

**EFFECTS OF PSYCHOSOCIAL INTERVENTIONS ON THE MENTAL HEALTH OF
ELDERLY PERSONS DURING THE COVID-19 PANDEMIC; A CASE STUDY OF
KARIOBANGI CHESHIRE HOME FOR THE AGED**

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DECLARATION AND APPROVAL

The undersigned, declare that this research project is my original work which has not been submitted for a degree in this university.

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Signature  Date15/11/2022

As University supervisor, I have given my consent to this study endeavor.

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ABBREVIATIONS AND ACRONYMS

CDC – Center for Disease Control and prevention

SPSS – Statistical Package for Social Sciences

NGBD – New Global Burden of Disease

GAD - Generalized Anxiety Disorder

PTSD - Post-traumatic Stress Disorder

OCD – Obsessive Compulsive Disorder

KFF – Kaiser Family Foundation

WHO – World Health Organization

MoH- Ministry of Health

AD – Adjustment Disorders

DD – Dissociative Disorders

ABSTRACT

Elderly persons can be defined as aged people who are about to reach or are past the expected life span of human being. This study sampled participants aged 65 years and above. About 1.2 million people in Kenya are over 65 years, in a population of 38.6 million, making it 3.8%. The number of men falling in this category is a bit higher than that of women.

About 20% of elderly persons globally suffer a mental health condition with a disability due to mental and neurological illnesses at 6.6%. Studies conducted have shown that elderly persons are at more prone to contracting COVID-19. There is scarcity of research on effects of psychosocial interventions for mental health management of the elderly persons during outbreak of pandemics such as COVID-19.

This research was conducted with the aim to determine whether psychosocial interventions influence mental wellness of the elderly persons at Kariobangi Cheshire home. A survey research design was used. The targeted respondents were 74 persons aged 65 years and over, who had been diagnosed with mental health conditions. Kariobangi Cheshire home has a total population of approximately 240 elderly persons. A sample size of 35 participants was selected from a population of 74 respondents using simple random sampling. Fischer's formula was adopted to determine the sample size.

This study was conducted at Kariobangi Cheshire home for the aged. Study participants were Elderly persons aged 65 years and over. SPSS version 26 was used to analyze data. Narratives, tables, and graphs were used to present the results.

A total of 35 elderly people were sampled and recruited for the study. Median age was 74.25%. More than half (65.7%) were female, 37.1 were windowed, 62.9% were Christians, 38.2% were primary school leavers and they comprised the majority. The results of the analysis show that the three independent variables, physical exercise, social support and social involvement have a significant statistical impact on mental wellness.

CHAPTER ONE

1.1 Introduction and Background

COVID-19 is a new illness which is with a novel virus named SARS-coV-2. It is said to have originated from China, Wuhan City in the province of Hubei, in the year 2019, December and spread rapidly across the globe. By 25 October 2021, over 244 million cases and 4.96 million deaths from COVID-19 had been recorded worldwide.

Although most of those infected may have minimal to medium respiratory symptoms and may recover without medical attention, others may become critically unwell and require medical assistance. Elderly people, especially those with other underlying medical illnesses such as cardiovascular disease and other chronic illnesses are more vulnerable to contracting the virus.

Having knowledge of the disease and how it is transmitted can help curb the spread and slow down the transmission. It is recommended to stay at least 1 meter away from the next person, put on a well fitted mask, and wash hands or use a sanitizer frequently in order to help keep safe.

The virus spreads in form of microscopic liquid particles from the mouth or nose of one person to another especially when an infected person coughs or sneezes. Coughing into a flexed elbow, for example, is a good illustration of respiratory etiquette.

The symptoms of the disease include; fever, cough, tiredness, loss of taste, headaches, and painful throat. Serious symptoms include; Breathing difficulties or shortness of breath, loss of speech, confusion and chest pain.

The pandemic has sparked a great concern because of how fast it spreads as well as its ability to cause diverse levels of illness. Contact tracing, isolation, and quarantine have all been shown to be effective methods of controlling infectious disease outbreaks, and many countries around the world have implemented them. Unlike past crises, the COVID-19 pandemic is likely to have caused various disruptions in people's lives, including uncertainty, disrupted daily routines, financial strains, and social isolation. As a result, the pandemic may impose significant psychological and emotional strains.

The spread and impact of the virus has been experienced more in developed countries such Europe and America. United States of America, for example had recorded over 46 million cases and 756

thousand deaths as of 25 October 2021, followed by India with over 34 million cases with 454 thousand deaths, and Brazil with over 21 million cases with 605 thousand deaths.

In Africa, control and prevention measures such as lock down and curfew were put in place much sooner compared to developed countries of Europe and America where the virus was spreading so fast. In Kenya, a partial lockdown was put in place on 06 of April 2020 after 158 people only had tested positive for COVID-19 virus and 6 deaths experienced.

Corona Virus was first reported in Kenya on 13 March 2020. The announcement was immediately followed by closure of schools on 15 March 2020. Nationwide curfew from 7pm to 5am was also imposed. International flights were suspended and incoming residents put on quarantine. Social gatherings were banned and entertainment places closed down.

Many human lives have been lost worldwide due to the pandemic. The pandemic has also disrupted the economic and social life of people globally. Millions of businesses and companies are at risk of closing down. Most of the informal economy workers have also been affected, many have been left with no means to earn income and therefore unable to feed themselves and their families.

Psychological issues such as stress, anxiety and depression have become so rampant due to the pandemic. Concerns on containment and control measures, and how these measures are likely to affect human lives and country's economy have been raised. Such concerns are likely to undermine the COVID-19 prevention and control measures and therefore contribute to increased morbidity and psychological needs across the global.

The World Health Organization (WHO) has reported stress and anxiety as being the most felt psychological impact of the pandemic. This is likely to lead to increased incidences of depression, suicide and drug abuse in future.

There is widespread fear about contracting the virus, safety and livelihood for individual persons. There is also stigma associated with the disease which is also a major cause of psychological distress.

The strategies put in place to help prevent and control the spread of the virus which include ban of social gatherings and social activities, self-isolation, keeping social distance and restricted-movement have negatively impacted the psychological and social wellness of medically fit persons by limiting and hindering social interactions and social involvements of a healthy living.

The COVID-19 pandemic and its worrying negative impact on the economy has caused a huge impact on mental health and worsened the situation of the already existing mental illnesses and substance abuse issues. According to a KFF health tracking poll (July 2020), about 4 in every 10 adults in United States are reported to have anxiety or depressive symptoms since the onset of the pandemic. This number increased from one in every ten adults in 2019, before the pandemic.

The worry and stress caused by the pandemic has negatively affected the mental health of the majority of adults. This is according to KFF Health tracking poll (July 2020), where 36% had sleeping difficulties, 32% change in eating habits, 12% had increased their alcohol intake and 12% worsened their chronic illnesses. The imposed control measures have also caused serious mental health outcomes.

With the closing of learning institutions including the higher learning institutions, and other pandemic related effects, the young people's mental health is likely to be compromised. Issues of drug and substance abuse and suicide ideation are also likely to be on the rise. It has been reported that 65% of young people who are aged 18 -24 years experienced anxiety and depression (KFF health tracking poll, 2020)

The losing of Jobs and income is also likely to contribute to poor mental health due to increased anxiety and distress. People who have lost their jobs, undergone pay-cuts or with lower incomes are likely to have higher rates of mental illness symptoms.

According to a report by KFF health tracking poll (2021), Women and mothers have been reported to have worrying concerns about their children's mental health and wellbeing due to challenges caused by the pandemic including their inability to provide adequate child care them. Parents are also concerned that their children may get involved in drug abuse and other inappropriate behaviors. This in turn may contribute to poor mental health of women and mothers. Women are more likely to have higher rates of anxiety and depression than men both before and after the pandemic.

The pandemic poses a huge challenge to people suffering from mental illness as well as those who are prone to contracting mental illness substance abuse who may require medical assistance and not be able to access it due to challenges caused by the ongoing pandemic.

Throughout the COVID-19 epidemic, concerns about mental diseases and drug use have grown, notably concerns about suicide thoughts. Anxiety and/or depressive disorder symptoms were reported by 41% of people in January 2021, a figure that has remained reasonably steady since spring 2020 (KFF health tracking poll, 2021). A KFF poll taken in June 2020 revealed that 13% of persons had reported a new or higher drug use caused by coronavirus with 11% of adults having suicide thoughts in the previous 30 days. Incidences of Suicide had been on the rise and the pandemic was likely to exacerbate this trend. Data collected in the beginning of 2020 showed that the deaths caused by drug overdose were common between March and May 2020 (KFF, 2020).

Incidences of Mental ill-health and drug dependence existed even before the pandemic, and therefore psychological distress throughout the epidemic is not a new phenomenon. Stress and depression were rampant and one in every ten adults reported stress or depression signs way before the pandemic outbreak. About a fifth of America's population is reported to suffer from mental illnesses (KFF, 2020). In 2018, approximately 48,000 Americans reportedly died of suicide, and about eleven million adults had serious suicidal thoughts in 2017. Deaths caused by drug overdose were four times higher in 2018 than it was in 1999 due to opioid crisis.

With implementation of social distancing and isolation measures, elderly persons become more vulnerable to getting mental illnesses (Armitage 2020, Gerst 2015). Aged people, especially who have other medical health problems are more likely to contract the corona virus (WHO). A study by Chen (2020) indicates that the fear, stress, loneliness and social isolation caused by the Corona Virus is likely to undermine the resilience of the elderly persons and jeopardize their health and well-being. Older people living with cognitive impairments may find it difficult comprehending the information about COVID-19.

Studies conducted in Europe and America have shown higher COVID-19 related deaths among older population. In America for example, COVID-19 killed eight out of ten adults over the age of 65. This is according to a report by center of disease control and prevention (2020) (CDC).

In Kenya, statistics show that 9% of those who had tested positive for the virus from May 2020 were beyond the age of 65. Despite this seemingly low statistic, 25% of them had already succumbed to the illness. They were responsible for 48% of all COVID-19 deaths in the country (MoH 2020). The

corona virus is particularly dangerous to the elderly. This is due to the fact that they have greater rates of morbidities which have been linked to the development of chronic illnesses.

Anna et al (2011) conducted an intervention study and reported that the intervention participants' mental health had gotten better and majority had achieved a positive mental health. Windle et al (2007) in his study further found that a number of interventions for example physical activity and health promotion in a group set up had positive impacts.

However, Fontes et al (2015) reports that, some studies have shown that aged persons are also able to withstand tough and challenging circumstances more positively.

Mental wellness is an essential and very important aspect of global public health in every country. Social inequality and social disconnections are linked to poor mental health. Human, social, and economic developments are all aided by good mental health.

There are substantial links between mental and physical health, as well as behavior. Health-promoting behaviors help people adopt healthy lifestyles and establish healthy living situations and environments. Improving a population's mental health necessitates a holistic approach to promotion of mental wellness, as well as prevention and treatment.

While it is understandable to feel stressed and anxious during a pandemic, some individuals are also likely to remain strong and show perseverance when hit by crises and emergencies. In addition, as individuals experience the numerous stresses brought by the pandemic and disruptions, they should rely on one another for support and strength in order to be able to pull through and come out strong. It is important to Understand people's mental wellbeing and how to protect and promote wellness since this will help in providing better mental health services to different in people who are in need of such.

There are numerous ailments that are classified as mental conditions. These include;

Anxiety disorders: these are characterized by extreme fear and worry when reacting to particular things or situations, and also visible signs of fear and tension, which include a racing heart and sweating. Responding inappropriately to a particular situation, being unable to stop or control one's reaction, or their intense worry and fear may end up interfering with one's ability to function well, and could therefore be termed to an anxiety disorder.

Affective disorders, or mood disorders, are associated with intense sadness, overwhelming happiness, or swings from great happiness to intense sadness. The most prevalent mood disorders include depression, bipolar, and cyclothymic disorder.

Psychotic ailments: these are distinguished by altered consciousness and reasoning. Two of its most prevalent symptoms include hallucination which is the perception of illusory visuals including hearing voices, and delusions which are defined as erroneous fixed beliefs that the sick individual believe to be true despite evidence to the contrary. Schizophrenia is an example of a psychotic ailment.

Obsessive-compulsive disorder (OCD): this is a mental illness in which a person is troubled by intrusive thinking and concerns which may cause them to stick to certain routines. An example is a person who is irrationally afraid of germs and therefore keeps washing their hands every now and then.

PTSD (post-traumatic stress disorder): PTSD can be caused by a traumatic and/or stressful incident, such as a sexual or physical assault, the unexpected passing away of a close family member or friend, or natural calamities. People suffering from PTSD are often emotionally numb, with constant and terrifying thoughts and memories of the event.

Other sorts of mental diseases that are less frequent include:

Adjustment disorders (AD): stressful events or situations can lead to emotional and behavioral symptoms. When this happens, the affected individuals may develop stress reaction syndromes. Natural calamities for example, earthquakes, pandemics, accidents, chronic diseases, loss of close friends or family members and divorce or separation are among examples of stressful events. Stress reaction syndromes will usually be experienced three months after the occurrence of the stressing event and extend up to six months of the stressful event having ceased or ended.

Dissociative disorders (DD): these are known to cause serious disruptions in a person's thinking, self-identity, and general awareness of oneself and their environment. They are typically associated with excessive stress, which could have resulted from traumatic events and calamities experienced or witnessed by the affected individuals.

Sexual conditions: these refer to problems with sexual urge, performance, and behavior. They include sexual malfunction, gender identity and paraphilia. A person with a somatic symptom disorder, also known as a psychosomatic condition or somatoform disorder, has physical symptoms of disease or discomfort that cause an excessive and disproportionate amount of agony, regardless of whether the symptoms can be medically explained.

Somatic disorders include repetitive, fast, sudden, and/or uncontrollable sounds or non-purposeful body motions. (Vocal tics are sounds that are made involuntarily.) A somatic disorder such as Tourette's syndrome is an example.

1.2 Statement of The Problem

There is a great need to take care of the elderly persons during the COVID-19 pandemic. According to Garnier (2020), elderly care facilities are the most vulnerable to the impact of COVID-19 because they live in an enclosed area with others and the virus is highly contagious.

According to Shi Yin Chee (2020), some participants in aged care facilities expressed dismal thoughts and their unwillingness to do anything about their position as a result of their multimorbidity. It was discovered to be a difficult and terrifying moment for multimorbid individuals who were dealing with both physical and social losses.

Most of the research conducted has not considered or included the vulnerable individuals who have been seriously hit by the impact of prevention and control measures (Richardson et al, 2020). With the impact of COVID-19 being experienced more by the elderly persons, current as well as future studies need be designed to include them.

We need to safeguard the mental well-being of older persons, particularly those suffering from chronic illnesses. To improve their emotional and social state, there is a need to provide them with psychosocial interventions and tools.

It is against this background that this research focuses on psychosocial interventions and their effects on mental wellness of the elderly persons during the COVID-19 pandemic so that prevention and control measures can be put in place to help improve and manage mental health.

1.3 Justification

The total population of elderly people with unmet mental needs is extremely significant. Mental health challenges at later life are real and this fact should make us feel compelled to act and enrage the little attention given to it. Unfortunately, there is a deafening silence about the issue

Discrimination based on age is still a major issue. It takes several forms, all of which must be addressed. Depression affects one out of every four persons aged 65 and older, and much of it can be avoided. This necessitates a public health plan for dealing with depression in later life is required.

The majority of elderly adults with mental health issues are not well served. We must focus our attention on them, ensuring that they are supported by loved ones and capable of self-care — by design, not by chance or neglect.

We must take action on mental health issues since we have clear evidence of what works, as well as pay more attention to issues that have been overlooked in the past but will become more pressing in the future, such as alcohol and drug misuse and serious mental illness among the elderly.

