An assessment of the health status of a group of independent residents of a retirement village especially in relation to aspects of physical health and musculoskeletal function

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A research project submitted in partial fulfilment of the requirements for the degree of Master of Osteopathy, Unitec, New Zealand, 2016.

Declaration

Name of candidate: **Emma van der Vliet**

This thesis entitled **An assessment of the health status of a group of independent residents of a retirement village especially in relation to aspects of physical health and musculoskeletal function** is submitted in partial fulfilment for the requirements for the Unitec degree of Master of Osteopathy.

Candidate's declaration

I confirm that:

- This thesis represents my own work
- Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee

Ethics Approved by the Unitec Ethics Committee (Reference: **2014-1100**)

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Abstract

Aim: To assess the health status of nine independent retirement village residents to build a picture of the presence and effects of musculoskeletal complaints on their lives.

Methods: Nine independently living residents from an Auckland retirement village were randomly selected from a list of residents who expressed interest. They were interviewed on their present and past health with a specific focus on musculoskeletal issues. The method, including analysis, was guided by a descriptive phenomenological process.

Results: Three main themes were identified that portrayed musculoskeletal impairments of independent residents 1) Coping with the hard work of aging, 2) Slowing the momentum of age 3) Understanding what happens as one ages.

Discussion: The findings showed that although residents were experiencing musculoskeletal impairments they were not focused on pain. They chose instead to focus their energy on adapting or improving their health.

Keywords: older adult, health and functional limitations, qualitative research, descriptive phenomenology

Acknowledgements

I want to thank my supervisors Doctor Elizabeth Niven and Doctor Dianne Roy who gave me so much guidance and support from the start. You really helped me get through it whilst making me work hard for it.

To the Selwyn Foundation, thank you for supporting this research, you have been great to deal with and made the process smooth sailing. To the participants, thank you for sharing your stories. Without you sharing your experiences and knowledge this research would not have been possible

Thank you Ben, you put up with a stressed and preoccupied girlfriend and you were so good about it. You listened and read endless academic content, I could not have done it without you.

Mum and Dad, thank you for believing I would never give up and not letting me. To my family and friends thank you for the encouragement and help you gave in many forms.

Preface

This thesis is presented in four main parts. Part one is a literature review to familiarise the reader with the background of the older person in New Zealand. This covers the aging process with a focus on osteoarthritis, which is the most common musculoskeletal complaint of this age group. The literature review also covers details on retirement living and a section on balance and falling complications. Part two describes the methodology and methods used to complete this research. Part three is presented as a manuscript prepared for publication in the *Journal of Aging and Health* and will discuss the findings of the study and how they compare with research on similar topics. Part four is the appendices that contain documentation of theme identification, ethical approval, information and consent forms, a list of interview questions, and publication guidelines for the *Journal of Aging and Health*.

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Introduction

In New Zealand the older population is growing as a result of medical advancements, disease prevention and the baby boom that occurred between 1946 and 1964 (Dziedzic, Hill, Porcheret, & Croft, 2009). It is expected our older aged population 65 years and over will double to approximately 1.2 million by 2035 (Ministry of Social Developement, 2014). Life expectancy has also increased; a new born baby boy can now expect to live on average to 79.5 years and a girl until 83.2 years of age (Statistics New Zealand, 2015). Statistics show that 59.3% of people age 65 years still live in a private dwellings, however only 9.7% of people aged 85+ live in their own homes (Statistics New Zealand, 2013a). Retirement villages provide a place where residents can have security and peace of mind because care and support is available if it is needed. They need to do little or no house and garden maintenance and the move is commonly supported by family members (Retirement Villages Association, 2013).

