Effect Of Health Education In Improving Knowledge Attitude And Practice Of Patients Attending Alshaheed Elzubair Health Center, Grater Wad Medani Locality, Gezira State, Sudan 2015

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Bsc, In Food Science, University Of Gezira 2006

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Faculty Of Medicine

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Effect Of Health Education In Improving Knowledge Attitude and Practice Of Patients Attending Alshaheed Elzubair Health Center, Grater Wad Medani Locality Gezira State, Sudan 2015

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<td>Co-supervisor</td>
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Date: November, 2016
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Dedication

To My

Father Mohamed Brair Abdelrazig

To My

Mother Bothaina Abdelrhman

To My Husband

Dr. Albagir Mahdi Ahmed Hassan

To My Daughter

Lugain
Acknowledgment

First, I would like to express my sincere gratitude to Professor Magda Elhadi Ahmed Department Of Community And Family Medicine University Of Gezira For Her Efforts And Continuous support, Also I would like To Thank My Supervisors Dr. Mohammed Elmukhtar Mohammed saad Eldin Department Of Community And Family Medicine University Of Gezira And Dr. Moawia Elbalal Mohamed Department of Medicine University Of Gezira For Their Patience, motivation and immense knowledge.

Also I Would like to Thank staff of Alshaheed Health Center, patients and All the Staff of Health Insurance (Tartel, Samah, Shimaa, Eglal, Tanzeel, Nashwa) without they help it would not be possible to find the participants of the study.
Effect Of Health Education In Improving Knowledge Attitude And Practice Of Patients Attending Alshaheed Elzubair Health Center, Grater Wad Medani Locality
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ABSTRACT

Geriatrics is a branch of medical science that focuses on health care of elderly people. It aims to promote health by preventing and treating diseases and disabilities in older adults. The target of this Interventional study is to raise the awareness among elderly people and their caretakers, to identify all the elderly’s health problems and to assess effects of health education in improving Knowledge Attitude and Practice (KAP) of elderly. The study was conducted at the Alshaheed Alzubair health center, Wad Madani city. Data were collected by structured questionnaire covering 400 participants (60 year and above). SPSS version 20 was used for statistical analysis, and chi-square was used for testing the significance of some associated variables such as daily activity, regular follow up, use of diet therapy, taking appropriate diet for the disease, taking drugs regularly. An approval was obtained from the authority of the center and verbal consent was obtained from all patients who agreed to participate in the study. The study found that knowledge about the importance of taking medication regularly increased and attitudes and practices were positive after intervention where they increased from 73.5 % before the intervention to 77.9% after it. The study also revealed that the attitude towards use of diet therapy was negative before intervention changed from 23.5% to positive practice after intervention which formed 50.2% . Also, there was improvement in participants’ behavior towards type of diet therapy where it increased from 14.8% in hypertension diet therapy before the intervention to 32.9% after it, diabetes diet therapy from 12.2% before to 29.6 % after intervention, gout diet therapy from zero to 1.4%. Finally study found there was improvement of knowledge all family members who help the participants from 10.5% before to 36.2% after the intervention. The result revealed that participants suffered from chronic disease, hypertension is the most common non-communicable disease followed by diabetes also hearing impairment, visual impairment malaria is the most common communicable disease. Socio-demographic factors can affect the elderly and their health. The study recommended encouraging researchers to conduct studies concerning the health of the elderly in the state, and provision of integrated services to geriatric patients at health centers.
أثر التثقيف الصحي في تحسين المعرفة والموقف والسلوك للمرضى في مركز صحي الشهيد الزبير- السودان - ولاية الجزيرة - ود مدني الكبيرى (2015)
صفاء محمد برير عبد الرازق
ملخص الدراسة
طب الشيخوخة هو أحد فروع العلوم الطبية التي تركز على الرعاية الصحية لكبار السن فهو يهدف إلى ترقية الصحة بالوقاية من وعلاج الأمراض والإعاقات في كبار السن. هدف هذه الدراسة التدخلية هو رفع الوعي بين كبار السن والقائمين على رعايتهم؛ التعرف على جميع مشاكلهم الصحية وقياس أثر التثقيف الصحي في تحسين المعرفة والسلوك والموافقة لكبار السن. أجريت الدراسة في مركز الشهيد الزبير بمدينة وادمدني. تم جمع البيانات بواسطة استبان مهيك (معطيًا (400) مشارك (60 سنة وما فوق). تم استخدام الإصدارة 20 من برنامج SPSS للتحليل الإحصائي. تم استخدام مربع كاي لاختبار الدلالة المعنوية لبعض المتغيرات المرتبطة بها مثل النشاط اليومي، نظام التغذية، النشاط البدني، التحكم في المخاطر الصحية. بخصوص نظام التغذية؛ اخذ النظام الغذائي المناسب للمرض، اخذ الأدوية بانتظام، من سلنتين، المشاركين، وموافقة معرفة أسئلة حول أهمية النماذج الدقيقة. وجدت الدراسة أن المعرفة حول أهمية تناول الدواء زادت والمواقف والسلوك كانت إيجابية بعد التدخل حيث زادت من 73.5% إلى 77.9% بعدد. أظهرت الدراسة أيضاً أن السلوك تحاج استخدام العلاج الغذائي كانت سلبية قبل التدخل وزادت إلى 23.5% إلى 50.2% في النتائج بعد التدخل. أظهرت الدراسة أن المشاركين يعانون من الأمراض المزمنة، كان مرض ارتفاع ضغط الدم أكثر الأمراض شيوعاً، ومرض السكري، وأيضاً ضعف السمع والبصر، والملاريا، وأكثر الأمراض المزمنة شيوعاً، وأيضاً ضعف النشاط البدني. في النهاية، أوصت الدراسة بتشجيع الباحثين على اجراء دراسات حول صحة كبار السن في الولاية وتوفير خدمات صحية للمرضى كبار السن في المراكز الصحية.
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Chapter one

Introduction

Geriatrics Health:

Is a branch of science that focuses on health care of elderly people. It aims to promote health by preventing and treating diseases and disabilities in older adults. It is distinguished from geriatrics which is the branch of medicine that specializes in the treatment of existing disease in older adults. At the biological level, ageing is results from the impact of the accumulation of a wide variety of molecular and cellular damage over time. (1)

This leads to a gradual decrease in physical and mental capacity, a growing risk of disease, and ultimately, death. But these changes are neither linear nor consistent, and they are only loosely associated with a person’s age in years. While some 70 year-olds enjoy extremely good health and functioning, other 70 year-olds are frail and require significant help from others. (1)

Beyond biological changes, ageing is also associated with other life transitions such as retirement, relocation to more appropriate housing, and the death of friends and partners. In developing a public-health response to ageing, it is important not just to consider approaches that ameliorate the losses associated with older age, but also those that may reinforce recovery, adaptation and psychosocial growth. (1)

People worldwide are living longer. Today, for the first time in history, most people can expect to live into their sixties and beyond. By 2050, the world's population aged 60 years and older is expected to total 2 billion, up from 900 million in 2015. Today, 125 million people are aged 80 years or older. By 2050, there will be almost this many (120 million) living in China alone, and 434 million people in this age group worldwide. By 2050, 80% of all older people will live in low- and middle-income countries. (1)

The pace of population ageing around the world is also increasing dramatically. France had almost 150 years to adapt to a change from 10% to 20% in the proportion of the population that was older than 60 years. However, places such as Brazil, China and India will have slightly more than 20 years to make the same adaptation. (1)
While this shift in distribution of a country’s population towards older ages – known as population ageing - started in high-income countries (for example in Japan 30% of the population are already over 60 years old), it is now low- and middle-income countries that are experiencing the greatest change. By the middle of the century many countries for e.g. Chile, China, the Islamic Republic of Iran and the Russian Federation will have a similar proportion of older people to Japan.¹

A longer life brings with it opportunities, not only for older people and their families, but also for societies as a whole. Additional years provide the chance to pursue new activities such as further education, a new career or pursuing a long neglected passion. Older people also contribute in many ways to their families and communities. Yet the extent of these opportunities and contributions depends heavily on one factor: health. ¹

There is, however, little evidence to suggest that older people today are experiencing their later years in better health than their parents. While rates of severe disability have declined in high-income countries over the past 30 years, there has been no significant change in mild to moderate disability over the same period.¹

If people can experience these extra years of life in good health and if they live in a supportive environment, their ability to do the things they value will be little different from that of a younger person. If these added years are dominated by declines in physical and mental capacity, the implications for older people and for society are more negative¹.

**Common health conditions associated with ageing:**

Common conditions in older age include:

Hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression, and dementia. Furthermore, as people age, they are more likely to experience several conditions at the same time.¹

Older age is also characterized by the emergence of several complex health states that tend to occur only later in life and that do not fall into discrete disease categories. These are commonly called geriatric syndromes. They are often the consequence of multiple
underlying factors and include frailty, urinary incontinence, falls, delirium and pressure ulcers.