We must focus on lowering the number of older persons who living with mental health concerns as the population ages. Mentally healthy aging will make a significant impact in a society's ability to make later life joyful and meaningful.

About 20% of elderly persons who are above 60 years suffer a mental or neurological condition. Over 6.6 percent of all impairments in elderly above 60 years are associated with mental or neurological disorders (WHO, 2017).

According to World Health Organization (WHO 2017), problems related to mental illness are under-reported by both health care providers the elderly themselves. People are hesitant to seek care because of the stigma associated with these disorders.

Research by Chen (2020) indicates that old people's resistance is likely to be interfered with by the dread, worry, loneliness and social isolation they experience during pandemic, jeopardize their health and well-being, and worsen their mental problems.

With increase in the aging population globally, the number of elderly persons seeking mental health care is likely to increase in future. Apparently, the current mental health treatments have only been

partly successful. About 20 to 30% of the years spent suffering disability can be prevented using existing treatments (Andrews et al., 2004). Interventions that can help manage and improve mental health problems have a potential to reduce the overall illness load.

This study seeks to find out the effects of psychosocial interventions on elderly person's mental wellness. There is a growing literature base that recognizes the need to promote mental health of the elderly. This study is therefore justified to be conducted.

1.4 Purpose of The Study

This research was conducted to determine the influence of psychosocial interventions on mental wellness of elderly persons at Kariobangi Cheshire home.

1.5 Broad Objectives

To establish the influence of psychosocial interventions on mental wellness of elderly persons during COVID-19 period

1.5.1 Other Objectives

- i. To find out whether physical exercise influence mental wellness of elderly persons at Kariobangi Cheshire home.
- ii. To establish whether social involvement contributes to reduced depressive and anxiety symptoms in elderly persons at Kariobangi Cheshire home.
- iii. To determine the influence of social support on mental wellness of elderly people in Kariobangi Cheshire home.

1.6 Research Questions

- I. What influence does physical activity have on mental wellness of elderly persons living at Kariobangi Cheshire home?
 - i. Does social involvement contribute to reduced depressive and anxiety symptoms in elderly persons at Kariobangi Cheshire home?
 - ii. How does social support influence mental wellness of elderly persons at Kariobangi Cheshire home?

1.7 Hypotheses

1. Physical exercise has a positive influence on mental wellness of elderly persons during COVID-19 period.
2. Social involvement contributes to reduced depressive symptoms in older people at Kariobangi Cheshire home.
3. Social support has a positive influence on mental wellness of elderly during the COVID-19 pandemic.

1.8 Scope and Limitation of The Study

This study focused on psychosocial interventions for managing and promoting the mental health of the elderly persons in home care institutions for the aged.

Key variables were; social support, social involvement, physical exercise, mental wellness and health behaviors.

Geographically, this study was delimited to Kariobangi Cheshire home.

The study specifically focused on men and women, 65 years and over whom are currently being attended to at Kariobangi Cheshire home.

The limitation of this study is that it primarily looks at senior persons who live in home care facilities, ignoring others who live outside of these facilities, such as those in slums and marginalized communities.

CHAPTER TWO

Literature Review

Mental well-being includes our emotional, psychological, and social well-being. It influences how we feel, think, and act, and how we deal with life's challenges. Mental health has an impact on how we deal with life's difficulties and it is important at all phases of life.

Mental wellness refers to state of well-being where an individual is able to realize their abilities, cope with the normal life stresses and function productively. Our mental wellness helps in determining how we perceive and deal with life stresses, how we relate with others and the choices we make. Mental wellness helps us to develop resilience and be able to face life adversities.

2.1 prevalence of mental illness

Mental ailments are among the primary causes of disability and poor life quality globally. As the older population continue increasing steadily, the percentage of mental disorders have also continued to increase. Mental ill-health is associated with life losses and other changes that come with old age.

Previous research by Sylke (2018) found that the existing and occurrence rates of mental conditions in the elderly range between 1 and 18 percent, depending on the study design. According to other studies, substance-related ailments, particularly alcohol in people aged 65 and older range between 1 and 12 percent; lifetime and current rates for schizophrenia is estimated to be 0.5–1.0 percent, respectively. Anxiety disorders affect between 0.9 and 6.7 percent of people.

In a study conducted by Thapa in Nepal (2018), the prevalence of depressive symptoms in the community ranged from 25.5 percent to 60.6 percent, 17.3 percent to 89.1 percent in aged-care institutions, and 53.2 percent to 57.1 percent in hospitals. In similar circumstances, the prevalence of depressive disorders ranged from 4% (in the community) to 53.2% (in hospital). Anxiety symptom cases ranged from 21.7 percent to 32.3 percent of the total. Psychosis, alcoholism, and dementia were among the other illnesses discovered among the elderly. Mental disorders are more common in hospital-based studies than in community settings, and disordered symptom cases are more common in aged-care facilities than in community settings.

In America every year, over 19 million Americans suffer from depressive symptoms (KFF, 2020). While depression is not a typical feature of aging, it is more likely to emerge in the presence of other physical health issues. For example, clinical depression affects approximately 150,000 people

suffering from stroke each year. When depression occurs in conjunction with other conditions or life occurrences that typically occur as individuals age for example losing a close family member, they are often disregarded and untreated.

According to a report from center for disease control and prevention (CDC, 2020), over two million Americans who are above 65 years are depressed in some way and have other chronic illnesses that are common in later life such as Alzheimer's disease, Parkinson's disease, heart disease, cancer and arthritis which can cause clinical depressive symptoms.

According to Thapa et al (2018), A third of widows and widowers meet depression criteria within the first month of losing their spouses, and half of them are likely to remain clinically depressed for over a year. People with depressive symptoms have healthcare costs that are 50% more than seniors who are not depressed. Suicide among senior citizens is associated with depression. 20% of all suicide deaths in United States are from people aged 65 years and older. This is despite of them being just 13% of the total population.

A study by Ismael et al (2018) in America shows that individuals aged 65 and older account for 20% of all suicide deaths in the United States despite being just 13% of the population. White men are especially more vulnerable since their Suicide rate is about six times higher than the national suicide rate (10.8 per 100,000). Ismael (2018) further reported that the primary care physicians handled over 55% of older people who needed medical care and only about 3% received medical attention from mental health specialists.

Only about half of patients with depression are correctly identified by primary care physicians, potentially reducing function and lengthening hospitalization. Depression, fortunately, is a relatively curable disorder. Over 80% of persons suffering from depression can get medical attention or psychotherapy, or even both (Ismael et al, 2018)

According to Fiske (2009), Approximately 68 percent of persons aged 65 and up are unaware of depression or know very little about it. Only 38% of persons aged over 65 years consider depression to be a "health" issue. Older folks are more inclined than any other demographic to "manage it themselves" if they feel depressed. Only 42% of those polled said they would seek medical care.

People under the age of 64 are more likely than those 65 and up to mention signs of depression. "A change in eating habits", "a change in sleeping habits", and "sadness", are among them. Around 58% of persons above 65 years agree that getting depressed as you get older is "natural" (Pilania, 2019).

According to research undertaken by the New Global Burden of Disease (NGBD), depression and anxiety are among the greatest reasons for loss of health in the world. Due to COVID-19 pandemic, incidences of depression and anxiety have increased significantly.

According to the Lancet analysis, COVID-19 pandemic has resulted in a significant increase in depression and anxiety disorders worldwide in 2020, with the overall number of cases of mental disorders growing substantially by 53.2 million cases of anxiety and 76.2 million cases of major depressive disorders, respectively.

Despite measures aimed at lowering mental diseases, little has changed at the worldwide level in the last two decades.

2.2 Risk factors associated with mental health issues

A person's body becomes a great concern during late adulthood. This can replace their main other concerns like relationships and careers and lead to mental health problems.

Older persons face pressures that affect all people, as well as pressures unique to late life which may include continuous loss, incapacities and decline in one's ability to function. Older people may have restricted movement, chronic pain, and other health challenges that may require long term care. They are also more likely to go through life misfortunes like bereavement and decline in socio-economic position owing to retirement. Self-isolation, loneliness and psychological anguish may develop as a result of these pressures.

Physical health can highly be affected by mental health and vice versa. An elderly person with physical condition for example heart disease is more likely to fall in to depression. In addition, older persons with untreated depression can end up developing heart disease.

Elderly persons are likely to be abused either physically, verbally, psychologically or sexually. Abandonment, neglect and major loss of dignity and respect are also common among the elderly. These abuses can result in physical injuries and prolonged psychological effects including depression and anxiety.

According to Geriatric Mental Health foundation, there are various reasons that can lead to mental illnesses in older persons. These include; physical disability, chronic disease, illnesses that are likely to cause dementia, physical illnesses that affect one's thinking, emotions and memory, shifting to home care institutions, death of family members and close friends among others.

2.3 Mental illnesses common in old age

2.3.1 Depression

Depression is a medical health condition which is characterized by consistent feeling of sadness and loss of interest in things or activities one used to enjoy. It is among the leading mental illnesses which can lower the individual's ability to function properly. Its symptoms include changes in appetite, changes in sleeping patterns, suicidal ideation, and loss of energy and feeling of worthlessness which should last for two or more weeks for it to be termed as depression (Ribeiro, 2020)

Depression can cause much suffering and interfere with one's functionality in day-to-day activities. Unfortunately, most cases of depression have not been diagnosed and therefore left untreated and especially when it co- occurs with other problems experienced in old age (Ribeiro, 2020)

Depression in old age is a huge challenge to both the affected and their families, and it happens a lot. According to a study conducted by Fiske et al (2009), the rate of depressive syndromes in the general senior population ranges from 9% to 18%, with more than 30% in nursing home patients.

Evidence studies are needed to better quantify risk and identify factors responsible for depression in late life. Evidence studies focusing on senior cohorts, on the other hand, are scarce. Incidence studies have frequently included only tiny senior subgroups and have not been tailored to late-life depression's particular characteristics (Luijendijk 2008).

According to a study conducted by K. Jongenelis (2003), in later age, depression is a prevalent ailment. The prevalence of depression in elderly nursing home patients was examined in 36 papers from around the world. The prevalence percentages ranged from 2% to 61 percent, according to the findings. Depressive symptoms, moderate depression, and major depression each had their own average prevalence determined. Depressive symptoms account for 43.9 percent of the total, moderate depression for 25.7 percent, and significant depression for 15.5 percent. Factors that may have influenced the results are described in attempt to find an explanation for the diversity in the

occurrence of depression in nursing homes. Both the definition of depression and the type of instrument used to measure it appear to be extremely reliant on each other.

2.3.2 Dementia

Dementia is a syndrome marked by deficits in memory, cognition, behavior, and the ability to carry out everyday tasks. It's usually chronic or in nature, and it is associated with altered brain functioning, such as memory loss and judgment. It interferes with one's ability to remember, think or make decision which may affect their daily functioning.

A study conducted by KM Langa (2018) shows that dementia affects an estimated 50 million people around the world. Around 60% come from less developed and developing countries. The total number of dementia sufferers is predicted to rise to 82 million in 2030 and 152 million in 2050. About 2 to 10% of cases of dementia are reported before the age of 65 years. This number increases almost two times every five years when after 65 years (Alzheimer International).

In a study by V Jaiswal (2021), dementia was found to be prevalent in 18.8% of the population, with mild dementia accounting for the majority (11.3%), moderate (6.0%), and severe dementia accounting for a much smaller proportion of the population (1.5 percent). The prevalence of dementia in this study was greater than the global norm of 5-8 percent. The incidence in their study had surpassed that of research conducted in Marikina City, Philippines, which found a prevalence of 10.6 percent. Nonetheless, it was lower than the prevalence (32.2%) found by Abat, Reyes, and Ramos (2009) in elderly Filipino research.

In a study by E. Velazquez et al (2014), the total incidences of dementia were 9.5 percent in a selected sample of senior persons from Guadalajara. Dementia in women was higher at 6.0 percent compared to dementia in men which was 3.5 percent. This was somewhat greater than that found in a population-based study for dementia evaluation in Mexico, where the prevalence of dementia was 8.6 for middle and lower-middle class older individuals in urban areas. In a similar study conducted in four Mexican Institute of Social Security family medicine clinics, the prevalence of dementia in persons aged 60 and older was 3.5 percent (IMSS)

2.3.3 Anxiety Disorders

These are conditions characterized by intense, too much and continued worry and fear about daily situation. They are common illnesses among the elderly persons though they are in most times

undiagnosed and therefore left untreated. Phobia is more widespread among the elderly population compared to the general population (Yalcin Kirmiziloglu, 2009).

According to a study published in the *International Journal of Geriatric Psychiatry*, over 27% of elderly people under the care of aging service provider exhibit anxiety symptoms that may not lead to diagnosis of a condition but have a major influence on their ability to function. Anxiety can wreak havoc on an elderly person's physical health and limit their capacity to perform daily routines.

Some mental conditions such as panic disorder and generalized anxiety disorder (GAD) are linked to anxiety. These include social phobia and agoraphobia (DSM –IV, ICD-10).

In a sample of older adults, Kirmiziloglu (2009) found a current prevalence of 17.1 percent for any anxiety disorder. Current GAD and social phobia had a prevalence of 4% in adults aged 80 and older, while current specific phobia had a prevalence of 10%. A multicenter study of older people aged 65–84 years found a 12-month prevalence rate of 17.2 percent for one or more anxiety disorders in a large population sample.

When compared to earlier age groups (65–69 years), they identified a 47 percent decline in overall prevalence in those aged between 80–84 years old. However, there was a 47 percent reduction in overall prevalence in the age range of 80–84 years old when compared to younger age groups (65–69 years). Forlani et al., on the other hand, found slightly greater proportions in a sample of community-dwelling elderly persons aged 74 and up (28). According Forlani, the GAI-SF revealed a point prevalence of anxiety symptoms of 21%.

In a study by M Meena (2015), Anxiety was shown to be prevalent in 55.5 percent of the participants in his study. His findings matched those of Bryant et al, who conducted a review and published a review of the literature on anxiety in adults over 60. Between 1980 and 2007, he discovered that there was a high occurrence of Anxiety symptoms reported by 15% to 52.3 percent of people, 15 percent to 56 percent in clinical samples and 15 percent to 56 percent in community samples.

Anxiety disorders are more common in females who have low levels of education and those who are not married.

2. 4 mental health and social support

The importance of social support in healthy relationships and mental health is frequently discussed, but what exactly does it imply? Social support is all about surrounding yourself with a network of relatives and friends who you can turn to in times of need (Haradi, 2017).

These bonds are crucial because they define one's ability to function in daily life, whether they are dealing with a personal crisis that necessitates immediate assistance or simply want to spend time with people who care about them. People need social support to stay awake and give them the strength to push through and persevere during difficult times (Fatih, 2007).

On the other hand, social aid is not a one-way street. You not only rely on others, but you also assist a large number of people in your life. The benefit of having a robust social support network is regularly stressed by psychologists and other mental health specialists. Experts frequently advise people to seek help from friends and family when trying to achieve their goals or deal with a crisis. Social bonds are connected to a number of health and wellbeing traits. Poor social support has been associated to feelings of unhappiness and loneliness, as well as changed brain function and an increased risk of drinking, CVD, depression, and suicide (Wang, 2018).

Social Support can also be defined as "support accessible to an individual through social ties to other individuals, groups, and the greater community" (Wang, 2018). Although social support can be assessed in different and several ways, the most commonly used index is perceived social support, which is easy to measure and has been shown to be a better predictor of mental health than other measures. Perceived social support has been established in numerous studies to protect mental health under stressful situations. In addition, received social support is a significant sub-construct of social support (Wang, 2018).