Increased longevity results in 15% of the population living with long term age-associated changes (Ministry of Social Developement, 2014). A 2013/14 survey of New Zealand older adults aged 75+ found that the most common long term conditions were high blood pressure, high cholesterol, arthritis and chronic pain (Ministry of Health, 2014). The most common types of arthritis in older people are osteoarthritis (OA), rheumatoid arthritis and gout (Iversen, 2010). The result of arthritis and other musculoskeletal conditions such as low back pain can cause a decreased quality of life due to pain and functional limitations (Woolf & Pfleger, 2003). The common medical approach to musculoskeletal complaints is often through pharmacological or surgical procedures but this does not always yield good results (Woolf & Pfleger, 2003). According to Moosajee and Kalla (2015) the best results for managing musculoskeletal pain come from a multidisciplinary approach that also includes non-pharmacological interventions. Manual therapy is a physical treatment that uses massage, joint mobilization and manipulation to treat musculoskeletal pain and dysfunction (French, Brennan, White, & Cusack, 2011). It can provide a management avenue for musculoskeletal pain should medication, surgery or patients' beliefs not be suitable for the standard medical model. It can be used in conjunction with medication or as a stand-alone modality.

This research aims to provide a snapshot of a group of retirement village residents to identify any musculoskeletal complaints of either acute or long-term nature. It also seeks to understand if these conditions are a burden to the participants, how they manage their situation and whether manual therapy could provide an avenue of help. This information will assist in answering the research question 'What musculoskeletal and physical health aspects are independent retirement village residents experiencing?'

Personal background

I am a 30-year-old osteopathic student. My research idea stemmed from observing my grandmother experience pain and limited mobility with knee osteoarthritis. Due to the associated pain this often prevented her from gardening, walking and cycling. I was interested to learn how older people dealt with this and to identify if manual therapy could improve their daily living. The research findings in this study were originally going to help identify if an osteopathic student clinic would be of benefit to the retirement village residents. This plan was however discontinued by the osteopathic department; this changed the focus of the research question to the residents' experience of musculoskeletal complaints.

Part One
Literature Review

This literature review will provide background information on retirement living. It will explore the current background of musculoskeletal complaints experienced by older people with a specific focus on osteoarthritis. The review will also address the literature on the topics of aging and the risk factors of falls in older people and falls prevention strategies.

Search process

In January 2015 an electronic database search was conducted to retrieve studies on the topics of older aged people, manual therapy and retirement living. The databases Science Direct, Ebsco Health, PubMed and Google Scholar were used. A number of search terms were used: Osteopath*, manual therapy, elderly, older person, quality of life, health conditions, fall*, balance, patient's perspective. Useful publications were also scanned for any references that could be a source of further information.

Life in Residential Care

The move to a retirement facility can be a daunting experience, especially if the move is driven by declining health or encouraged by family members. Older people may feel they are living in an environment they knew and cherish, and that they do not need to relocate (Higgins, 2008). Wilkinson, Kiata, Peri, Robinson and Kerse (2012) who conducted a New Zealand study with 599 participants established that a decision to enter a village can be a more positive one when an older person decides to do so on their own terms. The age for entry into a retirement village is 65 years, however depending on the village or residential care guidelines acceptance at a lower age does occur (Statistics New Zealand, 2013c). The actual age of entry is early to late 70s (JLL New Zealand, 2014). A retirement village can provide a social environment with hobbies and interests that are easily accessible. Most villages also have doctors that visit regularly who are able to monitor physical health more closely because of regular appointments. Maintaining a good level of functional health allows for independent living and this freedom can contribute to a better quality of life (Health and Public Policy Committee, 1988). A United Kingdom qualitative study highlighted the

importance of the retirement facility location for their participants. The close proximity to the participants' previous homes enabled them the continuation of local activities and for friends and family to visit. This helped to sustain relationships and decrease the impact of moving from homes in which some people had spent up to 50 years (Reed, Roskell Payton, & Bond, 1998).

Levels of Retirement Care

Many retirement villages have three levels of care: independent living, rest home living and hospital with dementia care and without. Rest home, dementia and hospital care come under the umbrella term of residential care (Ministry of Health, 2013). Village housing requires little maintenance from residents, therefore removing the responsibility and physical strength required to maintain a house. The houses are designed for older people and are usually quite compact and easy to navigate (Kiata-Holland, 2010). Many independent residents such as the ones participating in this research live self-sufficiently. Residents can, however, obtain help and support with cleaning, cooking, showering and can dine in the village cafes and restaurants. The option to move into a rest home with a higher level of care is available should their health decline to a level that they need assistance with activities of daily living. Typically retirement villages have on-site amenities such as a pool, chapel and library, giving residents the opportunity to connect with their peers and be involved with social activities.

