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Factors Affecting Health Status of Older Adults Palestinians at the Elderly Homes in the West Bank

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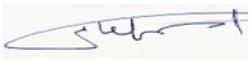
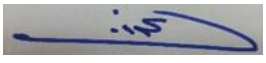
Internal Examiner: Dr. Asma Imam **Signature:** 

External Examiner: Dr. Ali El-Khateeb **Signature:** 

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Dedication

I dedicate my thesis to my family, love and friends. A special feeling of gratitude to my loving parents.

To everyone who believed, encouraged, helped me and prayed for me, and to my beloved ones.

Shatha Abdulhakeem Eideh

Declaration

I certify that this thesis submitted to the degree of master is the result of my own research, except where otherwise acknowledged, and that this thesis or any of its parts has not been submitted for higher degree to any other university or institution.

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Last but not least, to all the people close to my heart, I dedicate this work.

Abstract

Background: The aging of the population is increasing dramatically all over the world. Between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22%.

In Palestine, 5% of the population is older adult who needs special care, and their status is unstable in terms of psychological and physical health. The most important factors that affect older adults' health are socio demographic factors, nutritional status, social support, access to health care center, and others.

Aim and objectives: The study aims to determine the factors affecting the health status of older adults in the homes of the elderly in the West Bank. Also, to identify the association between Socio-demographic, Lifestyle, Health Services, Social Support, Frailty with Health status.

Methods: A cross-sectional design was utilized to achieve the purpose of this study. The sample was consisted of 160 participants from 11 elderly homes in the West Bank, we used a face to face interview questionnaire containing a set of questions relevant to each factor of the conceptual framework (Socio-demographic, Lifestyle, Health Services, Social Support, frailty and Health Status). Statistical analysis was performed using the statistical package for social sciences (SPSS), version 26.0. Data were analyzed by using parametric tests such as frequency, T-test, ANOVA's test, and Pearson's test.

Results: According to characteristics of the participants, 56.3% were female, 43.8% were male, the mean age 72.5±9. In addition to clinical characteristics, 83.1% of participants had chronic diseases. Also, 43.8% were at risk of malnutrition, 23.8% of them were malnourished, 29.4% of the participants rated their physical fitness as very bad. Moreover, most of the participants reported that health services were moderate (61.3%), and 41.9% of the participants received a moderate level of social support, and 91.3% of the participants had frailty. Also, there was an association between health and working status previously, marital status, duration of stay at elderly home, smoking, and place of elderly home (P-value =0.001). And negative association between health status and age (P-value= 0.001). In addition, Pearson correlation coefficient showed there was a positive association between health status and nutritional status, physical activity, social support, and weak association with health services. In addition, there was a negative association between health status and frailty (P-value =0.001).

Conclusion: The health status of the older adults at the elderly homes was affected by marital status, duration of stay at elderly home, place of elderly home, smoking, and previous working status. Significant associations were recorded between the health status of the older adults and the nutritional status, level of physical activity, level of social support, provided health services, and frailty (P-value=0.001). Important factors to be considered in developing strategic health plans for promoting optimal health care of the older adults.

Keywords: Older adults, Health status, Home of elderly, Lifestyle, Social support, Frailty.

الملخص بالعربية

العوامل التي تؤثر على صحة كبار السن الفلسطينين في بيوت المسنين في الضفة الغربية.

اعداد: شذى عبد الحكيم عيده

اشراف : د. هديل حلاوه

الملخص

خلفية الدراسة: يشهد العالم تزايدا ملحوظاً في أعداد كبار السن, حيث أنه من المتوقع أن تتضاعف نسبة سكان العالم من هم أكبر من 60 عاماً بين عامي 2015 و2050 من 12% إلى 22% من مجمل السكان.

وعند الانتقال للمشهد الفلسطيني، يبلغ عدد السكان كبار السن حوالي 5% من مجمل التعداد السكاني، من الذين يحتاجون إلى رعاية خاصة، بالإضافة إلى عدم استقرارهم من الناحية النفسية والجسدية. من أهم العوامل التي تؤثر على صحة كبار السن هي العوامل الديموغرافية الاجتماعية والحالة التغذوية والدعم الاجتماعي والقدرة على الوصول إلى مركز الرعاية الصحية وغيرها من الخدمات.

الأهداف الرئيسية: تهدف الدراسة إلى تحديد العوامل المؤثرة على الحالة الصحية لكبار السن في بيوت المسنين في الضفة الغربية. بالإضافة إلى تحديد العلاقة بين العوامل الاجتماعية والديموغرافية ونمط الحياة والخدمات الصحية والدعم الاجتماعي مع الحالة الصحية

منهجية الدراسة: تم استخدام أداة استقصاء مقطعي لتحقيق الغرض من هذه الدراسة. تكونت عينة الدراسة من 160 مشاركًا من 11 دارًا لكبار السن في الضفة الغربية، وتم طرح أسئلة الاستبيان وجهاً لوجه، حيث شمل الاستبيان مجموعة من الأسئلة ذات الصلة بكل عامل من عوامل الإطار المفاهيمي (الاجتماعية والديموغرافية، ونمط الحياة، والخدمات الصحية، والدعم الاجتماعي والحالة الصحية). تم إجراء التحليل الإحصائي باستخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS) الإصدار 26.0. وتم تحليل البيانات باستخدام الاختبارات البارامترية مثل التردد واختبار T واختبار ANOVA واختبار بيرسون.

النتائج: كان توزيع المشاركين حسب الخصائص 56.3٪ اناث و43.8٪ ذكور ومتوسط العمر يتراوح بين 72.5 ± 9. أما وفقاً للخصائص السريرية، يعاني 83.1٪ من المشاركين من أمراض مزمنة. بالإضافة إلى ذلك، يعاني 43.8٪ من المشاركين من احتمالية التعرض لسوء التغذية، ويعاني 23.8٪ منهم من سوء التغذية. كما وصنف 29.4٪ من المشاركين لياقتهم البدنية بأنها سيئة للغاية.

بالإضافة إلى ذلك، أفاد معظم المشاركين أن الخدمات الصحية التي توفر لهم كانت بنسبة متوسطة (61.3٪). حيث حصل 41.9٪ من المشاركين على مستوى متوسط من الدعم الاجتماعي، ويعاني 91.3٪ من المشاركين من الضعف. بالإضافة إلى وجود ارتباط بين الحالة الصحية الحالية والعمل السابق والحالة الاجتماعية ومدة الإقامة في دار المسنين والتدخين ومكان دار المسنين (القيمة الاحتمالية= 0.001). وكان الارتباط سلبياً بين الحالة الصحية والعمر (القيمة الاحتمالية = 0.001). كما أظهر معامل ارتباط بيرسون وجود ارتباط إيجابي بين الحالة الصحية والحالة التغذوية والنشاط البدني

والدعم الاجتماعي ووجود ارتباط ضعيف بالخدمات الصحية. بالإضافة إلى ذلك، كان هناك ارتباط سلبي بين الحالة الصحية والوهن (القيمة الاحتمالية= 0.001).

الخلاصة: تأثرت الحالة الصحية لكبار السن في دور المسنين بالحالة الاجتماعية ومدة الإقامة في دار المسنين ومكان دور المسنين والتدخين وطبيعة العمل السابق. كما تم تسجيل ارتباطات مهمة بين الحالة الصحية لكبار السن والحالة التغذوية ومستوى النشاط البدني ومستوى الدعم الاجتماعي والخدمات الصحية المقدمة والوهن (القيمة الاحتمالية = 0.001). وأظهرت النتائج ضرورة مراعاة مجموعة من العوامل المهمة عند تطوير الخطط الصحية الإستراتيجية لتعزيز الرعاية الصحية الأفضل لكبار السن.

الكلمات الدالة: كبار السن ، الحالة الصحية ، دار المسنين ، نمط الحياة ، الدعم الاجتماعي ، الضعف.

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List of abbreviations

ADL	**Activities of daily living**
BMI	**Body mass index**
CC	**Calf circumference**
CDC	**Centers for Disease Control**
IADL	**Instrumental activities of daily living**
MAC	**Mid-arm circumference**
MNA	**Mini Nutrition Assessment**
MOH	**Ministry of health**
PA	**Physical Activity**
PCBS	**Palestinian Central Bureau of Statistics**
PRCS	**Palestine Red Crescent Society**
SPSS	**Statistical package for social sciences**
WB	**West Bank**
WHO	**World Health Organization**

Chapter One

Introduction

1.1 Background

The aging of the population is increasing dramatically all over the world, between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22%. For example, In Japan, the proportion of the older adults reached 60%. In 2050, 80% of the older adults will live in low and middle-income countries, but there is a problem affecting most countries which is the lack of preparedness of their health and social system for attention for the older adults (World Health Organization, 2018).

Worldwide, the number of older adults is increasing according to increase life expectancy so the prevalence of chronic diseases is also increasing, which challenges the health system to make effective changes in the healthcare provision to meet the needs for chronic illness management, hazard decrease, promoting healthy lifestyle factors, and improving the quality of life for aging population (Gronning et al., 2018).

Moreover, the meaning of aging and the associated factors are not simple. As defined by Shalabi (1999):"The aging stage is not a transient and satisfactory stage that can be treated and ends with this. The vitality and activity of older adults in this stage will decrease, and have begun a stage of healthy, functional, cognitive and moral decline, with differences in that". Also, aging is associated with changes in dynamic biological, physiological, environmental, psychological, behavioral, and social processes (National Institute on Aging, 2021).

Successful aging is represented by a good state of health, and to enjoy this successful aging, studies have shown that there are several factors that affect the health status for the older adults, like sociodemographic, physical, biological, lifestyle and diet (Gronning et al., 2018). In addition to physical and social environment, such as the availability of safe place to live, safe, accessible transportation, and the environments that are easy to walk in (WHO, 2018).

Although aging is an individual condition that can affect the health of the older adults (Kleisiaris et al., 2019). There are other factors associated with their health including lack of physical activity, poor diet, and smoking linked to the development of chronic diseases, injuries and falls often lead to illness or disability, isolation and lack of psychosocial support, all are important determinants that may lead to ill health for older adults (WHO, 2020).

In addition, there are many changes happening for older adults associated with aging can be divided into a few domains: normal aging, common diseases, and functional, cognitive/psychiatric, and social changes (Jaul & Barron, 2017). This leads to a gradual decrease in physical and mental abilities, and ultimately increases the risk of illness and death (WHO, 2018). Also, with age, the likelihood of people suffering from multiple ailments increases at the same time (Jaul & Barron, 2017).

Communicable and non-communicable diseases are one of the most important factors affecting the health of older adults. So, age brings a higher risk of chronic diseases such as cardiovascular disease which is the most common cause of death for the older adults, hypertension which is the most common chronic disease among the older adults and it is a major contributor to atherosclerosis. Cancer which is the second leading cause of death for the older adults, (Jaul & Barron, 2017), about 70% of the deaths caused by cancers occur in this stage. About 60% of cancers occur in people 65 years of age or older (Estape, 2018). Also, diabetes mellitus is widely prevalent among the older adults, it is a strong risk factor for cardiovascular disease at age more than 60. And osteoporosis, many 60-year-old adults have osteoporosis, a more severe weakening of bone density also osteoporosis is associated with an increased rate of bone fractures (Jaul & Barron, 2017).

Furthermore, aging can affect all of the senses, but usually hearing and vision are most affected, hearing loss and cerumen production are increased, almost half of 85-year-olds have hearing loss. Also the use of hearing aids could reverse adverse effects on the comfort in their daily life, and cognitive function, often health insurance does not provide coverage for these devices (Jaul & Barron, 2017).

Also, visual acuity deteriorates faster when a person become older. For example, in the UK the prevalence of severe visual impairment in elderly people aged more than 60 was 23%, while older people aged more than 90 was 37% (Jaul & Barron, 2017). One of the conditions that lead to vision loss is glaucoma, which affects the daily activities of the elderly, especially driving, and can increase the risk of falls and fractures (Iroku-Malize & Kirsch, 2016).

Based on all the changes that can occur in the aging, the older adults need special care by people who specialize in their health and psychological conditions, to reduce the risks and complications associated with the stage of aging. Therefore, homes for the elderly are one of the appropriate ways to take care of the older adults.

Elderly homes are highly regulated and high-quality, sophisticated institutions for the care and treatment of older adults who have severe physical health concerns and/or mental disabilities (Health In Aging, 2021).

Studies show that about 3% to 4% of the elderly live in homes for the elderly in developed countries, compared to less than 1% in developing countries. In the Palestinian Territories, only 0.5% of the elderly are cared for in an integrated manner and bear the responsibility for their accommodation, food, clothing and health care through homes equipped for this purpose (PCBS, 2009).

In the UK "Almost half of all people who live in elderly homes are 85 years or older. Relatively few residents are younger than 65 years of age. Most are women (72%), many of whom do not have a spouse (almost 70% are widowed, divorced, or were never married). Many also have only a small group of family members and friends for support "(Health In Aging, 2021). While in Palestine, the average age was 73.18 years, also most are women (65%). As for marital status, 44% of them are single, 7% are married, 7% are divorced, and 42% are widowed. And 27% of the total number of elderlies are not being visited at all, 16% of them being visited only on annual holidays, which negatively reflects on the psychological status among the older adults (PCBS, 2009).

Moreover, as found in PCBS (2009) for the aging diseases associated with older adults' residents in elderly homes they are: 16% of heart diseases, 11% of diabetes, and 25% of rheumatism and joints, 28% of involuntary urination, and 28% of mental illness.

Therefore, this study highlighted the health status for older adults Palestinians and factors affected the health status in elderly homes in the West Bank.

1.2 Problem Statement

The complexity of the meaning of the concept of aging, the nature of age-related health problems, the current trend of population ageing, and the prevailing socio-economic situation of the country pose new challenges in the care and well-being of the older persons (Jaul & Barron, 2017).

The World Health Organization (WHO) states that "Investing in health and promoting it throughout the life span is the only way to ensure that more people will reach old age in good health and capable of contributing to society, intellectually, spiritually and physically".

A 5% of the Palestinian population is the older adults, who needs special care, the health of the older adults (60 years and over) can be related to many factors (social, demographic, economic, health status, and others) (PCBS, 2020).