While there is a difference between perceived and received social support, it is believed that the relationship between the two should be reasonably high, particularly when the support demand matches the kind of support offered, from the point of stress and coping on social support (Wang, 2018). Similarly, other researchers propose that the recall of supportive acts might be used to gauge felt support. People who have access to social assistance are also better able to handle stress. Stress has been linked to a number of detrimental health effects, including lowered immunity and a higher risk of heart disease.

Being surrounded by kind and helpful individuals can help people feel themselves as more capable of dealing with the challenges of life. According to Liu et al (2021), having strong social support during a crisis can help to mitigate the effects of trauma-related disorders such as PTSD.

2.5 Mental health and physical activities

Activities such as jogging, gardening, sports, and other recreational activities have significant health benefits. It is advisable to engage in some physical activities that can keep the body active strong. It is possible to easily achieve the required amount of exercise in a day by increasing the level and amount of activities done during the day in relatively simple ways. Being physically inactive can be a key risk factor for death from non-communicable diseases. People who are not adequately active have a 20% to 30% higher risk of death than those who are adequately active (Sharma, 2006)

Over a quarter of the adult population in the world (1.4 billion persons) is inadequately active. One out of every three women and one out of every four men do not get enough physical activity to stay healthy (Biddle, 2016). High-income countries have double the rate of inactivity as low-income countries, while global levels of physical activity have stayed steady since 2001. Lack of adequate physical activity in high-income countries increased by 5% between 2001 and 2016 (From 31.6% to 36.8%) Bell, (2019). Physical inactivity is harmful to one's health, the environment, economic development, communal well-being, and quality of life.

In 2016, 23% of men and 32% of women across the globe were reported to be physically inactive. They had not obtained the recommended 150 minutes of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity per week (Biddle, 2016). In developed countries, 26% of men and 35% of women were insufficiently physically active, while in less developed countries, only 12% of men and 24% of women were inadequately active. The rate of physical inactivity could have gone down due to reduced physical activity during leisure time and sedentary behaviors at places of work and at home. The increased usage of "passive" means of transport could also have contributed to low physical activity.

2.6 Mental health and social engagement

As we get older, community involvement and social connection become more crucial. There are a few things we know we need, such as plenty of exercise and a balanced diet that can help prevent some of the body's age-related changes. According to recent study, older folks' emotional and physical well-

being is dependent on maintaining meaningful relationships and spending time as part of a community (Mackenzie, 2021)

In recent years, science has discovered that if you don't sustain social engagement as you become older, you're more likely to develop loneliness, despair, and a sedentary lifestyle. Currently, about one-third of senior citizens live by themselves. Senior isolation, which is as frequent as it is deadly, is a result of this isolated existence (Zhang, 2018). In June 2020, 56% of people over the age of 65 said they felt lonely

Loneliness can lead to stress, high blood pressure, and harmful behaviors over time. Scientists have recently discovered compelling linkages between a lack of social involvement and an increased risk of Alzheimer's illness (Lee, 2015).

Keeping social contacts can provide a number of key benefits in addition to reducing feelings of loneliness and isolation. These include;

i) Mental Health Improvements

Social isolation is a crucial trigger for mental illness, according to the Economic and Social Research Council (ESRC). Seniors who do not participate in social activities are more likely to develop despair, anxiety, and suicidal ideation. Seniors who have supportive relationships with their families, friends, and neighbors, on the other hand, have significantly better mental health outcomes (Park, 2009).

ii) Physical Health Improvements

Increased social contacts not only promote mental health but also physical health. Social engagement, in particular, lowers blood pressure, lowers the risk of cardiovascular problems, and promotes a longer lifespan. People with strong social relationships had lower death rates and live longer, healthier lives, according to a study conducted on seniors in Sweden (2001).

iii) Reduced Risk of Cognitive Decline

Participating in social activities has neuroprotective properties. To put it another way, older people who have strong social ties and participate actively in their communities have a lower risk of dementia and cognitive impairment. According to a 2007 California study, women with larger social networks were 26 percent less likely to develop dementia than women with smaller social circles.

One noteworthy finding made by researchers is that the network's size and frequency are important. Individuals who have larger social networks and see them more regularly fare better than those who have smaller social groups.

iv) Increased Safety

Seniors who have strong social networks are more likely to live in a safe environment. They'll be able to rely on their network of friends and acquaintances not only in the event of a fall or accident, but also in the event of a non-lethal circumstance such as a mental health crisis or a period of stress (Min, 2016).

Finally, having a large number of social interactions allows older persons to receive better personal care and assistance. People who cultivate interpersonal relationships are more likely to take care of themselves and benefit from the accountability that comes with regular social contacts (Mackenzie, 2021).

2.7 Global and regional studies

Mental conditions are common among elderly people, with depressive disorders being among the most common (Beurs 2005; World Health Organization, 2008).

Social support and resilience, according to Lynch et al (1999), are protective variables for mental health. Second, there was a decrease in reported social support across age groups, with the exception of family support. Due to a lack of adequate time, older persons prioritize emotionally relevant goals and are more likely than young people to spend time with emotionally intimate connections.

Furthermore, there were findings that social support profiles in the COVID-19 dataset alter the connection between resilience and mental health supports our compensation hypothesis, according to which social support may act as a buffer against the deleterious consequences of low resilience on mental health. These findings are consistent with previous studies that found a strong interaction impact between social support and resilience.

A study by Anderson (1985) reveals that intervention participants reported less loneliness, less meaninglessness, increased social interactions, improved self-esteem, stronger ability to trust, and improved blood pressure following the intervention. According to the findings, those who had worked at the same job for a long time had witnessed the greatest decrease in loneliness. Those who had a lot

of interaction with their grandparents, as well as women, who had a significant or long-term sickness in the family as a child, had the lowest blood pressure.

A review conducted by Anna Forsman et al (2011) shows that some types of psychosocial interventions such as physical activity and social interactions were effective and contributed to positive mental health and well-being of the intervention participants in general. There was reduced depressive and anxiety symptom. Mental wellness and life satisfaction were all increased as a result of social activities, as were depressed symptoms. The duration of treatments is important, according to the findings of this study, because longer sessions had greater favorable effects than shorter ones.

An exergaming intervention which was examined by Rosenberg et al. (2010) on older persons showed improvement of depressive symptoms. Although depression symptoms did not go down considerably among exercise participants, those who had the greatest depressive symptoms at the start benefited the most. He looked at the effects of a 12-week Nintendo Wii Sports "exergaming" on older individuals with subsyndromal depression. Participants' depressed symptoms decreased significantly, with the decrease continuing at the 24-week follow-up, and 37% of participants' symptom scores decreased by 50% or more. Anxiety levels decreased, but not dramatically, during the intervention period.

A study by Baker (2007) reports that participants with higher depressed symptoms at baseline improved. However, there was no significant decline in depressive symptoms for exercise participants.

A trial conducted by Pot and colleagues (2010) on Reminiscence intervention reported a decline in both depression and anxiety symptoms. When compared to non-specific changes in the control group, moderate improvements in ego-integrity ($g=0.64$) and depression ($g=0.57$ standard deviation units) were observed at the posttest. The effects of life purpose ($g=0.48$), death preparation ($g=0.40$), mastery ($g=0.40$), mental health symptoms ($g=0.33$), positive well-being ($g=0.33$), social integration ($g=0.31$), and cognitive performance ($g=0.24$) were all shown to be minor.

At the follow-up, the bulk of the effects were still present. Depressive symptoms improved more in depressed people ($g=1.09$), people suffering from terminal ill diseases ($g=0.94$), and those who got life-review treatment ($g=1.28$) than in the general population.

Bohlmeijer (2003) found that memory and life review programs have similar effect on reducing depression symptoms in adults with less to medium symptoms in a meta-analysis. With an overall impact size of 0.84 (95 percent confidence intervals (CI)= 0.31-1.37), reminiscing and life review had a statistical meaningful effect on depressed symptomatology in senior adults. This effect is comparable to that seen with pharmaceutical and psychological interventions.

The effect was stronger in persons with elevated depressive symptomatology ($d=1.23$) when compared to other respondents ($d=0.37$). Other factors, such as the characteristics of the individuals were not shown connected with neither bigger nor lesser impact sizes.

Reminiscence and life review have the potential to be impactful interventions for senior depression symptoms, and so could be a viable alternative to pharmaceuticals or medicines. It could prove to be impactful, secure, and positive therapy option, especially for non-institutionalized elderly people who suffer from untreated depression. Randomized studies with adequate statistical significance are necessary in order to confirm the findings of this study.

Reviews conducted by Cattani (2005) and Masi (2010) show a decline in loneliness among the participants. In this review, social support was reported to be an effective intervention for reducing depression in elderly persons. In group activities with an educational component, Loneliness was reduced significantly in five of the nine group interventions with an educational component.

A structured approach to physical activity was shown in two studies to reduce loneliness. A social activation program for senior citizens, provision of adequate support to those who had recently lost their loved ones to death, therapeutic group conversations for senior people who have mental illness, and counselling sessions offered by professionals and peers including conversations for adult daughters and daughters-in-law serving as key care givers all reported a meaningful decline in loneliness and social isolation.

An assessment of public health intervention by Windle et al (2007) indicates positive mental well-being with exercise intervention, and other psychological interventions. There was a positive effect of physical activity on mental health. Interventions were generally administered in a community context, mostly through groups led by experienced professionals, and were meant for older persons who were sedentary.

Two 45-minute exercise sessions each week, at the very least, is recommended by the research. Physical activity has been proven to provide meaningful therapy to frail elders and also influence their mental health in a positive way. According to economic research, community-based walking and exercise programs had incremental cost-effectiveness as compared to minimum intervention. Engaging in physical activities and remaining active can promote mental wellness in elderly population.

A review by Anna (2011) shows that social activities were among the most effective interventions in preventing depression and improving mental well-being. There was an improvement in quality of life and mental health. A decline in depressive symptoms from the pooled interventions was also reported.

In a 2005 review, Cattani found that education intervention reduced loneliness and enhanced mental health. Group support, such as dialogues and sharing of experiences, has been used as a psychosocial intervention, according to Birk (2004). Social support groups aimed at strengthening social networks may help older people feel less lonely and improve their social contacts and activities.

2.8 THEORETICAL FRAMEWORK

This study employed three theories;

1. Activity theory of aging.

This theory was developed by Robert J. Havighurst in 1961 to respond to the disengagement theory which suggests that it is normal and natural for aged people to withdraw and disengage from the society as they realize they are ever getting closer to death.

Activity theory proposes that for one to age successfully, they must remain active and maintain social relationships since this helps to replace the lost life roles after retirement. This psychosocial aging theory tries to define the individual and social life aspects that promote the most pleasure and satisfaction as people adjust to the various challenges that come with aging. According to this theory, older people are more likely to age effectively if they remain active, maintain social interactions and undertake beneficial tasks such as joining social clubs or participating in activities.

2. Coping theory.

This theory was developed by Lazarus and Folkman in 1984 and defined coping as the ability to withstand external and internal pressures and demands that are stressful or strains a person's ability to handle them. According to Lazarus and Folkman, coping methods don't stay the same throughout time; they evolve in response to changing circumstances. Coping tactics utilized in this theory for pain, sadness, and habit modification include problem solving, family and community support, activity and distraction.

3. Problem solving

This is the ability to solve problems. It is a major and effective way of coping with stressful situation and commonly used strategy. However, according to Lazarus and Folkman, most patients are taught certain and specific solutions to issues affecting them instead of the problem-solving skills and the process. There is pressing need to emphasize on teaching people these skills as means of coping.

4. Family and community support

Also known as seeking social assistance, this is a well-known coping method that is often considered, but is not always effective. This strategy is not applicable in circumstances where one's peers are advocating for use of inappropriate ways such as drug use in order to cope with stress.

5. Activity

This is a great strategy to use especially when you are going through pain, depression, or working on quitting smoking. Activities such as jogging or swimming, as well as other passive activities like knitting, reading, or painting, can all be included in this strategy.

6. Distraction

This is a pain, depression, and habit-change coping approach. It is based on the idea that the human mind can only handle one thing at a time. As a result, pain, despair, and other issues are decreased when the mind is busy

7. Social support theory.

This theory was developed from publications by Don Drennon-Gala and Francis Cullen who were social psychologists and drew on insights from several theoretical traditions. It focuses on relationships and the interactions within those relationships. Studies conducted show that social support has a favorable impact on well-being. Personal networks, which focus on the individual's support systems, volunteer linking whereby lay-helpers attached to those in need of support to provide them friendship, support, advice, and advocacy, and mutual aid networks, which are the most commonly used and includes establishing linkages among people with similar and common health challenges, undertaking similar tasks, or having similar interests and backgrounds, are examples of support strategies.

2.9 CONCEPTUAL FRAMEWORK

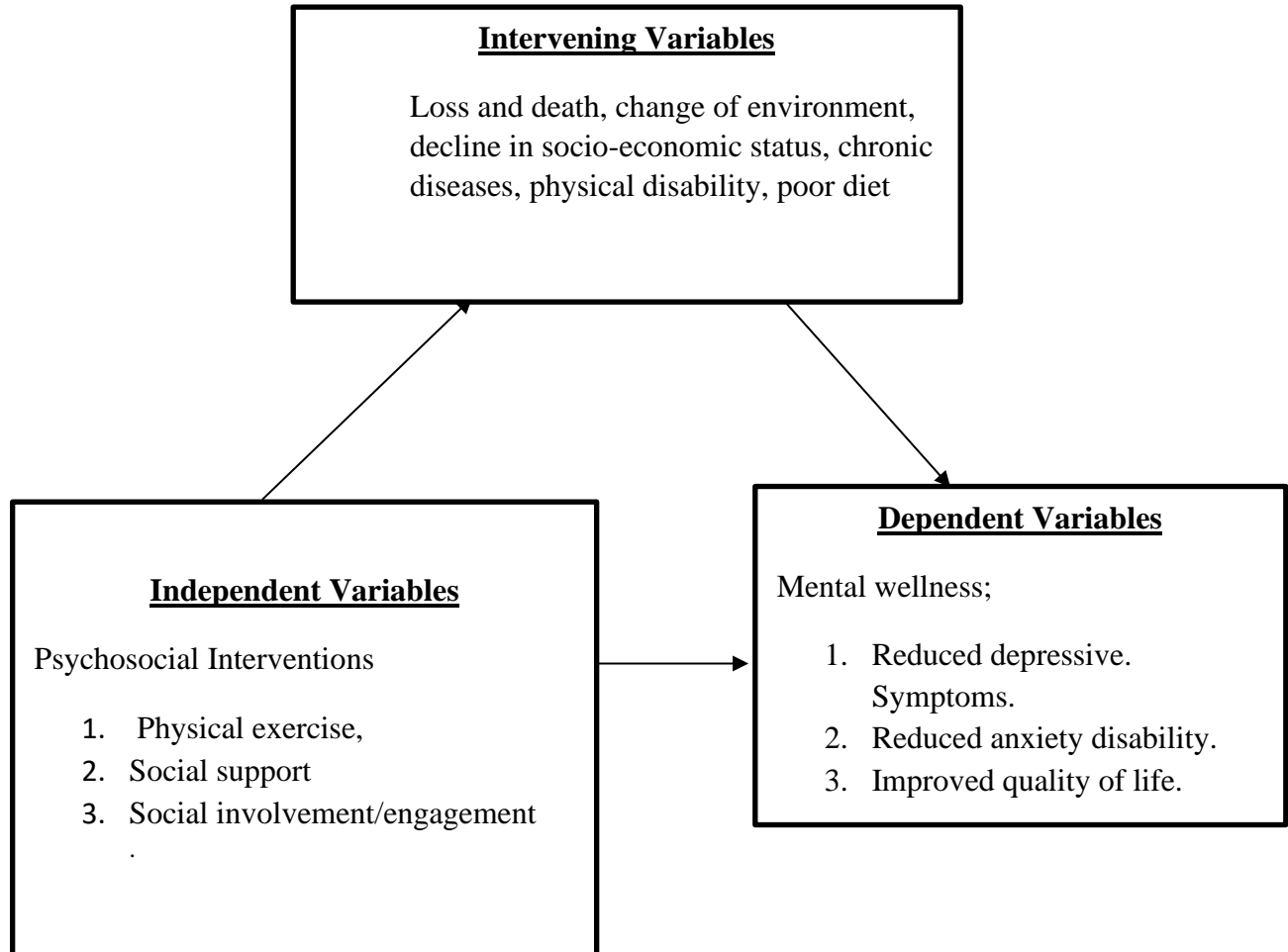


Figure 1 Conceptual Framework

The conceptual framework above is used to show how the independent, intervening and dependent variables influence each other.