Rest Home Care

A rest home provides assisted care with a twenty four hour care giver available; meals are supplied with dietary requirements catered for; mobility aids are supplied; and general practitioner visits and prescribed medication costs are included (Ministry of Health, 2012). Funding for this sort of care is available from the District Health Board (DHB) under the Social Security Act 1964 (Ministry of Health, 2013). An assessment is required by the Needs Assessment and Service Co-ordination (NASC) agency for this funding. The NASC work with the DHB to determine the level of care and funding the older person in question may need (Ministry of Health, 2013). Criteria must be fulfilled before funding will be given; the NASC review the older persons assets and income to check if they are eligible for a subsidy. Any person may choose to enter a rest home without the support of the DHB, however, the full cost must be covered by the individual (Ministry of Health, 2012).

Dementia Care

Hospital and dementia care is the most supervised level of care available in a retirement village. Older people live in a purpose built hospital. Twenty-four hour care is available on site with the use of an emergency call bell. The dementia facilities accommodate people who are unable to complete daily tasks of living because of changes in memory, emotions, behaviour and personality (Kiata-Holland, 2010). As dementia advances these changes can cause people to become disorientated and forget how to perform regular tasks and routines such as preparing a meal (Alzheimers New Zealand, 2016). In the dementia unit, staff are trained in specialist dementia care so they can provide person-centred care that is based on individual needs (Alzheimer's Association, 2009).

According to 'A Report into Aged Residential Care' (2010), New Zealand has a high number of people living in residential care, more than most other first world countries such as Australia, England, Ireland, United States, Germany and Japan. The only three countries that have higher numbers of older people in residential care are Sweden, Switzerland and Norway although it is not identified why these numbers are higher than New Zealand (Grant Thornton, 2010). Figures from the Aged Care Association show that in 2010, 42,000 older people were living in one of 700 certified residential care facilities in New Zealand (A Report into Aged Care, 2010).

Retirement Village Legislation

In New Zealand the Retirement Village Act (2003) sets guidelines that a village must operate under and provides consumer protection for its residents (Retirement Villages Association, 2013). When joining a village a resident is also covered under the Code of Practice and Code of Residents Rights; another way to ensure residents' rights are upheld (Fortune Manning Lawyers, 2014). Retirement villages and aged care facilities are randomly audited: 206 criteria must be fulfilled to receive an audited certification (New Zealand Nurses Organisation, 2010). Concern has been raised in A Report into Aged Care (2010) that auditing is used to assess a baseline level of care and is focused on managerial processes and compliance. Facilities are given notice with pre-arranged audit dates and A Report into Aged Care (2010) argues that retirement villages and aged care facilities should be audited unannounced and residents and family members should be interviewed to acquire a real representation of the facility. In a 2006 Retirement Commissioner Survey the results showed

of 173 residents living in North Island retirement villages, 68% where very satisfied with their retirement village, while 31% were satisfied and 1% of residents were dissatisfied. Older people aged 80+ living in retirement or residential care is projected to double between 2006 and 2031 (Statistics New Zealand, 2000) .

The Older Person in New Zealand

Older people are now the most rapidly growing part of the population worldwide which can partly be attributed to the baby boom when there was a large increase in births between 1946 and 1964 (Statistics New Zealand, 2013b). In part, it may also be a product of primary disease prevention and advances in healthcare, along with improved control of infectious diseases (Dziedzic et al., 2009). The latest projections indicate that the population in New Zealand aged 65 years and over has doubled since 1980 and is likely to be twice that by 2036. It is expected to increase by 21% from around 550,000 in 2009 to 1.14 million by 2051 (Ministry of Social Developement, 2014).

The process of aging involves a range of changes in biological, functional, psychological, and social limitations. The speed with which these changes occur are dependent on genetic makeup, organ function and age vulnerability (Sarkisian, Liu, Ensrud, Stone, & Mangione, 2001). Typical changes associated with aging include OA of the joints and osteoporosis that weakens bones. The changes associated with OA occur on a biochemical, microstructural and gross structural level (Sokolove & Lepus, 2013). The spinal discs degenerate contributing to or causing low back pain. Facet joints hypertrophy and spinal ligaments enlarge leading to spinal stenosis, which is the main cause of radiculopathy in older adults (Benoist, 2003).