The most important issue for the older adults is their health issues. In the past decades, the percentage of the older adults in the Palestinian community is increasing due to the improvement in the average life expectancy (Raiolyoum, 2013). Other reasons for higher survival rates include improved health and a gradual decline in infant and child mortality rates (PCBS, 2020), and the increase in the percentage means that there are more people exposed to chronic diseases such as heart diseases, diabetes and cancer (Raiolyoum, 2013).

Based on Palestinian Central Bureau of Statistics (2020) "The percentage of the older adults who have a disability / difficulty in Palestine increased from 26.8% of the total older adults in 2007 to 39.1% for the year 2017, and disability/mobility and visual difficulties were the most common difficulties among the older adults, and the percentage of older adults who have at least one chronic disease is about 55.9% of the total older adults ".

According to elderly homes in Palestine, the history of the establishment of homes for the elderly in the West Bank and Gaza Strip dates back to the early forties, when the first home was established in the year 1940, most of them were established by Local and foreign charitable and religious associations and institutions, and there is one government institution for the care of the elderly (PCBS, 2009).

There is a lack of knowledge among the public at large and even among professionals about ageing and appropriate care, so attention to the older adults' rests with the family, society, and the homes of the older adults. Aging is a demographic trend, which will increasingly influence societies, therefore, it is important to ensure the ability of all age groups to live in good health status and the ability to integrate into society (United Nations, 2002). A lot of studies have been done in the homes of the older adults at the global level but few at the local level in Palestine; we need to study the factors affecting their health in the homes of the older adults.

1.3 Study Justification

In Palestine, the situation of the older adults is deteriorating and unstable in terms of psychological and health status, about 39% of them suffer from difficulties or disabilities, 25.7% of the older adults are illiterate, and 26.5% of the Palestinian older adults are poor (Deek, 2020).

The burden of disease of Palestinians is undergoing rapid change as non-communicable diseases such as diabetes, hypertension, cardiovascular disease (CVD) and cancer are replacing communicable diseases as the main causes of morbidity and mortality (Abukhdeir et al., 2013).

On the other hand, disability has negative consequences on health and quality of life, studying disability is essential to understand and manage the health of the older adults since the majority of them have several comorbidities with a serious impact on daily activities, health, and wellbeing (Harsha et al., 2019). Caring for older adults requires an understanding of the complex interactions between various comorbidities and their effect on their overall health status and quality of life (Kleisiaris et al., 2019).

In the homes of the older adults, about 30-50% of people fall every year, so the deterioration of the older adult's health leads to an increase in falls and injuries, and evidence suggests that most falls can be prevented and predicted (WHO, 2020).

To our knowledge, limited studies addressing the factors affecting the health status of older adults Palestinians in the elderly homes in the West Bank were conducted. This thesis may contribute to adding information about the interaction of different socio-demographic, lifestyles, and other factors and how these factors are influencing the health status of the elderly. Consequently, the results can be used to reduce risk factors and highlight preventive and heath policies in the homes of the elderly in Palestine.

1.4 Aim

To determine the factors affecting the health status for older adults Palestinians in the elderly homes in the West Bank.

1.5 Objectives

1- To identify the health status of the older adults in the elderly homes in terms of diseases' prevalence, sensory functions and using of assistive devices among older adults at the elderly homes.

2- To assess the association between socio-demographic factors (age, sex, marital status, education level, etc.) and health status among older adults.

3- To identify the association between lifestyle factors and health status among older adults.

4- To examine the relationship between health services and health status among older adults.

5- To identify the relationship between social support and health status among older adults.

6- To estimate the prevalence of frailty among older adults and their association with health status among older adults.

1.6 Hypotheses

1- There is an association between socio demographic factors (age, sex, marital status, education level, etc.) and health status.

2- There is a positive association between nutritional status and health status.

3- There is a positive association between level of physical activity and health status.

4- There is an association between health services and health status.

5- There is a positive association between social support and health status.

6- There is a negative association between frailty and health status.

1.7 Expected outcome

Studying the factors that affect the health status of the older adults would provide evidence about the importance of providing care to the older adults and improving all the factors affecting their health. Also increasing knowledge related to their health status, and in the future working to develop a health care program for the older adults in the elderly homes.

1.8 Definitions

Older Adults: person whose chronological age is 60 years old or older (PCBS, 2020).

Health Status: WHO defines health as "a state of complete physical, mental and social well-being, and not merely the absence of disease", and health status can be defined in terms of body structure, function, presence or absence of disease (Health knowledge, 2009).

Elderly Home: Facility that provides room and board, as well as management of chronic medical conditions and 24-hour assistance with Activities of Daily Living (ADLs) in patients who are physically and/or cognitively impaired (Sanford et al., 2015).

Life Style: Is the distinctive pattern of personal and social behaviour characteristic of an individual or a group (Veal, 1993) and the routinized manifestation of self-identity (Jensen, 2008).

Nutritional Status: Nutritional status is the physiological state of an individual, which results from the relationship between nutrient intake and requirements and from the body's ability to digest, absorb and use these nutrients (FAO, 2007).

Physical Activity: WHO defines physical activity “as any bodily movement produced by skeletal muscles that requires energy expenditure” (WHO, 2020).

Health Services: Consist of medical professionals, organizations, and ancillary health care workers who provide medical care to those in need, these services aimed to make health care accessible and high quality (Health Services: Definition, 2018).

Social Support: Is one of the important functions of social relationships, having friends and other people, including family, to turn to in times of need or crisis (Towey, 2017).

Frailty: The Japan Geriatrics Society defines frailty “a state of reduced ability to recover from stress resulting from an age-related decline in reserves” (Satake & Arai, 2020).

Chapter Two

Literature review

2.1 Introduction

Several factors have the potential to influence how individuals perceive and report their health status; among them, social factors could play an important role in the conception of individuals regarding their health status, lifestyle factors (nutrition status and physical activity), health service, frailty and social support for older adults.

This chapter is divided into three main sections: the first section is theoretical studies, the second section studies similar to our study, and the last section is about the conceptual framework.

2.2 Theoretical studies

Many theories have been proposed to explain the process of aging, modern biological theories of aging in humans fall into two main categories: programmed and damage or error theories. The programmed theories imply that aging follows a biological timetable, perhaps a continuation of the one that regulates childhood growth and development. This regulation would depend on changes in gene expression that affect the systems responsible for maintenance, repair and defense responses. The damage or error theories emphasize environmental assaults on living organisms that induce cumulative damage at various levels as the cause of aging. (Jin, 2010).

The social theories, explain how factors such as the prevailing circumstances, available resources, caste systems, social accelerators, etc. can either speed up or slow down the process of ageing. Social theories contain several theories, including: The continuity theory of aging focuses on adaptive choices that older and middle-aged adults make in order to maintain both internal and external continuities in their lives. Internal continuity connotes the process of forming linkages between new circumstances and the memories left by previous ones. External continuity on the other hand refers to the interaction with familiar people and familiar environments (Ron, 2014). The continuity theory does not mean that the individual experiences no change at all, but that the individual adapts to changes with persistent, consistent and familiar attributes and processes that produce less stress (Menec, 2003).

In addition to activity theory, older people benefit themselves and their society if they continue to be active. Their positive perceptions of the aging process are crucial for their ability to remain active, assuming that older people benefit both themselves and their society if they remain active and try to continue to perform the roles they had before they aged (Joung & Miller, 2007). This theory is considered an interactionist explanation of the aging process. Moreover, Disengagement theory: To enable younger people to assume important roles, a society must encourage its older people to disengage from their previous roles and to take on roles more appropriate to their physical and mental decline. This theory is considered a functionalist explanation of the aging process (Social Sci LibreTexts, 2021).

As for the state of health in general, Health status is a multidimensional concept, requiring multiple indicators and multiple methodologies for adequate measurement, it includes the occurrence of disease, functioning (physical, cognitive, emotional, and social), or disability (Madans & Webster, 2015).

According to American thoracic society, health status is an individual's relative level of wellness and illness, taking into account the presence of biological or physiological dysfunction, symptoms, and functional impairment (American Thoracic Society, 2007).

2.2.1 Socio-demographic and lifestyle factors for older adults:

Socio-demographic factors play an important role in determining the health status of the older adults. Socio demographic is the characteristics of a population (Dobronte, 2013). Generally, characteristics such as: age, gender, level of education, marital status, smoking, and the individual’s income (Jalali-Farahani et al., 2017).

Lifestyle factors play an important role in this study, like nutritional status and physical activity. Nutritional status can be defined as the condition of the body in those respects influenced by the diet; the levels of nutrients in the body and the ability of those levels to maintain normal metabolic integrity (Encyclopedia, 2021). With age, food intake decreases as a result of illness and it might be due to the inability of the elderly to shop, cook and eat food alone (Engelheart & Brummer, 2018).

In addition, Nutritional assessment can be determined by using the standard extensive nutritional assessment including anthropometric (weight, height, Mid-arm circumference (MAC) and Calf circumference (CC)), clinical biochemistry, dietary parameters, mealtime habits, fluid intake, and dietary patterns (Vellas, 1999). Food and nutrition are the most obvious of the domains that affect nutritional status (Engelheart & Brummer, 2018).

Moreover, the prevalence of malnutrition is reported to be 18–30% in different populations of elderly people in need of health care services (Engelheart & Brummer, 2018), and in elderly homes , about 20% of the older adults suffer from malnutrition (prevalence ranged from 1.5 to 66.5%). Also, malnutrition is associated with depression, cognitive impairment, functional impairment, and swallowing difficulty. Moreover, mortality was the major consequence of malnutrition among nursing home residents (Bell et al., 2015).

According to physical activity, it is defined as "any movement of the body that requires energy expenditure. This includes any motion you do through the day excluding sitting still or lying down. For example, walking to the room, taking the stairs, mowing the lawn, and even cleaning your house can be considered physical activity" (Department of Kinesiology, 2021). Also physical activity is described as a driver for a healthy and long life for older people (Langhammer et al., 2018).

Physical activity levels amongst older adults remain below the recommended 150 minutes/week, the global prevalence of physical inactivity is 21.4%. If older adults cannot follow the guidelines for physical activity because of chronic conditions, they should be as active as their ability and conditions allow. Skeletal muscle atrophy is often considered a hallmark of aging and physical inactivity. So, low physical performance and dependence in activities of daily living are more common among older people (Langhammer et al., 2018).

In addition, physical activity is a protective factor for non-communicable diseases such as cardiovascular disease, stroke, diabetes, and some types of cancer (Langhammer et al., 2018).

In 2011, WHO survey of chronic disease in Palestine examined five risk factors (smoking, don't consumption of 5 daily servings of fruit and vegetables, low level of physical activity, overweight, and raised blood pressure), 77.4% from elderly Palestinian had three or more risk factors for non-communicable diseases (WHO, 2012).

2.2.2 Health care and service in elderly homes:

Caring for the elderly and providing services to them is one of the most important things that affect their health, and they need specified health services that meet their needs. Such as: Providing medical assistance, Offering physical therapy, Offering personal support, Organizing work areas and activities, Feeding, and Offering care and protection (Volunteer Abroads, 2021).

In Palestine, there is a growing demand for public residential care. In the West Bank, there is one governmental nursing home located in Jericho, with a capacity limited to 60 elder persons, especially the poor that their families cannot provide them with care and the rest are nongovernmental or private homes (Deek, 2020).

According to elderly homes in the West Bank, they provide health service for resident. For example: Villa Al Rafah is in Ramallah, it provides a highly qualified medical staff consisting of 5 male and female nurses, a non-resident doctor, a physiotherapist and a psychiatrist. The services are provided in a rights-based approach and translate the needs of elders to deliver high quality services:

1. Protection refers to securing the physical, psychological and emotional safety of elderly persons.

2. Healthcare and health insurance.

3. Nutrition and healthy food.

Specific service for elderly, such as: Comfortable private, or semi-private, rooms, Three daily cooked meals plus snacks and fruits, Housekeeping and laundry service, Pain/medication management and hospice care, Exercise and physical therapy programs, Social programs and activities, and 24-hour nurses (staff) and personal assistance (Villa Al Rafah, 2020).

Also, Al Bireh Women's Arab Union Society provides health services under medical supervision for residents, and there is a physiotherapy clinic and a dental clinic ("Al-Bireh Women’s Arab Union Society, 2020).

In Nablus, Home for the elderly at the PRCS. The home provides: Shelter, Health care, Food, Counseling, Warm family environment, Individual and group psychological care according to each one’s needs in cooperation with MOH, and 24-hour service and care by a staff of 17 people including a housekeeper, social worker, nurses, chef, assistant chef, and more (Wafa, 2016).

Almost all non-governmental and private homes for the elderly provide services similar to what we mentioned. While the Beit Al Ajdad in Jericho is the only governmental home in the West Bank, it specializing in providing care and protection for the elderly (60) years and over. It provides care for both males and females who are unable to take care of themselves and do not have family protection and care and there is no source of income or breadwinner.

Also, provides services including housing, food, clothing, as well as health care in decent social, psychological and environmental conditions that guarantee them a decent life.

2.2.3 Social support for older adults:

Social support is a moderator of stressful life events, it is one of the important factors that play a major role in maintaining well-being in the aged. Social support "is defined as any information leading the subject to believe that he/she is cared for, loved and is an esteemed member of a network of mutual obligation" (Patil et al., 2014).

Definitions of social support fall into two categories: 1) Objective social support indicates what support people have actually received or report to have received. 2) A subjective perception, which captures an individual's beliefs about the available support, and which is more persistently and more powerfully related to health and well-being than are objective measures (Berkman et al., 2000).

Most public policy debates are concerned with the physical issues of aging, whereas social issues, such as social support, tend to be ignored. Moreover, social support has been recognized as an important social determinant of health because it assists individuals in reaching their physical and emotional needs, and it reduces the effects of stressful events on their quality of life. Many studies have shown that there is an association between social support and health, including mortality, chronic diseases, cognition, depressive symptoms, and well-being (Berkman et al., 2000).

2.3 Similar studies

2.3.1 Socio-demographic factors:

The association between socio-demographic factors and health status among older adults

Socio-demographic factors play an important role in determining the health status of the older adults. A cohort study (Murtagh & Hubert, 2003) was conducted to determine difference between physical disability according to gender among older adults, the study showed that women were more likely to report limitations, use of assistance, and a greater degree of disability, particularly among instrumental activities of daily living (IADL) categories.