Geriatric syndromes appear to be better predictors of death than the presence or number of specific diseases. Yet outside of countries that have developed geriatric medicine as a specialty, they are often overlooked in traditionally structured health services and in epidemiological research.\(^{(1)}\)

**Health in Sudan:**

Sudan is the third largest country in Africa even after the split of the Northern and Southern parts. It is one of the most densely populated countries in the region and is home to 40.235.000 million people.\(^{(2)}\)

With this rise in population and bearing in mind the political issues that have plagued the country with war and hostility for the last 25 years, health care has become an afterthought and basically lost in the midst of what the government might believe to be more pressing matters. Sudan still has a long way to go to achieve its millennium developmental goals and to establish an adequate and efficient health care system that benefits every individual in the country.\(^{(2)}\)

**History of Health care in Sudan:**

History of the medical research and providing professional medical health care in Sudan could be traced back to 1903, when The Welcome Research Laboratory was established in Khartoum as a part of the Gordon Memorial College.\(^{(3)}\)

**Problem statement:**

**The condition of elderly people in Sudan:**

The older individuals in Sudan constitute a growing group whose needs are inadequately. Their role in the displaced community is not always identified, and their potential contribution to their families is not fully recognized.

In Sudan, traditional attitudes and influence of the extended families are the main features of the family structure.
According to the yearbook of labor statistics, Sudan has been one of the five countries with the highest proportion of economically active persons above age of 65, since 1990. The country has experienced a high birth rate and a high but declining death rate, which causes rapid population growth among older individuals like many other developing countries, Sudan continues to experience problems in providing the most basic psychological and social support services to its population, as well as health services, to help them overcome the vulnerability that might arise from unpredictable conditions of social, economic and political changes.\(^4,5\)

**Older people in Sudan face many problems:**
- Lack of health awareness.
- Poor diet.
- Inadequate housing.
- Bad health and isolation often contribute to their poverty.
- Many older people are forced to work at very old age, and they quit working only when they are physically or mentally unable to continue.
- A few of them have social security or health insurance.
- Earning a living remains the priority to them especially those who have no sons.
- They are unable to save money for their old age and have little to live on when they stop working.
- Older people used to retire at an early stage (male 60 year and female 55 year) to give chances for the younger, even if they might still have the capability to continue working.

In this study, I tried to highlight the most important health problems for the elderly, raising health awareness among the elderly to adopt the style of a perfect life such as used of diet therapy, monthly follow up, regularity in taking medication, improved physical activity.

**Living arrangements:**
The national census conducted in 1993 showed that 75.4% lived in rural areas, while 24.6% in urban areas; that 49.6% lived in one houses, 43.6% in cottages, and about 6.8% live in houses with more than one floor.

**Family structure:**
The family is defined as a social, economic and cultural unit. As in many collective societies, the extended family system is still dominant in the Sudanese society, and older persons are considered the pillars of the family.\(^6\) Hence, the cultural and traditional
beliefs of the Sudanese society necessitate that care and respect for the older persons should naturally be provided.

**Justification:**

- Between 2015 and 2050, the proportion of the world’s population over 60 years will nearly double from 12% to 22%.
- No customized services for the elderly in the area.
- The lack of researches about geriatric health help in adoption services for the elderly people.
- Older people experience higher rates of disability that reflects an accumulation of health risks throughout their life course. Whose Global Burden of disease (2004) estimates show that prevalence of disability increases with age and suggests that more than 46% of people aged 60 years and over has disabilities.\(^{(7)}\)
- Dementia is the greatest cause of years lost due to disability in high-income countries and the second greatest worldwide. More recent data suggests that, in 2010, there were 35.6 million people living with dementia globally, with 7.7 million new cases each year.\(^{(7)}\)
- Older people have the highest risk of death or serious injury arising from a fall and the risk increases with age. For example, in the United States of America, 20–30% of older people who fall suffer moderate to severe injuries such as bruises, hip fractures, or head traumas.
- Non communicable diseases (NCDs) kill 38 million people each year. Sixteen million NCD deaths occur before the age of 70; 82% of these "premature" deaths occurred in low- and middle-income countries.\(^{(8)}\)
- The increasing number of older people at the moment underscores the need to care for the elderly in their community.
Chapter tow

Literature Review

Basic and General National Indicators, Information and characteristics About Sudan:

Sudan is the largest country in Africa spreading over an area of 2.5 million square kilometers.

The Country has a federal system of government and it is administratively and politically divided into twenty-five States. For the last two decades, Sudan has had civil conflicts between the North and the South and more recently, the population of the South has voted for a separation referendum. The Northern Sudan consists of 15 states, each consisting of several localities. Approximately 79% of the population lives in Northern Sudan; however, there is a recent growing trend in urbanization. Sudan is a low income country and it ranked 139 out of 177 countries based on the Human Development.

Poverty is prevalent with variations between and within states. Civil war, natural disasters and the political situation have limited the economic progress of the country, which resorted to foreign partners to exploit its oil fields.\(^{(9)}\)

- The population number of Sudan is 38,435,252 Million people.
  - The male number is 19,582,958 and female is 18,852,294.
- Urban population is 30.8 % and Rural population is 69.2 %
- Annual growth rate is 2.53%
- Natural Increase Rate is 100026.3%
- Adult literacy rate is 49.9% + 15 years \(^{(10)}\)
Table (1):
The distribution of elderly people over 60 year old in Sudan general bureau of statistics census (2008):

The total distribution of elderly people over 60 year is 2,122,729 million\(^{12}\)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 – 64</td>
<td>351,430</td>
<td>291,417</td>
<td>642,847</td>
</tr>
<tr>
<td>65 – 69</td>
<td>275,343</td>
<td>222,751</td>
<td>498,094</td>
</tr>
<tr>
<td>70 – 74</td>
<td>208,407</td>
<td>166,291</td>
<td>374,698</td>
</tr>
<tr>
<td>75 – 79</td>
<td>150,636</td>
<td>122,013</td>
<td>272,649</td>
</tr>
<tr>
<td>80 +</td>
<td>184,560</td>
<td>149,881</td>
<td>334,441</td>
</tr>
<tr>
<td>Total</td>
<td>1,170,376</td>
<td>952,353</td>
<td>2,122,729</td>
</tr>
</tbody>
</table>

Table (2):
Percentage of elderly people over 60 years old in Sudan:

The total percent is 5.6%.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 – 64</td>
<td>%1.7</td>
</tr>
<tr>
<td>65 – 69</td>
<td>%1.3</td>
</tr>
<tr>
<td>70 – 74</td>
<td>%1</td>
</tr>
<tr>
<td>75 – 79</td>
<td>%0.7</td>
</tr>
<tr>
<td>80 +</td>
<td>%0.9</td>
</tr>
<tr>
<td>Total</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

In Gezira State the total Area is 23,373 km the total of population is 3,575,280 million people. The female number is 1,851,792 million and male number is 1,723,488 million.

- Illiteracy rate is 26.6%
- Percentage of population with disability is 4.48%
- The rate of natural increase is 15.6%
Table (3):
The distribution of elderly people over 60 years old in Gezira State (2008):
Distribution of elderly people over 60 is 229.106 the male 121.53 and female 107.576(12)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 – 64</td>
<td>37.045</td>
<td>35.557</td>
<td>72.602</td>
</tr>
<tr>
<td>65 – 69</td>
<td>24.762</td>
<td>20.314</td>
<td>45.076</td>
</tr>
<tr>
<td>70 – 74</td>
<td>25.304</td>
<td>23.550</td>
<td>48.854</td>
</tr>
<tr>
<td>75 – 79</td>
<td>13.910</td>
<td>10.670</td>
<td>24.58</td>
</tr>
<tr>
<td>80 +</td>
<td>20.509</td>
<td>17.485</td>
<td>37.994</td>
</tr>
<tr>
<td>Total</td>
<td>121.53</td>
<td>107.576</td>
<td>229.106</td>
</tr>
</tbody>
</table>

Table(4):
Percentage of elderly people over 60 year old in Gezira State:
The total percent is 5.2%. (12)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 – 64</td>
<td>2.0%</td>
</tr>
<tr>
<td>65 – 69</td>
<td>1.3%</td>
</tr>
<tr>
<td>70 – 74</td>
<td>1.4%</td>
</tr>
<tr>
<td>75 – 79</td>
<td>0.4%</td>
</tr>
<tr>
<td>80 +</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

Non communicable diseases:

Non communicable diseases cause 60% of all death globally, and 80% of these are in low- and middle-income countries. According to the 2004 Global Burden of Disease Update, almost half of the disease burden in low- and middle-income countries is now from non-communicable diseases.