Aging also affects gastrointestinal anatomy and physiological processes such as motility, secretions and absorptive surfaces. This can cause altered effects on drug absorption and transit time. The liver mass and blood flow can also be affected by degeneration resulting in the liver ineffectively cleansing itself from drug residue. Glomerular filtration rate of the kidneys decreases with age and the lack of renal clearance leads to a decline in the excretion of water-soluble drugs (Chapman, 2010). These physiological changes mean older adults need to be monitored more carefully for side effects and an individual approach to medication dosage be taken.

Successful Aging

With increasing age comes a greater chance of disability, however many older people maintain a life with limited health issues. Aging occurs across many different levels The model termed 'successful aging' shows that not all older people experience extreme levels of health deterioration (Bowling & Dieppe, 2005). It considers two possibilities, the first is called 'usual ageing' and this is an older person with normal decline in physical, cognitive and social function. The term 'successful aging' is classified as an older person who has a low probability of disease and disability and who has limited functional loss. This group of older people can maintain high physical and cognitive function and remain involved in productive and social activities (Rowe & Kahn, 1996). A large British survey collected information from 854 people aged 50 years and over and found that the perception of successful aging was about being fit, able and happy, even if there was the presence of disease and disability. Successful aging to many in this group of older people was about what they valued in their quality of life (Bowling & Dieppe, 2005). The model 'successful aging' is not achieved by a simple number of preventative steps, it is dependent on how an individual views old age and how they define successful aging (Glass, 2003)

Chronic Conditions

The term 'chronic condition' can be defined as a condition or disease that is long lasting and may not be cured but can be treated (World Health Organization, 2016). The personal experience of living with a chronic condition varies between people and conditions. The majority of older people will have more than one chronic condition and symptoms may overlap (Racz, 2005). The most common worldwide chronic conditions include heart disease, stroke, hypertension, lung disease, osteoporosis, diabetes, renal disease, arthritis, cancer, fractures, depression and dementia (Mannucci & Nobili, 2014). Other symptoms include immobility and incontinence (Racz, 2005). A 2013/14 health survey of the New Zealand adult population found that the most common chronic conditions in people 75 years and over were high blood pressure, high cholesterol, arthritis and chronic pain (Ministry of Health, 2014). Chronic comorbid conditions will cause substantial limitations in peoples' abilities to perform daily life activities (Lansbury, 2000). A 2011 representative cross sectional study conducted in New Zealand looked at chronic pain patterns in 12,488 people aged 15 years and over. It showed that the prevalence of pain increased steadily with age except in the category of 75 years and over where there was a decrease of 2% in chronic pain: it was not

hypothesized why there was a decline in the later group (Dominick, Blyth, & Nicholas, 2011). It also found that a third of the New Zealand population surveyed did not use any form of treatment for their pain (Dominick et al., 2011).

Arthritis is a chronic muscular condition and the name is a term used for a family of disorders that are collected under the discipline of rheumatology. It consists of more than 100 different diseases or conditions, of which the most common types in older people are OA, rheumatoid arthritis and gout (Iversen, 2010). A consequence of arthritis in older adults is pain, which often goes under-recognised and under-treated (Chapman, 2010). As a result of untreated pain older people may become depressed, have decreased socialization and have poor sleep quality (D'Arcy, 2009). It can be hard to assess the degree of pain in some older people especially those 85 years and over because there may be barriers such as vision and hearing impairment (D'Arcy, 2009). Various overlapping conditions may make it hard for an older person to describe the pain or symptoms.

Pain in the Older Adult

Hofland (1992) suggests that people in the older population may fail to report pain because they believe that pain is an element of aging and little can be done about it. They may also avoid seeking medical assistance due to fear that the pain may signal something serious, require extensive tests or require taking medication that can cause side effects (McDonald, 2009).