A study about disability trends by marital status among older adults aged 60 and above from 1997 to 2010 in the United States (Liu & Zhang, 2012) showed that the married had lower

odds of reporting either ADL or IADL disability than the unmarried groups. Also, ADL disability gaps of widowed white men, widowed white women, and divorced white women in comparison to their married white counterparts decreased.

A cross-sectional survey about the association between self-rated health (SRH) and functional decline (FD) in older people and investigates whether the effect differs by gender and also modified by marital status (Gyasi & Phillips, 2018), showed that the prevalence of FD was higher in women, and decreased FD if an older woman was married compared with unmarried women.

A study about the strength of various socio-economic indicators for predicting less than good health among elderly people aged 60–79 years (Dalstra et al., 2006), showed that there are substantial health differences among the elderly according to education and income in each country. And both education and income (with men) showed a strong independent relationship with health status.

A Cross-sectional study in Brazil (Marinho et al., 2008) aimed to evaluate the frequency of current smoking in older adults living in urban areas; the study showed that increased risks of tobacco smoking were: being men, illiterate, with lower income, presence of respiratory and mental disease, and absence of cardiac disease, high blood pressure and diabetes. Factors associated with a decreased risk of tobacco smoking were: aging, exercise, and marriage.

Also, a cross-sectional study in Chicago (Li et al., 2019) showed current smokers were younger, less educated, and uninsured. Former smokers had the poorest overall health profiles. Compared to former smokers, current smokers were less likely to have chronic diseases, and former smokers had worse overall health.

2.3.2 Lifestyle factors:

The association between nutritional status and health status among older adults

A cross-sectional study about malnutrition and its association with functional, cognitive and psychological status among Palestinian older adults in long-term care houses (Badrasawi et al., 2019), in which 99 participants were included from seven nursing homes in six different cities across the West Bank, Palestine. The main results about the medical history of the participants showed that the most commonly reported diseases were osteoarthritis (43.5%) followed by hypertension (35.4%) and then visionary problems (29.3%). And according to the mini nutritional assessment MNA, 23.2% of the participants were malnourished, while 47.5% were at risk of malnutrition and 25.3% were normal. Also, there was a statistically

significant association between MNA and depressive symptoms, decline in cognitive function, and between malnutrition and functional disability, in addition malnutrition was associated with female gender and eating alone.

A cross-sectional study about the differences between elderly men and women living in Lebanese long-term care nursing homes on socio-economic, health and nutritional status (Doumit et al., 2014), it comprised 221 residents; 148 (67%) women and 73 (33%) men, living in 36 nursing homes, the main results showed the most prevalent diseases among elderly were hypertension (46%) followed by cardiovascular diseases (26%), and diabetes (18%). In addition, there is no statistically significant difference between the distributions of diseases between men and women.

According to nutritional status (MNA), (69.2%) elderly were well-nourished, (27.6%) at risk of malnutrition, and (3.2%) malnourished. Also, (31.1%) of elderly were of normal weight, (33%) overweight, (20.1%) obese, and (15.8%) underweight or malnourished. No significant differences were reported between men and women on either the MNA or BMI scores.

In a cross-sectional study in Havana, Cuba (Da Silva Coqueiro, 2010), a number of 1,905 older persons were examined between 1999 and 2000, showed that increasing age, smoking, gender, and hypertension are the factors positively associated with poor nutritional status among older adults. As for the body mass index (BMI), the older age group and smokers were underweight, there was a negative association between underweight, and hypertension and diabetes, and on the other hand, hypertension was positively associated with being overweight.

A similar study on the effects of nutritional status on the physical performance and functional status of older adults' people living in rural areas of the Peruvian Andes (Tramontano, 2016). A number of 222 people aged $\geq$ 65 years living in a rural area, the study showed that poor nutritional status was significantly associated with poor physical performance and poor functional status in older adults.

Health and nutritional beliefs and practices among older adults are affected by some dimensions, a qualitative ethnographic study in Western Spain (Jimenez et al., 2020) showed that four major dimensions: limitations on choice and quality of food available, food preferences and cooking methods, the role of nostalgia in the construction of taste preferences and perceptions of what "healthy" food is and how respondents relate to the advice provided by health professionals; Dietary patterns among older adults are defined

around these dimensions often conflicting with medical advice, thus creating a nutritional risk and increasing health problems among the older adults.

A cross-sectional study in Zambia (Maila et al., 2019) the purpose of the study was to assess the association between dietary diversity, health and nutritional status of older persons, it was conducted among 135 older persons, it showed underweight was more prevalent in men than in women, and low dietary diversity amongst older persons, and infectious diseases were more prevalent among older persons, which may be linked to a high prevalence of under-nutrition.

Association between physical activity and health status

Other lifestyle factors such as physical activity play an important role. A cross-sectional study about factors associated with physical activity in elderly nursing home residents (Huang et al., 2020), it comprised 180 participants, the median age was 82.5, the main results showed that physical inactivity was common among elderly adults in the nursing home, 50% of whom performed less than 600 minutes/week of PA and over 90.0% of whom reported low-intensity exercise such as walking. Also, participants that were less educated, unmarried, or diabetic, and those with limited mobility tended to engage in a lower level of PA. While participants with a high level of PA were more likely to be well educated, and have no chronic conditions.

In addition, the distribution of diseases among the residents was as follows: Hypertension (68.9%), Coronary heart disease (37.8%), Stroke (10.6%), Diabetes (73.3%), Cancer (1.1%), and Chronic obstructive pulmonary disease (0.6%).

A cross sectional study about prevalence and risk factors for low habitual walking speed in nursing home residents: An Observational Study (Keogh et al., 2015), the results showed almost all participants had below-normal walking speed, a known clinical predictor of physical performance. Because walking speed is a clinical marker of many age-related adverse outcomes in older age (97% and 75% of participants had walking speeds <0.8m/s and <0.5m/s, respectively).

A study about the association between physical activity and quality of life in older women (Koltyn, 2001) women >60 years, living independently or in assisted-care facilities participated in the study, it showed that women living independently had significantly higher physical activity levels compared to the women living in assisted-care facilities. Also, the overall quality of life and the domains of physical health, social relationships, and

environment were found to be significantly higher in the women living independently compared to the women living in assisted-care facilities, and physical activity levels correlated significantly with the overall quality of life and the physical health domain.

A study about Quality of life and physical activity in an older working-age population in Poland (Puciato et al., 2017), it comprised 1,013 older people, it showed that participants who enjoyed a high level of physical activity were enjoying a high level of the general quality of life, perceived state of health, and quality of life in the physical, psychological, social and environmental domains. Another study about physical activity and quality of life in older adults (Acree, 2006) showed that there is an association between physical activity and quality of life, and the healthy older adults who participated in regular physical activity had higher values in all eight domains of health-related quality of life.

A cross-sectional study of physical activity and physical functioning in community-dwelling older adults (Halaweh et al., 2016), it included 176 older people; it showed a strong relationship between higher levels of physical activity and levels of physical functioning. Another cross-sectional study of physical activity and health-related quality of life among community dwelling older adults (Halaweh et al., 2015), results showed that strong associations between higher levels of physical activity and all dimensions of health-related quality of life, in addition, the prevalence of illnesses was higher in the low physical activity group.

A study about the associations between productive housework activities and self-reported health among elderly men and women in western industrialized countries (Adjei & Brand, 2018), results showed a positive association between time devoted to housework activities, total housework and health status among elderly men and women. Compared to those who spent 1 to 3 hours on total productive housework, elderly people who spent more than 3 to 6 hours/day had higher odds of reporting good health (OR = 1.25; 95% CI = 1.14–1.37 among men and OR = 1.10; 95% CI = 1.01–1.20 among women).

A study about physical activity and physical fitness of nursing home residents with cognitive impairment (Marmeleira et al., 2017), it included 70 participants (48 with cognitive impairment, 22 without cognitive impairment), the results showed that nursing home residents had low levels of physical activity and physical fitness, most participants had an increased risk of associated health problems, functional impairment and high risk of falling. Also, nursing home residents with cognitive impairment spent only 1 minutes per day in

moderate physical activity and 89 minutes in light physical activity, participants without cognitive impairment had higher levels of physical activity and physical fitness.

2.3.3 Social support:

Association between social support and health status

Another important factor that affects health is social support. A cross-sectional study of the association between social support and self-reported health status of older adults in the United States (White et al., 2009), it comprised 3706 older adults, it showed that a strong association between social support and self-reported health status, and older adults who need more social support they also having poorer health. Another study about health literacy, social support, and health status among older adults (Lee et al., 2009) showed that social support has a positive impact on physical health in older adults with high health literacy.

A cross-sectional study of gender differences in the association of perceived social support and social network with self-rated health status among older adults in Brazil (Caetano, 2013), it comprised 3649 older adults; the study examined six variables (1) perceived social support and social network (2) age group (3) socioeconomic characteristics (4) health-related behaviors (5) use of health care services and (6) functional status measures and somatic health problems. Findings of this study showed low perceived social support and a small social network was associated with poor self-rated health in older and low social network involvement is associated with poor self-rated health in older men, whereas low perceived social support is associated with poor self-rated health in older women. Also, it found that poor self-rated health was associated with low age, low income, not working, poor functional capacity, and depression in both men and women, more health problems were associated with poor self-rated health in women.

A study about Social disconnectedness, perceived isolation, and health among older adults (Cornwell, 2009), the result showed that social disconnectedness and perceived isolation are independently associated with lower levels of self-rated physical health. However, the association between disconnectedness and mental health may operate through the strong relationship between perceived isolation and mental health.

2.3.4 Health services:

Association between health service and health status

Additional factors that affect health status are health services like access to health care, insurance and quality of care. A study about the effects of Taiwan's National Health

Insurance on access and health status of the older adults in Taiwan (Chen et al., 2006) showed that NHI has significantly increased utilization of both outpatient and inpatient care among the older adults, and such effects were more salient for people in the low- or middle-income groups, this increased utilization of health services did not reduce mortality or lead to better self-perceived general health status for older adults.

A study about access to health care for the rural older adults in the United States (Rosenthal & Fox, 2000) showed that health care outcomes for the older adults are influenced by social position, insurance status, clinician access, and economic status. A cohort study about access to health care services for the disabled older adults in United States (Taylor Jr.& Hoenig, 2006), walking difficulty and compensatory strategy were measured, and used to predict health care use as measured in Medicare claims data, it found difficulty walking and use of compensatory strategies are correlated with the use of Medicare-financed services.

Another cohort study about barriers to health care access among the older adults (Fitzpatrick et al., 2011) showed that psychological and physical barriers affect access to care among the older adults; these may be influenced by poverty more than by race. The most common barriers to seeing a physician were the doctor's lack of responsiveness to patient concerns, medical bills, transportation, and street safety. Low income, no supplemental insurance, older age, and female gender were independently related to perceptions of barriers.

2.3.5 Health status and frailty:

According to (PCBS, 2020). The prevalence of diseases among older adults Palestinian shown in table 2.1.

Table 2.1: The percentage of individuals (60 years and over) in the Palestinian Territory according to diseases.

Disease	Percent
Blood pressure	35.3%
Cancer	32.8%
Diabetes	24.9%
Arthritis	16.5%
Heart Disease	12.2%
Covid-19	11.1%
Psychiatric Diseases	10.7%
Ulcers	6.1%

A cross-sectional study in Palestine about the prevalence of disability among elderly people in the occupied Palestinian territory (Jasser et al., 2017), showed that 71% of those had no disability and the remaining 29% reportedly had at least one disability, of which 53% represented problems with mobility, 26% vision, 11% hearing, 7% memory, 1% mental health, 1% communication, and 1% intellectual. Also, men were less likely to be disabled than women. Age, level of education, work status, and marital status were associated with disability. Another study in Palestine (Harsha et al., 2019), showed that 31.2% of the Palestinian elderly 60 years and above reported one or more type of disability. Also, older people, women, illiterate people, and people who reported that they were not working were more likely to have a disability.

In addition, a study about Palestinian elderly women's needs and their physical and mental health (Imam et al., 2011), showed that 72.4% of the participants had health insurance. Only 5% of the participants reported not having any disease. Cardiovascular disease, diabetes, arthritis and osteoporosis were the most prevalent health problems among the participants. Level of education, work status, social activity, economic status, age, and marital status were associated with physical and mental health.

A study about the health status and health needs of older refugees from Syria in Lebanon (Strong et al., 2015), it comprised 210 older, the main results showed, Health problems : Health status poor or very poor (70%), Hypertension (60%), Diabetes (47%), Heart disease (30%), Difficulties in affording medicines (87%), Difficulty walking (47%), Vision loss (24%), hearing loss (18%), Unable to leave their homes (10%), Bedridden (4%), Anxious (61%) and Depressed (25%).

A systematic review about the prevalence of frailty among nursing home patients (Gotaro, 2015), nine studies with a total of 1373 nursing home patients were found to report prevalence of frailty. The included studies were highly heterogeneous and mean prevalence of frailty ranged widely from 19.0 to 75.6%. Another study about prevalence of frailty in nursing home residents (Buckinx et al., 2017), showed that 76.3% of residents have frailty according to Groningen Frailty Indicator.

A study about the relationship between frailty, physical performance and quality of life among nursing home residents (Buckinx et al., 2016), showed that the prevalence of frailty is 25.1 %, and frail subjects have lower physical and muscular performances and a lower quality of life. While a study in chain about Assessing Frailty in Chinese Nursing Home

Older Adults (Ge et al., 2019), showed that the prevalence of frailty is 69.5%, and according to the (Frailty Index), age, diseases, medications and self-reported health status were associated with frail and frailest status.

A cross sectional study about Associations between Nutritional Status, Frailty and Health-Related Quality of Life among Older Long-Term Care Residents in Helsinki (Salminen et al., 2020), it included 486 participants, 69.5% were frail , it showed that the residents were frail were had had a lower BMI and were more often malnourished, both nutritional status and frailty were associated with health-related quality of life, but there was no interaction.