NCDs The major killers of adults in the developing world have shifted to cardiovascular disease and cancer. These NCDs lead to losses of educational investments and labour productivity among middle income developing countries, keeping millions of people from emerging confidently from poverty. And the chronic nature of these diseases leads to high levels of long term disability that continues to cost families and their societies a high social tax for years. (13)
Home Safety Assessment

In 2012 to 2013, over 90,000 older adults died as a result of unintentional injury. Over one-half these were due to falls and another 14 percent due to motor vehicle accidents. Additional causes included poisoning, fire, and suffocation. Common physical and cognitive problems predispose older adults to higher rates of accidents in the home. After an accident, older adults are less likely to get prompt assistance or needed medical help because of their increased risk of isolation and problems with communication.

Evidence is not robust on how to best reduce risk of injury. Home safety intervention trials have largely focused on fall prevention and have had mixed results.

Risk factors in home including:

- Slippery floors, the present of small pieces of furniture on the ground.
- The lack of adequate lighting.
- The presence of high thresholds at doors.
- Housing in the upper floors of the house.
- Lack of iron bars for ladders.
- Bedroom away from the rest of the family members.
- Slippery floors in the toilets.

Functional status:

Many adults aged 65 and over spend, on average, 10 hours or more each day sitting or lying down, making them the most sedentary age group. They are paying a high price for their inactivity, with higher rates of falls, obesity, heart disease and early death compared with the general population. There is strong evidence that people who are active have a lower risk of heart disease, stroke, type 2 diabetes, some cancers, depression and dementia.

Functional status refers to the ability to perform activities necessary or desirable in daily life. Functional status is directly influenced by health conditions, particularly in the context of an elder's environment and social support network. Changes in functional status, ex (not being able to bathe independently) should prompt further diagnostic evaluation and intervention. Measurement of functional status can be valuable in monitoring response to treatment and can provide prognostic information that assists in long-term care planning.
Activities of daily living:

An older adult’s functional status can be assessed at three levels:

1. **BADLs basic activities of daily living refer to self-care tasks which include:**
   - Bathing
   - Dressing
   - Toileting
   - Maintaining continence
   - Grooming
   - Feeding
   - Transferring

2. **Independent activity of daily living which include:**
   - Shopping for groceries
   - Driving or using public transportation
   - Using the telephone
   - Performing housework
   - Doing home repair
   - Preparing meals
   - Doing laundry
   - Taking medications
   - Handling finances

3. **Advanced activities of daily living (AADLs):**
   Vary considerably from individual to individual and include:
   The ability to fulfill societal, community, and family roles as well as participate in recreational or occupational tasks.\(^{(17)}\)

**Physical activity**

Exercise benefits people of all ages and may decrease all-cause morbidity and increase lifespan.\(^{(18, 19)}\)

All older adults, including the very old, those with multiple morbidities, or those who are in chronic care facilities, can benefit from physical activity. Participation in any amount of physical activity will result in some health benefit.

The American Heart Association (AHA) and the American College of Sport Medicine (ACSM) provide recommendations for adults over age 65 years for various types of activity and guides for implementing such programs.\(^{(20)}\)

Specific exercises fall into four categories: aerobic, muscle strengthening, flexibility, and balance.

- For aerobic activity, guidelines suggest a minimum of 30 minutes of moderate-intensity exercise on five days each week, or a minimum of 20 minutes of vigorous-
intensity activity on three days each week, or some combination of the two (20). Definitions for moderate and vigorous activity depend on the person's baseline conditioning.

- Exercises to maintain and increase muscle strength include weight training, weight bearing calisthenics, or resistance training.
- Evidence supporting flexibility activities is less rigorous, but most experts recommend 10 minutes of some static stretching of major muscle groups on days when aerobic or muscle strengthening exercise is performed, to maintain range of motion.
- Balance training exercises are recommended to improve stability and prevent falls and injuries related to falls. Static balance training involves learning to recover balance on a tilting balance platform. Dynamic balance training that does not require special equipment, such as Tai Chi, may be more readily available outside of a formal supervised setting.

The AHA/ACSM guidelines emphasize a graduated or stepwise introduction of physical activity to improve safety and adherence. An individualized "activity plan" should recommend levels of physical activity and define how the individual will meet them. Developing an activity plan, particularly for older adults with chronic conditions, may warrant input from physical therapists/exercise physiologists or referral to specialty programs (e.g. cardiac or pulmonary rehabilitation). Routine electrocardiogram (ECG) or cardiac exercise testing are not indicated for asymptomatic patients who are preparing to undergo an exercise program. (21,22)

Lifestyle:

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

A healthy lifestyle is:

Is a life style that helps to keep and improve people's health and well-being. (32)

It helps to benefit the critical health for people, including weight, blood sugar, blood pressure, and blood cholesterol. Healthy living is a lifelong effect. The ways to being healthy include healthy eating, physical activities, weight management, and stress management.

Or it is the aggregation of decisions by individuals which affect their health, and over which they more or less have control. (24)

Healthy lifestyle includes:

Drink more water:

Most of us actually don't drink enough water every day, it is essential for our body to function because 60% of our body is water and remove waste and carry nutrients and
oxygen around, since we lose water every day through urine, bowel, movement, perspiration and breathing we need to replenish our water intake.

Furthermore, drinking more water alone aids in losing weight and prevented from constipation.

The amount of water we need is dependent on various factors such as the humidity, physical activity, and weight but generally we need about 2 to 3 liters of water or about 8 to 10 glasses.

**Stop smoking:**

Older adults should be questioned about smoking and counseled on how to quit smoking if they currently smoke. Rates of smoking and tobacco use are lower for adults over age 65 than for younger individuals. Nonetheless, the older generation has a long history of high rates of smoking and excess smoking-related mortality from lung cancer, cardiovascular disease, and chronic obstructive pulmonary disease.

High-quality evidence demonstrates that smoking cessation significantly reduces the risk for coronary heart disease, various cancers, and chronic obstructive pulmonary disease. One study addressed smoking cessation in older community-dwelling adults and found that, within five years of stopping smoking, the relative risk for all-cause mortality fell below that for current smokers. A meta-analysis found that the mortality benefits of smoking cessation were demonstrable at all ages, including in subjects age 80 years and older.

**Alcohol intake:**

Alcohol intake can increase the likelihood of a fall, affect memory and concentration and lead to depression. It can also cause osteoporosis and liver damage. The main reason why this is more of a problem for older people is due to physical changes in the body.

**Healthy diet:**

Older people should eat nutritious foods and keep physically active to help maintain muscle strength and a healthy weight.

Achieving and maintaining a healthy weight can help older people keep more active, manage their health problems better and live life more.

However, we also know that people who are over 65 years often have better health if they carry a little extra weight and have a slightly higher body mass index. Sometimes too, people with chronic health problems can put themselves at risk of malnutrition by restricting what they eat.
Some certain nutrients become especially important for good health:

**Fiber:**
Eating fiber-rich foods helps bowels move regularly, lowering the risk of constipation. A high-fiber diet can also lower the risk for many chronic conditions including heart disease, obesity and some cancers. Good sources of fiber include:

- 100% whole meal or wholegrain bread
- Breakfast cereals such as porridge, shredded wheat, bran flakes
- Other cereals such as brown rice, brown pasta
- Potatoes eaten in their jackets
- Fruits and vegetables
- Pulse vegetables such as beans, peas and lentils.
- Breakfast can be a super way to get a high fiber start to the day:

  Add linseed to a wholegrain cereal or to yoghurt or have prune juice instead of orange juice to boost your fiber intake.\(^{(30)}\)

**Calcium and Vitamin D:**
Older adults need extra calcium and vitamin D to help maintain bone health. Being in a healthy weight can help keep bones strong. Take three servings of vitamin D-fortified milk, cheese, or yoghurt each day. Other calcium-rich foods include fortified cereals, dark green leafy vegetables and canned fish with soft bones (like sardines).\(^{(30)}\)

**Iron and Vitamin B12:**
Iron is responsible for carrying oxygen around the body, while vitamin B\(_{12}\) keeps your brain and nervous system healthy. Many older adults do not get enough of these important nutrients in their diet. The best sources of iron include red meats such as beef, liver, kidney, lamb, pork, ham, corned beef & black & white pudding, while fortified cereals, lean meat and some fish and seafood are sources of both iron and vitamin B\(_{12}\). Taking a vitamin C-rich food like orange juice at meal time can help your body to absorb iron. Ask your doctor or dietitian whether you would benefit from an iron or a vitamin B\(_{12}\) supplement.\(^{(30)}\)

**Socialize With Others:**
Older adults are at increased risk of being socially isolated or lonely. By the time people reach their 80s, the majority live on their own, mostly because of widowhood. This is particularly the case for older women who are more likely to be widowed than older men. Older people’s social networks often get smaller for other reasons as well – children may have moved away, along with grandchildren, and aging siblings and friends may have died. Loneliness is also prevalent among older adults

The proportion is even higher among those 85 years or older – 25% of individuals in that age bracket felt lonely some of the time or often. Living alone, health problems and
disability, sensory impairment such as hearing loss, and major life events such as loss of a spouse have all been identified as risk factors for social isolation and loneliness.\textsuperscript{(31)}

**Stay mentally active:**

Researchers believe that many of supposed age related changes which affect the mind, such as memory loss, are actually lifestyle related.