Coping Strategies amongst Older People

How older adults cope with age associated changes depends on factors such as personality, ethnicity, education and religion (Arcury et al., 2012). Most people have some self-management practices for health symptoms, but the degree of this is variable. Rakowski, Julius, Hickey, and Halter (1987) interviewed 172 Caucasian people with a mean age of 75 years to find information on their personal health practices. They found that women were better at preventative health care than men; they believe more research needs to be done to assess men's disease preventative health practices and to identify if there is any culture influences to this. Also, older adults in higher socioeconomic circumstances usually have better health practices because they have more access to health services (McDonald-Miszczak & Wister, 2005). A 2011 Swedish study interviewed 19 older people on how they

cope with long-term musculoskeletal pain (Gillsjö, Schwartz-Barcott, Bergh, & Dahlgren, 2012). They found some participants chose to ignore pain and symptoms and focus on routines or activities that made them happy. Arcury et al. (2012) also found after interviewing 200 American participants aged 65+ about a range of daily symptoms including musculoskeletal pain, that nearly all (96.4%) chose to ignore one or more symptoms for 63% of days the symptom was present. Other coping strategies included adapting life, struggling though and or resigning to pain (Gillsjö et al., 2012).

Antonovsky (1987) developed the concept of 'sense of coherence' which is described in literature by Silverstein and Heap (2015) where they explain how it reflects a person's coping strategy in which three dimensions are involved: comprehensibility, manageability and meaningfulness. This strategy moves a person away from the focus on a specific disease and onto internal and external resources to cope with a challenging situation. Carr, Gibson and Robinson (2001) explain that health can also be viewed alternatively through the concept of quality of life by identifying whether disease inhibits a person's ability to live a fulfilled and normal life, thus removing the sole focus on disease management. Older people are dealing with a multitude of changes as the body ages. Identifying ways to cope with pain and disease will improve daily living for many older adults.

Osteoarthritis

Definition

Older people experience many musculoskeletal complaints one of which is arthritis (French et al., 2011). It was expected that arthritis would impact on the lives of many participants in this research. There are many forms of arthritis and OA is the most common type (DeAngelo & Gordin, 2004). OA is seen in some form in every individual over 65 years of age and this is because it is a degenerative disease of the joints (Townsend, 2012). The World Health Organisation estimates that 10% of the population over 60 years of age experience disability as a result of OA (Moskowitz, Altman, Buckwalter, & Goldberg, 2006). It mainly affects the larger joints of the body such as the hip, knee or shoulder but is also common in the hands (Knebl, Shores, Gamber, Gray, & Herron, 2002). Patients report stiffness, joint deformity, soft tissue contractures, joint misalignment and instability of the affected joints (Wright, Cook, Flynn, Baxter, & Abbott, 2011). These symptoms are considered a result of adhesions from inflammation of intra-articular and periarticular tissue (Deyle et al., 2005). Changes in

these tissues alter the biomechanical force placed on the articular surfaces and cause added symptoms such as pain, inflammation and reduced movement. OA is a chronic degenerative disorder that has a multifactorial aetiology and it is very difficult to precisely identify the factors that cause it due to its slow onset. It is now recognized that the final stage of joint failure is a result of severe OA (Martel-Pelletier, Wildi, & Pelletier, 2012). Physical stress and repetitive movements over time exacerbate OA.

There are two types of OA, primary and secondary. Primary OA is the most common form found in many older people and is a result of joint degeneration. Secondary OA is usually found in an individual much younger and results from an injury, obesity, genetics or an inflammatory condition (Arthritis New Zealand, 2010). OA is diagnosed by the presentation of symptoms and radiographic changes. However, a difficulty arises due to the fact that correlation between radiographic changes and the severity of symptoms is poor (Moskowitz et al., 2006). Despite this, radiographic imaging is heavily relied upon in the diagnosis process to assess the articular cartilage for osteophyte formation and joint narrowing which are all common OA signs (Bedson & Croft, 2008). In a clinical setting joints are assessed for decreased range and quality of movement, joint tissue enlargement and deformity. Other considerations that lead to a diagnosis include the age of the person, history of trauma, morning joint stiffness that lasts less than half an hour, joint crepitus and joint pain that is worse with activity (Sinusas, 2012).