Also, a cross-sectional study about prevalence and associated factors of frailty in adults over 70 years in the community (Menendez-Gonzalez et al., 2021), it included 408 participants, the mean age (79.8+6.6). The prevalence of frailty was 27.7%, factors that were statistically associated with frailty syndrome were: high comorbidity, polypharmacy, perception of quality of life with health impaired ambulation, support for walking, high risk of falls, disability, cognitive impairment, and depression. Another cross sectional study about Prevalence of frailty and factors associated with frailty in the elderly population of Lleida, Spain (Jurschik et al., 2012). The prevalence of frailty was 9.6%. Age (over 85 years), depressive symptoms, comorbidity, cognitive impairment, poor social ties, and poor physical health were significantly associated with frailty.

A cohort study about frailty in nursing home patients in Canada (Rockwood et al., 2007), it included 728 participants, the mean age (87.7 +/- 6.7 years), (83%) were disabled and (83%) had a high level of mobility impairment, frailty was significantly associated with an increased risk of mortality, disability, new onset disability, and cognitive decline ($P < .01$).

In addition, a cross sectional study aimed to identify the frailty prevalence and associated socio-demographic factors among older adults in Iran (Delbari et al., 2021), the results showed the prevalence of frailty was 14.3%, frailty was significantly associated with gender, age, lifestyle, income, and job status ($P < 0.05$), but education level and marital status were not significantly associated.

2.4 Conceptual Framework

Based on the World Health Organization and Centers of Diseases Control and Prevention the factors that affect the health status of the older adults are:

1- Socio-demographic factors: Age, gender, income, education, etc.

2- Life style: Nutritional status, level of physical activity and smoking.

3- Health services: Provision of assistive materials, the continuous examination of their health condition (clinical preventive services), talking with the doctor about the problems that the older adults suffer from and health insurance.

4- Social support: Loneliness, social isolation and lack of psychological and social support are important factors that lead to ill health.

This study conceptual model is built based on the definition of factors affecting the health of the older adults in the WHO and CDC.

The factors are:

1- Data on Social Demographics will be collected to find out the characteristics of the sample (gender, age, marital status, number of children, occupation, level of education, place of residence, and number of years of stay in the home for the older adults).

2- Life Style: way of life or living of a person like nutritional status, physical activity and smoking.

3- Nutritional status: represents meeting of human body needs for nutritive and protective substances and the reflection of these in physical, physiological, and biochemical characteristics, functional capability, and health status. (Gurinović et al., 2017)

4- Physical activity: "is as any bodily movement produced by skeletal muscles that requires energy expenditure. Also refers to all movement including during leisure time, for transport to get to and from places, or as part of a person's work" (WHO, 2021).

5- Health Services: any medical or remedial care or services supplied to older adults with focus on 3 items (Health insurance, regular doctor visits to homes, and medical examinations for the older adults).

6- Social Support: Social support is related to how closely the person is connected to family and friends, it's the knowledge that you are part of a community of people who love and care for you, value you and think well of you (BC & Canada, 2021).

7- Health Status: is an individual's relative level of wellness and illness (ATS, 2007). In this study health status can be defined as occurrence of diseases, sensory functions, and use of assisting tools.

8- Frailty: is a state of increased vulnerability resulting from aging-associated decline in reserve and function across multiple physiologic systems such that the ability to cope with every day or acute stressors is compromised. The main features of it (low grip strength, low energy, slower walking speed, low physical activity, and unintentional weight loss) (Xue, 2011).

As shown in figure 2.1, the study variables were conceptualized as following:

Dependent variable: Health status.

Independent variables: Socio demographic factors, lifestyle factors, social support, frailty and health services.

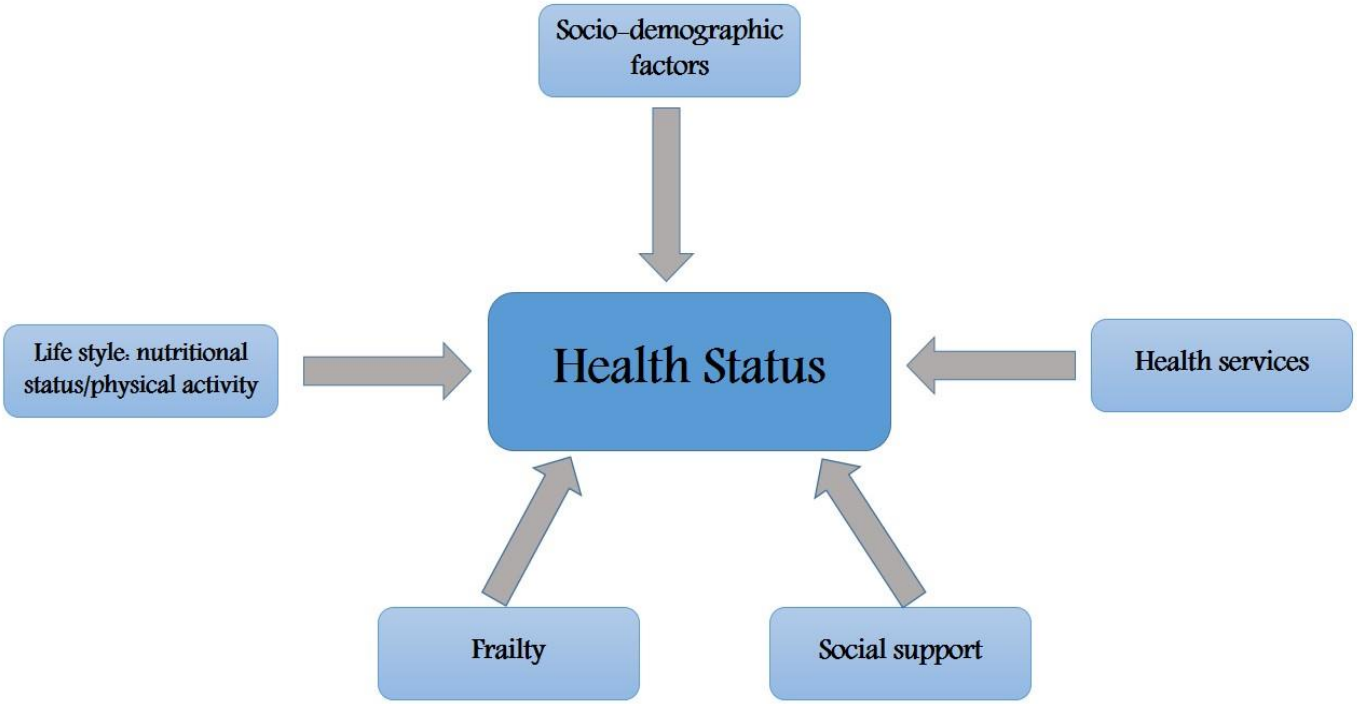

Figure 2.1: Conceptual Framework: Factors affecting health status of elderly

Chapter Three

Methodology

3.1 Introduction

This study aims to determine the factors that affect the older adults' health status at the elderly homes in the West Bank. A cross-sectional study was used to achieve the goal.

Study design, study population, setting, study sample, instrument of the study, ethical consideration, and statistical analysis of the study are discussed in this chapter.

3.2 Study design

In the current study, a cross-sectional design was utilized using face to face questionnaires.

3.3 Study population

The older adults who stay at the homes of the elderly in the West Bank (Nablus, Bethlehem, Jenin, Ramallah, Tulkarm, Salfet and Jericho).

All older adults in the West Bank were given the chance to be recruited from the total number of older adults who were residents in elderly homes. The description of the total population in the elderly home is shown in table 3.1.

Table 3.1 The total population description in the elderly homes.

City	Elderly home	Total Number of residents
Ramallah	Women's Arab Union Society	35
	Al Bireh Women's Arab Union Society	20
	Villa Al Rafah	16
	Alafram Home	17
Nablus	Home for the elderly at the Palestine Red Crescent Society	19
	Almahabbah and Alweeam Home	12
Jenin	Elderly Home	24
Tulkarm	Beit Al Ajdad	27
Jericho	Beit Al Ajdad	50
Salfet	Alwafaa society	17
Bethlehem	Saint Nicolas Home	34
Total		271

3.4 Study sample

A convenient sample was used in this study. Convenience sampling is a type of nonprobability sampling in which people are sampled simply because they are "convenient" sources of data and the sample is determined in an appropriate and approved way to achieve the required goal (Lavrakas, 2008). In addition, it is helpful for pilot studies and for hypothesis generation. Data collection can be in a short duration of time. However, it is vulnerable to selection bias (Anon, 2012).

According to the selection of the appropriate sample from elderly homes and to the inclusion criteria, the distribution of the sample was as shown in table 3.2.

Table 3.2: The sample distribution in the elderly homes:

Elderly home	Number of participants (%)
Women's Arab Union Society	27 (16.9)
Al Bireh Women's Arab Union Society	9 (5.6)
Villa Al Rafah	13 (8.1)
Alafram Home	6 (3.8)
Home for the elderly at the Palestine Red Crescent Society	10 (6.3)
Almahabbah and Alweeam Home	11 (6.9)
Elderly Home-Jenin	17 (10.3)
Beit Al Ajdad- Tulkarm	18 (11.3)
Beit Al Ajdad-Jericho	20 (12.5)
Alwafaa society	15 (9.3)
Saint Nicholas Home	14 (8.8)
Total	160 (100)

The inclusion criteria

Older adults (males and females) who are residing permanently in the elderly homes in the West Bank (Nablus, Bethlehem, Jenin, Ramallah, Tulkarm, Salfet and Jericho).

The exclusion criteria

The older adults who are temporarily residents in the homes of the older adults, and having any communication deficits that may make interviewing and conducting the tests difficult.

3.5 Setting of the study

The study was conducted at the elderly homes in the West Bank (agreed to participate), there are 11 elderly homes distributed in the West Bank as following:

1- **Women's Arab Union Society:** It was established in Ramallah in 1939, then registered under the Charitable Societies Law in 1956. It aims to provide services and care for the elderly 24 hours a day.

2- **Villa Al-Rafah:** Al Rafah Social Care is a non-profit company in Ramallah that has been working with a long-term approach since its establishment in 2009. The foundation was formed by the efforts of two Palestinian activist social workers' women Khawla Al-Kurd, and Sara Nasser-Elddin. It aims to provide living necessities for 16 elderly men and women, and to keep the ghost of what is called "shelter" in the social sense from the minds of society and create a suitable environment for the elderly, their vision is to offer elders with supreme senior care. They aimed to create a home for Al Rafah residents and not only a shelter and their effort is directed towards enhancing elders' comfort and adaptability to their new environment.

3- **Al Bireh Women's Arab Union Society:** It is a charitable society established in 1955 and registered in 1956. Part of the Union of Charitable Society in Jerusalem. In addition, it became one of the centers offering hope as well as compassion, security and peace for "our mothers". Also it maintains its strength through the support of the Palestinian people.

4- **Al-Afram Home:** It was established in 2005 in Taybeh village/Ramallah. It is a home for the elderly that takes care of them and provides them with medical and humanitarian care. There is a team of Spanish volunteers and employees, under the supervision of the Latin Patriarchate.

5- **Home for the elderly at the Palestine Red Crescent Society:** The home was founded in 1950 in Nablus, also the home is a monument and a landmark in Nablus. It aims to take care of those who are hardened by life and those who don't live in a family environment that protects and sustains them and provides them with health care and food. It includes both genders (male and female) and is almost free of charge.

6- **Almahabbah and Alweeam Home:** It was established in 1954 in Nablus**,** it aims to serve a category of society that includes the elderly, providing psychological comfort and a sense of security and safety for the elderly and their families and providing health, psychological and social care for female inmates.

7- **Elderly Home:** It was established in 1973 in Jenin, it is a charitable organization that provides services for the elderly to support the elderly to have an active, dignified and safe life. Its strategic goals; First: Strengthening and providing humanitarian services for the elderly. Second: Empowering and building the capacities of workers,

volunteers and those interested in the Messiah, Third: Working on the sustainability of the association and its publicity.

8- **Beit Al Ajdad- Tulkarm:** It was established in 2010. It aims to provide services and care for the elderly 24 hours a day.
9- **Beit Al Ajdad- Jericho**: It was established in 1955. It is a governmental institution affiliated with the Ministry of Social Development specializing in providing care and protection for the elderly (60) years and over, It provides care for both males and females who are unable to take care of themselves and do not have family protection and care and there is no source of income or breadwinner.
10- **Alwafaa society:** It was established in 2008 in Salfet. Their message: Loyalty to the Palestinian elderly, preserving their dignity, raising the standard of living and caring for them in cooperation with charitable institutions and the local community. And rehabilitating the elderly, healthily and psychologically, and informing them of their distinguished entity in society.
11- **Saint Nicolas Home:** It was established in 1976 in Beit Jala/Bethlehem. Their goal is to take care of the elderly and provide services to them.

3.6 Ethical considerations

The proposal was submitted to Al Quds University-School of Public Health research ethical committee for discussion and approval.

In addition, approval from the elderly homes was obtained. All participants were informed about respect, privacy, confidentiality measures and the study aim and objectives. Also, all participants were asked to sign a consent form before participating, a special form was prepared before data collection. Participants have the right to refuse or to withdraw from the study at any time without any restrictions (Appendix 1).

3.7 Instruments of the study

Face to face interview questionnaire contains a set of questions relevant to each factor of the conceptual framework (Socio-demographic, Lifestyle, Health Services, Social Support, frailty and Health status) as the major themes for the study (Appendix 2).

Socio-demographic Factors

The instrument was developed for the purpose of this study and it included 11 variables such as age, gender, marital status, level of education, etc.

Nutritional status

A mini nutrition assessment (MNA) was used to assess the level of nutritional status (Nestle Nutrition Institute, 1994). MNA is a validated nutrition screening and assessment tool that can identify older adults age 60 and above who are normally nourished, at risk for malnutrition, or malnourished. And it is validated in the long-term care settings. The MNA consists of 5 questions for screening and 12 questions for assessment (Nestle Nutrition Institute, 2020). Also, height, weight, Mid-arm circumference (MAC), and Calf circumference (CC) were measured. Some minor modifications to the questionnaire were done.

MNA Categories

24 to 30 points: Normal nutritional status.

17 to 23.5 points: At risk of malnutrition.

Less than 17 points: Malnourished.

BMI Categories

Less than or equal 22.9: Underweight.

23-30.9: Healthy weight.

More than or equal 31: Overweight.

Physical Activity Measure

A physical activity socio-cultural adapted questionnaire (PA-SCAC) was used to assess the level of PA (Halaweh et al., 2015). The PA-SCAQ is a valid and reliable tool that was built on the WHO global recommendations (WHO, 2010). PA variables were categorized into walking, household activities, and outdoor activities.