Psychological wellness e.g., reduced depression symptoms, reduced anxiety and improved quality of life can be influenced by psychosocial interventions (independent) e.g., physical exercise, social support and social involvement. Risk factors (intervening variables) that may increase mental health illnesses include; decline in socio-economic status, death and loss, chronic illness, physical disability and poor diet.

Generally, the framework shows that mental illness in elderly persons can be caused by the intervening variables or influenced by psychosocial interventions.

CHAPTER THREE

METHODOLOGY

3.1 Study design

This study used a survey research design which was carried out to examine the influence of physical exercise, social involvement and social support on mental wellness of the elderly people living in Kariobangi Cheshire homes.

3.2 Study area

It was conducted at Kariobangi Cheshire home for the aged in Nairobi, Kenya. Kariobangi Cheshire home was established in 1980 to help and provide a safe living place to the needy elderly people who were living in the nearby makeshift and filthy slums.

Kariobangi Cheshire home, also known as “Nyumba ya wazee” serves as home and permanent dwelling for 40 elderly persons most of whom have one or more medical health condition. It also has a day care center that caters for roughly 200 aged and needy residents from the surrounding slums. The day care program used to operate every Wednesday and Friday from 9: am to 4:00pm but due to COVID-19 pandemic, the time has been adjusted to 9:00 am to 11: 30 am, Wednesdays and Fridays. Every time they visit, they are provided a nourishing meal and those in need of medical care attended to. They are also talked to and educated on how to take care of their health and protect themselves during this period of pandemic (COVID-19). As they leave for their homes, they are given fresh vegetables, maize flour, cooking oil, sugar, rice, tea leaves and bathing soap. Once in a while they receive clothes and beddings donated by well-wishers.

Most of these elderly persons cared for have one or more physical and mental health conditions. Most of those in day care program live with orphaned grandchildren whom they take care of.

Volunteers and Students from universities come to do internships at Kariobangi Cheshire home.

The facility provides both physical and medical care to the elderly men and women.

3.3 Target population

Target population encompasses the population intended for examination (Majid, 2018). Kariobangi Cheshire Home had approximately 240 elderly persons. Of these 240, approximately 74 adults had been diagnosed with one or more mental illness and formed the study's target population.

3.4 sample size and sampling technique

Taherdoost (2016a) describes sampling as the drawing of a subset from the entire population or a selected sampling frame to either generate a generalization in regards to existing theory or generate an inference regarding a population.

The study employed a simple random sampling technique to draw a study sample of 35 participants from a population of 74 adults who had been diagnosed with mental illnesses. This technique means that each adult with mental health condition at Kariobangi Cheshire home had equal likelihood of inclusion in the sample. The technique's accuracy of representation and ease of use justified its use in the study.

The formula below was employed in realizing the sample size of 35 participants.

$$n = N \left(\frac{cv^2}{Cv^2 + (N-1)e^2} \right)$$

$$Cv^2 + (N-1)e^2$$

Where n is the sample size, N is the population size, cv is the coefficient of variation (take 0.5), and e the margin error or tolerance of desired level of confidence taken as 0.05% at 95% confidence level.

Since the target population comprised 74 individuals, the formula was applied as indicated:

$$n = 74 \left(\frac{0.5^2}{0.5^2 + (74-1)(0.05)^2} \right) = 35 \text{ respondents}$$

3.5 Research instruments

Questionnaires were utilized to collect data. The selection of questionnaires as the study's research instrument was because questionnaires are attributed with objectivity and increasing the reliability as ideal data collection tools (Young, 2016).

The questions formulated ensured that the presented questionnaires matched the study's objectives. The questionnaire sections except the background information section were segmented to match the study objectives.

The questionnaire also captured data on personal profiles (age group, gender, education level, marital status and religion), data on COVID-19 impact (fear, anxiety, worry, hopelessness, loss of income, and loss of loved ones) and data on psychosocial Interventions and their effects on mental health management.

3.6 Pilot testing

Pilot testing encompassing a precursor of the actual study helps determine the feasibility of the research instruments and pinpoint potential and actual challenges that a researcher can address before conducting the anticipated study Fraser et al. 2019. The study selected a sample of 15 individuals chosen at random for the pilot testing. 15 questionnaires were randomly administered to the participants to help determine the questionnaires feasibility as a data collection tool and identify any probable challenges that may hinder the data collection exercise, hence permitting the researcher to address these challenges before the actual data collection.

3.7 Study variables

Dependent variable was mental well-being (e.g., positive mental health, reduced depressive and anxiety symptoms, improved quality of life).

Intervening variables were psychosocial factors (e.g., environmental change, decline in socio-economic status), chronic illness, physical disability, poor diet.

Independent variables were psychosocial interventions (physical exercise, social involvement and social support). These intervention variables had already been implemented by the management of Kariobangi Cheshire Home eight months prior to the actual data collection. The researcher sought to find out whether these three interventions had influenced the mental health of the respondents in any way.

3.8 Data collection procedure

The study began with the formulation of questionnaires followed by seeking approval and consent from the University of Nairobi, NACOSTI and the management of Kariobangi Cheshire

home. A pilot test was then conducted by administering 15 questionnaires to the study sample to evaluate the questionnaires completeness, precision, accuracy and clarity. These test questionnaires were prepared and administered physically to the respondents. Areas requiring corrections and improvements were then worked on. After words, the corrected questionnaires were disseminated to the study participants. The researcher was assisted by three research assistants in data collection process. This was because majority of the study participants needed assistance in filling- in the questionnaire. The research assistants and the researcher helped in writing the answers provided by the respondents as majority were not able to write.

3.9 Reliability of the research instrument

Reliability alludes to the extent to which the research method generates consistent and stable results when the research is repeated under similar conditions (Taherdoost, 2016). The researcher utilized the Cronbach's formula in measuring internal consistency, where a value of +.80 or greater signified good internal consistency. A value of +.82 was obtained.

3.10 Statistical analysis and presentation

The study used the statistical package for social sciences (SPSS version 26.0) in analyzing data. The collected data was cleaned by checking for entry errors. This was done by ensuring that the analyzed questionnaires comprised the appropriate responses. The questionnaires were also inspected to ensure completeness and ratification that the acquired data met the research objectives. The researcher checked the questionnaires to determine whether all the set questions were correctly answered and only obtained data for analysis from the fully completed questionnaires. The obtained information was presented in tables and graphs.

To determine the influence of psychosocial interventions on mental wellness, the study conducted a linear regression with psychosocial interventions as the independent variable and mental wellness as the dependent variable. The degree of association between the two variables was measured by Pearson's correlation coefficient which was measured on a scale ranging from +1 to -1, where +1 and -1 expressed a perfect correlation between the two variables and 0 expressing a complete absence of correlation.

Also, the study utilized linear regression to model the relationship between the independent variable (psychosocial interventions) and the dependent variable (mental wellness). Chi-square test was used to determine the independence of the study variables.

3.11 Ethical considerations

The researcher obtained authorization from National Commission for Science, Technology and Innovation (NACOSTI) and the department of psychology (University of Nairobi) to conduct the study.

The researcher also sought permission from the management of Kariobangi Cheshire homes. Respondents' permission and consent to participate in the study was sought verbally through informed consent and that the research was voluntarily and information given would be confidential. The respondents were informed of their rights to withdraw at any stage in cases where one wished to.

3.12 Benefits of the study

This study will help institutions dealing with elderly adults including Kariobangi Cheshire homes to better manage and promote mental health of the elderly persons.

Findings of this research may be useful making decisions concerning promoting mental well-being of the aged people in Kenya and the greater Sub-Saharan Africa continent.

3.13 Risks

No study participant was exposed to any physical or psychological harm

3.14 Privacy and confidentiality

The data collected was kept private and confidential. No identifiable data was collected. This was necessary so as to ensure the participants' privacy was maintained.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

The findings of this study were analyzed and presented as per the categories shown below

1. Social demographic profiles
2. Medical health condition
3. COVID-19 impact
4. Relationship between Interventions and mental wellness

Social demographic profiles

Table 1

Table 1 shows the age group of participants. Both the percentages and cumulative percentages of the respondents' age groups were calculated and presented in tables and graphs. A sample of 35 respondents was used in the study. 25.7% of these participants were in the age group of 65- 69 and were the majority.22.9% were in the age group of 70-74, 20% in age group 75-79, 14.3% in age group 85-89, and 8.6% in age groups 80-84 and 90-94 who were the minority.

Table 1 Age group of the participants

age group of the participants					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65-69	9	25.7	25.7	25.7
	70-74	8	22.9	22.9	48.6
	75-79	7	20.0	20.0	68.6
	80-84	3	8.6	8.6	77.1
	85-89	5	14.3	14.3	91.4
	90-94	3	8.6	8.6	100.0
	Total	35	100.0	100.0	

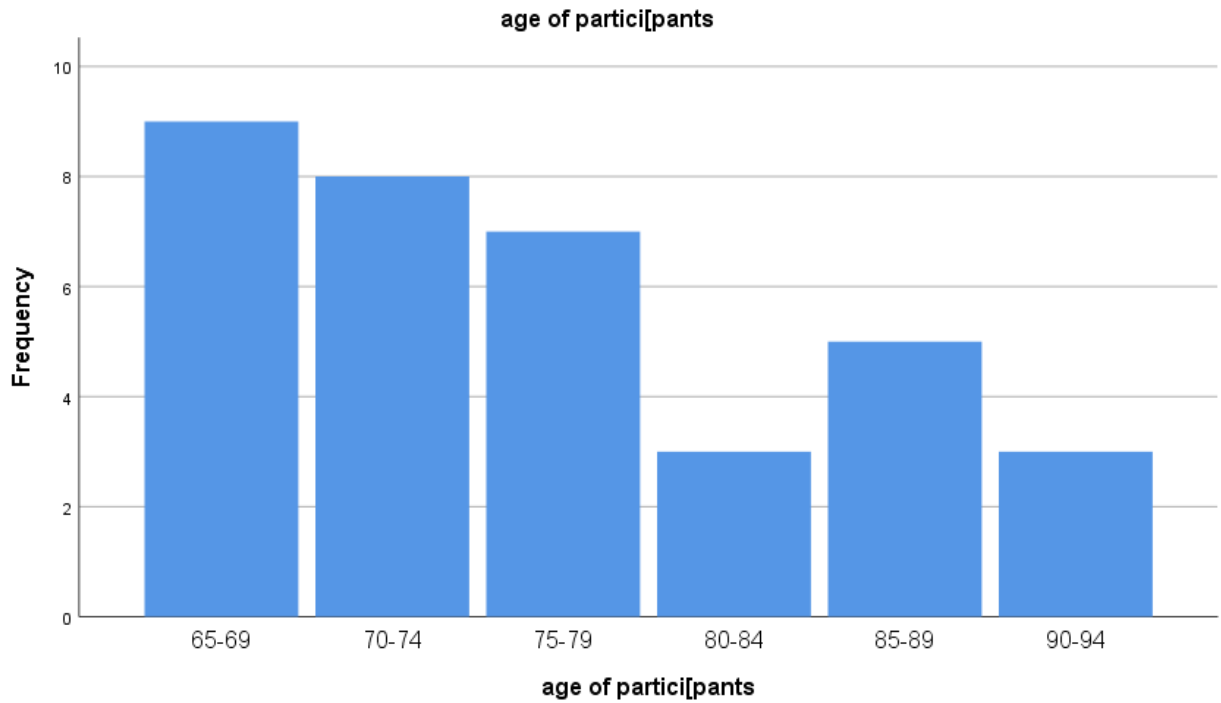


Table 2

Table 2 shows the marital status of the study participants. Percentages and cumulative percentages were calculated and presented in tables and graphs. Majority of the participants were windowed (37.1%). 28.6% had divorced or living separate from their spouses, 22.9% were married and living with their spouses, and 11.4% had not been married.

Table 2 Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	4	11.4	11.4	11.4
	married	8	22.9	22.9	34.3
	separated	10	28.6	28.6	62.9
	windowed	13	37.1	37.1	100.0
	Total	35	100.0	100.0	

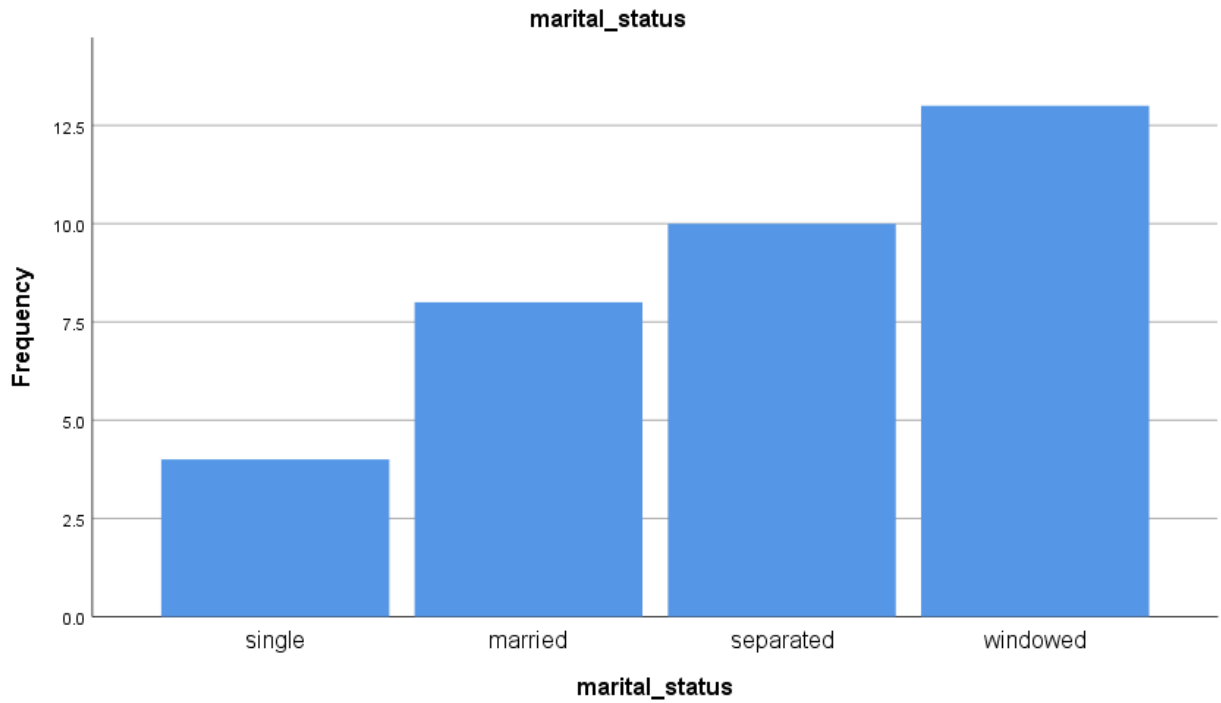


Table 3

Table 3 shows the participants level of education. Majority of the participants (37.1%) had primary education. 31.4% had secondary education, 20% had college/University education and 11.4% had no formal education. The results of the analysis have been presented in both tables and graphs.