Recommendations

The recommendations for treatment of OA depend on the severity of symptoms and the deterioration of the articular cartilage. There is no cure for OA so management of pain and disability is the primary goal and this is the predominant reason individuals seek medical intervention (Brown & Boulay, 2013). The following paragraphs will provide more information on exercise, medication, surgery and manual therapy. Where possible the manual therapy literature will focus on osteopathic intervention

Exercise

People with OA are encouraged to continue their daily activities and are urged to exercise regularly; this can, however, be challenging due to the associated pain (Valderrabano & Steiger, 2010). Exercise is thought to stimulate the cartilage and tissues of the joint and thus

reduce stiffness and swelling (Kerina, Patwari, Kuettner, Cole, & Grodzinskya, 2002). General recommendations for dosage and progression of exercise from the 2013 European League against Rheumatism (EULAR) publication recommend for hip and knee OA that exercise be completed daily and an exercise regime be tailored to involve a component of strength, aerobic exercise and stretches (Fernandes et al., 2013). The EULAR publication also suggests through a collaborative focus group consisting of health professionals and two people with OA that older people make the best changes to their muscles through smaller amounts of daily regular exercise. Low intensity repetitive exercise is also much easier to incorporate into daily living. The EULAR publication suggests the best way to consider exercise is through individual management as "one size fits all" approach to exercise and physical activity will only yield modest benefits. Valderrabano and Steiger (2010) reviewed the treatment and prevention of OA though exercise and sport and highlighted that prior to symptomatic OA muscles atrophy and weaken. The most common reason for weak and atrophied muscles is lack of use. They suggest that more research be done to identify if exercise can prevent the onset of OA by improving muscle strength. In their review of related literature they also identify that weight gain is a predisposing factor for OA and exercise can be an integral part of weight loss and thus may also prevent the onset of OA.

Medication

The goal of medication is to relieve pain by decreasing joint sensitivity. Paracetamol (Panadol, Tylenol and Calpol) is considered the first-line treatment for the management of acute and chronic pain, particularly that which is of musculoskeletal origin (Lluch Girbés, Nijs, Torres-Cueco, & López Cubas, 2013). If pain relief is unsatisfactory, non-steroidal anti-inflammatory drugs (NSAIDs) can be used as a replacement for/or alongside analgesics. A doctor may prescribe stronger medication such as opioid analgesics; morphine or oxycodone. However, stronger medication like NSAIDs and opioids can cause gastrointestinal, renal, cardiovascular and hepatic side effects and this is a concern for the aging population (Fransen, Crosbie, & Edmonds, 2001). Poitras et al. (2010) investigated four key management recommendations for OA; these were medication, exercise, self-managment strategies and occupation recommendations. The medication recommendation encouraged the use of analgesic medication (no specific type) as a way to decrease pain to allow people the ability to get active. Disappointment was expressed in the literature by older people with OA in regard to the short term effectiveness of medication as a way to prevent or control

symptoms of pain and its limited effect when OA flare ups occurred. Many older people avoided any exercise during a flare up because the pain was too great. The review acknowledged some opposing views on the use of paracetamol; some patients felt disappointed to be recommended such a nonspecific general medication. In comparison others felt more in control because paracetamol was an over-the-counter medication and the accessibility of it empowered them to self-manage their condition.

Surgery

Joint arthroplasty is considered when traditional pain and functional limitations are intolerable (Dziedzic et al., 2009). Surgery has been documented to be an effective procedure in improving joint function, decreasing pain, and providing the opportunity to resume a more active lifestyle (Grotle et al., 2010). The New Zealand Joint Registry was set up in 1999 to collect information on joint replacements. It has shown a steady increase in the number of hip and knee replacements being completed over the last 13 years; a 75% increase in total hip replacements and a 158% increase in total knee replacements (Hooper, 2013). With the demand for joint replacements increasing there are long wait lists in the public health system and more patients are being rejected because the degree of their disability is not yet severe enough (Hooper, 2013). With large wait times patients may also get beyond an age where arthroplasty is an option due to the increased surgical risk from chronic obstructive pulmonary disease, inflammatory disease, malnutrition, surgical site infection or they may be too frail or unfit to obtain full benefit from the replacement (Kaye, Sloane, Sexton, & Schmader, 2006). The private health sector allows those people who can afford the operation through health insurance or savings the opportunity for arthroplasty surgery quite quickly.