The PA level is categorized into three groups based on the accumulated minutes of these activities throughout the week: low PA (less than 150 min/week), moderate PA (between 150 and 300 min/week), and high PA (more than 300 min/week).

Health Status

The instrument was developed for the purpose of this study and it included seven sections to assess the health status (Evaluate health, surgery, admitted hospital, fallen in the last 6 months, chronic diseases, sensory functions, and the use of assistive devices).

The questionnaire consisted of 22 items, as when the participants answer “Yes” they will be given a point, and when they answer “No” they will be given 2 points. This scale was formed

based on the maximum and minimum value of the answers and where it formed a range from 22 to 44 points (When the participant gets a higher score that means they have better health).

Health Services

The instrument was developed for the purpose of this study to assess the health services in elderly homes. It consists of six sections (Health insurance, regular doctor visits to homes, medical examinations for the older adults, surrounding environment safety, recorded elderly information, and vaccination).

The questionnaire consisted of 16 items, as when the participants answer "No" they will be given a point, and when they answer "Yes" they will be given 2 points. This scale was formed based on the maximum and minimum value of the answers and where it formed a range from 16 to 32 (When the participant gets a higher score that means they received good health services).

Health services categories

From 16 to 21: Bad.

From 22 to 27: Moderate.

More than or equal 28: Good.

Social Support

A valid tool for measuring the level of psychosocial support and identifying its sources was used to assess the level of social support for older adults. The questionnaire was developed by researcher Suhad Badrah in her doctoral thesis (The Level of Social psychological Support and its Relationship with Both Life Satisfaction and Psychological Needs of the elderly, 2014).

The questionnaire includes 20 items and measures five aspects (Financial support, Emotional support, Social support, Information support and Evaluation support).

Social support categories

More than 72: high level of social support.

38-72: moderate level of social support.

Less than 38: low level of social support.

Groningen Frailty Indicator Questionnaire

A valid Arabic version of the Groningen Frailty Indicator questionnaire was used to assess health status related to frailty among the elderly Palestinians (Khamis et al., 2019). The

Groningen Frailty Indicator (GFI) consists of 14 questions divided into four components physical, cognitive, social and psychological (Peters et al., 2012).

Frailty indicator

4 points and more: has frailty

less than 4 points: no frailty

3.8 Validity and Reliability of the instrument

Validity is the extent to which a concept is accurately measured in the study (Heale & Twycross, 2020), content validity was assessed and the questionnaire was reviewed by research experts of public health and other related specialties from Al-Quds University.

The study instrument was evaluated by five experts and the supervisor (Appendix 3). They were asked to perform content validity in order to evaluate how well the items in each section can measure what needs to be measured and to improve instrument relevance. All feedback and suggestions for instrument modifications were evidenced.

The questionnaire reliability measurement was conducted, the result of Cronbach's Alpha values of the total sections confirmed that the study tool was reliable, Cronbach's Alpha=0.871.

3.9 Pilot of the questionnaire

The study tools were validated and piloted after its development, the piloting was done with 10 older adults from Saint Nicholas Home-Bethlehem to identify difficulties and challenges that the participants might face in the instrument content and structure so that the researcher can amend the tools prior to the data collection process. As a result of the pilot study, some changes were made to the format of the questionnaire and to simplify the language. The data obtained from the pilot study were not included in the main study.

3.10 Data collection procedure

After getting the approval from the public health faculty at al-Quds University and from the ethical research committee (REC), and from homes of the older adults in the West Bank.

Data was collected by the researcher using a face-to-face interview questionnaire and the researcher was personally asked questions to the person to fill out the complete questionnaire and to collect the required data from each person separately. Also, the required measurements (height, weight, MAC, and CC) were measured by the researcher, by using the appropriate tools (weight scale, meter, tape measure).

In addition, the data was collected from the northern regions by an assistant to the researcher, the questionnaire was explained in detail to the assistant to calculate the data in a correct manner, and the assistant was trained to measure the required measurements; due to the difficulty of accessing the northern regions due to the outbreak of the Corona virus and the suspension of movement between cities. Also, the assistant work as fieldwork assistant at the Palestinian Statistics Center.

3.11 Statistical analysis

The data was analyzed by using the statistical package for Social Sciences (SPSS) version 26. Data entry and management was done by using SPSS, descriptive and analytical analysis were used.

The continuous variable was expressed as mean ± SD, while categorical variables were expressed as frequency, the relationship between socio-demographic factors, life style, health services, social support, frailty, and health status was analyzed by the using parametric test such as frequency, regression, t-test, ANOVA and Pearson correlation coefficient was used to examine the correlation between the study variables. Statistical significance was set at $P < 0.05$.

Pearson's test was used to examine the relationship between health status as a continuous numerical variable with (age, physical activity, nutritional status, health services, social support, and frailty; all these variables were continuous numerical variables).

The T-test was used to examine the relationship between health status as a numerical variable with (sex, and previous work status).

As for the ANOVA test, it was used to examine the relationship between health status as a continuous numerical variable with (education level, place of residence, areas of residency, marital status, duration of stay at elderly home, place of elderly home, and smoking).

Chapter Four

The Results

4.1 Introduction

This chapter represented the main study findings which achieve the study objectives, the first section explains the demographic and clinical characteristics, the level of nutritional status, physical activity, social support and the prevalence of frailty for the participants, then the second section is about the relationship between health status and demographic factors, then the third section explains the association between health status and (nutritional status, physical activity, health service, social support , and frailty indicator).

4.2 Descriptive analysis

Socio-demographic

The total number of the participants was 160. Table 4.1 below shows the main demographic characteristics of the participants. The mean and standard deviations of age were 71.8±9.4 years for males and 73.1±9.2 years for females, the age ranges between 60-95 years. A higher percentage of the participants was females (56.3%). In regard to marital status, most of the participant were single and widowed (40%, 31.1% respectively), and the mean number of children was 3. More than half of the participants were non-smokers (60.6%).

Almost half of the participants were employed (49.4%), and 45 % of them were unable to read and write. About 50.6% of the participants were residents in the north of the WB, 39.4% in the center of the WB, and 10% in the south of the WB.

The distribution of participants according to elderly homes: A higher percentage of the participants was from Women's Arab Union Society (16.9%), then Beit Al Ajdad–Jericho (12.5%), and the lowest percentage of participants was from Alafram Home (3.8%).

Table 4.1.A: Socio demographic characteristics of the participants (n=160)

Variables	N (%)
Age (Mean± SD)	
Male	71.8±9.4
Female	73.1±9.2
Sex	
Male	70 (43.8)
Female	90 (56.3)
Marital status	
Single	64 (40.0)
Married	27 (16.9)
Widowed	51 (31.9)

Table 4.1.B: Socio demographic characteristics of the participants (n=160)

Variables	N (%)
Separated	18 (11.2)
Have previous work	
Yes	79 (49.4)
No	81 (50.6)
Educational level	
Unable to read and write	72 (45.0)
Able to read and write	13 (8.1)
Primary	20 (12.5)
Preparatory	19 (11.9)
Secondary	12 (7.5)
Diploma	16 (10.0)
Bachelor's degree and above	8 (5.0)
Area of residence	
North WB*	81 (50.6)
South WB**	16 (10.0)
Center WB***	63 (39.4)
Elderly Home	
Ramallah	
Women's Arab Union Society	27 (16.9)
Al Bireh Women's Arab Union Society	9 (5.6)
Villa Al Rafah	13 (8.1)
Alafram Home	6 (3.8)
Nablus	
Home for the elderly at the Palestine Red Crescent Society	10 (6.3)
Almahabbah and Alweeam Home	11 (6.9)
Jenin	
Elderly Home	17 (10.3)
Tulkarm	
Beit Al Ajdad	18 (11.3)
Jericho	
Beit Al Ajdad	20 (12.5)
Salfet	
Alwafaa society	15 (9.3)
Bethlehem	
Saint Nicolas Home	14 (8.8)
Duration of stay at home	
Less than one year	27 (16.9)
One year	6 (3.8)
More than one year	125 (78.1)
Don’t remember	2 (1.3)
Smoking	
Yes	55 (34.4)
No	97 (60.6)
Was a smoker	8 (5.0)

*****South West Bank: Bethlehem, Hebron, **North West Bank: Nablus, Jenin, Salfet, Tubas, Tulkarm, ***Center of West Bank: Ramallah, Jericho, Jerusalem.

Health status

Table 4.2 shows the Clinical characteristics of the participants, 36.3% of the participants rated their health as good, followed by moderate (29.4%), then 17.5% were bad. Almost half of the participants had previous surgery (51.9%), and 35.6% were admitted to hospitals during the past year, and 28.7% had fallen within the past six months.

Results of burden of diseases among the participants showed that the majority of them (83.1%) had chronic diseases which distributed as following: Diabetes (48.1%), Hypertension (64.4%), Heart disease (36.3%), Rheumatism (38.8%), Cancer (9.4%), Respiratory diseases (28.7%), Blood vessels (28.1%), Muscle bone disease (40.6%), Kidney disease (23.1%), and Incontinence (34.4%).

According to Sensory functions and Assistive devices, 41.3% suffer from visual problems, 12.5% suffer from hearing problems, also 12.5% suffer from speech problems, and 33.1% use medical glasses, 35.6% use walker. Also 35.7% use wheel chair.

Table 4.2: Clinical characteristics of the participants (n=160)

Variable	All (n=160)	Male (n=70)	Female (n=90)
Evaluate health			
Very bad	13 (8.1)	6 (46.2)	7 (53.8)
Bad	28 (17.5)	15 (53.6)	13 (46.4)
Moderate	47 (29.4)	19 (40.0)	28 (59.6)
Good	58 (36.3)	23 (39.7)	35 (60.3)
Very good	14 (8.8)	7 (50.0)	7 (50.0)
Surgery	83 (51.9)	36 (43.4)	47 (56.6)
Admitted hospital	57 (35.6)	24 (42.1)	33 (57.9)
Fallen in the last 6 months	46 (28.7)	24 (52.2)	22 (47.8)
Chronic diseases			
Yes	133 (83.1)	59 (44.4)	74 (55.6)
No	27 (16.9)	11 (40.7)	16 (59.3)
Diabetes	77 (48.1)	33 (42.9)	44 (57.1)
Hypertension	103 (64.4)	44 (42.7)	59 (57.3)
Heart disease	58 (36.3)	31 (53.4)	27 (46.6)
Rheumatism	62 (38.8)	28 (45.2)	34 (54.8)
Cancer	15 (9.4)	6 (40.0)	9 (60.0)
Respiratory diseases	46 (28.7)	25 (54.3)	21 (45.7)
Blood vessels	45 (28.1)	23 (51.1)	22 (48.9)
Muscle bone disease	65 (40.6)	30 (46.2)	35 (53.8)
Kidney disease	37 (23.1)	21 (56.8)	16 (43.2)
Incontinence	55 (34.4)	25 (45.5)	30 (54.5)
Disabilities			
Visual problems	66 (41.3)	34 (51.5)	32 (48.5)
Hearing problems	20 (12.5)	8 (40.0)	12 (60.0)
Speech problems	20 (12.5)	8 (40.0)	12 (60.0)
Assistive devices			
Medical glasses	53 (33.1)	27 (50.9)	26 (49.1)
Hearing aids	7 (4.4)	6 (85.7)	1 (14.3)
Walker	57 (35.6)	28 (49.1)	29 (50.9)
Wheel chair	57 (35.6)	16 (28.1)	41 (71.9)

Data are shown as n (%).

Nutritional Status

Table 4.3 shows the distribution of the level of nutritional status among the participants, approximately half of them were at risk of malnutrition (43.8%), 23.8% of them were malnourished, and 32.5% of them within the normal status.

For body mass index, most of the participants were in the healthy weight category (56.3%), then underweight (25%), and overweight (18.8%).

The height and weight mean was (1.66 m, 74.1 kg respectively) for male, and (1.61 m, 71.4 kg respectively) for female.

Table 4.3: Nutritional Status

Variable	N (%)
Nutritional status	
Normal	52 (32.5)
At risk	70 (43.8)
Malnourished	38 (23.8)
BMI	
Under weight	40 (25.0)
Healthy weight	90 (56.3)
Over weight	30 (18.8)
Weight (Mean ±SD)	
Male	74.1 kg±15.1
Female	71.4 kg±20.0
Height (Mean ±SD)	
Male	1.66 m±0.8
Female	1.61 m±0.9

Data are shown as n (%).

Physical activity

The main findings of the physical activity status during the past four weeks summarized as the following based in table 4.4: about 29.4% of the participants rated their physical fitness as very bad, followed by good (28.1%), then quite good (20.6%), 45.6% were never walking during the week, and 40% were walking daily.

Moreover, 44.4% of participants never spend time walking during the day, 80% didn't do any work or physical activity inside the home, and 90% didn't do any work or physical activity outside the home.

Table 4.4: Physical activity

Variable	N (%)
Evaluate physical fitness	
Very bad	47 (29.4)
Bad	25 (15.6)
Quite good	33 (20.6)
Good	45 (28.1)
Very good	10 (6.3)
The number of days walks during the week	
Never walk	73 (45.6)
1-2 day	10 (6.3)
3-4 day	6 (3.8)
5-6 day	7 (4.4)
Daily	64 (40.0)
Walking time per day	
Not applicable	71 (44.4)
Less than 15 min	17 (10.7)
15-30 min	25 (15.6)
30-60 min	29 (18.1)
1-2 hour	7 (4.40)
More than 2 hours	11 (6.90)
Housework or home maintenance inside home	
Not applicable	128 (80.0)
Less than 15 min	14 (8.8)
15-30 min	7 (4.4)
30-60 min	6 (3.8)
1-2 hour	4 (2.5)
More than 2 hours	1 (0.6)
Housework or home maintenance outside home	
Not applicable	144 (90.0)
Less than 15 min	6 (3.8)
15-30 min	5 (3.1)
30-60 min	3 (1.9)
1-2 hour	1 (0.6)
More than 2 hours	1 (0.6)

Data are shown as n (%).

Health services

Table 4.5 shows the level of health services provided in elderly homes. Most of the participants reported that health services were moderate (61.3%), followed by (32.5%) of good, and (6.3%) of bad.