Some of the conditions and events more common to old age that may hinder brain function including dementia, Parkinson’s disease and atherosclerosis.

A marked decline in mental abilities may be due to factors like prescribing medications or disease. Older people are more likely to take arrange of medications for chronic conditions than younger people. In some cases, a drug (or combination of drugs) can affect mental abilities.

Certain diseases are more common in old age, such as Alzheimer’s disease, can also be the underline cause of decline mental abilities. \textsuperscript{(32)}

A brain that gets smaller and lighter with age can still function effectively as younger brain, for example an older brain can create new connections between neurons if given the opportunity. There is evidence to suggest that mental abilities are shared by various parts of the brain so, as some neurons die, their roles are taken by others.

Physical fitness is important, some conditions that can affect the brain ability to function, such as stroke, are associated with obesity, diet and sedentary lifestyle choices. Keeping an active body is crucial if you want an active mind. Suggestions include:

- At least 30 minutes of moderate exercise every day delivers an oxygyn boost to the brain.

- Exercising in three 10minute blocks is enough to deliver significant health benefits.

- Regular exercise can improve the brain’s memory, reasoning abilities and reaction times.

**Improve the mental fitness**

Researchers at Stanford University (USA) found that memory loss can be improved by 30 to 50 per cent simply by doing mental exercises like:

- Keep up social life and engage in plenty of stimulating conversations.

- Read newspapers, magazines and books.
- Play ‘thinking’ games like Scrabble, cards and Trivial Pursuit
- Take a course on a subject that interest.
- Cultivate a new hobby. Learn a language.
- Do crossword puzzles and word games.
- Play games that challenge the intellect and memory, such as chess.
- Watch ‘question and answer’ game shows on television and play along with the contestants. Hobbies such as woodwork can improve the brain’s spatial awareness.
- Keep stress under control with meditation and regular relaxation

Positive thinking
This may sound unusual but a positive attitude can make a difference. This is easy to say if you are in good health, have an active social life and no money worries: but even if you are not it can help to try and think of a few positive aspects, for example a happy memory of something. Doing this can improve your mood and boost your immune system.

Polypharmacy:
Polypharmacy refers to the effects of taking multiple medications concurrently to manage coexisting health problems, such as diabetes and hypertension. Too often, polypharmacy becomes problematic, such as when patients are prescribed too many medications by multiple healthcare providers working independently of each other. Also, drug interactions can occur if no single healthcare provider knows the patient’s complete medication picture.

Among older adults, polypharmacy is a common problem. Currently, 44% of men and 57% of women older than age 65 take five or more medications per week; about 12% of both men and women take 10 or more medications per week. These agents include both prescription and over-the-counter (OTC) preparations, such as vitamin and mineral supplements and herbal products.

The most commonly used drugs (acetaminophen, ibuprofen, and aspirin) are available OTC and contribute significantly to adverse drug reactions in the elderly. Generally, the more drugs a person takes, the greater the risk of adverse reactions and drug interactions. The drug categories most commonly involved in adverse reactions are cardiovascular agents, antibiotics, diuretics, anticoagulants, hypoglycemic, steroids, opioids, anticholinergic, benzodiazepines, and non-steroidal anti-inflammatory drugs.
Falls and mobility

Approximately 30 percent of non-institutionalized older adults fall each year. The annual incidence of falls approaches 50 percent in patients over 80 years of age. Five percent of falls in older adults result in fracture or hospitalization. Providers should regularly inquire about the occurrence of recent falls in older patients. For patients who report falling, basic assessment should include review of circumstances of the fall(s), measure of orthostatic vital signs, visual acuity testing, cognitive evaluation, and gait and balance assessment.

Providers should also review all medications (with particular attention to hypnotic and other psychotropic drugs) for possible causative agents, and inquire about home safety. Appropriate patients should be evaluated for physical therapy referral, appropriate assistive devices and a supervised exercise program.

Factors contributing to falls include age-related postural changes, decreased vision, cognitive impairment, certain medications (particularly anticholinergic, psychotropic, and cardiovascular medications), diseases affecting muscle strength and coordination, and environmental factors. Effective interventions for people with a history of falls or who are at risk for falling involve addressing multiple contributing factors.

A straightforward physical examination maneuver called the "Get Up and Go" test has been described. In this test, the patient is instructed to arise from a sitting position, walk 10 feet, turn, and return to the chair to sit. A requirement of more than 16 seconds to complete the process, or observation of postural instability or gait impairment, suggests an increased risk of falling.

Medical checks:

With increasing age, certain health conditions become more common. Routine medical testing is a good way to spot any potential problems and give yourself the best chance to live and age healthily.

Checklist of vital health tests include:

1. cholesterol levels test

The American Heart Association recommends that all adults have their cholesterol checked every four to six years, starting at age 20, which is when cholesterol levels can start to go up. As we age, cholesterol levels tend to rise. Men are generally at a higher risk than women. However, a woman's risk goes up after she hits menopause. For those with high cholesterol, testing is recommended more frequently.
- **Total cholesterol**—a measure of the total amount of cholesterol in your blood, including low-density lipoprotein (LDL) cholesterol and high-density lipoprotein (HDL) cholesterol.
  - **Good**: 200 mg/dL or lower
  - **Borderline**: 200 to 239 mg/dL
  - **High**: 240 mg/dL or higher

- **LDL (bad) cholesterol**—the main source of cholesterol buildup and blockage in the arteries
  - **Good**: 100 mg/dL or lower
  - **Borderline**: 130 to 159 mg/dL
  - **High**: 160 mg/dL or higher

- **HDL (good) cholesterol**—HDL helps remove cholesterol from your arteries
  - **Good**: 40 mg/dL or higher
  - **Low**: 39 mg/dL or lower

- **Triglycerides**—another form of fat in your blood that can raise your risk for heart disease
  - **Good**: 149 mg/dL or lower
  - **Borderline**: 150 to 199 mg/dL
  - **High**: 200 mg/dL or higher

1. **Blood pressure screening**:

Hypertension is highly prevalent among older adults (60 to 80 percent) and remains the leading risk factor for ischemic heart disease and stroke. Major authorities (the USPSTF, the Canadian Task Force on Preventive Health Care, the ACP, the American Academy of Family Practice, and the American Geriatrics Society) recommend periodic testing of blood pressure with intervals ranging from one to two years. The ACP and ACOVE recommend annual screening for all older adults.

Blood pressure treatment trials in older adults have demonstrated significantly decreased all-cause mortality, cardiovascular events, stroke, and chronic kidney disease. A meta-analysis of trials including participants over age 80 demonstrated reductions in stroke, heart failure, and major cardiovascular events with treatment. The SPRINT trial, subsequent to this meta-analysis, compared target blood pressure goals in patients (average age at baseline 68 years) with increased cardiovascular risk and found that cardiovascular outcomes and mortality were better for the group assigned to intensive treatment (systolic goal blood pressure <120 mmHg) than to usual care (systolic blood pressure <140 mmHg). However, aggressive treatment of hypertension in older adults may have adverse effects, including orthostatic hypotension, falls, renal dysfunction, and electrolyte disturbance. One study found that the association of a higher blood pressure with a greater mortality risk was observed only among fit older adults, but not among those that were frail.
However, based on the results of the SPRINT trial, for patients similar to those enrolled in this trial (age ≤70 years, systolic blood pressure 130 to 180 mmHg, and an additional cardiovascular risk factor including age >75 years or Framingham Risk Score >15 percent), Up To Date now recommends targeting a blood pressure of 125 to 130/<90 mmHg.

Treatment options include diet, physical activity, and pharmacotherapy to lower blood pressure to goal and thereby reduce morbidity and mortality related to hypertension.\textsuperscript{[49]}

2. \textbf{Screening for diabetes:}

The USPSTF revised its recommendations regarding screening for diabetes mellitus in 2015. Consistent with these recommendations, we suggest screening for diabetes as part of cardiovascular risk assessment in adults aged 40 to 70 years with body mass index (BMI) ≥25 kg/m\textsuperscript{2}.\textsuperscript{[50]} We also suggest screening individuals with hypertension or hyperlipidemia. Screening may be performed by measuring fasting plasma glucose or, when obtaining a fasting specimen is inconvenient, ordering an A1C (glycosylated hemoglobin). Abnormal results require a repeat test to confirm the diagnosis of diabetes.

No specific evidence exists to support screening for diabetes in those over age 70. Decisions should be based on individual risks and life expectancy, as well as accounting for the potential harms of screening such as overtreatment.