Table 3 Level of education

		level_of_education			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no formal education	4	11.4	11.4	11.4
	primary	13	37.1	37.1	48.6
	secondary	11	31.4	31.4	80.0
	college/university	7	20.0	20.0	100.0
	Total	35	100.0	100.0	

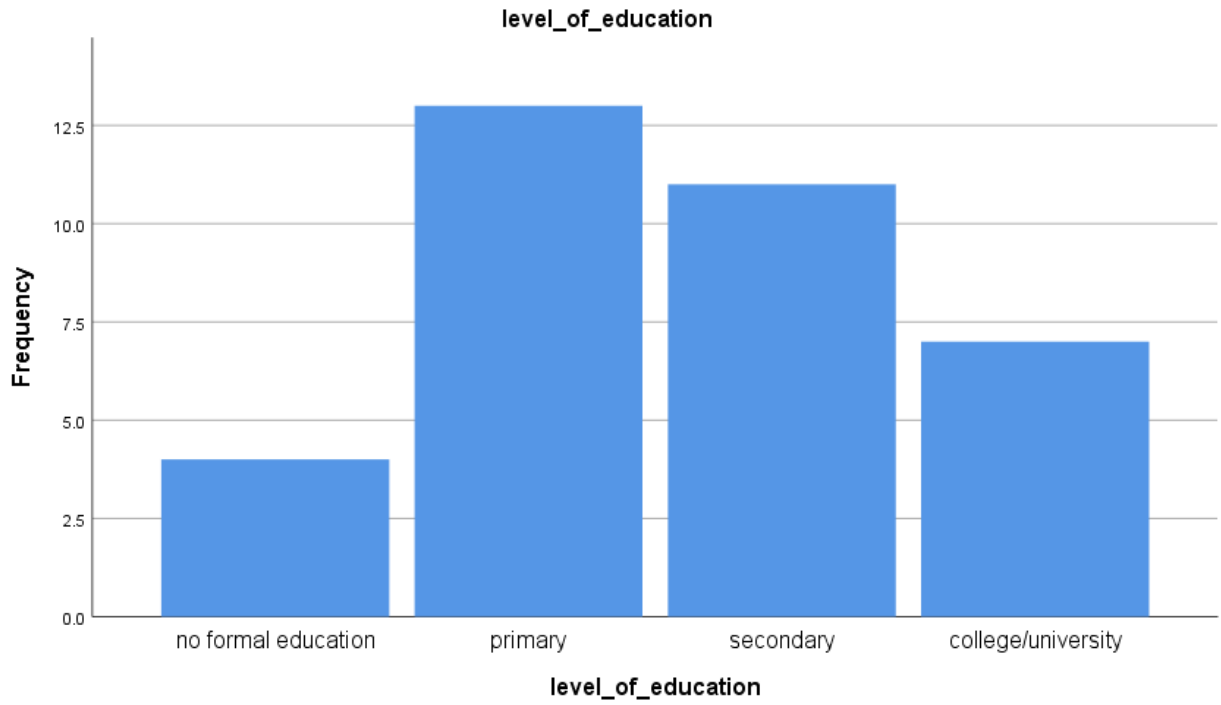


Table 4

Table 4 shows the participants religion. 62.9% of the participants were Christians and were the majority. 22.9% were Muslims and 14.3% had no specific religion and were the minority.

Table 4 Religion

		Religion			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	christians	22	62.9	62.9	62.9
	muslims	8	22.9	22.9	85.7
	none	5	14.3	14.3	100.0
Total		35	100.0	100.0	

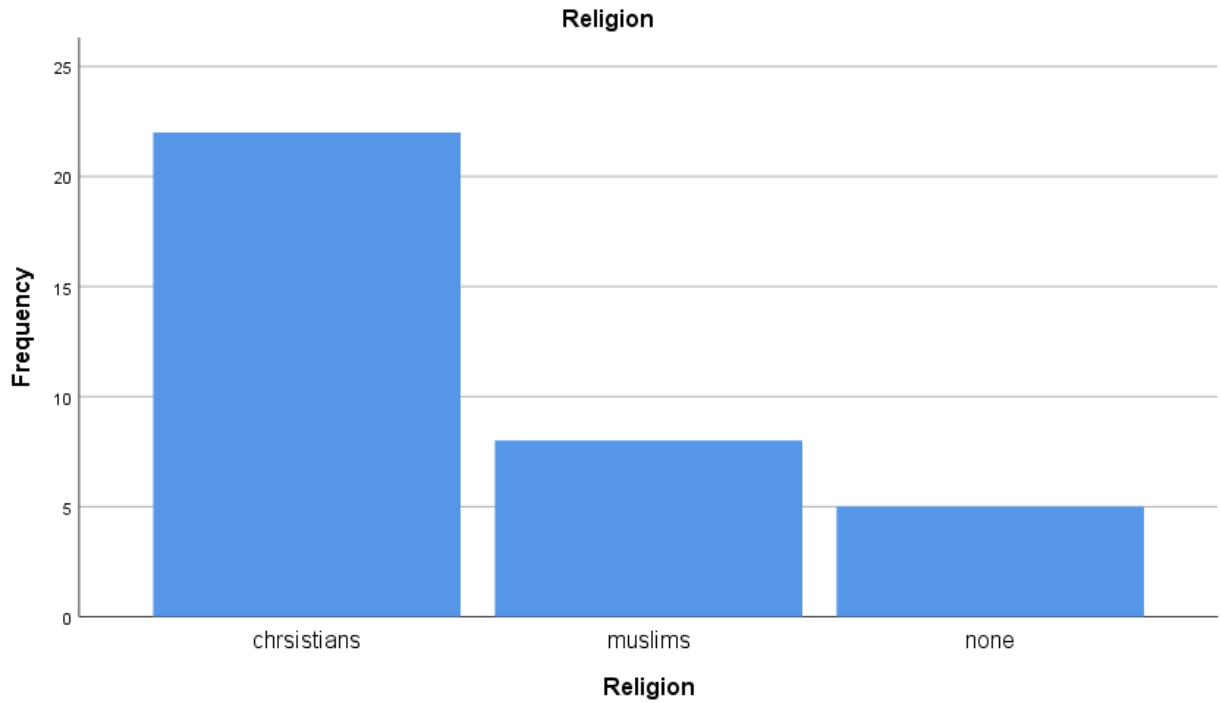


Table 5

Table 5 shows the gender of the participants. Majority of the participants were female (65.7% and male (34.3%). A pie chart was used to present the above data.

Table 5 Gender

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	23	65.7	65.7	65.7
	male	12	34.3	34.3	100.0
	Total	35	100.0	100.0	

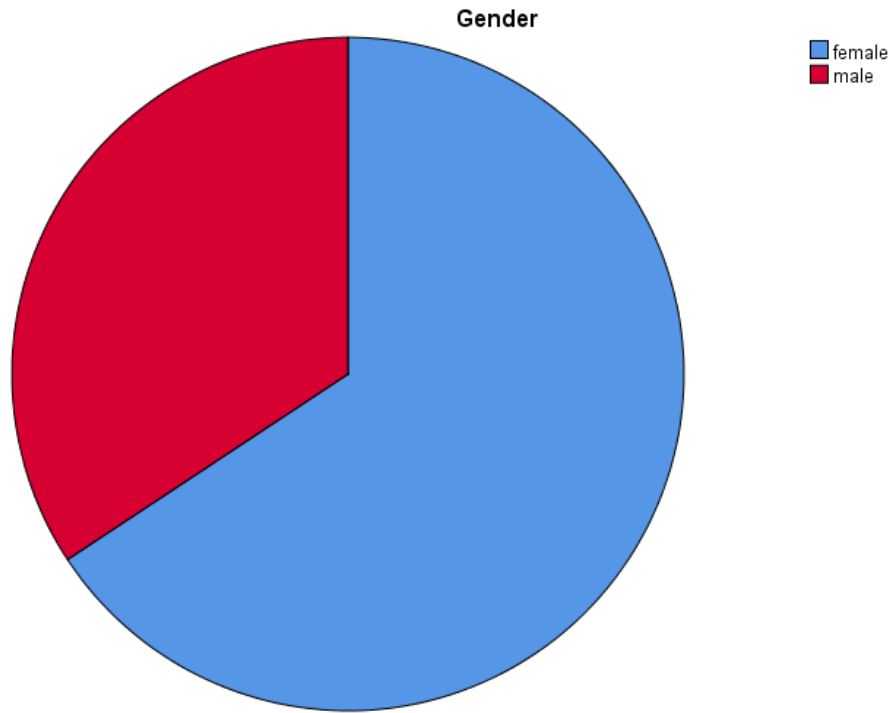


Table 6

Table 6 shows the medical health condition of the participants. The most prevalent medical conditions were blood pressure, arthritis and dementia. 45.7% of the participants had blood pressure, 28.6% had Arthritis and 25.7% dementia. Majority of the participants had more than one medical health condition.

Table 6 Medical Health Condition

		medical_health_condition			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	arthritis	10	28.6	28.6	28.6
	Blood pressure	16	45.7	45.7	74.3
	dementia	9	25.7	25.7	100.0
	Total	35	100.0	100.0	

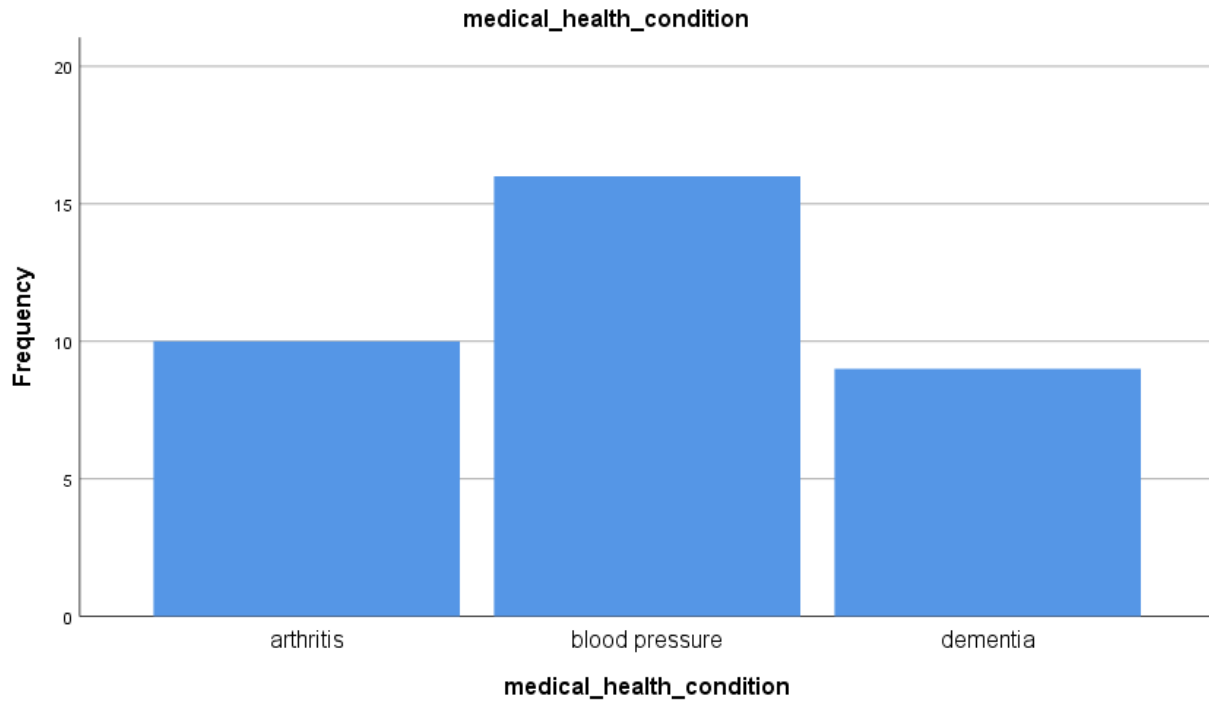


Table 7

Table 7 shows the impact of covid-19 on the participants. 34.3% of the participants reported initially being worried, anxious and depressed due to the COVID-19 Virus and its containment measures. 25.7% had felt sad and hopeless, 25.7% had lost their incomes/jobs (casual jobs and self-employment), and 14.3% had lost their loved ones due to the pandemic.

Table 7 Covid-19 Impact

		covi_19_impact			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	worried, anxious and depressed	12	34.3	34.3	34.3
	lost job/income	9	25.7	25.7	60.0
	lost loved ones	5	14.3	14.3	74.3
	sad and hopeless	9	25.7	25.7	100.0
	Total	35	100.0	100.0	

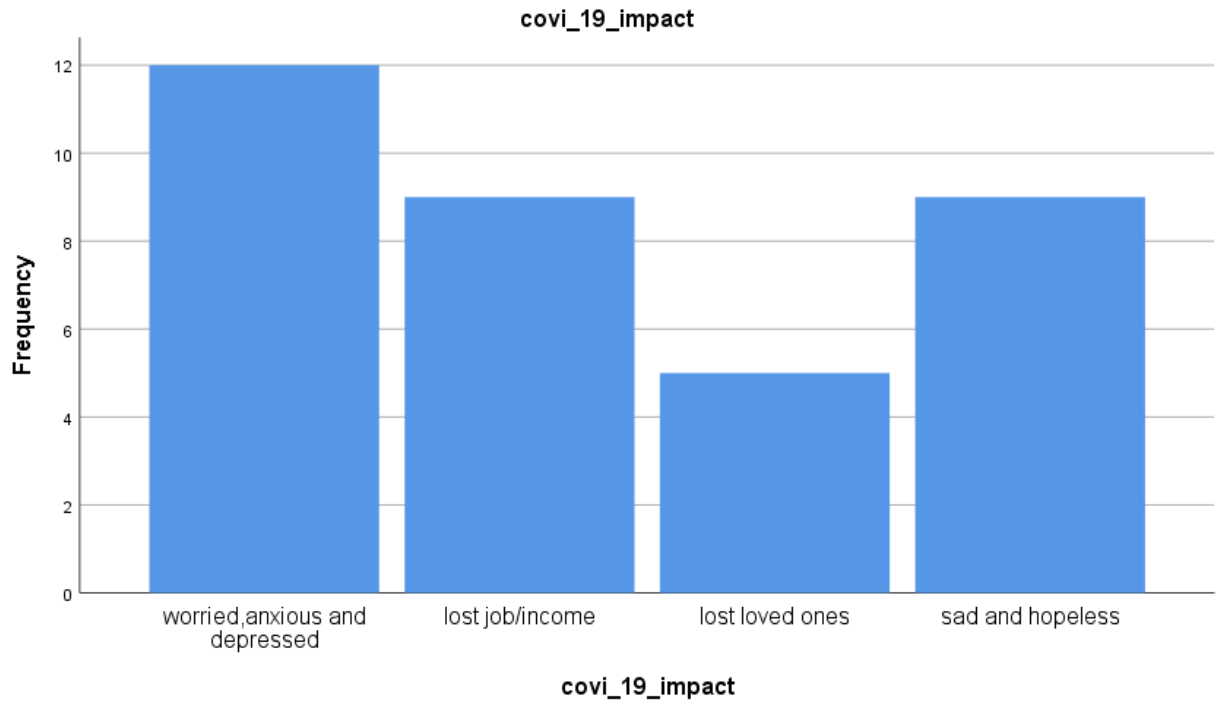


Table 8

Table 8 shows the participants engagement in physical exercise. Half (50%) of the intervention participants occasionally engaged in physical exercise, 25% engaged in physical exercise rarely and only 22.2% were regularly engaged in physical exercise.

