 10$  year of experience in nursing profession were 2.76 times more likely to have high practice than those who have 1-5 year of experience in nursing profession [AOR:2.76; 95% C.I (1.33, 5.74)]. Nurse participants who have been taking training about elderly care were 1.6 times more likely to have high practice compared to those who were not taking training [AOR: 1.6; 95% C.I (1.06, 2.6)].

**Table 7: Regression analysis of practice towards care of elder patient among nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)**

Variables	Practice of nurses towards elderly care				
	Good	Poor	AOR	p-value	95% CI
	Frequency (%)	Frequency (%)			
Age				0.01	(0.16,0.62)
20-29	42(13.5)	98(31.6)			
30-39	28(9.03)	41(13.2)	1.6		(1.2,2.90)
40-49	21(6.7)	33(10.6)	1.5		(1.15,2.80)
>=50	27(8.7)	20(6.4)			
Sex				0.03	(0.4,0.9)
Male	78(25.2)	103(33.2)	1.6		(1.04,2.70)
Female	40(12.9)	89(28.7)	1		
Educational level				0.02	(1.01-3.7)
Diploma	20(6.4)	54(17.4)			
Degree	62(20)	83(26.7)	2.0		(1.01,3.7)
Masters	36(11.6)	55(17.7)	1.8		(1.03,3.4)
Year(s) of experience				0.02	(0.7,2.2)
1-5	69(22.2)	103(33.2)			
6-10	33(10.6)	38(12.2)	2.14		(1.13,4.05)
>10	16(5.2)	51(16.4)	2.76		(1.33,5.74)
Training taken				0.035	(1.06, 2.6)
Yes	53(17.2)	110(35.5)	1.60		(1.06,2.60)
No	65(20.9)	82(26.4)	1		
Nurses who were work in adequate space				0.73	(0.58,1.4)
Yes	57(18.4)	89(28.7)	1.08		
No	61(19.7)	103(33.2)			
Live with elderly				0.10	(0.9,2.4)
Yes	75(24.1)	139(44.8)	0.67		
No	43(13.9)	53(17.1)			
Type of unit				0.78	(0.60,2.8)
Medical	20(6.4)	38(12.3)			
Surgical	21(6.7)	31(10.0)	0.97	0.93	(0.44,2.13)
Emergency	21(6.7)	29(9.3)	1.24	0.60	(0.56,2.76)
OR	17(5.5)	35(11.3)	1.33	0.49	(0.60,2.96)
orthopedics	21(6.7)	26(8.4)	0.89	0.78	(0.39,2.01)
ICU	18(5.8)	33(10.6)	1.48	0.34	(0.66,3.34)

P- Value< 0.05 was statistically significant.

#### 5.4 Factors associated with nurse’s knowledge and practice towards care of elderly patients

More than half, 163(56.2%) were taken training about care of elderly patients. From total nurse respondents, more than half 164(52.9%) of them working in inadequate space/room while they provide care for elder patient and more than two third, 214(69%) of them were lived with elderly person.

Table 8: Frequency distribution of factors associated with knowledge and practice toward care of elder patient among nurses working in adult care units of selected governmental hospitals in Addis Ababa, Ethiopia, 2021(n=310)

Variable	Frequency	Percentage (%)
<b>Do you take training about care of elderly patients?</b>		
Yes	163	52.6
No	147	47.4
<b>Is the space adequate during elderly patients care?</b>		
Yes	146	47.1
No	164	52.9
<b>In which unit/ward you care elderly patients?</b>		
Medical	58	18.7
Surgical	52	16.8
Emergency	50	16.1
OR	52	16.8
Orthopedics	47	15.2
Adult ICU	51	16.5
<b>Do you live with elderly person?</b>		
Yes	214	69.0
No	96	31.0

## 6. DISCUSSION

This chapter presents discussion section of the study. The finding of this study showed that 140 (45.2%) of the respondents were in the age group 20-29 years and more than half of the respondents 181 (58.4%) were male. Similarly, most of the respondents, 145 (46.8 %) were BSc degree in nursing and more than half, 172 (55.5%) had 1-5 years' work experiences. The finding of this study revealed that 125(59.7%), which is more than half of them have poor knowledge toward care of elder patients.