3. \textbf{Vision screening}

Low vision is reported by 15 percent of adults over 75 and is associated with significant declines in health, function, and quality of life. It has also been linked to increased risk of falls, decline in cognition, and increased rates of depression. The USPSTF(United State Preventive Services Task Force) reviewed the role of screening for vision loss among older adults and found that the evidence was inconclusive to support routine vision screening.\textsuperscript{[61]} Evidence was inconclusive that early detection of visual impairment improved visual outcomes, functional status, or quality of life. Based on this review, there is no clear indication to perform regularly scheduled screenings among otherwise asymptomatic, average-risk older adults.\textsuperscript{[51]}

4. \textbf{Hearing loss test:}

Hearing loss is the third most common ailment, after hypertension and arthritis, to afflict older adults, and is associated with depression, social isolation, poor self-esteem, increased hospitalization rates, cognitive decline, and functional disability.\textsuperscript{[52,53]}

In 2012, the USPSTF concluded that there was insufficient evidence to determine the balance of benefits and harms of screening for hearing loss in asymptomatic older adults aged 50 years or older.\textsuperscript{[58]} Despite the insufficient evidence, we suggest that primary providers screen adults over 65 for hearing loss, and in particular,
vulnerable older adults at risk for functional decline, hospitalization, or cognitive problems.\textsuperscript{(54)}

Patient inquiry is a rapid and inexpensive way to screen for hearing loss. While pure tone audiometry is the reference standard for screening hearing, a whispered voice test is both sensitive and specific.\textsuperscript{(60)} An evidence review to support a recommendation from the USPSTF found that either the whispered voice test at two feet or a single question regarding perceived hearing loss were nearly as effective as a formal hearing questionnaire or use of a tone-emitting otoscope for the detection of hearing loss.\textsuperscript{(55)}

5. **Cancer screening**

   **Breast cancer screening:**

   The American Geriatrics Society has identified breast cancer screening as one of its targets for the "Choosing Wisely" campaign and recommends that breast cancer screening should not be undertaken in women with a life expectancy less than 10 years.\textsuperscript{(58)} Screening in women with shorter life expectancy would expose them to potential immediate harm with little chance of benefit.

   Decisions about screening for breast cancer, especially in older women, should involve discussion of patient values and preferences and the potential benefits and harms of screening. Data from randomized trials of screening mammography demonstrated an approximate 19 to 30 percent reduction in breast cancer mortality among screened versus unscreened women, but these data do not reflect the improvement in outcome with current breast cancer treatment, and enrolled women only up to age 74.\textsuperscript{(59,60)} Data from modeling studies of screening in older women suggest a mortality benefit for screening when the life expectancy is 10 years or more.\textsuperscript{(61)} A decision aid describing the risks and benefits of EOM mammography screening for women aged 75 and older is available to help these women with decision-making around mammography screening.\textsuperscript{(62)}

6. **Prostate cancer screening**

   The ACP recommends individual discussion of the risks and benefits of prostate cancer screening and suggests that men between the ages of 50 to 69 years are most likely to benefit from screening. The decision to screen for prostate cancer should be based on individual discussions, involving patient preference for specific health outcomes and risks and benefits of screening. When a decision is made to screen, Up To Date suggests that screening stop after age 69, or earlier when co-morbidities limit life expectancy to less than 10 years, or if the patient decides against further screening.

   Black men and Men with a positive family history of prostate cancer should be informed of their higher lifetime risk, although the available evidence does not suggest that they need to be treated differently from men at average risk.\textsuperscript{(63)} Randomized controlled trials indicate little benefit in prostate cancer specific mortality within 10 years of screening and no discernible benefit in overall mortality out to 14 years.\textsuperscript{(64,65)} Given high rates of side effects associated with
treating potentially inconsequential, screen-detected prostate cancer, older adult men appear to have little to gain from routine screening, particularly if they have less than 10 years of life expectancy.

**Elderly home**

The cultural and traditional beliefs of the Sudanese society necessitate that care and respect for the older persons should naturally be provided. However there are homes for the elderly men's in Bahri and the other for older women in Alsaganah which established in 1928 and was a refuge for the homeless.

In 1994 Aldaw Hagoog has found the home and supplied it with the services and became under the Ministry of Social welfare.

In September 2003 women were separated from men and transferred to Alsagana Nursing home.

The total number of the elderly is 38 men and 25 women.\(^{66}\)

**The pre-requisites to admit in the nursing home are:**

- Age 60 years or more.
- Have no first degree relatives.
- Have no infectious diseases such as AIDS, hepatitis B or C or leprosy.
- The admission should be through social security police.

In some cases were the elderly suffer from amnesia or Alzheimer's disease and received to the nursing home by the social police some of them memorize their names or families or their place or residence so they will be return back to their families and were followed after their return home.

If the death of an elderly occurs, will be transferred to the morgue and notifying the family to receive the body and after 2 weeks if no one showed to receive the body will be buried. \(^{66}\)

**Entertaining programs in the nursing home:**

- Coffee program every Tuesday.
- Entertaining trips.
- Celebrating the mother’s day in Alsagana home.
- Celebrating the international day of the elder on 10\(^{th}\) of October. \(^{66}\)

**The obstacles of the nursing home:**

- Difficulty of the elderly psychological and health care.
- Shortage of clothes and cleaning materials.
- No prepared ambulance in cases of emergency.
- Shortage in drug supply.
- Shortage of the medical staff (only one doctor and two nurses are available for the care of the elderly). \(^{66}\)
GLOBAL STUDIES IN ELDERLY PEOPLE:

1. Prevalence of chronic kidney disease in population-based studies:

A study was aims to assess prevalence of chronic kidney disease in population-based study samples that used the standardized definition from the Kidney Disease Outcomes Quality Initiative of the National Kidney Foundation practice guideline, Methods of this study performed a systematic review of available published data in MEDLINE. A combination of various keywords relevant to CKD was used in this research. Related data of included studies were extracted in a systematic way, the studies were conducted in different populations, and the number of study participants ranged from 237 to 65181. The median prevalence of CKD In persons aged 64 years or older varied from 23.4% to 35.8%.[67]

1. The Worldwide Epidemiology of Prostate Cancer: Perspectives from Autopsy Studies:

A study was conducted in the United States . International trends in the incidence, mortality and prevalence of prostate cancer are assessed, Data bases from the Surveillance, Epidemiology and End Results (SEER) program of the National Cancer Institute and the International Agency for Research on Cancer (IARC), and the literature on autopsy studies on prostate cancer were reviewed and summarized Results showed that Prostate cancer remains an important public health concern in Western countries and an emerging malignancy in developing nations. Prostate cancer incidence is dependent on efforts to detect the disease. Autopsy studies provide accurate and useful information regarding comparative prevalence rates of the disease among regions of interest.[68]
2. Health Problems Among the Elderly: A Cross-Sectional Study:

A study was Aims To identify the geriatric health problems in samples drawn from a slum and a village, and also to explore any gender and urban–rural difference morbidity. A community-based cross-sectional study was carried out by house to house survey of all people aged over 60 years in an urban slum and a village in the field practice area of a teaching hospital. The total elderly population in these two areas was 407, with an almost equal representation from urban slum and rural area. Information (most of them self-reported) was collected in a pre-tested instrument, which has been used earlier in a World Health Organization multicenter study in India. Categorical variables were summarized by percentages. Associations were explored with odds ratio (OR) and 95% confidence intervals (CIs). The Results showed that Female elders outnumbered the male elders; widows outnumbered widowers. Tobacco use was very high at 58.97% (240/407). Visual impairment was the most common handicap with prevalence of 83.29% with males more affected than females (OR = 2.52, 95% CI 1.32-4.87). Uncorrected hearing impairment was also common. Urinary complaints were also more common in males (OR = 1.68, 95% CI = 0.93-3.04). More rural elders were living alone than their urban counterpart (OR = 2.87, 95% CI 1.23-6.86). History of weight loss was higher in the rural areas, while tendency to obesity was higher in the urban areas. An appreciable number 29.2% had un-operated cataract. Prevalence of hypertension was 30.7%, 12% had diabetes; 7.6% gave history of ischemic heart disease, males more than females (OR = 3.75, 95% CI 1.62-8.82). A large proportion, 32.6%, had dental problems. Almost half of the population gave history of depression. 