Table 8 Physical Exercise

		physical_exercise			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	frequently	8	22.2	22.9	22.9
	sometimes	18	50.0	51.4	74.3
	rarely	9	25.0	25.7	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		

Table 9

Table 9 shows the influence of physical exercise on mental wellness. The sample size of the respondents was 35. The cross-tabulation shows that those who did physical exercise frequently and did not experience anxiety were 8. Those who did physical exercise sometimes and experienced anxiety few times were 13 while those who sometimes did physical exercise and did not experience anxiety were 5. Those who rarely exercised and experienced anxiety frequently were 8.

The cross-tabulation shows that those who engaged in physical exercise regularly did not experience anxiety. Those who occasionally engaged in physical exercise experienced some anxiety while those who rarely engaged in physical exercise experience anxiety frequently.

Since the data is ordinal in nature, we carry our Spearman's correlation. The results of the analysis show that the Spearman's correlation coefficient between mental wellness and physical exercise is 0.864. This shows that there is a strong positive relationship between mental wellness and physical exercise. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant.

While correlation shows the relationship between the two variables, Chi-Square test is used to test for independence of the variables. Our aim is to examine whether mental wellness is dependent on physical exercise. The Chi-Square results show that the Chi-Square value is 45.139 with 4 degrees of freedom. The corresponding p-value is 0.000. Since this value is less than 0.05, the results are statistically significant. Mental wellness is therefore affected by physical exercise. Therefore, hypothesis one is shown to be true.

Table 9 Influence of Physical exercise

Crosstab

Count

		Mental Wellness			Total
		Not Experienced	Experienced few times	Experienced few frequently	
Physical Exercise	Frequently	8	0	0	8
	Sometimes	5	13	0	18
	Rarely	0	1	8	9
Total		13	14	8	35

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	45.139 ^a	4	.000
Likelihood Ratio	47.472	4	.000
Linear-by-Linear Association	25.735	1	.000
N of Valid Cases	35		

a. 7 cells (77.8%) have expected count less than 5. The minimum expected count is 1.83.

Symmetric Measures

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Interval by Interval	Pearson's R	.870	.045	10.137	.000 ^c
Ordinal by Ordinal	Spearman Correlation	.864	.051	9.863	.000 ^c
N of Valid Cases		35			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Table 10

Table 10 shows the participants social engagements. 45.7% of the intervention participants were occasionally involved in social activities. 28.6% were regularly involved and 25.7% were not involved at all in social activities. Those who had regular social involvement did not experience anxiety were. Those who had social involvement occasionally experienced anxiety few times while those who were rarely involved social engagement experienced anxiety frequently.

The tables also show the SPSS results of the dependent variable Mental Wellness and Social involvement. The sample size of the study is 35. The cross-tabulation shows that those who had social involvement regularly and did not experience anxiety were 10. Those who had social involvement sometimes and experienced anxiety few times were 13 while those who had social involvement sometimes and did not experience anxiety were 3. None of those who did not have social involvement did not experience anxiety. Those who had social involvement rarely and experienced anxiety frequently were 8.

Since the data is ordinal in nature, we carry our Spearman’s correlation. The results of the analysis show that the Spearman’s correlation coefficient between mental wellness and social involvement is 0.906. This shows that there is a strong positive relationship between mental wellness and social involvement. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant.

While correlation shows the relationship between the two variables, Chi-Square test is used to test for independence of the variables. Our aim is to examine whether mental wellness is dependent on social involvement. The Chi-Square results show that the Chi-Square value is 51.233 with 4 degrees of freedom. The corresponding p-value is 0.000. Since this value is less than 0.05, the results are statistically significant. Mental wellness is therefore affected by social involvement.

Table 10 Social Involvement

		social_involvement			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	actively involved	10	28.6	28.6	28.6
	involved occassionally	16	45.7	45.7	74.3
	never involved	9	25.7	25.7	100.0
Total		35	100.0	100.0	

Crosstab

Count

		Mental Wellness			Total
		Not Experienced	Experienced few times	Experienced few frequently	
Social Involvement	Regularly	10	0	0	10
	Sometimes	3	13	0	16
	Rarely	0	1	8	9
Total		13	14	8	35

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	51.233 ^a	4	.000
Likelihood Ratio	53.300	4	.000
Linear-by-Linear Association	28.172	1	.000
N of Valid Cases	35		

a. 7 cells (77.8%) have expected count less than 5. The minimum expected count is 2.06.

Table 10 (b)

Table 10 (b) shows that the Spearman's correlation coefficient between mental wellness and social involvement is 0.906. This shows that there is a strong positive relationship between mental wellness and social involvement. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant. Therefore, hypothesis 2 was proved to be true.

Symmetric Measures

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Interval by Interval	Pearson's R	.910	.040	12.630	.000 ^c
Ordinal by Ordinal	Spearman Correlation	.906	.043	12.295	.000 ^c
N of Valid Cases		35			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

Table 11

Table 11 shows participants social support and its influence on mental wellness. 45.7% of the participants received moderate social support and they were the majority followed by 31.4% who received minimal support. 22.9% received adequate social support.

The tables also show the SPSS results of the dependent variable Mental Wellness and Social Support. The sample size of the respondents was 35. The cross-tabulation shows that those who had social support adequately and did not experience anxiety were 8. Those who had social support moderately and experienced anxiety few times were 11 while those who had social support moderately and did not experience anxiety were 5. None of those who did not have social support did not experience anxiety. Those who had social support minimally and experienced anxiety frequently were 8.

Since the data is ordinal in nature, we carry our Spearman's correlation. The results of the analysis show that the Spearman's correlation coefficient between mental wellness and social support is 0.844. This shows that there is a strong positive relationship between mental wellness and social support. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant.

While correlation shows the relationship between the two variables, Chi-Square test is used to test for independence of the variables. Our aim is to examine whether mental wellness is dependent on social support. The Chi-Square results show that the Chi-Square value is 37.151 with 4 degrees of freedom. The corresponding p-value is 0.000. Since this value is less than 0.05, the results are statistically significant. Mental wellness is therefore affected by social support.

Table 11 Social Support

		social_support			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	adequate social support	8	22.9	22.9	22.9
	moderate support	16	45.7	45.7	68.6
	minimal support	11	31.4	31.4	100.0
	Total	35	100.0	100.0	

Crosstab

Count

		Mental Wellness			Total
		Not Experienced	Experienced few times	Experienced few frequently	
Social Support	Adequate	8	0	0	8
	Moderate	5	11	0	16
	Minimal	0	3	8	11
Total		13	14	8	35

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.151 ^a	4	.000
Likelihood Ratio	42.255	4	.000
Linear-by-Linear Association	24.135	1	.000
N of Valid Cases	35		

a. 7 cells (77.8%) have expected count less than 5. The minimum expected count is 1.83.

Table 11 (b)

Table 11 (b) shows that the Spearman’s correlation coefficient between mental wellness and social support is 0.844. This means there is a strong positive relationship between mental wellness and social support. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant. Therefore, hypothesis 3 was proved to be true.

Symmetric Measures

	Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Interval by Interval Pearson's R	.843	.044	8.985	.000 ^c
Ordinal by Ordinal Spearman Correlation	.844	.045	9.044	.000 ^c
N of Valid Cases	35			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

Table 12

Table 12 shows the mental health condition of the study participants for the last six months. Majority of the intervention participants (38.9%) had occasionally experienced anxiety and depressed mood in the last six months. 36.1% had not experienced any form of anxiety or depression for the last six months and 22% had experienced anxiety often within the last six months.

Adults who engaged in physical exercise regularly had better mental health compared to those who occasionally and rarely engaged in physical exercise, implying that physical exercise is an effective psychosocial intervention for positive mental health.

Table 12 Mental health condition for the last six months

		mental_wellness			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not experienced anxiety or depression	13	36.1	37.1	37.1
	experienced anxiety once sometimes	14	38.9	40.0	77.1
	experienced anxiety oftenly	8	22.2	22.9	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		

Table 13

This table gives a Summary of Pearson correlation of the influence of the three interventions on mental wellness.

Table 13 Correlations

		Correlations			
		mental_wellbeing	participation in physical exercise	social_involvement	social_support
Pearson Correlation	mental_wellbeing	1.000	.870	.910	.843
	participation in physical exercise	.870	1.000	.949	.948
	social_involvement	.910	.949	1.000	.906
	social_support	.843	.948	.906	1.000
Sig. (1-tailed)	mental_wellbeing	.	.000	.000	.000
	participation in physical exercise	.000	.	.000	.000
	social_involvement	.000	.000	.	.000
	social_support	.000	.000	.000	.
N	mental_wellbeing	35	35	35	35
	participation in physical exercise	35	35	35	35
	social_involvement	35	35	35	35
	social_support	35	35	35	35

Physical exercise was a significant predictor of mental wellness;

Beta = .870, $t(33) = 10.1$, $P < .05$ and accounted for 75.7% ($R^2 = .75$) of variance in mental wellness scores.

Social involvement was a significant predictor of mental wellness;

Beta = .910, $t(33) = 12.6$, $P < .05$ and accounted for 82.9% ($R^2 = .829$) of variance in mental wellness scores.

Social support was also a significant predictor of mental wellness;

Beta = .843, $t(33) = 8.9$, $P < .05$ and accounted for 71% ($R^2 = .710$) of variance in mental wellness scores.

(Note: Degree of freedom was $t = N - 2$; where N = the studies total number of scores)

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

The primary aim of this study was to examine the influence of physical exercise, social engagement and social support on mental wellness of the elderly during the covid-19 pandemic. Similar to prior studies, this study found that social support, physical exercise and social engagement are effective interventions for positive mental health.

This study used a sample of 35 participants. The findings of the study are as discussed below.

5.1 Study characteristics

25.7% of the participants were between the ages of 65-69 years, 22.9% in 70-74 age group, 20% in 75-79 and 14.3% in 85-89. Participants within the age groups 80-84 and 90-94 were the minority (8.6%).

In a study by Rastogi et al in, most of those who took part were between the ages of 60 and 69 at 70.63%. This was similar to the findings of another study where 63.7% of the study participants were aged between 60 and 69 years (Magh et al).

In this study, the female were the majority (65.7%) compared to the males (34.3%). These findings were similar to those of Nakasujja (Uganda) and Dhungan et al where females were the majority at 50.4% and 52.9% respectively. However, this is in contrast with Rastogi's findings which revealed that majority of the participants were males (64.44%).

For marital status, majority of the participants were widowed (37.1%) followed by separated (28.6%). 22.9% of the participants were married and 11.4% single being the minority.

CIA 2017 reported that in Kenya, Christians form the majority at 73%. According to the findings of this research majority of the participants were Christians at 62.9%, Islam 22.9% and no religion 14.3%.

Majority of the elderly participants in this study had reached primary level 34.3%, followed by secondary level 28.6%, college/university 25.7% and no formal education formed the minority (11.4%).

This however contrasts Nakasujja's study Uganda who found that most of the elderly participants had no formal education (52%). In a study by Neethu et al, 35.3% of the participants had primary education and 18.8% no formal education.

Majority of the elderly participants had one or more medical health conditions with blood pressure being the most common (45.7%), followed by arthritis at 28.6% and dementia 25.7%.

Most of the elderly participants in this study had been affected by COVID-19. 43.3% self-reported fear and anxiety caused by the pandemic. 25.7% reported to have lost income due to the pandemic, 14.3% had lost their loved ones due to the pandemic and 25.6% felt worried and hopeless.

The mental health problems of a community are a major issue of concern during an outbreak crisis or pandemic that requires early detection and attention. According to this study, the combined prevalence of anxiety and depression was as high as 34.3%.

5.2 Psychosocial interventions

5.2.1 Mental wellness and physical exercise

50% of the participants engaged in physical exercise just once in a while (sometimes), 25% rarely engaged in physical exercise while 22.2% regularly engaged in physical exercise.

Those who engaged in physical exercise frequently did not experience anxiety while those who engaged in physical exercise once in a while experienced some level of anxiety. Using the Spearman's correlation, the spearman's correlation coefficient between mental wellness and physical exercise was 0.864. This demonstrates that mental wellness and physical exercise have substantial favorable association. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant.

While correlation shows the relationship between the two variables, Chi-Square test is used to determine whether the variables are independent. Our aim is to examine whether mental wellness is dependent on physical exercise. The Chi-Square results show that the Chi-Square value is 45.139 with 4 degrees of freedom. The corresponding p-value is 0.000. Since this value is less than 0.05, the results are statistically significant. Mental wellness is therefore affected by physical exercise.

5.2.2 Mental wellness and social engagement

45.7% of the study participants occasionally participated in social activities, 28.6% were regularly involved while 25.7% never or rarely got involved in social activities.

The results of the analysis show that the Spearman's correlation coefficient between mental wellness and social involvement is 0.906. This shows a strong positive relationship between mental wellness and social involvement. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant.

While correlation shows the relationship between the two variables, Chi-Square test is used to test for independence of the variables. Our aim is to examine whether mental wellness is dependent on social involvement. The Chi-Square results show that the Chi-Square value is 51.233 with 4 degrees of freedom. The corresponding p-value is 0.000. Since this value is less than 0.05, the results are statistically significant. Mental wellness is therefore affected by social involvement.

5.2.3 Mental wellness and social support

45.7% of the study participants received moderate social support, 31.4% received minimal social support while 22.9% received adequate social support.

Using the Spearman's correlation, the spearman's correlation coefficient between mental wellness and physical exercise was 0.844. This demonstrates that mental wellness and social support have substantial favorable association. The correlation coefficient has a p-value of 0.000, which is less than 0.05; hence the results are statistically significant.

While correlation shows the relationship between the two variables, Chi-Square test is used to determine whether the variables are independent. Our aim is to examine whether mental wellness is dependent on social support. The Chi-Square results show that the Chi-Square value is 37.151 with 4 degrees of freedom. The corresponding p-value is 0.000. Since this value is less than 0.05, the results are statistically significant. Mental wellness is therefore affected by social support.

CONCLUSION AND IMPLICATION

The results of the analysis show that the three independent variables, physical exercise, social support and social involvement have a significant statistical impact on mental wellness. The three variables produced a strong positive correlation with the dependent variable, mental wellness. Therefore, as physical exercise increases, there is an increase in mental wellness, all other factors held constant. Likewise, as social support increases, there is an increase in mental wellness, all factors held constant. Lastly, as social involvement increases, there is increase in mental wellness. However, it is important to note that correlation is not equal to causation and therefore mental wellness is not caused by these factors.

Psychosocial interventions have a promising overall influence on mental health management of the elderly but more studies and evidence on their effectiveness is needed before large scale application.

The results of this study show that social involvement as a more effective intervention for positive mental health. When striving to increase mental wellbeing, meaningful social activities that are suited to older persons' abilities and preferences need to be factored in.

Physical exercise is also seen as an effective intervention for managing the mental health of the elderly persons. Exercise activities that are suitable and favorable to the aging population should be put in place so as to enhance mental wellness.

The findings of this study should be considered and used in the development of interventions which have evidence on positive effects.