This is much higher than the study conducted in Indian with 267 nurses which showed that only 0.4% of subjects had poor knowledge regarding care of elderly(21). It is much higher than the study conducted in Dar Alagza, & AlMosah Hospital Saudi Arabia which showed that 14.0% of the study sample had poor knowledge regarding care of elderly(5) and the study conducted in Nigeria, Calabar teaching hospital revealed that only 0.7% of the subjects had poor knowledge regarding care of the elderly(1).

The findings in this study indicate that less than half (40.3%) of nurses had adequate knowledge on the care of the elderly. Similarly the study in Swiss emergency department shows that the overall score in the knowledge test is considered low (51.9 %; SD  $\pm$  12.5)(13). This indicates that nurse respondents show little elderly nursing care knowledge.

Similarly, the study conducted in Australia reported that nurses have deficit of knowledge base about the normal processes of ageing, as well as common disease, altered symptom presentation, and adverse drug reaction in older patients(22). But, the study conducted in Nigeria, Calabar teaching hospital showed that 95% of nurses have good knowledge of nursing care of elderly(6). This discrepancy might be due to lack of trainings on area of elder patient care, socio-demographic differences, and differences in work experience.

The finding of this study showed that age was significantly associated with knowledge toward care of elder patient (p-value  $<0.05$ , 95% C.I). Nurse participants who were between age of 30- 39 were 0.29 times more likely knowledgeable than those who are between age of 20-29 [AOR: 0.29; 95% C.I (0.15, 0.58)]. similarly,

Nurse participants who were  $\geq 40$  years were 0.48 times more likely knowledgeable than those who are between age of 20-29 [AOR:0.48; 95% C.I (0.22,0.96)]. This might be due to most of participants who are in higher age have also more experience in care of elderly patients which might in turn improve their knowledge of care of elder patient. The result of this study agrees the study carried out in Addis Ababa in selected hospitals which revealed that there were significant and strong positive correlation between nursing knowledge and age(2). This implies that care of elder patient can be improved if nurses with higher age care for elder patient.

In case of level of education, the finding of this study reveal that nurse participants who were degree in nursing profession were 1.4 times more likely knowledgeable than those who were diploma in nursing profession [AOR:1.4; 95% C.I (1.02, 1.99)]. Similarly, those nurse participants who were masters in nursing profession were 1.6 times more likely knowledgeable than those who were diploma in nursing profession. [AOR: 1.6, 95%; C.I (1.04, 2.8)]. This suggests nurses with more level of education might have more opportunity to gain access to up-to-date information about care of elderly patients.

The results in this study are consistent with the study conducted by Mandy, Mitchel & O' Niel (2011) in Ireland that reported higher level of education increases the nurses' knowledge of care of the elderly and also the study conducted in Hong Kong showed that Only 40 participants (18.3%) had ever studied about elderly care before. However, 96 (43.8%) participants reported that they had studied the theoretical aspects of about elderly care; whilst a 100 (50.2%) participants reported that they had studied the clinical aspect of elderly care(6). These indicated that increased level of study might significantly improve the knowledge of nurses about the care of elderly. Similarly, the study conducted in Brazil among 56 nurses revealed that investing in processes of continuing health education can improve the knowledge of nurses. Participants who declared receiving permanent and continuing health education on elderly care presented a significantly favorable knowledge(23).

It is also similar with the study carried out in Korea which revealed that there were significant differences in nursing knowledge due to duration of care experience. The

longer duration of the experience, the better the knowledge of elder patient care. Nurses' seniority (years of experience) has been shown to correlate with effective elderly nursing care and knowledge of best practice. A nurse may be proficient in his or her specialty, but experience in other areas does not correspond to experience in caring for older patient(26).