Studies in Africa:

1. Prostate Cancer in Nigerians: Facts and Non facts:

A study was aims to establish the actual incidence of prostate cancer in Nigeria, the largest concentration of indigenous black patient in the world, to ascertain whether the global ranking for Nigeria as a low risk for prostate cancer is accurate. Prospectively studied Nigerian men 45 years old or older with prostatic symptoms. Patients histologically positive for prostate cancer was analyzed for clinical features, tumor characteristics and survival. The hospital incidence, national prostate cancer risk, pool and death rate were calculated from the hospital admissions data and national
population statistics. The Results showed Mean age of patients with prostate cancer plus
or minus standard deviation was 68.3 +/- 9.4 years. The hospital incidence was
127/100,000 cases. The national prostate cancer risk was 2% of patients, the pool was
110,000 and the death rate was 20,000 annually. The predominant clinical findings were
those of advanced disease. Approximately 64% of the patients died within 2 years. (70)

Local study about elderly people:

7. Overview of Health Status of Older People in Gadarif Locality Eastern Sudan 2014:

A study was conducted in Gadarif Locality, which is located in Gadarif State in
Eastern Sudan. Data was collected by interview through an administered
questionnaire which was fulfilled by the participant or his/her care attendant.
The sample was distributed among the 4 cluster from each of the 6 distract. The
survey was carried out over a month around the mid of the year 2014. Ethical
Consideration: An ethical approval was obtained from the Institutional Review
Board at Alneelain University. The Results showed that percentages of the elderly
in the four age groups, (65-74, 75-84, 85-94, 95 +), covered by the survey were
49.5%, 29.6%, 16% and 4.9% respectively. Regarding the gender composition, the
survey showed that the males formed 52.3%, while the females formed 47.7%of
those surveyed. Data on the marital status showed that 58.5% were married, 4.4%
were divorced, 32.7% were widowed, and 4.4% were single. Regarding the level of
education, 50.5% of the elderly surveyed were illiterate, 26.8% could read and
write, 12.4% had primary education, 9.8% had secondary education, and only
0.5% had university education. The elderly in Gadarif had variety of occupations
and sources of income. It is noted that 6.7% were employees, 38.9% retired,
12.1% farmers, 15.7% businessmen (merchants), 26.5% house wives. The sources
of income include: salary for 6.7% of the elderly persons, pension for 15.5%,
rented building for 6.4%, business (commerce) for 11.1%. The children formed
the source of income for more than 60% of the surveyed persons. (71)

8. Health Problems and Nutritional Status of Sudanese Elderly in Khartoum
State Hospitals:

This study aims to assess the health and nutritional status and identify the major
health problems and risk factors faced by the Sudanese elderly population admitted
to Khartoum State Teaching Hospitals. A Geriatric assessment to identify problems
with activities of daily living, cognitive and psychological functions and senses was conducted to shed light on risk factors and heath not covered by routine medical examination that could affect health status. Nutrition was assessed using the BMI. The commonest health problems faced by the elderly Sudanese were found to be endemic and epidemic diseases e.g. Malaria as well as chronic illnesses e.g. Hypertension and Diabetes mellitus and their complications. Activities of Daily Living revealed that a majority of the respondents were unable to care for themselves within a limited environment. Polypharmacy was not a problem amongst Sudanese elderly. Depression, either mild or severe was found in a majority of the respondents.\(^{72}\)
Objective:

The General objective:


Specific objective:

1. To identify all the geriatrics health problems effecting the study group in Alshaheed Health Center.
2. To assess different factors related to geriatric awareness and their health.
3. To raise the awareness among elderly people and their care takers in Alshaheed Elzubair health center.

- Hypotheses:
  1. Health education can improve Knowledge, attitude and practices (KAP) of elderly people.
  2. Socio-demographic factors of elderly affect their awareness and health.
Chapter Three

Methods and Materials:

- **Study design:**

  This is a prospective interventional health facility based study aiming at raising the awareness among elderly people and their caretakers which was conducted at Alshaheed Alzubair Health Center during period from October 2014 to September 2015.

**Study area:**

**Alshaheed Alzubair Health Center:**

It was founded in 2003 as part of the National Fund for Health Insurance. It provides all curative and diagnostic services because it is near to wad Madani Teaching Hospital, Faculty of Medicine, general market, and public transportation.

It serves all localities of the Gezira State and also receives out of State cases.

- Frequency is about 400 patients daily on two shifts, morning and evening.

There are three visiting consultants in specialties of Medicine, Dermatology and Pulmonology.

- **The center is composed of:**

  1. 5 clinic rooms one for the visiting consultants, ECG. Officer’s accountants, Radiology, Ultrasound and lab reception.
  2. Waiting room for patients that can accommodate up to 200 people
  3. Pharmacy
  4. Laboratory

- **Package of medical services**

**Physician Services:**

Medical services provided by a doctor:-

1. The clinical examination for emergencies or accidents.

2. Request different diagnostic tests in accordance with the regulations of health insurance.
3. Prescribing health insurance drugs according to the guidelines.
4. Referral to higher levels (specialist - hospitals - referred clinics).

- **Diagnostic Services:**
  
  A) Laboratory services:
  1. Blood test including examination of various hormones.
  2. Blood chemistry test
  3. Checking parasites.
  4. Examination of Microbiology specimens.
  5. Histopathology.

  B) Radiological services:
  1. CT
  2. Planning ECG
  3. Ultrasound with two consultants radiologists.

- **Study population:**

  The population of this study is all the patients above 60 years of age attending to the center during the period of the study.

- **Inclusion criteria:**

  The study includes all the patients above 60 years coming to the center regularly and attending the health education session during the period of the study and willing to participate.

- **Exclusion criteria:**

  Less than 60 years old patient not regularly attending and not attending the health education.

**Methods of Data collection:**

- Data collected by structured questionnaire (appendix).
- Interviews with patients.
• Sample size and technique:

$$N = \frac{Z^2pq}{d^2} = \frac{2^2\times50\times50}{5^2} = 400$$

1. Preparatory phase:

- This has been conducted with patients, family and care providers.
- Advocacy and agreement were obtained from patients and the authority of the center. (October 2014)

2. Baseline:

- A structured questionnaire was used with all attendants above 60 years who were included in the study, the questionnaire addressed the following variables such as: name, age, sex, residence, marital status, education, occupation, family size, home, health insurance, time to reach health center by vehicle, daily activity and daily social activity of the participants, health status, disability or impairment, taking medications regularly, follow up, use of diet therapy, type of diet therapy and family support.
- It has been trained 4 of the organizers clinics on the correct way to fill out the questionnaire.
- Prepare aids intervention of educational materials such as posters and brochures.

3. Intervention (December 2014 – March 2015) interviews were conducted with the participants and counseling about:

Definition of the disease and its symptoms, methods of prevention, need to take medication regularly, taking appropriate diet, Physical activity, Follow up, regular check-ups, good nutrition.

1200 brochure were distributed (appendix) containing messages for:

- Prevention of constipation
- Eyes health care
- Hearing impairment
- Nutrition for elderly
- Tips for the kidney disease patients
- Prostate patient
- High blood pressure patient
- Goat patient
- Diabetes patient
- Healthy aging
- Elderly abuse

Posters have been installed in the waiting room of the health center (11 posters) Appendix no


5. Post intervention (June 2015):

Started after the rest period and at the same questionnaire was used to measure the outcome of health education provided through study variables.

6. Evaluation and analysis:

(July – August 2015)

7. Final report:

(November 2016)

3- Methods of Data analysis:

Data was analyzed using the software program the ‘Statistical Package for Social Sciences’ (SPSS) version 20. The results were presented in form of tables and graphs.

Results compared KAP between the pre and post intervention and also the relations between age, sex and different problems to improvement geriatric health.

4- Ethical consideration

- A written consent was obtained from the authority of the center and verbal consent was obtained from all patients who agreed to participant in the study.

- All information of patient are respected or Their privacy were all kept confidential.

- Elderly persons sometimes cannot make decisions for themselves, therefore approval was obtained from their co-patients.
Chapter 4

Results

This is a prospective interventional health facility based study results which was conducted in Alshaheed Alzubair health center about geriatric health.

The total number of the elderly patients participated in the study were 400 all of them attending in Alshaheed health center but in post intervention just found 198 participant, 15 of the participants died As result of many complications of diseases, 187 not attending during evaluation.

SOCIO DEMOGRAPHIC FACTORS:

Figure (1) Age distribution among participants:

N =400

Age distribution:
The total number of the elderly patients participated in the study were 400 of which 44.8% were above 70 year.
Table (1) Sex distribution of the participants:

\[N = 400\]

<table>
<thead>
<tr>
<th>Sex distribution</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>230</td>
<td>57.5</td>
</tr>
<tr>
<td>Female</td>
<td>170</td>
<td>42.5</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100</td>
</tr>
</tbody>
</table>

Most of participants were males (57.5%)

Table (2): Distribution according to the residence:

\[N = 400\]

<table>
<thead>
<tr>
<th>Residence</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>170</td>
<td>42.5</td>
</tr>
<tr>
<td>Rural</td>
<td>230</td>
<td>57.5</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100</td>
</tr>
</tbody>
</table>

Most of participants live in rural areas (57.5%)
Figur (2): The marital status of the participants:

Most of participants were married 71.2%
Figur (3): Education among participants:

Most of participants were illiterate (47.8%)
Table (3): Members of the Family:

<table>
<thead>
<tr>
<th>Family Size</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 5</td>
<td>212</td>
<td>53.0</td>
</tr>
<tr>
<td>6 – 10</td>
<td>161</td>
<td>40.3</td>
</tr>
<tr>
<td>10+</td>
<td>27</td>
<td>6.7</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most of participants has 5 members or less (53%).