REFERENCES

- Andersson, L. (1982) Interdisciplinary study of loneliness—with evaluation of social contacts as a means towards improving competence in old age. *Acta Sociologica*, 25, 75–80.
- Andersson, L. (1984) Intervention against loneliness in a group of elderly women: a process evaluation. *Human Relations*, 37, 295–310.
- Anschuetz HN. Coping with college transition: the effects of trait vulnerability and social support. [D]. 2005.
- Applegate, W, B., & Auslander, J.G (2020). COVID-19 presents high risk to older persons. *Journal of America Geriatric society*, 68(4), 681. Doi:10.1111/jgs.16426 (crossref), (web of science).
- Armitage, R., & Nellums, L.B. (2020). COVID-19 and the consequences of isolating the elderly. *Lancet Public Health*, 5(5), e 256.doi.1016/S2468-2667(20)30061-X (crossref), (web of science).
- Arnett JJ. Emerging adulthood: a theory of development from the late teens through the twenties. *Am Psychol*. 2000; 55:469. <https://doi.org/10.1037/0003-066X.55.5.469>.
- Arnetz, B, Theorell, T., Levi, L., Kallner, A. and Eneroth P. (1983) Physical and psychological effects of social activities in the elderly. *Lakartidningen*, 80, 965–971.
- Arnetz, B. B., Eyre, M. and Theorell, T. (1982) Social activation of the elderly. A social experiment. *Social Science & Medicine*, 16, 1685–1690.
- Asparouhov, T., & Muthén, B. Auxiliary variables in mixture modeling: Using the BCH method in Mplus to estimate a distal outcome model and an arbitrary second model. Available online: <https://www.statmodel.com/examples/webnotes/webnote21.pdf> (Accessed 11 Dec 2019).
- Baker, D. C. (2001) The investigation of pastoral care interventions as a treatment for depression among continuing care retirement community residents. *Journal of Religious Gerontology*, 12, 63–85.

Barbee AP, Cunningham MR, Winstead BA, Derlega VJ, Gulley MR, Yankeelov PA, Druen PB. Effects of gender role expectations on the social support process. *J Soc Issues*. 1993; 49:175–90. <https://doi.org/10.1111/j.1540-4560.1993.tb01175>

Barnicle, T., Stoelzle Midden, K. (2003) The effects of a horticulture activity program on the psychological well-being of older people in a long-term care facility. *HortTechnology*, 13, 81–85.

Berlin KS, Williams NA, Parra GR. An introduction to latent variable mixture modeling (part 1): Overview and cross-sectional latent class and latent profile analyses. *J Pediatr Psychol*. 2014; 39:174–87. <https://doi.org/10.1093/jpepsy/jst084>.

Berwick DM, Murphy JM, Goldman PA, Ware JE Jr, Barsky AJ, Weinstein MC. Performance of a five-item mental health screening test. *Med Care*. 1991; 29:169–76. <https://doi.org/10.1097/00005650-199102000-00008>.

Beswick A. D., Rees K., Dieppe P., Ayis S., Gooberman-Hill R., Horwood J., et al. Complex interventions to improve physical function and maintain independent living in elderly people: a systematic review and meta-analysis, *The Lancet*, 2008, vol. 371 (pg. 725-735).

Birk T., Hickl S., Wahl H-W., Miller D., Kämmerer A., Holz F., et al. Development and pilot evaluation of a psychosocial intervention program for patients with age-related macular degeneration, *The Gerontologist*, 2004, vol. 44 (pg. 836-843)

Bisschop M. I., Kriegsman D. M. W., Beekman A. T. F., Deeg D. J. Chronic diseases and depression: the modifying role of psychosocial resources, *Social Science & Medicine*, 2004, vol. 59 (pg. 721-733)

Brody, B. L., Gamst, A. C., Williams, R. A., Smith, A. R., Lau, P. W., Dolnak, D. et al. (2001) Depression, visual acuity, comorbidity, and disability associated with age-related macular degeneration. *Ophthalmology*, 108, 1893–1900.

Brody, B. L., Roch-Levecq, A.-C., Gamst, A. C., Maclean, K., Kaplan, R. M. and Brown, S. I. (2002) Self-management of age-related macular degeneration and quality of life. *Archives of Ophthalmology*, 120, 1477–1483.

- Brody, B. L., Williams, R. A., Thomas, R. G., Kaplan, R. M., Chu, R. M. and Brown, S. I. (1999) Age-related macular degeneration: a randomized clinical trial of a self-management intervention. *Annals of Behavioral Medicine*, 21, 322–329.
- Burholt V, Dobbs C, Victor C. Social support networks of older migrants in England and Wales: the role of collectivist culture. *Ageing Soc.* 2018; 38:1453–77. <https://doi.org/10.1017/s0144686x17000034>.
- Burish TG, Bradley LA: coping with chronic disease: Research and Applications. New York, Academic press, 1983.
- Cai W, Lian B, Song X, Hou T, Deng G, Li H. A cross-sectional study on mental health among health care workers during the outbreak of Corona virus disease 2019. *Asian J Psychiatr.* 2020; 51:102111. <https://doi.org/10.1016/j.ajp.2020.102111>.
- Carstensen LL, Fredrickson BL. Influence of HIV status and age on cognitive representations of others. *Health Psychol.* 1998; 17:494–503. <https://doi.org/10.1037//0278-6133.17.6.494>.
- Carstensen LL, Isaacowitz DM, Charles ST. Taking time seriously. A theory of socioemotional selectivity. *Am Psychol.* 1999; 54:165–81. <https://doi.org/10.1037//0003-066x.54.3.165>.
- Carstensen LL. Integrating cognitive and emotion paradigms to address the paradox of aging. *Cogn Emot.* 2019; 33:119–25. <https://doi.org/10.1080/02699931.2018.1543181>.
- Carstensen LL. Motivation for social contact across the life span: a theory of socioemotional selectivity. *Neb Symp Motiv.* 1992; 40:209–54. <https://doi.org/10.1207/s15327906mbr280>
- Carstensen LL. The influence of a sense of time on human development. *Science.* 1913-1915; 2006:312. <https://doi.org/10.1126/science.1127488>.
- Chao SF. Functional disability and psychological well-being in later life: does source of support matter? *Aging Ment Health.* 2012; 16:236–44. <https://doi.org/10.1080/13607863.2011.596809>.
- Chao, S. Y., Liu, H. Y., Wu, C. Y., Jin, S. F., Chu, T. L., Huang, T. S. et al. (2006) The effects of group reminiscence therapy on depression, self-esteem, and life satisfaction of elderly nursing home residents. *Journal of Nursing Research*, 14, 36–45.

Clark, M. N., Janz, N. K., Dodge, J. A. and Garrity, C. R. (1994) Managing heart disease: a study of the experiences of older women. *Journal of the American Medical Women's Association*, 49, 202–206.

Clark, M. S., Rubenach, S. and Winsor, A. (2003) A randomized controlled trial of an education and counselling intervention for families after stroke. *Clinical Rehabilitation*, 17, 703–712.

Clark, N. M., Janz, N. K., Dodge, J. A. (1997) Self-management of heart disease by older adults. *Research on Aging*, 19, 362–382.

Clark, N. M., Janz, N. K., Dodge, J. A. and Garrity, C. R. (2000) Changes in functional health status of older women with heart disease: evaluation of a program based on self-regulation. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 55, 117–126.

Clarke, M., Clarke, S. J. and Jagger, C. (1992) Social intervention and the elderly: a randomized controlled trial. *American Journal of Epidemiology*, 136, 1517–1523.

Clarke, M., Clarke, S., Odell, A. and Jagger, C. (1984) The elderly at home: health and social status. *Health Trends*, 16, 3–7.

Cohen S, McKay G. Social support, stress, and the buffering hypothesis: a theoretical analysis. In: Baum A, Singer JE, Taylor ES, editors. *Handbook of psychology and health*, vol. 4. Hillsdale: Erlbaum; 1984. p. 253–67.

Cohen S, Underwood LG, Gottlieb BH. *Social support measurement and intervention: a guide for health and social scientists*. New York: Oxford University Press; 2000.

Cohen S, Wills TA. Stress, social support, and the buffering hypothesis. *Psychol Bull.* 1985; 98:310. <https://doi.org/10.1037/0033-2909.98.2.310>.

Cohen, G. D., Perlstein, S., Chapline, J., Kelly, J., Firth, K. M. and Simmens, S. (2006) The impact of professionally conducted cultural programs on the physical health, mental health, and social functioning of older adults. *The Gerontologist*, 46, 726–734.

Collier, C. D. (1997) Isotonic resistance training related to functional fitness, physical self-efficacy, and depression in adults ages 65–85. EdD Thesis. Oklahoma State University.

Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson resilience scale (CD-RISC). *Depress Anxiety*. 2003; 18:76–82. <https://doi.org/10.1002/da.10113>.

Cook, E. A. (1991) The effects of reminiscence on psychological measures of ego integrity in elderly nursing home residents. *Archives of Psychiatric Nursing*, 5, 292–298.

Corr, S. and Bayer, A. (1995) Occupational therapy for stroke patients after hospital discharge: a randomized controlled trial. *Clinical Rehabilitation*, 9, 291–296.

Coventry WL, Gillespie NA, Heath AC, Martin NG. Perceived social support in a large community sample--age and sex differences. *Soc Psychiatry Psychiatr Epidemiol*. 2004; 39:625–36. <https://doi.org/10.1007/s00127-004-0795-8>.

Cutrona CE, Russell DW. Type of social support and specific stress: Toward a theory of optimal matching. In: Sarason BR, Sarason IG, Pierce GR, editors. *Wiley series on personality processes. Social support: An interactional view*; 1990. p. 319–66.

Davydov DM, Stewart R, Ritchie K, Chaudieu I. Resilience and mental health. *Clin Psychol Rev*. 2010; 30:0–495. <https://doi.org/10.1016/j.cpr.2010.03.003>.

de Vreede, P. L., Samson, M. M., van Meeteren, N. L., Duursma, S. A. and Verhaar, H. J. (2005) Functional-task exercise versus resistance strength exercise to improve daily function in older women: a randomized, controlled trial. *Journal of the American Geriatrics Society*, 53, 2–10.

de Vreede, P. L., Samson, M. M., van Meeteren, N. L., van der Bom, J. G., Duursma, S. A. and Verhaar, H. J. (2004) Functional tasks exercise versus resistance exercise to improve daily function in older women: a feasibility study. *Archives of Physical Medicine and Rehabilitation*, 85, 1952–1961.

de Vreede, P. L., van Meeteren, N. L., Samson, M. M., Wittink, H. M., Duursma, S. A. and Verhaar, H. J. (2007) The effect of functional tasks exercise and resistance exercise on health-related quality of life and physical activity: a randomised controlled trial. *Gerontology*, 53, 12–20.

Dodge, J. A., Janz, N. K. and Clark, N. M. (2002) The evaluation of an innovative heart disease management program for older women: integrating quantitative and qualitative methods in practice. *Health Promotion Practice*, 3, 30–42.

Dour HJ, Wiley JF, Roy-Byrne P, Stein MB, Sullivan G, Sherbourne CD, Bystritsky A, Rose RD, Craske MG. Perceived social support mediates anxiety and depressive symptom changes following primary care intervention. *Depress Anxiety*. 2014; 31:436–42.

<https://doi.org/10.1002/da.22216>.

Duggleby, W. D., Degner, L., Williams, A., Wright, K., Cooper, D., Popkin, D. et al. (2007) Living with hope: initial evaluation of a psychosocial hope intervention for older palliative home care patients. *Journal of Pain and Symptom Management*, 33, 247–257.

Eisman AB, Stoddard SA, Heinze J, Caldwell CH, Zimmerman MA. Depressive symptoms, social support, and violence exposure among urban youth: a longitudinal study of resilience. *Dev Psychol*. 2015; 51:1307–16. <https://doi.org/10.1037/a0039501>.

Emery, E. E. (2002) Living history-spiritually ... or not? A comparison of conventional and spiritually integrated reminiscence groups. PhD thesis. Bowling Green State University.

Espeland, M. A., Gill, T. M., Guralnik, J., Miller, M. E., Fielding, R., Newman, A. B. et al. (2007) Lifestyle interventions and independence for elder's study group. Designing clinical trials of interventions for mobility disability: results from the lifestyle interventions and independence for elders' pilot (LIFE-P) trial. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, 62, 1237–1243.

Fielden, M. A. (1990) Reminiscence as a therapeutic intervention with sheltered housing residents: a comparative study. *British Journal of Social Work*, 20, 21–44.

Findlay R. A. Interventions to reduce social isolation among older people: where is the evidence? *Ageing & Society*, 2003, vol. 23 (pg. 647-658) [Google ScholarCrossref](#)

Fiori KL, Antonucci TC, Cortina KS. Social network typologies and mental health among older adults. *J Gerontol B Psychol Sci Soc Sci*. 2006;61: P25–32.

<https://doi.org/10.1093/geronb/61.1.P25>.

Fisher CL, Nussbaum JF. Maximizing wellness in successful aging and Cancer coping: the importance of family communication from a Socioemotional selectivity theoretical perspective. *J Fam Commun.* 2015; 15:3–19. <https://doi.org/10.1080/15267431.2014.946512>.

Fisher, K. J. and Li, F. (2004) A community-based walking trial to improve neighborhood quality of life in older adults: a multilevel analysis. *Annals of Behavioral Medicine*, 28, 186–194.

Fisher, K. J., Pickering, M. A. and Lee, F. (2002) Healthy aging through active leisure: design and methods of SHAPE a randomized controlled trial of a neighborhood exercise project. *World Leisure Journal*, 1, 19–28.

Fletcher D, Sarkar M. Psychological resilience: A review and critique of definitions, concepts, and theory. *Eur Psychol.* 2013. <https://doi.org/10.1027/1016-9040/a000124>.

Foldvari, M., Clark, M., Laviolette, L. C., Bernstein, M. A., Kaliton, D., Castaneda et al. (2000) Association of muscle power with functional status in community-dwelling elderly women. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 55, 192–199.

Fontes, A.P & Neri, A.L. (2015). Resilience in aging: Literature review. *Ciencia & Coletiva*, 20(5), 1475-1495. doi: 10.1590/1413-81232015205.00502014.

Friedman HS, Taylor SE. Social Support: A Review; Oxford University Press. In: Friedman HS, editor. *The Handbook of Health Psychology*; 2011. p. 189–214.

Fung HH, Carstensen LL, Lang FR. Age-related patterns in social networks among European Americans and African Americans: implications for socioemotional selectivity across the life span. *Int J Aging Hum Dev.* 2001; 52:185–206. <https://doi.org/10.2190/1ABL-9BE5-M0X2-LR9V>.

Furukawa TA, Harai H, Hirai T, Kitamura T, Takahashi K. Social support questionnaire among psychiatric patients with various diagnoses and normal controls. *Soc Psychiatry Psychiatr Epidemiol.* 1999; 34:216–22. <https://doi.org/10.1007/s001270050>

Gaffey AE, Bergeman CS, Clark LA, Wirth MM. Aging and the HPA axis: stress and resilience in older adults. *Neurosci Biobehav Rev.* 2016; 68:928–45. <https://doi.org/10.1016/j.neubiorev.2016.05.036>.

Gallagher, E. M. and Brunt, H. (1996) Head over heels: impact of a health promotion program to reduce falls in the elderly. *Canadian Journal on Aging*, 15, 84–96.

Garipey G, Honkaniemi H, Quesnel-Vallee A. Social support and protection from depression: systematic review of current findings in Western countries. *Br J Psychiatry*. 2016; 209:284–93. <https://doi.org/10.1192/bjp.bp.115.169094>.

Gerst-Emerson, K., & Jayawardhana, J. (2015). Loneliness as a public health issue: the impact of loneliness on health care utilization among elder adults. *American journal of public health*, 105(5), 1013-1019. Doi.2105/AJPH.2014.302427.

Goldstein, J. H., Cajko, L., Oosterbroek, M., Michielsen, M., van Houten, O. and Salverda, F. (1997) Video games and the elderly. *Social Behavior and Personality*, 25, 345–352.