According to Oyetunde, Ojo & Ojewale (2013) studies show that effective care of the elderly requires special training, adequate space, adequate staffing to reduce stress and improve quality of care. This implies that nurse's knowledge toward care of elder can be improved by giving training for nurses on care of elder patients(1). The finding of this study consistent with the study conducted in Zanzibar proves that living with an elderly person at home were associated with good level of knowledge towards elderly care. The result of this study disagrees with the study held in Portuguese nurses who worked in medical unit perceived more barriers to provide a good quality of care to older patients.

On the other hand, the result of this study is consistent with the study conducted in low- and middle-income countries revealed that nurses reported having moderate to insufficient knowledge in the care of older adults in the majority of the studies. This implies that nurses had insufficient knowledge in the care of older adults and a low preference for working with older adults and the inadequate preparation of nurses in the care of older adults. The result of this finding is higher than the study held in Zanzibar shows that among a total of 393 study participant only 17% (69) of the participants had good level of knowledge towards elderly care(12). The finding of this study is less than the study in Indian revealed that most of the subjects (76.4%) had good knowledge regarding care of elderly. Being knowledgeable includes nurses able to manage time and prioritize tasks effectively in the care of elderly. Each event of care for the older person requires knowledge about multiple problems and complex interventions(21).

The finding of this study revealed that 61.9 % of nurses have poor practice toward care of elder patient. This is higher than the study in Urmia, Iran among 50 nurses proved that 39% had poor practice of care towards elderly(28). It showed that there is

a significant relation between nurses' experiences and their safe practice ( $p \leq 0.05$ ). Similarly, the study in Swiss emergency department indicates that the practical skills is estimated at an average of 1.54 on a 3-point scale, which can be interpreted at a level between medium and low and consider their level of skills to be mid-range or low. This is definitely a challenge for training, education and research for practice of nurse in elderly nursing care(13).

The finding of this study is higher than the study in Sweden showed that the major nursing-staff group in elderly care has no university education and among all respondents, 28% reported that they used research findings in daily practice and had good practice of care(27). The result of this finding is higher than the study conducted in Nigeria, Calabar teaching hospital shows that practice of care of elderly, 246 (54%) and 208 (45%) respectively accepted that they always and sometimes give prompt attention to the elderly. 236(51%) and 206 (45%) respondents accepted respectively that they always and sometimes carryout assessment and evaluation for effective care while 14 (3%) never to do it.

On the importance of nutritional assessment 288 (63%) accepted carrying it out always, 156(34%) sometimes while 16 (4%) never did it. The responses given by respondents on their practice of care of the elderly is 170 (36.9%) highly practiced (always) care of the elderly, 203 (44.1%) moderately (sometimes) practiced care of the elderly while 87 (19%) never practiced care of the elderly. Mean practice score was  $12.02 \text{ SD} \pm 4.27$  with the range of 0-18. These differences may be due to lack of elder care training, lack of formal geriatric care education and absence of independent geriatric unit(1).

The findings revealed that 61.9% provided inadequate care for the elderly. The practices included nutritional assessment, thorough assessment during emergency, evaluation and effective care, calling patient by name and creating a relationship. These findings are due to the high level of education and specialization of nurses. Findings from the study also revealed that majority of the nurses prefer taking care of younger people. This could be because taking care of the elderly is time consuming and stressful. The finding of the study revealed that nurse participants who were



between age of 30- 39 were 1.6 times more likely practiced than those who are between age of 20-29 [AOR:1.6; 95% C.I (1.03,2.9)]. similarly, Nurse participants who were  $\geq 40$  years were 1.5 times more likely practiced than those who are between age of 20-29 [AOR:1.5; 95% C.I (1.04,2.8)].

In case of level of education, those nurse participants who were degree in nursing profession were 2 times more likely practiced than those who were diploma in nursing profession [AOR:2.0; 95% C.I (1.01,3.7)]. Similarly, those nurse participants who were masters in nursing profession were 1.8 times more likely practiced than those who were diploma in nursing profession. [AOR: 1.8, 95%; C. I (1.03, 3.4)]. This implies that care of elder patient can be improved if nurses who have advanced educational level are employed to care for elder patient. Regarding sex of participants, male participants were 1.6 times more likely to have high practice than female participants [AOR: 1.6; 95% C.I (1.04, 2.7)].