Table 4.5: Health service

Variable	N (%)
Health service	
Good	52 (32.5)
Moderate	98 (61.3)
Bad	10 (6.3)
Health Insurance	
Yes	131 (81.8)
No	29 (18.1)
Is the surrounding environment safe	
Yes	149 (93.1)
No	11 (6.9)
Recorded elderly information	
Yes	153 (95.6)
No	7 (4.4)
Vaccination	
Yes	159 (99.4)
No	1 (0.6)
Physical doctor	
Yes	125 (78.1)
No	35 (21.9)
Psychologist	
Yes	110 (68.7)
No	50 (31.3)
Dietitian	
Yes	43 (26.9)
No	117 (73.1)
Physiotherapist	
Yes	96 (60)
No	64 (40)
Dentist	
Yes	31 (19.4)
No	129 (80.6)
Social worker	
Yes	124 (77.5)
No	36 (22.5)

Data are shown as n (%).

Social support

Figure 4.1 shows the level of social support, most of the participants received a moderate level of social support (41.9%), 32.5% received a high level, and 25.6% received a low level.

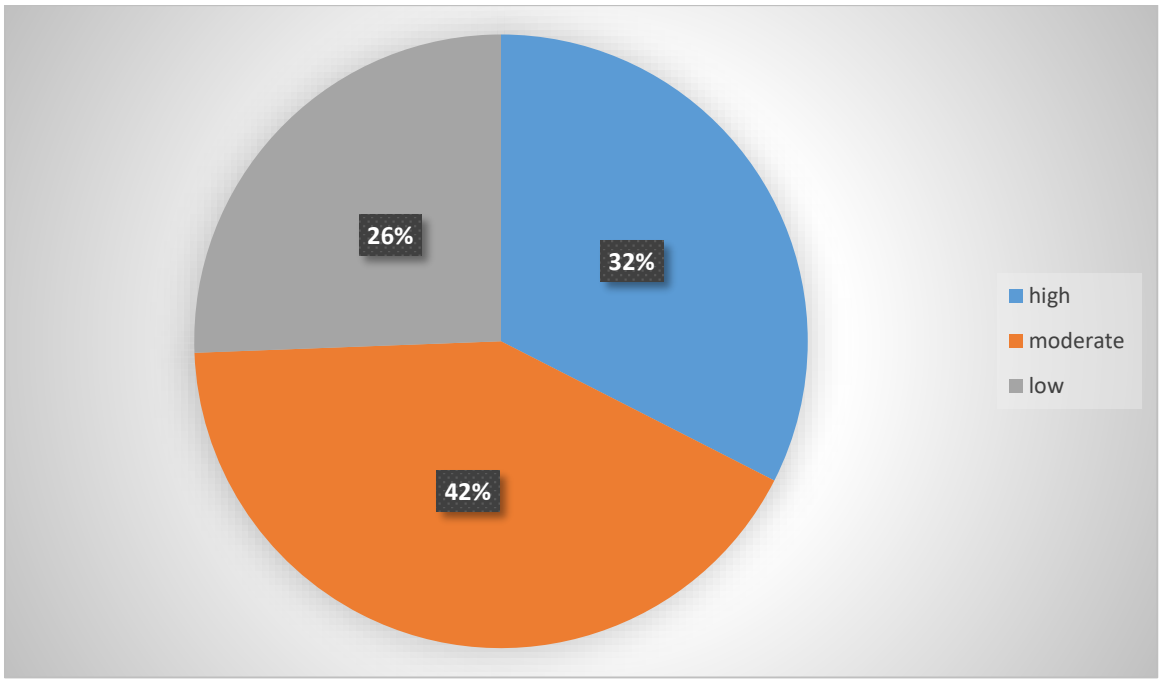

Figure 4 1: Level of social support.

Groningen Frailty Indicator

The GFI total score shows that the majority of participants had a high score in frailty, which confirmed by the prevalence rate of 91.3% as shown in figure 4.2.

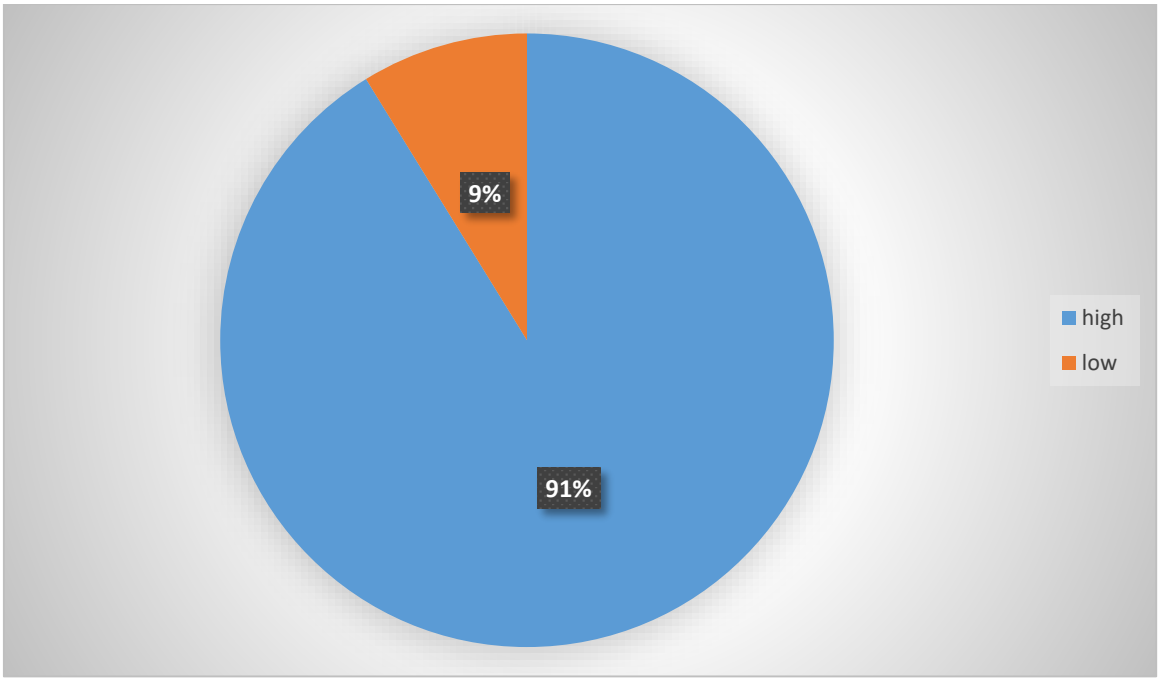

Figure 4.2: Groningen Frailty Indicator.

4.3. The Relationship between health status and demographic factors

This section addresses the relationship between health status and demographic factors such as: age, sex, marital status, work, educational level, duration of stay at elderly home and smoking. Three tests were used: Pearson Correlation, T-test, and ANOVA.

4.3.1 Health status and age:

Table 4.6 shows that there was a negative relationship between health status and age, and it is statistically significant (R= -0.4, P-value=0.001/less than 0.01). When age increase, the level of health status will decrease.

Table 4.6: Relationship between health status and age (n=160).

	Pearson Correlation	**Sig. (2-tailed)**
Health status scale	-0.440	0.001
Age	-0.440	0.001

4.3.2 Health status and other demographic factors:

In regard of the relationship between health status and the sex of the participants, T-test revealed that there was no significant relationship at P-Value (0.572), no difference between male and female according to their health status as shown in table 4.7.

Furthermore, ANOVA test revealed that there was a statistically significant relationship between the health status and marital status at P-Value (0.001/less than 0.05), Duration of stay at elderly home at P-Value (0.021/less than 0.05), Smoking at P-Value (0.001/less than 0.05), and Place of elderly home at P-Value (0.004/less than 0.05) as shown in table 4.7.

Also, T-test revealed that there was a statistically significant relationship between the health status and working previously at P-Value (0.005/less than 0.05), the mean of the health status for those who worked previously was (39.3±4.8) and for non-workers was (36.4±7.4) as shown in table 4.7. Moreover, ANOVA test revealed that there was no significant relationship between health status and Education level at P-Value (0.071/more than 0.05), Place of residence at P-Value (0.180/more than 0.05), and Area of residency at P-Value (0.064/more than 0.05) as shown in table 4.7.

Table 4.7: Relationship between health status and other demographic factors

Variables		N	Mean	SD	P-value
Sex	Male	70	37.4857	6.45327	0.572
	Female	90	38.2889	6.43593	
Marital status	Single	64	40.0	5.3	0.001
	Married	27	38.0	5.9	
	Widower	51	33.6	6.5	
	Separated	18	42.2	3.0	
Work previously	Yes	79	39.3	4.8	0.005
	No	80	36.4	7.4	
Education level	Unable to read and write	72	36.2	7.3	0.071
	Able to read and write	13	40.3	5.6	
	Primary	20	39.0	4.4	
	Preparatory	19	40.1	4.7	
	Secondary	12	37.0	6.1	
	Diploma	16	39.5	5.8	
	Bachelor's degree and above	8	39.7	5.3	
Duration of stay at elderly home	Less than one year	27	34.5	7.8	0.021
	One year	6	38.0	5.3	
	More than a year	125	38.7	5.8	
	I don't remember	2	36.0	11.3	
Smoking	Yes	55	33.9	7.3	0.001
	No	97	40.1	4.7	
	I was a smoker	8	38.7	4.3	
Place of residence	City	93	37.2	7.1	0.180
	Village	47	38.4	4.9	
	Camp	20	39.9	5.3	
Place of elderly home	Bethlehem	12	36.2	5.2	0.004
	Jenin	17	36.0	5.0	
	Nablus	21	39.5	5.5	
	Jericho	20	34.3	7.1	
	Ramallah	57	37.9	6.8	
	Tulkarm	18	39.1	6.5	
	Salfet	15	42.6	3.6	
Area of residency	South*	12	36.2	5.2	0.064
	North**	71	39.2	5.7	
	Center***	77	36.9	7.0	
Total		160			

*South West Bank: Bethlehem, Hebron, **North West Bank: Nablus, Jenin, Salfet, Tubas, Tulkarm, ***Center of West Bank: Ramallah, Jericho, Jerusalem.

4.4. The Correlation between health status and other variable

4.4.1 Relationship between health status and nutritional status:

The relationship between health status and nutritional status was assessed in this study to investigate whether there was a positive or negative relationship. A Pearson‘s correlation was run to determine the relationship between health status and nutritional status.

The results showed that there was a positive correlation between health status and nutritional status (r = 0.767, P-value=0.001/less than 0.01) as shown in table 4.8. Participants who scored higher in health status had higher scores in nutritional status which means that those with better health had good nutritional status.

4.4.2 Relationship between health status and physical activity:

Pearson Correlation was used to assess the relationship between health status and physical activity which was significant, there was a positive correlation between them (r = 0.637, P-value=0.001/less than 0.01) as shown in table 4.8. (When the level of physical activity increases, the health status will be better).

4.4.3 Relationship between health status and health service:

Table 4.8 shows the relationship between health status and health service, there was a positive relationship between them (r = 0.322), it is statistically significant (P-value=0.001/less than 0.01).

4.4.4 Relationship between health status and social support:

In regard to the relationship between health status and social support, a Pearson‘s correlation was run to assess this relationship, table 4.8 shows that was a positive correlation between health status and social support and it was statistically significant (r = 0.667, P-value=0.001/less than 0.01).

4.4.5 Relationship between health status and frailty indicator:

The main study results showed that there was a negative correlation between health status and frailty indicator and it was statistically significant (R= -0.697, P-value=0.001/less than 0.01) as shown in table 4.8.

Participants with a higher score for frailty had a lower score for their health status.

Table 4.8: Relationship between health status and other factors (n=160).

Variables	Pearson Correlation	Sig. (2-tailed)	Mean	SD
Health status scale and:				
Nutritional status scale	0.767	0.001	19.4	6.5
Physical activity scale	0.637	0.001	7.0	4.4
Health service scale	0.322	0.001	26.8	3.4
Social support scale	0.667	0.001	56.5	21.2
Frailty indicator	-0.697	0.001	8.5	3.4

Correlation is significant at the 0.01 level (2-tailed).

Chapter Five

Discussion & Recommendations

5.1 Introduction

This chapter discusses the major findings of the current study and the interpretation of the findings in relation to previously conducted studies found in literature review. Moreover, it covers the limitations and recommendations of the study.

5.2 Discussion of the results

Association between socio-demographic factors and health status among older adults

According to the characteristics of the participants, 56.3% were female, 43.8% were male. The results of our study are similar to international studies, their results showed that the percentage of older women is higher than men (Gyasi et al., 2018; Badrasawi et al., 2019; Doumit et al., 2014; Maila, et al., 2019; Salminen et al., 2020).

Our study showed there is no difference between male and female according to their health status at P-Value (0.572), which contrary with previous studies such as: A study by (Murtagh & Hubert, 2003), compared of 1348 men and women, showed difference between physical disabilities according to gender among older adults. For example; a similar study (Liu & Zhang, 2012), comparing of 17446 participants, showed that there were disability gaps between men and women. A study conducted by Gyasi et al., compared 1200 older adults, showed that self-rated health (SRH) and functional decline (FD) in older people differs by gender (Gyasi & Phillips, 2018). Another study in Palestine (Jasser et al., 2017) about prevalence of disability among elderly people in the occupied Palestinian territory, showed difference between disabilities according to gender among older adults, men were less likely to be disabled than women. A similar study showed womens are more likely to have a disability (Harsha et al., 2019). This difference could be attributed to the difference of the sample size. Also, in our study the average age was above seventy (72.5±9.3), which indicates that there is no difference with regard to the health status between the sexes, because when the age increases, the health status between the sexes is often similar, the differences are often clear and statistically significant in the lower age groups.

Regarding age, the age ranges between 60-95 years, our finding showed that there was a negative association between health status and age at P-value=0.001. Which is consistent with a study conducted by Santoni et al., which showed that people over the age of 84 were

more likely to have a disability in activities of daily living and mental health (Santoni et al., 2015). A similar study showed that people aged 80 and over tend to underestimate their health status (Henchoz et al., 2008). And another study showed the percentages of older adults who reported inadequate access to care and IADL and ADL disabilities and cognitive impairment increased with age and were higher among women at older ages (≥75 years) (Zhang et al., 2018). Another three studies from Palestine showed difference between physical disabilities according to age (Imam et al., 2011; Harsha et al., 2019; Jasser et al., 2017).