Table (4): Occupation of the participants:

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have no Job</td>
<td>367</td>
<td>91.8</td>
</tr>
<tr>
<td>Have Job</td>
<td>33</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most of participants has no job or retired (91.8%). Some of them were Still working (8.3%).
Home:
Most of participants live in their own houses (99.0%).

Bed rooms:
All participants are sleeping near family members or sharing the same room (100%).

Health insurance:
All participants had health insurance (100%).

Time to reach health center:
Health center is accessible to almost all of the participants and they can be reached within one hour by vehicle (99.8%).

Table (5) : Daily Activities of the participants: (done by themselves)

<table>
<thead>
<tr>
<th>Daily activity</th>
<th>Pre</th>
<th>post</th>
<th>Chi-squair value</th>
<th>Df</th>
<th>p.valu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shower</td>
<td>88.2%</td>
<td>88.9%</td>
<td>6.069</td>
<td>2</td>
<td>0.05</td>
</tr>
<tr>
<td>Toilet</td>
<td>82.6%</td>
<td>87.2%</td>
<td>8.497*</td>
<td>2</td>
<td>0.014</td>
</tr>
<tr>
<td>Dressing</td>
<td>92.2%</td>
<td>93.4%</td>
<td>7.499</td>
<td>2</td>
<td>0.024</td>
</tr>
<tr>
<td>Walking</td>
<td>79.5%</td>
<td>85.4%</td>
<td>28.273</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>Shopping</td>
<td>62.3%</td>
<td>77.4%</td>
<td>59.919</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>Preparing food</td>
<td>50%</td>
<td>69.5%</td>
<td>249.466</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>Ride transportation</td>
<td>45.1%</td>
<td>81%</td>
<td>54.001</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>Using phone</td>
<td>59.8%</td>
<td>66.7%</td>
<td>9.825</td>
<td>2</td>
<td>0.007</td>
</tr>
<tr>
<td>Taking drugs</td>
<td>81%</td>
<td>84.5%</td>
<td>11.483</td>
<td>2</td>
<td>0.003</td>
</tr>
<tr>
<td>Eating</td>
<td>92.5%</td>
<td>93.1%</td>
<td>12.947</td>
<td>2</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Most of participants did their daily activities by themselves
Highly significant post intervention
Table (6): Dialy social activity of the participants:

N = 400 pre
N=198 post

<table>
<thead>
<tr>
<th>Dialy social activity</th>
<th>Pre%</th>
<th>Post%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stay alone at home</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td>Stay with family</td>
<td>35</td>
<td>34.2</td>
</tr>
<tr>
<td>Out with friends</td>
<td>43.5</td>
<td>47.4</td>
</tr>
</tbody>
</table>

p.valu = .068
not significant post intervention

Table( 7 ) History of Non-communicable diseases of the participants:
N = 400

<table>
<thead>
<tr>
<th>Non communicable disease</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>330</td>
<td>82.5%</td>
</tr>
<tr>
<td>No</td>
<td>70</td>
<td>17.5%</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
</tr>
</tbody>
</table>

82.5% of the participants suffered from chronic disease
Table (8) Type of Non communicable disease or (chronic disease) of the participants: N=400

<table>
<thead>
<tr>
<th>Disease</th>
<th>Frequency</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>171</td>
<td>42.7</td>
</tr>
<tr>
<td>Diabetes</td>
<td>112</td>
<td>28.0</td>
</tr>
<tr>
<td>Arthritis</td>
<td>97</td>
<td>24.2</td>
</tr>
<tr>
<td>Prostate among males</td>
<td>35</td>
<td>8.7</td>
</tr>
<tr>
<td>Gout</td>
<td>29</td>
<td>7.2</td>
</tr>
<tr>
<td>Heart disease</td>
<td>26</td>
<td>6.5</td>
</tr>
<tr>
<td>Kidney disease</td>
<td>21</td>
<td>5.2</td>
</tr>
<tr>
<td>Asthma</td>
<td>9</td>
<td>2.2</td>
</tr>
<tr>
<td>Disc Prolapse</td>
<td>7</td>
<td>1.7</td>
</tr>
<tr>
<td>Alzheimer's Disease</td>
<td>2</td>
<td>0.5</td>
</tr>
</tbody>
</table>

The common non-communicable disease is hypertension 42.7% followed by diabetes 28%, Arthritis 24.2% and finally Alzheimer's Disease 0.5%. 33 of the participants have more than one disease.
Table (9) Other disease affecting participants as mentioned by the participants or co-patients:

N = 400

<table>
<thead>
<tr>
<th>Other diseases</th>
<th>Frequency</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>38</td>
<td>9.5</td>
</tr>
<tr>
<td>Back Pain</td>
<td>16</td>
<td>4.0</td>
</tr>
<tr>
<td>Eczema</td>
<td>9</td>
<td>2.2</td>
</tr>
<tr>
<td>Constipation</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>Chest Infection</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>Ulcer</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>H. Pylori</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>IBS</td>
<td>3</td>
<td>0.7</td>
</tr>
<tr>
<td>Gall Stone</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Varicose</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Typhoid</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Hernia</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Pulmonary oedema</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Uterine cancer</td>
<td>1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Malaria is most common disease 9.5% followed by back pain 4%, Eczema 2.2% and finally uterine cancer 0.2%.
Table (10): Disability among participants:

<table>
<thead>
<tr>
<th>Disability</th>
<th>Frequency</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20</td>
<td>5.0</td>
</tr>
<tr>
<td>No</td>
<td>380</td>
<td>95.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100</td>
</tr>
</tbody>
</table>

5% of participants had disability

Table (11) Type of disability among participants

<table>
<thead>
<tr>
<th>Type of disability</th>
<th>Frequency</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Movement</td>
<td>15</td>
<td>3.7</td>
</tr>
<tr>
<td>Lost Part of Body</td>
<td>5</td>
<td>1.3</td>
</tr>
<tr>
<td>Not Found</td>
<td>380</td>
<td>95.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
</tr>
</tbody>
</table>

3.7 of participants had lack of movement and 1.3 % of them lost part of body.
Table (12)  Hearing Impairment among participants:

N = 400

<table>
<thead>
<tr>
<th>Hearing impairment:</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>128</td>
<td>32.0</td>
</tr>
<tr>
<td>No</td>
<td>272</td>
<td>68.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Hearing impairment was found in 32% of participants

Table (13) : Visual Impairment among participants:

N = 400

<table>
<thead>
<tr>
<th>Visualimpairment</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>174</td>
<td>43.5</td>
</tr>
<tr>
<td>No</td>
<td>226</td>
<td>56.5</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Visual Impairment was found in 43.5 % of participants
Table (14): Regular follow up of participants:

<table>
<thead>
<tr>
<th>regular follow up</th>
<th>Pre %</th>
<th>Post %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>77.7</td>
<td>80.3</td>
</tr>
<tr>
<td>No</td>
<td>22.3</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Normal significant  p. value = 0.01

Table (15) Taking drugs regularly:

<table>
<thead>
<tr>
<th>taking drugs regularly</th>
<th>Pre %</th>
<th>Post %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>73.5</td>
<td>77.9</td>
</tr>
<tr>
<td>No</td>
<td>22.3</td>
<td>12.7</td>
</tr>
<tr>
<td>Sometimes</td>
<td>4.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Highly significant  P. value = 0.02
### Table (16): Use of Diet therapy by the participants:

<table>
<thead>
<tr>
<th>Diet therapy:</th>
<th>Intervention</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre %</td>
<td>Post %</td>
</tr>
<tr>
<td>Yes</td>
<td>23.5</td>
<td>50.2</td>
</tr>
<tr>
<td>No</td>
<td>69.0</td>
<td>25.4</td>
</tr>
<tr>
<td>Sometimes</td>
<td>7.5</td>
<td>17.4</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Highly significant between pre and post intervention

P value = 0.000

### Table (17) Taking appropriate diet for the disease:

<table>
<thead>
<tr>
<th>Type of Diet therapy:</th>
<th>Intervention</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre %</td>
<td>Post %</td>
</tr>
<tr>
<td>Hypertension</td>
<td>14.8</td>
<td>32.9</td>
</tr>
<tr>
<td>Diabetes</td>
<td>12.2</td>
<td>29.6</td>
</tr>
<tr>
<td>Gout</td>
<td>0</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Highly significant between pre and post intervention

P . value = 0.000
Table (17): Member of the family supporting the participants:
N = 400 pre
N=198 post

<table>
<thead>
<tr>
<th>Family Support</th>
<th>Pre %</th>
<th>Post %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sons</td>
<td>67.0</td>
<td>62.4</td>
</tr>
<tr>
<td>All Family</td>
<td>10.5</td>
<td>36.2</td>
</tr>
<tr>
<td>Others</td>
<td>10.5</td>
<td>0</td>
</tr>
<tr>
<td>Wife’s</td>
<td>8.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Grand</td>
<td>3.3</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