Regarding year of experience, there is association of years of experience with practice of nurses towards the care of the elderly. Those nurse participants who have 6-10 years of experience in nursing profession were 2.14 times more likely have highly practiced than those who had 1-5 years of experience in nursing profession [AOR: 2.14; 95% C.I (1.13, 4.05)]. Similarly, those nurse participants who have  $\geq 10$  year of experience in nursing profession were 2.76 times more likely to have high practice than those who have 1-5 year of experience in nursing profession [AOR:2.76; 95% C. I (1.33, 5.74)]. This may be due to the fact that nurses with lesser years of experience have not had enough experience of caring for the elderly. With increased years of experience there may be improved practice towards the care of the elderly.

Nurse participants who have been taking training about elderly care were 1.6 times more likely to have high practice compared to those who were not taking training [AOR: 1.6; 95% C.I (1.06, 2.6)]. The finding of this study is in agreement with the study conducted in Korea revealed that the influencing factors of practice of the nurses towards the elderly in adult care units included knowledge and current elderly care nursing education. This is due to the fact that those who have knowledge of care of elder patient understand problems of elder people which might in turn enhance

their practice. This implies that nurse's practice toward care of elder patient can be enhanced if knowledgeable nurses care for elder patient(26).

This finding revealed that more than half of the respondents (52.6%) agreed that taking care of the elderly requires special training for the elderly patients. This finding is probably because the elderly has some uniqueness that would require special care. The result of this study agrees with the study conducted in Okoye and Asa (2011) providing care to the elderly, takes a huge toll, both physically and emotionally on the caregiver. With the population of the elderly one of the emerging issues is the care and support of elderly persons in years to come. Few people are prepared for the responsibilities and tasks of caring for the aged because of the stress involved.

In a study conducted in Nsukka Enugu State by Okoye and Asa (2011) to investigate the experiences of caregivers of elderly shows that there exists a significant relationship between caregiver's age and level of practice ( $P = 0.001$ ). The sex of the caregiver, the level of education of caregivers, level of education of care receiver are all significantly related to the level of practice(31). Findings of this study agrees with the study conducted in Netherland on nurse's knowledge toward care of elder patient investigated that educational level and year of experience in nursing profession had significant association with knowledge toward care of elder patient.

There was smaller increase of knowledge among nurses with first 5 years of working experience. The group of nurses having 6-15 years of experience has the highest mean knowledge score. The mean difference in knowledge between nurses remains significant ( $p < .001$ ) in the first 15 years of experience(2). Results confirming that educational qualifications play a role in the quality-of-care older people receive. This implies that increase in educational level and seniority of nurses has a great role of being knowledgeable and enhancing practice of nurses towards elderly care.

## **7. STRENGTH AND LIMITATION OF THE STUDY**

### **7.1 strength of the study**

The questionnaires used to collect data were up-to-date, recently developed. The study incorporated large sample size and the response rate was enough.

### **7.2 Limitations of the study**

The study was conducted in only in three selected hospitals. This means that there may not be much room for generalization because nurses in other institutions may have different knowledge and practice of the care of the elderly. Information was based on the respondent's perception which may have a reliability issue as a self-administered questionnaire were used to collect data; the study may be subjected to response bias from each respondent; and could have been influenced by other factors such as the time, schedule, etc. The fact that lack of study was conducted so far in Ethiopia on this topic, no enough literature was available to discuss on national context.

## **8. CONCLUSIONS AND RECOMMENDATIONS**

### **8.1 conclusions**

This study was conducted to assess level of nurses' knowledge, practices and associated factors toward care of elder patient. Generally, the study showed that: majority of nurses had poor knowledge regarding care of elder patient, Year of experience in nursing profession and age of nurse participants had significant association with nurses' knowledge toward care of elder patient, and Majority of nurses had poor practice toward care of elder patient. Level of education, year of experience in nursing profession, and taking training had significant association with practice toward care of elder patients. Nurses need to have the right skills to manage a more demanding role in the future. In order to offer effective services for the elderly patients, a skilled nurse is therefore very necessary.