In addition, 83.2% of the sample do not have a life partner (either single, widow, or separated), this could be one of the reasons that explain why the older adults resort to elderly homes. Moreover, our study showed there was an association between health status and marital status; which is consistent with a study in the United States (Liu & Zhang, 2012) showed that differs of reporting either ADL or IADL disability according to marital status (Married had lower odds of reporting either ADL or IADL disability than the unmarried groups). Also, a study by (Gyasi & Phillips, 2018), showed self-rated health (SRH) and functional decline (FD) in older people is differs by marital status. Another two studies from Palestine showed difference between physical disabilities according to marital status among older adults (Imam et al., 2011; Jasser et al., 2017).

According to education level, 45 % of participants in our study were unable to read and write, they had lower scores for health status than their peers who could read and write. Nevertheless, the association between health status and education level in our study were not significant, which is contrary with previous studies, their results showed a substantial health difference among the elderly according to education level and higher educational attainment live healthier and longer lives compared to their less-educated peers (Dalstra et al., 2006; Zajacova et al., 2018; Chen et al., 2018; Imam et al., 2011; Harsha et al., 2019; Jasser et al., 2017). This difference could be attributed to the sample characteristics, a percentage of 83.1% of the participants complained of at least one chronic disease. Also, almost half of the sample is uneducated, and there is no variation between the other groups according to their level of education.

In addition to smoking, our study showed there was a significant difference in health status between smokers and nonsmokers, more favorable for non-smoker. Which is consistent with two studies in Brazil and Chicago, showed an association between smoking and poor health status (Marinho et al., 2008; Li et al., 2019).

Health status

Chronic diseases are among the most prevalent health conditions in the study. Nearly 83.1% of all older adults suffer from at least one chronic disease. Unfortunately, without action to address the causes, deaths from chronic disease will increase by 17% between 2005 and 2015 (WHO, 2005).

The risk factors of chronic diseases are well known. These risk factors are modifiable and the same in men and women: unhealthy diet; physical inactivity; tobacco use (WHO, 2005). In our study 23.8% of the older adults were malnourished, (29.4%) their physical activity very bad, and 34.4 were smoker; these percentages indicate an increase in the prevalence of chronic diseases among the older adults.

Lifestyle factors

The association between nutritional status and health status among older adults

According to MNA in our study, 43.8% of participants were at risk of malnutrition, 23.8% of them were malnourished, and 32.5% of them within the normal status, in another study in Palestine in elderly homes (Badrasawi et al., 2019) showed that 23.2% of the participants were malnourished, while 47.5% were at risk of malnutrition and 25.3% were normal. The results of this study are almost consistent with our study (The largest proportion of participants were at risk for malnutrition, followed by the normal status for participants and then the malnourished participants). While another study in Lebanon that comprised 221 residents; living in 36 nursing homes (Doumit et al., 2014), showed that 69.2% of elderly were well-nourished, 27.6% at risk of malnutrition, and 3.2% malnourished (The largest proportion of participants were at the normal status followed by for participants at risk for malnutrition, and then the malnourished participants). The reason for the difference is because the study excluded the elderly with severe disease or sensory problems, this group was more sensitive to malnutrition and adverse health conditions.

In general, nutritional status was associated with health status, in our study there was a positive association between health status and nutritional status at P-value=0.001, which is consistent with previous studies such as: (Badrasawi et al., 2019) showed that there was a statistically significant association between MNA and depressive symptoms, decline in cognitive function, and between malnutrition and functional disability.

In addition, a similar study (Da Silva Coqueiro, 2010) indicated that there was an association between health status and nutrition for example (there was a negative association between underweight, and hypertension and diabetes, and on the other hand, hypertension was

positively associated with being overweight). Also, a study conducted in 2016 showed that poor nutritional status was significantly associated with poor physical performance and poor functional status in older adults (Tramontano, 2016). In a recent study (Jimenez et al., 2020) results showed that creating a nutritional risk can increase health problems among the older adults. And another study showed prevalence of undernutrition might be linked with infectious diseases (Maila et al., 2019).

Association between physical activity and health status

Physical activity is associated with health status among older adults, in our study there is a positive association between health status and physical activity at P-value=0.001, which is consistent with previous studies such as: (Huang et al., 2020) which showed that participants who were classified as high level of PA were more likely to be well educated, and have no chronic conditions. A similar study (Koltyn, 2001) showed that physical activity levels correlated significantly with the overall quality of life and the physical health domain. This was also supported by another study (Puciato et al., 2017) showed that participants who enjoyed a high level of physical activity were enjoying a high level of the general quality of life, and perceived state of health.

Another type of studies regarding physical activity and health status. The results of these studies showed that there is a relationship between physical activity and quality of life (higher levels of physical activity are associated with all dimensions of health-related quality of life) (Acree, 2006; Halaweh et al., 2016; Halaweh et al., 2015).

In our study 44.4% of participants never spend time walking during the day, 80% didn't do any work or physical activity inside the home, and 90% didn't do any work or physical activity outside the home, which agreed with the results in the previous studies such as: (Huang et al., 2020) showed 90.0% of older adults reported low-intensity exercise such as walking. Also (Keogh et al., 2015) showed almost all participants had below-normal walking speed. And (Marmeleira et al., 2017) showed that nursing home residents had low levels of physical activity and physical fitness.

The results of our study and the results of previous studies are in agreement with these two studies as well, which dealt with the effect of lack of physical activity on health status: Low level of physical activity is associated with health problems, functional impairment and high risk of falling (Marmeleira et al., 2017), and another study showed a positive association

between time devoted to housework activities, total housework and health status among elderly men and women (Adjei & Brand, 2018).

Social support

Association between social support and health status

Our study showed that there is a positive association between health status and social support at P-value=0.001, which corresponded with (White et al., 2009) showed a strong association between social support and self-reported health status. (Lee, 2009) showed that social support has a positive impact on physical health in older adults. Also, (Caetano, 2013) showed low perceived social support and a small social network was associated with poor self-rated health, and (Cornwell, 2009) showed that social disconnectedness and perceived isolation are independently associated with lower levels of self-rated physical health.

Health services

Association between health service and health status

Our study revealed that there was a positive relationship between health status and health services at P-value=0.001, which is consistent with a study in the United States showed that health care outcomes for the older adults are influenced by social position, insurance status, clinician access, and economic status (Rosenthal & Fox, 2000). Another study showed that there was a relationship between health and access to health care, adherence to treatments, and the quality of care (Apouey, 2013). Also, another study showed that self-administered health status score was linked with the use of health care services (Kisch & Kovner, 2013).

On the other hand, our study results were contrary with a study in Taiwan showed that Taiwan's National Health Insurance (NHI) greatly increased the utilization of both outpatient and inpatient services, this increased utilization of health services did not reduce mortality or lead to better self-perceived general health status for Taiwanese elderly (Chen et al., 2006). These differences might be due to the different health services provided in Taiwan from those provided in Palestine. Also, it was found that health insurance in Taiwan did not cover all the elderly, and about 24% of the elderly did not enroll in insurance, however, the NHI effect on the mortality hazard is only evident in the first 6 years following the enactment of NHI (Chang, 2012).

Health status and frailty

Our findings showed that the prevalence of frailty was 91.3%, a percentage which is higher compared with other studies from China and Helsinki, showing that the prevalence of frailty was about 70% in both studies (Ge et al., 2019; Salminen et al., 2020).

Also, our findings showed that was a negative correlation between health status and frailty indicator at P-value=0.001, results that consistent with studies from China, Helsinki, Spain, and Canada (Ge et al., 2019; Salminen et al., 2020; Menendez-Gonzalez et al., 2021; Jurschik et al., 2012; Rockwood et al., 2007). These studies showed that there was a correlation between health status and frailty.

Finally, the T-test and ANOVA-test showed there was an association between health status and working, marital status, duration of stay at elderly home, smoking, and place of elderly home. And negative association between health status and age. Also, no association with gender, place of residence, areas of residency, and education level. Which is consistent with the first researcher's hypothesis that there was an association between some demographic factors and the health status among older adults in elderly homes.

Also, the Pearson correlation coefficient showed there was a positive association between health status and nutritional status, physical activity, social support, and weak association with health services. In addition, there was a negative association between health status and frailty. This is consistent with the rest of the researcher's hypotheses that there was a positive association between nutritional status, physical activity, social support, health services and the health status, and negative association with frailty and health status among older adults in elderly homes.

5.3 Conclusion

This thesis focused on the health status of the older adults in the elderly homes in the West Bank, and the factors that affect them. The findings indicated that 83.1% of participants had chronic diseases, 43.8% were at risk of malnutrition, 29.4% of the participants rated their physical fitness as very bad, 61.3% reported that health services were moderate, 41.9% of the participants received a moderate level of social support, and 91.3% of the participants had frailty.

Further, the study findings showed that there was an association between health status and working status, marital status, duration of stay at elderly home, smoking, and place of elderly home(P-value=0.001). And negative association between health status and age. While there

was no significant relationship between health status and gender, place of residence, residency, and education level.

In addition, the Pearson correlation coefficient showed there was a positive association between health status and nutritional status, physical activity, social support, and weak association with health services. In addition, there was a negative association between health status and frailty (P-value=0.001). The majority of the study's findings were expected and comparable to those of other global studies, but some unexpectedly contradicted the literature, such as the association between health status and gender, also health services.

5.4 Limitations

The followings are the limitations of the study:

1- Difficulty moving between governorates, according to the Lock down restriction.
2- Difficulty obtaining approval from elderly homes, due to the spread of the Corona virus in the West Bank. As visits were strictly prohibited for the older adults in the elderly homes, and it was also prohibited to visit the administration in the elderly home for cautious of transmission of the Corona virus inside or to anyone in the elderly home, due to the lack of vaccine at the beginning of the data collection.
3- Limited financial support (Printing cost, transportation, the fee to assistant, and costs of purchasing the weight scale, meter, tape measure).
4- Utilized a cross sectional design. It is difficult to establish cause and effect relationships. Nevertheless, the cross-sectional studies are highly useful for descriptive purposes, prove and/or disprove research assumptions, lower cost, contain multiple variables at the time of the data snapshot, and are easy to undertake.
5- Lack of local studies -within the researcher's knowledge - that can be relied upon to compare their results with the results of the current study. Although this is an advantage of the current study, the absence of these studies led to a lack of comparative possibilities.

5.5 Recommendations

The followings are the recommendations of the study:

1- Attention to providing complete health care in elderly homes and allocating qualified health personnel and appointing them in elderly homes. Such as Physical doctor, Psychologist, Nutritionist, Dentist, and Nurses.

2- Focusing on the appropriate healthy food program for the residents, with the help of a nutritionist, who sets up a variety of nutritional programs that take into considerations the types of diseases that residents suffer (Providing special meals for the elderly who suffer from high pressure and diabetes. Also, providing easy-to-chew meals for people who have lost their teeth, making sure to drink enough water daily, and eating adequate portions of 2-3 vegetables and 1-3 fruits).

3- Focus on employing professionals specialized in psychology in order to deal with the elderly residents in a skilled and thoughtful manner, because attention to the psychological factor of the elderly is one of the most important things that contribute to his/her psychological status.

4- Attention to the physical activities and physical health of the elderly by promote practicing some activities that suit their age and health status (Older adults should do at least 150 minutes of mild to moderate aerobic activity throughout the week according to their capabilities; activities may include mobility, strengthening and resisted exercises for upper and lower limbs as well as for the trunk muscles. Also, helping the elderly to do ADL those skills required to manage one's basic physical needs, including Ambulating, Feeding, Dressing, Personal hygiene, Continence, and Toileting).

5- Focusing on elderly care through extending the communication circles with the families of the elderly, encouraging frequent visits and calls to the elderly.

6- Encouraging studies and research centers and researchers to study the various issues of the elderly, and to develop practical recommendations for the care of the elderly.

7- Conduct more studies on the factors affecting the health of the elderly in the homes of the elderly, with different study designs and study samples.

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Appendices

Appendix 1: The ethical approval

بسم الله الرحمن الرحيم

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التاريخ: 2021/2/21

حضرة الاستاذ حمدي حلبية المحترم
مدير بيت الاجداد للمسنين/ اريحا

الموضوع: تسهيل مهمة الطالبة شذى عبد الحكيم عيده

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تقوم الطالبة شذى عيده، برنامج ماجستير الصحة العامة/ كلية الصحة العامة/ جامعة القدس، لاعداد بحث رسالة ماجستير بعنوان:

"Factors Affecting Health Status of Older Adults Palestinians at the Elderly Homes in the West Bank".

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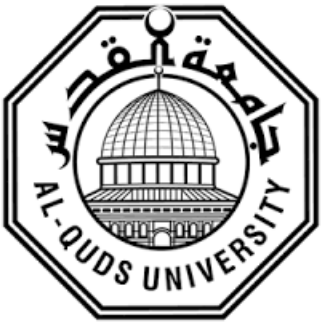
Appendix 2: The study questionnaire



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كلية الصحة العامة

عزيزي المشارك/ة

ندعوكم إلى المشاركة في هذه الدراسة البحثية من خلال تعبئة الاستبيان المرفق. هذه دراسة علمية تهدف الى تحديد العوامل التي تؤثر على صحة كبار السن في بيوت المسنين في الضفة الغربية وسوف يتم التعامل مع المعلومات لكل مشترك بسرية تامة دون ذكر الاسماء وبامكانكم الاطلاع على نتائج الدراسة ان رغبتم , المشاركة طوعية هدفها علمي تماما وبامكانك رفض المشاركة من الان و إذا وافقت المشاركة في هذا البحث العلمي , يرجى من حضرتكم الإجابة على جميع الأسئلة بمصداقية.

مع جزيل الشكر و التقدير.

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الايميل: Shatha.1997@hotmail.com

هل انت موافق للمشاركة : 1- أوافق 2- لا أوافق

الرقم التسلسلي: .....