36.2% families supported their parents.
P value = 0.000
ASSOCIATIONS:

Table (18) : Association between age and disability :

\[ N = 400 \]

<table>
<thead>
<tr>
<th>Age</th>
<th>Have any disability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>(60-65)</td>
<td>5</td>
</tr>
<tr>
<td>(66-70)</td>
<td>3</td>
</tr>
<tr>
<td>(More than 70)</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
</tr>
</tbody>
</table>

p. value = 0.278
not significant

Table (19) Association between residence and regular follow up :

\[ N = 400 \]

<table>
<thead>
<tr>
<th>Residence</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>regular follow up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>148</td>
<td>146</td>
<td>294</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>76</td>
<td>86</td>
</tr>
<tr>
<td>Sometimes</td>
<td>12</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>230</td>
<td>400</td>
</tr>
</tbody>
</table>

Highly significant p.value = 0.000
Urban participants came to the health center regularly for follow up more than rural participants.
Table (20) : Association between sex and type of disease:

N = 400

<table>
<thead>
<tr>
<th>Type of diseases</th>
<th>Sex</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Hypertension</td>
<td>90</td>
<td>81</td>
</tr>
<tr>
<td>Diabetes</td>
<td>72</td>
<td>40</td>
</tr>
<tr>
<td>Asthma</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Arthritis</td>
<td>60</td>
<td>37</td>
</tr>
<tr>
<td>Heart diseases</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>most of above and others</td>
<td>67</td>
<td>40</td>
</tr>
</tbody>
</table>

Not significant p.valu = 0.114
CHAPTER FIVE

Discussion

The target of this study was to assess effect of health education in improving Knowledge Attitude and Practice (KAP) of geriatric patients, identify all the geriatrics health problems and to raise the awareness among elderly people and their care takers attending in Alshaheed Alzubair health center.

The result showed that the males were more than the females this is similar to the finding of general bureau of statistics census 2008 Sudan (16), and also study conducted in Gadarif locality Eastern Sudan by Mahassin Argwi (75), who found that males were 52.3% and females were 47.7%.

Data on the marital status, this results not agreed with above study and another study conducted in Asia (73) that revealed there were a higher number of female widows than male widowers, older adults are at increased risk of being socially isolated or lonely by the time people reach their 80s the majority live on their own mostly because of widowhood (36).

Illiteracy rate in Gezira state is 26.6% (16) The study found there is higher rate of illiteracy among the participants more than Gadarif study (75) and Asian study (73), also the number of participants who received a university education and above was high in this study more than the two previous studies.

Regarding occupation of the participants result showed 8.3% were still working, this result does not agree with Asian study where 19.6% of the participants were still working.

Most of participants did their basic activity of daily living by themselves eating, dressing, path, toilet and walking, independent of daily activity like shopping, preparing food, using phone, taking drugs, ride transportation, this result agree with Gadarif study were 91% of participants did not require assistance on eating, dressing, bathing and 46.4% did their shopping by themselves. Chi-square test was highly significant.
Result showed that no significant change in daily social activity of participants before and after intervention because most elderly prefer to sit at home rather than participate in social events and tend to sit on their own, in comparison with functional status many adults age 65 and over spend on average 10 hours or more each day sitting or lying down (21).

Regarding history of non-communicable disease, the study revealed that 82.5% of the participants suffered from chronic disease which is the major killers of adults in the developing world (17) while in Gadarif study where the ratio was less 67.7%.

Regarding the type of chronic disease, hypertension is highly prevalent among older adults (60-80) percent (49) that agree with found of this study that revealed prevalence of hypertension and diabetes was higher than the Asian study because knowledge of diet therapy was low among participants, Arthritis was less than Asian study and Gadarif study, prostate disease was 8.7% in comparison with studies conducted in United States (72) and another in Nigeria (74) showed increase the prevalence of prostate cancer, the hospital incidence was 127/100,000 cases and national prostate cancer risk was 2%, heart disease was less than Asian study and more than Gadarif study, Kidney disease was less than international study conducted in different populations (71) found the number of prevalence of kidney disease varied from 23.4% to 35.8% (17), prevalence of Asthma was less than Asian study was 5.9%.

Polypharmacy is a common problem currently, 44% of men and 57% of women older than age 65 take five or more medications per week (38) Results showed no indication of polypharmacy among participants this agree with Khartoum teaching hospital study (77).

On the other hand prevalence of other disease result showed malaria is most common disease that agree with study conducted in Khartoum teaching hospital (76).

regarding hearing impairment, hearing loss is the third most common ailment after hypertension and arthritis (62,63) this similar to finding of this study and Gadarif study but in Asian study the ratio was higher, visual impairment in comparison with Gadarif study it was more than it, and Asian study was 83.29% these rats appear higher than this study.
chi square test revealed positive change in knowledge of participants toward regular follow up increase after intervention 80.3% , Also study found that knowledge about importance of taking medication regularly increased 77.9% and attitudes and practices were positive after intervention.

Achieving and maintaining a healthy weight can help older people keep more active, manage their health problems better and live life more (34) Study revealed that attitude toward diet therapy were negative before intervention change to positive practice after intervention.

Also chi square test revealed there is improvement in the participants behavior towards taking appropriate diet for the disease where increased in diabetes 29.6% and hypertension 32.9% and highly significant in gout diet therapy were increased from zero to 1.4%.

Also study found there was improvement of knowledge all family members who help the participants this is attributed to the effectiveness of the role of health education in educating family members.

**Limitations of the study:**

- Lack of patient records in the health center with phone numbers and date of the monthly review.
- In ability to collect the participants together.
- Stayment of participants after they receive treatment was difficult.
- No control group.
- Duration of the post intervention was short.
- Numbers of defaulters was big.
Chapter six

Conclusion

- The result revealed that participants suffered from chronic disease, hypertension is the most non-communicable disease followed by diabetes and malaria is the most common disease.
- The results showed that health education can improve knowledge, attitude, practices of participants and their care takers regarding daily activity, regular follow up, taking drugs regularly, use of diet therapy, taking appropriate diet for the disease, family support.
- Socio demographic factors can affect elderly and their health e.g. association between residence and regular follow up study showed that urban participants came to the health center for follow up more than rural participants.
Recommendations

- Establish geriatric centers.
- Educate nurses in geriatric hospital.
- Health centers must be available to have integrated records for older patients about the residence and a means of contact.
- Integrated services to geriatric patients at health centers including counseling and health education programs.
- Raising health awareness for families with health education and counseling.
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Appendix

 مركز صحي الشهيد الزبير
مركز صحي الشهيد الزبير
تجهيز المطبوعات والبوسترات
تركيب المطبقات في غرفة الانتظار مركز صحي الشهيد الزبير
تركيب المطبقات في غرفة الانتظار مركز صحي الشهيد الزبير
تركيب المطبقات في غرفة الانتظار مركز صحي الشهيد الزبير
توزيع المطبقات
توزيع المطبقات
توزيع المطبقات
مرحلة المقابلة مع المشاركين
ضابطات التأمين الصحي بالمركز الصحي
Figure No (1): Life expectancy in Sudan\(^{(15)}\)
Figure No (2):
Population pyramid in Sudan 2009
جامعة الجزيرة
كلية الطب
مركز الرعاية الصحية الأولية والتنقية الصحي
استبيان صحة المسنين
إعداد : الطالبة صفاء محمد برير عبدالرازق

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16. الحالة الصحية: هل تعاني من أي مرض مزمن؟ أ. نعم ............... ب. لا .............
   إذا كانت الإجابة نعم أ. ضغط.............. ب. سكري.............
   ج. أزمة............. د. أمراض مفاصل.............
   6. أمراض قلب.............
   ز. أخرى............. حدد.............................................

17. هل تعاني من أي عجز أو إعاقة؟ أ. نعم ............. ب. لا .............
   إذا كانت الإجابة نعم حدد.............................................

18. هل تعاني من ضعف في السمع؟ أ. نعم ............. ب. لا .............

19. هل تعاني من ضعف في البصر؟ أ. نعم ............. ب. لا .............

20. ما هو النشاط اليومي المعتاد
   أ. أجلس في المنزل وحيداً.............................................
   ب. أجلس في المنزل مع العائلة....................................
   ج. أجلس مع بعض الأصدقاء خارج المنزل.....................

21. هل تتناول أي دواء؟ أ. نعم ............. ب. لا .............
   إذا كانت الإجابة نعم حدد.............................................
هل تنظم في تناول الدواء أ. نعم ...... ب. لا ...... ج. أحياناً ......

هل تتبع أي نظام غذائي أ. نعم ...... ب. لا .........

إذا كانت الإجابة نعم

أ. نظام غذائي خاص بالسكري ................................................
ب. نظام غذائي خاص بالضغط ..............................................
ج. أخرى ................................................................

ممن تتلقى المساعدة

أ. الزوجة ..................................................... ب. الأبناء................................
ج. الأحفاد......................................................... د. أخري ........................................