### **8.2 Recommendations**

#### **To FMOH**

The FMOH should consider providing trainings for nurses to enhance their knowledge and improve their practice on care of elder patients. Develop a system of periodical nurses' evaluation to determine strategies of upgrading their knowledge and enhancing practice.

#### **To hospital managers**

Hospital managers should develop follow up courses and in-service training programs to maintain efficient performance of individuals previously trained in the care of the elderly.

#### **To nursing schools**

Design curriculum regarding geriatric nursing care. Access new knowledge and develop new skills related to the teaching of care of older adults. Teach students how to manage acute and chronic health problem of elder people. Nursing department should provide Geriatric nursing as one of specialty track.

**To researcher:** Future research needs to explore the accurate knowledge and practice of nurses towards elder patients' care using observational study design. The researcher suggests that similar study on the knowledge and practice of nurses towards care of the elderly should be done in other health facilities.

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## ANNEX I: INFORMATION SHEET

**Introduction:** - My name is \_\_\_\_\_. I am working as a data collector in the research conducted by Gebeyaw Alemu (BSc), who is conducting this research entitled “knowledge and practice towards care of elderly patients and associated factors among nurses” for the partial fulfillment of his Masters of science in Adult Health nursing specialty track in Addis Ababa University. For this study you are selected as a participant and before getting your consent or permission of your participation you need to know all necessary information related to the study.

Thus, this, information will be detailed as

**Objective:** -Assessment of Knowledge and practice towards Care of Elderly Patients and Associated Factors among Nurses in Adult Care Units in Selected Governmental Hospital of Addis Ababa, Ethiopia, 2021.

**Name of advisors:** Daniel Mengistu (MSc, PhD fellow):

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**Name of the organization:** - Addis Ababa University, College of health sciences, school of nursing and midwifery.

**Participants:** - Selected nurses working in three governmental hospitals of Addis Ababa namely Tikur Anbessa specialized hospital, St. Peter specialized hospital, and Minilik II hospital.

**Confidentiality:** All information you give will keep confidential and will not be accessible to any third party. You are not asked to write your name on the questionnaire sheet so that you will not be identified

**Risks:** The procedure does not bear any physical or psychological trauma on you. You will not force to respond to the information you do not know. However, by participating in this research project, you may feel that it is time consuming, wasting about 35 minutes. We hope you will participate in the study for the sake of the benefit of the research result.



**Benefits:** For your participation in the study, no payment will grant. However, participating in the study and giving your information to questions asked will have great input in efforts to identify knowledge, practice and associated factors toward care of elderly patients and the result of the study will help in improving nurses care of elderly patients.

**Right to refuse or withdraw:** - Your participation is voluntary and you are not obligated to answer any question you do not wish to answer. If you feel discomfort with the question, it is your right to drop it any time you want. If you have questions regarding this study or would like to be informed of the results after its completion, please feel free to contact the principal investigator and advisor.

**Person to contact:**

If you have any question to ask, please contact

Name-Gebeyaw Alemu

Phone No: +251918488344

E-mail: [alegebe18@gmail.com](mailto:alegebe18@gmail.com)

## ANNEX II: - CONSENT FORM

I have read all the process and the objective of the study. I am giving my consent to participate in the study entitled “Assessment of Knowledge and practice towards Care of Elderly Patients and Associated Factor Among Nurses Working in Adult Care Units in Selected Governmental Hospital of Addis Ababa, Ethiopia, 2021”. I have been informed that the purpose of the study. I have understood that participation in this study is entirely voluntarily. I have told that my answers to the questions will not give to anyone else and no reports of this study ever identify me in any way. I have also informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks.

\_\_\_\_\_ Yes, I want to participate in the study (Please go to the next page).

\_\_\_\_\_ No, I do not participate in the study (Thank you very much!).