Gooding, P.A., Johnson, J., & Tarrier, N. (2012). Psychological resilience in young and older adults. *International Journal of Geriatric Psychiatry*, 27(3), 262-

Green LR, Richardson DS, Lago T, Schatten-Jones EC. Network correlates of social and emotional loneliness in young and older adults. *Personal Soc Psychol Bull*. 2001; 27:281–8. <https://doi.org/10.1177/0146167201273002>.

Groessler, E. J. and Cronan, T. A. (2000) A cost analysis of self-management programs for people with chronic illness. *American Journal of Community Psychology*, 28, 455–480.

Groessler, E. J., Kaplan, R. M., Rejeski, W. J., Katula, J. A., King, A. C., Frierson, G. et al. (2007) Health-related quality of life in older adults at risk for disability. *American Journal of Preventive Medicine*, 33, 214–218.

Gupta R, Ghosh A, Singh AK, Misra A. Clinical considerations for patients with diabetes in times of COVID-19 epidemic. *Diabetes Metab Syndr*. 2020; 14:211. <https://doi.org/10.1016/j.dsx.2020.03.002>.

Haber MG, Cohen JL, Lucas T, Baltes BB. The relationship between self-reported received and perceived social support: a meta-analytic review. *Am J Community Psychol*. 2007; 39:133–44. <https://doi.org/10.1007/s10464-007-9100-9>.

Haight, B. K. (1988) The therapeutic role of a structured life review process in homebound elderly subjects. *Journal of Gerontology*, 43, 40–44.

Haight, B. K. (1992) Long-term effects of a structured life review process. *Journal of Gerontology*, 47, 312–315.

Hayes AF. *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach*. New York: the guilford press; 2013.

Health Economics, 1993, vol. 2 (pg. 217-227)

Higgins J. P. T., Green S., *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.0.1, 2008 The Cochrane Collaboration

Hill EM. Quality of life and mental health among women with ovarian cancer: examining the role of emotional and instrumental social support seeking. *Psychol Health Med*. 2016; 21:551–61. <https://doi.org/10.1080/13548506.2015.1109674>.

Ibarra-Rovillard MS, Kuiper NA. Social support and social negativity findings in depression: perceived responsiveness to basic psychological needs. *Clin Psychol Rev*. 2011; 31:342–52. <https://doi.org/10.1016/j.cpr.2011.01.005>.

Ichiro KL, Berkman F. Social ties and mental health. *J Urban Health*. 2001; 78:458–67. <https://doi.org/10.1093/jurban/78.3.458>.

Jané-Llopis E., Gabilondo A., *Mental Health in Older People. Consensus Paper, 2008 Luxembourg European Communities*

Jané-Llopis E., Gabilondo A., *Mental Health in Older People. Consensus Paper, 2008 Luxembourg European Communities*

Jané-Llopis E., Hosman C., Jenkins R., Anderson P. Predictors of efficacy in depression prevention programmes, *British Journal of Psychiatry*, 2003, vol. 183 (pg. 384-397)

Jané-Llopis E., Katschnig H., McDaid D., Wahlbeck K., *Evidence in Public Mental Health—Commissioning, Interpreting and Making Use of Evidence on Mental Health Promotion and*

Mental Disorder Prevention: An Everyday Primer, 2010LisbonInstituto Nacional de Saúde
Doutor Ricardo Jorge

Jongenelis K., Pot A. M., Eisses A. M. H., Beekman A.T., Kluiters H., Ribbe M. W. Prevalence and risk indicators of depression in elderly nursing home patients: the AGED study, *Journal of Affective Disorders*, 2004, vol. 83 (pg. 135-142)

Khan A, Husain A. Social support as a moderator of positive psychological strengths and subjective well-being. *Psychol Rep.* 2010; 106:534–8. <https://doi.org/10.2466/PRO.106.2.534-538>.

Lau YW, Vaingankar JA, Abdin E, Shafie S, Jeyagurunathan A, Zhang Y, Magadi H, Ng LL, Chong SA, Subramaniam M. Social support network typologies and their association with dementia and depression among older adults in Singapore: a cross-sectional analysis. *BMJ Open.* 2019;9: e025303. <https://doi.org/10.1136/bmjopen-2018-025303>.

Lawton M. P. The Philadelphia Geriatric Center Morale Scale: a revision, *Journals of Gerontology*, 1975, vol. 30 (pg. 85-89) [Google Scholar](#)[Crossref](#)[PubMed](#)

Lazarus RS, Folkman S; *Stress Appraisal and coping*. New York, Springer, 1984.

Lin N. S.R., Ensel WM, Kuo W. social support, stressful life events, and illness a model and an empirical test. *J Health Soc Behav.* 1979; 20:108–19. <https://doi.org/10.2307/2136433>

Lloyd-Sherlock, P.G., Kalache, A., Mckee, M., Derbyshire, J., Geffen, L., Gomez, O., & Casas, F. (2020). WHO must prioritise the needs of older people in its response to the covid-19 pandemic. *BMJ*, 368, m1164.

Luijendijk H. J., van den Berg J. F., Dekker M. J., van Tuijl H. R., Otte W., Smit F., et al. Incidence and recurrence of late-life depression, *Archives of General Psychiatry*, 2008, vol. 65 (pg. 1394-1401)

Luthar SS, Cicchetti D, Becker B. The construct of resilience: a critical evaluation and guidelines for future work. *Child Dev.* 2000; 71:543–62. <https://doi.org/10.1111/1467-8624.00164>.

Lynch T. R., Mendelson T., Robins C. J., Krishnan K. R., George L. K., Johnson C. S., et al. Perceived social support among depressed elderly, middle-aged, and young-adult samples: cross-sectional and longitudinal analyses, *Journal of Affective Disorders*, 1999, vol. 55 (pg. 159-170)

Lynch TR, Mendelson T, Robins CJ, Krishnan KRR, Blazer DG. Perceived social support among depressed elderly, middle-aged, and young-adult samples cross-sectional and longitudinal analyses. *J Affect Disord*. 1999; 55:159–70. [https://doi.org/10.1016/S0165-0327\(99\)00017-8](https://doi.org/10.1016/S0165-0327(99)00017-8).

Masi C. M., Chen H. -Y., Hawkey L. C., Cacioppo J. T. A meta-analysis of interventions to reduce loneliness, *Personality and Social Psychology Review*, 2010 Published online 17 August 2010

Morgan DL, Schuster TL, Butler EW. Role reversals in the exchange of social support. *J Gerontol*. 1991;46: S278–87. <https://doi.org/10.1093/geronj/46.5.s278>.

Nyqvist F., Gutavsson J., Gustafson Y. Social capital and health in the oldest old: the Umeå 85+ Study, *International Journal of Ageing and Later Life*, 2006, vol. 1 (pg. 91-114)

Patel V, Goodman A. Researching protective and promotive factors in mental health. *Int J of Epidemiol*. 2007; 36:703–7. <https://doi.org/10.1093/ije/dym147>.

Potts MK. Social support and depression among older adults living alone: the importance of friends within and outside of a retirement community. *Soc Work*. 1997; 42:348–62. <https://doi.org/10.1093/sw/42.4.348>.

Raffaelli M, Andrade FC, Wiley AR, Sanchez-Armass O, Edwards LL, Aradillas-Garcia C. Stress, social support, and depression: A test of the stress-buffering hypothesis in a Mexican sample. *J Res Adolesc*. 2013; 23:283–9. <https://doi.org/10.1111/jora.12006>.

Rothermund K, Brandtstädter J. Depression in later life: cross-sequential patterns and possible determinants. *Psychol Aging*. 2003; 18:80–90. <https://doi.org/10.1037/0882-7974.18.1.80>

Ruddy R., House A. Psychosocial interventions for conversion disorder, *Cochrane Database of Systematic Reviews*, 2005 4. Art. No.: CD005331. DOI: 10.1002/14651858.CD005331.pub2

Sarason I. G., Levine H. M., Basham R. B., Sarason B. R. Assessing social support: the social support questionnaire, *Journal of Personality and Social Psychology*, 1983, vol. 44 (pg. 127-139)

Schwarzer R., Jerusalem M. Weinman, J., Wright S., Johnston M. Generalized self-efficacy scale, *Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs*, 1995 Windsor, UK NFER-NELSON (pg. 35-37)

Sippel LM, Pietrzak RH, Charney DS, Mayes LC, Southwick SM. How does social support enhance resilience in the trauma-exposed individual? *Ecol Soc*. 2015; 20:10.
<https://doi.org/10.5751/ES-07832-200410>.

Spurk D, Hirschi A, Wang M, Valero D, Kauffeld S. Latent profile analysis: a review and “how to” guide of its application within vocational behavior research. *J Vocat Behav*. 2020.
<https://doi.org/10.1016/j.jvb.2020.103445>.

Steunenberg B., Beekman A. F., Deeg D.H., Kerkhof A. J. Personality and the onset of depression in late life, *Journal of Affective Disorders*, 2006, vol. 92 (pg. 243-251).

Tugade MM, Fredrickson BL, Barrett LF. Psychological resilience and positive emotional granularity: examining the benefits of positive emotions on coping and health. *J Pers*. 2004; 72:1161–90. <https://doi.org/10.1111/j.1467-6494.2004.00294.x>.

Turner RJ, Frankel BG, Levin DM. Social support: conceptualization, measurement, and implications for mental health. *Res Community Ment Health*. 1983; 3:67–111.

Ueno Y, Hirano M, Oshio A. The relationship between resilience and age in a large cross-sectional Japanese adult sample. *Japanese J Psychol*. 2018; 89:514–9.
<https://doi.org/10.4992/jjpsy.89.17323>.

Vaishnavi S, Connor K, Davidson JR. An abbreviated version of the Connor-Davidson resilience scale (CD-RISC), the CD-RISC2: psychometric properties and applications in psychopharmacological trials. *Psychiatry Res*. 2007; 152:293–7.
<https://doi.org/10.1016/j.psychres.2007.01.006>.

Van Der Horst R. K., McLaren S. Social relationships as predictors of depression and suicidal ideation in older adults, *Aging & Mental Health*, 2005, vol. 9 (pg. 517-525)

van Kessel G. The ability of older people to overcome adversity: a review of the resilience concept. *Geriatr Nurs.* 2013; 34:122–7. <https://doi.org/10.1016/j.gerinurse.2012.12>.

Wallston BS, Wallston KA; social psychological models of health behavior; An examination and intergration. In Bauma A, Taylor SE, Singer JE (eds): handbook of psychology and health, vol 1V. Hillsdale, NJ, Erlbaum, 1984.

Watson RJ, Grossman AH, Russell ST. Sources of social support and mental health among LGB youth. *Youth Soc.* 2019; 51:30–48. <https://doi.org/10.1177/0044118X16660110>.

Windle G., Hughes D., Linck P., Morgan R., Burholt V., Tudor Edwards R., et al., Public Health Interventions to Promote Mental Well-being in People Aged 65 and Over: Systematic Review of Effectiveness and Cost-effectiveness, 2007Bangor, UKUniversity of Wales

Wise AE, Smith BC, Armelie AP, Boarts JM, Delahanty DL. Age moderates the relationship between source of social support and mental health in racial minority lesbian, gay, and bisexual youth. *J Health Psychol.* 2019; 24:888–97. <https://doi.org/10.1177/1359105316686667>.

World Health Organization, Global burden of disease, 2008GenevaWHO 2004 Update 15 June 2010 http://www.who.int/healthinfo/global_burden_disease/projections/en/index.html

World Health Organization, Prevention of Mental Disorders, 2004GenevaWHO Effective Interventions and Policy Options. Summary Report 15 June 2010: http://www.who.int/mental_health/evidence/en/prevention_of_mental_disorders_sr.pdf

Wu F, Zhao S, Yu B, Chen YM, Wang W, Song ZG, Hu Y, Tao ZW, Tian JH, Pei YY, et al. A new coronavirus associated with human respiratory disease in China. *Nature.* 2020; 579:265–9. <https://doi.org/10.1038/s41586-020-2008-3>.

Wu JT, Leung K, Bushman M, Kishore N, Niehus R, de Salazar PM, Cowling BJ, Lipsitch M, Leung GM. Estimating clinical severity of COVID-19 from the transmission dynamics in Wuhan, China. *Nat Med.* 2020; 26:506–10. <https://doi.org/10.1038/s41591-020-0822-7>.

You J, Fung H, Vitaliano P. The pattern of social support seeking and its socio-demographic variations among older adults in China. *Eur J Ageing.* 2020. <https://doi.org/10.1007/s10433-019-00550-w>.

Zung W. W. A self-rating depression scale, Archives of General Psychiatry, 1965, vol. 12 (pg. 63-70)

SECTION B: IMPACTS OF COVID-19

5. Many countries including issued guidelines on preventive measures such as social distancing ban of social gatherings, wearing of face masks as well as regular washing of hands.

a) How did these sudden changes affect you? (You can tick more than one)

- I became afraid, worried, nervous and anxious
- I became sad and depressed
- I found myself unable to get sleep
- I lost my social networks
- I was not affected at all
- Others

b) Have you been able to recover from the effects in 5a above?

- Yes
- No

6. Compared to life before covid-19, how would you describe the first six months after the first COVID-19 case was reported in Kenya, in the following areas; (you can tick more than one)

a) Emotions and behavior?

- I was more anxious, sad and worried
- I was less anxious, sad and worried
- About the same/no change
- Others.....

b) Ability to remember people, things, objects, activities etc.

- Better than it was before covid-19
- Worse than it was
- About the same

7. How difficult/challenging has it been for you to follow the recommendations for social distancing, washing hands and wearing masks?

- Too difficult
- A little difficult
- not difficult at all

8. Has covid-19 pandemic caused any of the following to you?

a) becoming homeless because you were not able to pay rent (for those who come in the morning and go back home in the evening)

- Yes
- No

b) Difficult getting basic stuff for example food, clothing, shelter, utilities etc

- yes
- No

c) Difficult getting medical care during covid-19 pandemic

- Yes
- No

9. Over the last one year, how often have you portrayed the following behavior?

a) Little or no interest doing things you used to like before

- several days
- nearly every day
- not at all

b) Feeling down, depressed or hopeless

- nearly everyday
- several days
- occasionally
- not at all

c) Feeling nervous, anxious or at the edge

- nearly everyday
- several days
- occasionally
- not at all

SECTION C: INFLUENCE OF PSYCHOSOCIAL INTERVENTIONS

10a. Do you engage in physical activities for example walking, jogging, gardening etc.?

- Yes
- No

b) If your answer to the question above is yes, how often does it happen?

- Frequently e.g., every day
- Sometimes e.g., twice or thrice a week
- Rarely e.g., once or twice a month

c) Would you say the physical activities have helped you in any way? Comparing your life before and after you began doing the physical activities

- Yes
- No

(ii) If your answer is yes how?

Please Explain

11a. do you have social networks e.g., close friends, family members, church members who frequently check on you either by visiting you, calling you over the phone e.t.c?

- Yes
- No

b) How much support would you say you get from your social networks and other well-wishers?

- Adequate support
- Moderate support
- Little/minimal support

c) Would you say the support you get from your social networks has helped/benefited you in any way?

- Yes
- No

Please explain.....

12 a Do you engage in social activities like merry-go round, church and community events, etc.?

- Yes
- No

If yes how often?

- Regularly
- Sometimes
- Rarely

b) Would you say participating in these social activities has helped you in any way?

- Yes
- No

Please explain.....

13. in general how would you say your life has changed since began doing physical activities, engaging in social activities and having supportive social network? (Use; agree, or disagree)

a) I am no longer lonely, sad and worried

- b) I am happier and able to do daily tasks.....
- c) I am no longer anxious or depressed.....
- d) Everything has remained the same.....

THANK YOU.