Manual Therapy

Osteopathy is a non-pharmacological intervention that uses manual therapy techniques and advice to treat the musculoskeletal, nervous and endocrine systems (Parsons & Marcer, 2006). Osteopathy may be considered as a stand-alone treatment to decrease pain in older people with OA or in conjunction with analgesics and/or arthroplasty surgery. It can be used to support patients with OA around matters of pain relief and exercise and can provide specific interventions before and after arthroplasty surgery (Dziedzic et al., 2009; Parsons & Marcer, 2006). Advice from the EULAR suggests that risk factors for OA need to be thoroughly assessed and discussed prior to treatment. Risk factors include age, obesity or

comorbidities, along with the patient's level of pain, signs of inflammation and degree of structural damage (Jordan et al., 2003). A manual therapist's common approach to management of OA would include a technique selection from mobilisation, high velocity thrusts and soft tissue techniques to balance ligamentous tension (Fitzgerald & Oatis, 2004). Techniques can be aimed at correcting issues associated with compensatory patterns and can correct alignments at joints leading to improved gait and functional ability (Silvernail, Gill, Teyhen, & Allison, 2011). Jardine, Gillis, and Rutherford (2012) found when they recruited 30 participants with symptomatic and radiographic knee OA that in the randomised treatment group participants had an increase in knee range of motion and better measure of blood flow to the lower extremity after osteopathic treatment. Osteopathic advice is very important because in many situations a patient is able to make lifestyle changes that contribute to the improvement of their function. The advice is taken more favorably when a supportive environment has been established (Hosie & Dickson, 2008). OA is an incurable condition and thus the management of symptoms is the key priority; the best way to do that is by a multidisciplinary approach to combat pharmacological issues, nutrition, psychological and occupational matters.

The Risk of Falling in Older People

Research by Freburger and Holmes (2005) shows that the prevalence of falling increases with age, affecting one in three people aged 65+ and one in two people over 80 years of age (Freburger & Holmes, 2005). In fifty per cent of falls medical input is required. Of these injuries one out of ten results in more serious complications such as a bone fracture or on-going rehabilitation (Boelens, Hekman, & Verkerke, 2013). Falls are the second leading cause of accidental or unintentional injury deaths worldwide (Aspray, 2015). Falls in older people can be a result of postural instability, strength defects, cognitive and vision impairments (Lord et al., 2003). Older adults also have more medical conditions and are using more medication that further predisposes them to falling. Individuals can experience physical and psychological effects after a fall that may lead to severe restrictions in daily life activities, loss of confidence and limitations in social interaction as a result (Boelens et al., 2013). Any increased reliance on the family and community for support leads to a sense of lost independence which can do more damage to the individual's health and wellbeing than the physical trauma of the fall (Holt, Haavik, & Elley, 2012).

Maintaining posture requires integrated coordination between the nervous system, proprioception and musculoskeletal system (Freburger & Holmes, 2005). Older people (65-80+ years) have poorer balance than younger people (18-30 years) and tend to need wider stances such as those seen in small children. Older people, especially those categorized in the later stages of age (85+), have a greater fear of falling so they may adopt this as a more cautious way of standing (Prado, Dinato, & Duarte, 2011). The postural changes may be a way to avoid discomfort and pressure that occurs with static posture (Duarte, Harvey, & Zatsiorsky, 2000). Another hypothesis is that these postural changes may be a reflection of older peoples' behaviour, they tend to be less fidgety when standing and this may be a way to decrease energy expenditure (Prado et al., 2011).

There are many factors that contribute to this poor balance. For example older adults are prone to more health conditions like Parkinson's or strokes that disrupt interlinked systems that are required for balance (Thornby, 1995).