القسم الأول: البيانات الشخصية

1- الجنس: 1- ذكر 2- انثى

2- العمر : ..... سنة

3- الحالة الاجتماعية : 1- أعزب/عزباء 2- متزوج/متزوجة 3- أرمل/أرملة 4-منفصل/مفصلة

4- عدد الاولاد و البنات :

5- هل مارست عمل طوال حياتك : 1- نعم 2- لا
اذا كانت الاجابة نعم, ما نوع العمل :

6- مستوى التعليم : 1- لا يجيد القراءة و الكتابة 2- يجيد القراءة و الكتابة 3- ابتدائي 4- اعدادي
5- ثانوي 6- دبلوم 7- بكالوريس فأعلى

7- مكان دار المسنين : 1- الخليل 2- بيت لحم 3- طولكرم 4- جنين 5- نابلس 6- رام الله 7- اريحا 8- سلفيت 9- طوباس

8- مكان السكن: 1- الخليل 2- بيت لحم 3- طولكرم 4- جنين 5- نابلس 6- رام الله
7- اريحا 8- سلفيت 9- طوباس 10- القدس

9- مكان الاقامة : 1- مدينة 2- قرية 3- مخيم

10- كم مضى على وجودك في الدار: 1- أقل من سنة 2- سنة 3- اكثر من سنة 4- لا أتذكر

11- هل انت مدخن/ة:
1- نعم مدخن, ادخن منذ.....سنوات , ادخن ..... سيجارة يوميا

2- كنت مدخن, تركت التدخين منذ ..... سنوات

3- غير مدخن

القسم الثاني : الحالة التغذوية (Mini Nutritional Assessment)

القسم الأول (المسح الأولي) :

الطول (سم) : .....
الوزن (كغم)الان : .....

1-هل انخفض تناول الطعام خلال الأشهر الثلاثة الماضية بسبب فقدان الشهية؟

0- انخفاض حاد في تناول الطعام

1- انخفاض معتدل في تناول الطعام

2- عدم حدوث انخفاض في تناول الطعام

2- أو بسبب مشاكل في الجهاز الهضمي؟

0- انخفاض حاد في تناول الطعام

1- انخفاض معتدل في تناول الطعام

2- عدم حدوث انخفاض في تناول الطعام

3- أو بسبب صعوبة في المضغ أو البلع؟

0- انخفاض حاد في تناول الطعام

1- انخفاض معتدل في تناول الطعام

2- عدم حدوث انخفاض في تناول الطعام

4- فقدان الوزن خلال الأشهر الثلاثة الماضية

0- خسارة وزن أكبر من 3 كجم

1- لا يعلم

2- خسارة الوزن بين 1 و 3 كجم

3- عدم خسارة الوزن

5- مؤشر كتلة الجسم

0- مؤشر كتلة الجسم أقل من 19

1- مؤشر كتلة الجسم من 19 إلى أقل من 21

2- مؤشر كتلة الجسم 21 إلى أقل من 23

3- مؤشر كتلة الجسم 23 أو أكبر

القسم الثاني (التقييم)

6-هل تتناول أكثر من 3 عقاقير طبية يوميًا حسب الوصفة الطبية؟

0- نعم 1- لا

7- هل تعاني من تقرحات جلدية ؟

0- نعم 1- لا

8-كم عدد الوجبات الكاملة التي يتناولها الشخص يوميا؟

0- وجبة واحدة

1- وجبتان

2- ثلاث وجبات

9- تناول البروتين (اصناف محددة)

الصنف	نعم	لا
حصة واحدة على الأقل من منتجات الألبان (لبنة ، جبن ، لبن رايب) يوميا		
حصتين أو أكثر من البقوليات أو بيض في الأسبوع		
اللحوم والأسماك والدواجن كل يوم		

10-هل تستهلك حصتين أو أكثر من الفاكهة أو الخضار في اليوم؟

0- لا 1- نعم

11- ما هي كمية السوائل الغير منبهة اوغازية (الماء ، العصير ، الحليب ...) التي يتم تناولها في اليوم؟

0- أقل من 3 أكواب

0.5- 3 الى 5 أكواب

1- أكثر من 5 أكواب

12- ما هي كمية السوائل المنبهة اوالغازية (شاي, قهوة, مشروبات طاقة ...) التي يتم تناولها في اليوم؟

0- أقل من 3 أكواب

0.5- 3 الى 5 أكواب

1- أكثر من 5 أكواب

13- طريقة التغذية

0- بمساعدة

1- يتغذى بنفسه بصعوبة

2- بدون مساعدة

14- النظرة الذاتية للحالة التغذوية

0- أعاني من سوء التغذية

1- لا أعلم (غير متأكد من الحالة التغذوية)

2- لا اعاني من مشاكل تغذوية

15- بالمقارنة مع الأشخاص الآخرين في نفس العمر ، كيف تنظر إلى وضعك الصحي؟

0- ليست جيدة

0.5- لا أعلم

1- جيدة

2- أفضل

16- محيط منتصف الذراع (MAC) (سم)

0- أقل من 21

0.5- 21 إلى 22

1- أكبر من 22

17- محيط عضلة (بطة) الساق (CC) (سم)

0- أقل من 31

1- أكبر او يساوي 31

القسم الثالث: النشاط البدني

خلال الاسابيع الاربعة الماضية:

1-كيف تقيم\تقييمين لياقتك البدنية:

1-سيئة جدا 2-سيئة 3- جيدة نوعا ما 4- جيدة 5- جيدة جدا

2-عدد الايام التي تمشي فيها على مدار الاسبوع:

1-لم امشي ابدا 2- يوم او يومين 3- ثلاثة الى اربعة ايام 4- خمسة الى ستة ايام 5- يوميا

3-فترة المشي التي تقضيها يوميا:

1- اقل من 15 دقيقة
2- 15- 30 دقيقة
3- 30-60 دقيقة
4- 1-2 ساعة
5- اكثر من ساعتين
6- لا ينطبق

4-الفترة التي تقضيها يوميا في الاعمال المنزلية او الصيانة داخل البيت :

1- اقل من 15 دقيقة
2- 15- 30 دقيقة
3- 30-60 دقيقة
4- 1-2 ساعة
5- اكثر من ساعتين
6- لا ينطبق

5-الفترة التي تقضيها يوميا في الاعمال المنزلية او الصيانة خارج بيت المسنين (مثال اعمال ألزراعة -----الخ) :

1- اقل من 15 دقيقة
2- 15- 30 دقيقة
3- 30-60 دقيقة
4- 1-2 ساعة
5- اكثر من ساعتين
6- لا ينطبق

القسم الرابع: الحالة الصحية

1- **كيف تقيم صحتك اليوم:** 1- جيدة جدا 2- جيدة 3- معتدلة 4- سيئة 5-سيئة جدا

2- هل قمت باجراء عملية جراحية سابقة : 1- نعم 2- لا

-اذا كانت الاجابة نعم, ما هي العملية/العمليات .....

3- هل **ادخلت الى المستشفى خلال السنة الماضية:** 1- نعم 2- لا

-اذا كانت الاجابة نعم, ما هو السبب : .....

4- هل تعرضت للوقوع خلال الأشهر الستة الماضية: 1- نعم 2- لا

-اذا كانت الاجابة نعم , كم عدد مرات الوقوع : .....

5- هل تعاني من أمراض مزمنة: 1- نعم 2- لا

اذا كانت الاجابة نعم, ما هي الأمراض التي تعاني منها

المرض	**نعم**	**لا**
سكري		
ضغط الدم		
امراض قلب		
امراض مفاصل مثل روماتيزم		
سرطان		
امراض تنفسية		
اوعية دموية		
امراض عضلات\عظام		
امراض كلى		
تبول لا ارادي		
امراض اخرى, رجاء حدد/ي :		
الوظائف الحسية :		
مشاكل بصرية او ضعف في البصر		

مشاكل سمعية او ضعف في السمع		
مشاكل نطقية او ضعف في النطق		
استخدام ادوات مساعدة :		
نظارات طبية		
سماعات		
عكاز/ ووكر		
كرسي متحرك		
اخرى, رجاء حدد\ي		

القسم الخامس: الخدمات الصحية

1-هل لديك تأمين صحي: 1- نعم 2- لا

2- هل يوجد زيارة دورية للمختصين:

المختص	نعم	لا
طبيب جسدي		
طبيب نفسي		
اخصائية تغذية		
اخصائي علاج طبيعي		
طبيب اسنان		
اخصائية اجتماعية		

3- هل يوجد فحوصات بشكل منتظم :

الفحص	نعم	لا
السمع		
البصر		
فحص الدم		
ضغط الدم		
السكري		
الاسنان		

4- هل البيئة المحيطة آمنة : 1- نعم 2- لا

5-هل يتم تدوين المعلومات الصحية للمسنين في الملفات بجودة: 1- نعم 2- لا

6-هل تم اخذ التطعيمات الوقائية حسب برنامج الصحة العالمي للمسنين: 1- نعم 2- لا

القسم السادس: الدعم الاجتماعي – النفسي

مصدر الدعم				مستوى الدعم				
تم مساعدتي وتأمين احتياجاتي المالية من:				أ.الدعم المادي				
أحفادي/أبنائي	أقاربي	صديقي/زميلي	المشرفة/ الادارة	العبارات:	بدرجة كبيرة	بدرجة متوسطة	بدرجة قليلة	ابدا/ لا
				1- يؤمن احتياجاتي المادية				
				2-يهب لمساعدتي عندما تواجهني ظروف صعبة				
				3-يقدم لي خدمات تجعل حياتي أكثر سهولة				
				4-يعتني بي عندما أكون مريضا				
يواسيني ويعطف علي ويهتم لأمري:				ب-الدعم العاطفي				
أحفادي/أبنائي	أقاربي	صديقي/زميلي	المشرفة/ الادارة	العبارات :	بدرجة كبيرة	بدرجة متوسطة	بدرجة قليلة	ابدا/ لا
				5-يتصل هاتفيا للاطمئنان علي				
				6-أتحدث أمامه عن مشاعري و ما يزعجني				
				7-أشعر بأنه يحبني ويهتم لأمري				
				8-يفهم مشاعري ومشكلاتي				
يشاركني اهتماماتي ونشاطاتي:				ج-الدعم الاجتماعي				
أحفادي/أبنائي	أقاربي	صديقي/زميلي	المشرفة/ الادارة	العبارات:	بدرجة كبيرة	بدرجة متوسطة	بدرجة قليلة	ابدا/ لا
				9- يحضر لزيارتي بانتظام				
				10- يدعوني لزيارته في منزله				
				11- يحسن التعامل معي				
				12-.يدعوني إلى الحفلات والاجتماعات				
يناقشني في كثير من الأمور وينصحني عند الطلب:				د-دعم المعلومات				
أحفادي/أبنائي	أقاربي	صديقي/زميلي	المشرفة/ الادارة	العبارات:	بدرجة كبيرة	بدرجة متوسطة	بدرجة قليلة	ابدا/ لا
				13- يقدم لي النصح عندما أطلبه.				
				14- يناقشني في ما يهمني من أمور.				

				15- يخبرني بما كان سيفعله لو كان في مكاني			
				16-ينبهني إلى عاداتي أو أساليبي السيئة.			
يساعدني في تصحيح وجهات نظري:				ه- دعم التقييم			
أحفادي/أبنائي	أقاربي	صديقي/زميلي	المشرفة/ الادارة	العبارات:	بدرجة كبيرة	بدرجة متوسطة	بدرجة قليلة	ابدا/ لا
				17- يساعدني على تعديل توقعاتي بما يناسب الواقع.				
				18- يساعدني في إعادة تفسير الأمور وتقييمها.				
				19- .يساعدني على تغيير أساليبي في مواجهة المشكلات				
				20- يساعدني في تغيير مشاعري السلبية تجاه نفسي والاخرين.				

القسم السابع: استبيان جرونينجن للضعف (Groningen Frailty Indicator questionnaire)

1- هل أنت قادر على القيام بهذه المهام منفردا وبدون أي مساعدة؟ (يعتبر استخدام بعض موارد المساعدة مثل عصا المشي، المشي على كرسي متحرك ضمن الاطار الذي يكون فيه المسن مستقلا)

أ) **التسوق:** 1- نعم 2- لا

ب) **التجول خارج المنزل (حول المنزل أو لعند الجيران) :** 1- نعم 2- لا

ت) **تغير الملابس (لبس وخلع الملابس):** 1- نعم 2- لا

ث) **الذهاب إلى المرحاض لقضاء الحاجة:** 1- نعم 2- لا

2- ما هي العلامة التي تعطيها لنفسك بما يخص اللياقه البدنية؟

0 1 2 3 4 5 6 7 8 9 10

3- هل تواجه مشاكل في الحياة اليومية نظرا لضعف البصر؟

1- نعم، الكثير من المشاكل 2- نعم، بعض المشاكل 3- لا ، لا يوجد مشاكل

4- هل تواجه مشاكل في الحياة اليومية نظرا لصعوبة في السمع؟

1-نعم، الكثير من المشاكل 2- نعم، بعض المشاكل 3- لا ، لا يوجد مشاكل

5- خلال 6 أشهر الماضية هل فقدت الكثير من الوزن رغما عنك (3 كغم خلال شهر واحد أو 6 كغم خلال شهرين) :

1-نعم 2- لا

6- هل تأخذ 4 أنواع مختلفة أو أكثر من الدواء؟

1-نعم 2- لا

7- هل لديك أي مشاكل في ذاكرتك؟

1-نعم 2- في بعض الاحيان 3- لا

8- هل واجهت الشعور بالفراغ ؟

1-نعم 2- في بعض الاحيان 3- لا

9- هل افتقدت بعض الناس من حولك؟

1-نعم 2- في بعض الاحيان 3- لا

10- هل تشعر بالتخلي عنك؟

1-نعم 2- في بعض الاحيان 3- لا

11-هل شعرت في الاونة الأخيرة انك مكتئب أو حزين؟

1-نعم 2- في بعض الاحيان 3- لا

12-هل شعرت في الاونة الأخيرة بالقلق أو العصبية ؟

1-نعم 2- في بعض الاحيان 3- لا

-انتهى-

Appendix 3: The names of experts who evaluated the study instrument

Names of expert	Fields of expert
Dr. Dina Bitar	Researcher
Dr. Hatem Eideh	Microbiologist
Dr. Hazem Agha	Public health nutritionist
Dr. Abdulhakeem Eideh	Statistics
Ms. Nidaa Maraqa	Nurse & Researcher
Dr. Hadeel Halaweh	Physiotherapy &Rehabilitation