Witness: Signature\_\_\_\_\_ Date \_\_\_\_\_

### **Data facilitator**

Name\_\_\_\_\_ Signature\_\_\_\_\_ Date\_\_\_\_/\_\_\_\_/\_\_\_\_

### **Checked by Supervisor:**

Name\_\_\_\_\_ Signature\_\_\_\_\_ Date\_\_\_\_/\_\_\_\_/\_\_\_\_

**ANNEX III: QUESTIONNAIRES**  
**ADDIS ABABA UNIVERSITY**  
**COLLEGE OF HEALTH SCIENCES**  
**SCHOOL OF NURSING AND MIDWIFERY**

**Questionnaire prepared to collect data on Assessment of Knowledge and  
practice towards Care of Elderly Patients and Associated Factor among Nurses  
Working in Adult Care Units in Selected Governmental Hospital of Addis  
Ababa, Ethiopia, 2021**

This questionnaire has four sections: section A is about Socio-demographic Information, Section B is about nurse's knowledge toward elder patient care, Section C is about nurse's practice toward elder patient care, and section D is about factors associated with nurse's knowledge and practice toward care of elder patient

Please read each item carefully and give your honest response to each item. If you overlook any item without response, it will affect the study. So, please check that you have given response to all items.

**I thank you for your genuine responses and cooperation.**

## **SECTION A**

### **SOCIO DEMOGRAPHIC DATA**

Before you begin, I would like to ask you to answer a few general questions about yourself: by circling the correct answer.

1. What is your age.....?

2. Gender

1. Male

2. Female

3. Educational level

1. Diploma in nursing

2. Degree in nursing

3. Masters in nursing

4. What is your year(s) of experience in nursing profession? -----yrs.

## Section B

### Knowledge of Nurses in the Care of the Elderly

s/no	Variables	Yes=1	No=0
5	The elderly people need regular exercise.		
6	Proper mouth care is a basic need for the elderly		
7	Aging process will lead to anatomical and physiological changes.		
8	Dehydration can be prevented in elderly by assessing skin turgor, mucous membrane and urine output.		
9	Elderly people need to eat regularly and properly.		
10	Lung capacity tends to decline in old age.		
11	The fear and anxiety related to inability to perform usual roles by the elderly can be reduced by maintain calm, unhurried confident manner when interacting with the patient		
12	Sound sleep in the elderly can be encouraged by restricting visitors during rest periods and providing care in groups		
13	Bedsore in the elderly is prevented by keeping the skin clean and dry and bed linen wrinkle free and dry		
14	Memorizing capability in the elderly person is affected due to structural changes in the brain		
15	Care can be rendered to the elderly with altered sensory perception by reducing louder and slowly with nonverbal cues when appropriate		
16	Sleep patterns among the elderly steadily increase compared to person under 60 years		
17	The adequate respiratory function can be maintained in elderly by instructing the client deep breathing exercises.		
18	Elderly workers have the highest rates of absenteeism than younger workers		
19	Majority of the elderly are able to adapt to change more easily compared to young people		
20	As a healthy person reaches old age, his/her voluntary participation in organization usually declines		
21	We age because of wear and tear of important organs by continuous functioning.		
22	Health education is needed to the elderly patients		

SECTION C

Nurse's practice of Care of the Elderly

s/n o	Variables	Always	sometimes	Never
		2	1	0
23	Do you like taking care of older people?			
24	Have you attached titles to the names of the elderly while taking care of them to create relationship?			
25	Do you encourage the elderly to eat adequately and at times assists in feeding them?			
26	Have you given prompt attention to elderly patients even in emergency?			
27	Do you assess and evaluate elderly patients for effective care?			
28	Is decreased mental ability of elderly patients often caused by aging process and illness affect response to care?			
29	Have you got so stressed up when taking care of the aged?			
30	Is taking care of the aged time consuming?			
31	Have you neglected yourself and concentrated only on the aged when taking care of them?			

SECTION: D

Associated factors of nurses' knowledge and practice towards care of elderly patients (circle one).

32. Do you take training about care of elderly patients? 1. Yes 2. No
33. Is the space adequate during elderly patients care? 1. Yes 2. No
34. In which unit/ward you care elderly patients? 1. Medical 2. Surgical  
3. Emergency 4. OR  
5. Orthopedics 6. ICU
35. Do you live with elderly person? 1. Yes 2. No