Falls Prevention Legislation

The cost of fall-related claims to Accident Compensation Corporation between 2006 and 2007 was $693 million (Controller and Auditor General, 2008). The fall itself can be costly due to medical fees and the subsequent rehabilitation that follows; interventions that prevent falls are more cost effective than providing the treatment from a fall (Robertson, Campbell, Gardner, Melinda, & Devlin, 2002). A New Zealand government strategy was set up in 2005 to reduce the incidence, severity and cost of injury from falls (Dyson, 2005). The National Falls Prevention Strategy aims to develop and implement interventions to decrease falls (Wurzer, 2013). Three preventative initiatives were funded. These were: modified Tai Chi classes in community halls or fitness centres, vitamin D supplementation and The Otago Exercise Program. The exercise program was designed at the Otago School of Medicine and has since been implemented worldwide. The program consisted of strengthening exercises and balance retraining that is taught at the person's home (Wurzer, 2013). In 2009 funding was cut and no new participants were permitted to enter the scheme. The loss of funding is a result of Accident Compensation Corporation coming under increasing financial pressure and cut backs were made. Funding for supplementation and Tai Chi is on-going.

Tai Chi

The eligibility for the Tai Chi group is that you must be 65+, living in the community and have experienced a fall in the previous year (Campbell & Robertson, 2010). Participants are funded to attend one class per week and funding is available for sixteen weeks. While there is no criteria regarding the style of Tai Chi to be practiced, it appears that Yang Tai Chi is popular because of the wide stances with slow steady rhythmic movements (Harling & Simpson, 2008). Tai Chi session takes 45-60 minutes usually once a week, whilst participants are encouraged to practice daily. A 2014 Australian pilot study to check the feasibility for a randomized clinical trial was conducted in a residential facility that compared Tai Chi and yoga effects on falls and balance (Saravanakumar, Higgins, van der Riet, Marquez, & Sibbritt, 2014). The findings found yoga had better impacts on balance and that the Tai Chi group actually had a decline in balance. This is a rare finding and it is hypothesized this was because participants in this study were less challenged by the Tai Chi poses and spent less time performing them than the yoga group (Saravanakumar et al., 2014). In contrast a systematic review in 2012, which included 24 studies where Tai Chi was used as the intervention, showed that the majority of Tai Chi participants had reductions in falls and fear of falling after completing Tai Chi classes for a period of time (Schleicher, Wedam, & Wu, 2012). The minimal practising time that made a difference was one hour per week for 16 weeks or 7.5 hours per week for three weeks. Improvements were also noted in laboratory-based balance measures (Schleicher et al., 2012). It is not fully clear how Tai Chi improves balance, however, a randomized controlled trial taken over six months showed improvements in falling, fear of falling and functional balance in a group of inactive 70+ years of age people (Fuzhong et al., 2005). Tai Chi is also thought to improve joint mobility and flexibility, ankle proprioception and cardiovascular fitness (Donald, 2013).

Cost of Walking Devices

Eighty percent of falls occur in people when they are in motion and this is a lot more than unconstrained standing (Nnodim et al., 2006). Walking devices are widely prescribed by doctors, physiotherapist and occupational therapists to reduce falls. New Zealand has two funding avenues for assistive devices and people can also purchase their own devices. If there is an injury, a walking device may be supported under Accident Compensation Corporation, otherwise devices are available for short or long term loan through the Ministry of Health (Ministry of Health, 2016). Home modifications and equipment are normally funded by the

DHB. Some cost may be charged to the patient (Campbell & Robertson, 2010). Assistive devices improve the base of support and this allows the users a greater range in the body's center of mass without falling (Bateni & Maki, 2005). They reduce lower limb loading because a proportion of body weight is supported; this is useful if an older person has weak muscles or lower extremity pain. Older people tend to monitor their posture with their eyes and can feel vulnerable if support is not available (Freburger & Holmes, 2005). A 2010 Slovenian study assessed the lives of 80 participants and found that 95% of participants did not want to relocate to assisted living, so they modified the inside and outside of their homes so that walkers and canes could be used. Making these environmental adjustments allowed them to remain independent and the ability to perform activities of daily living (Bercan et al., 2010). Assistive devices allow older people who have limited mobility and various clinical conditions the ability to be independent, maintain their balance and perform some physical activity.

Risk Factors for Falling

There are three types of risk factors for falling, intrinsic, extrinsic and behavioural. These relate to environment, behaviour, anatomical make up, age, pathologies and daily activities.
This review will focus on physical risk factors of falling that are amendable by manual therapy which are muscle strength, reactive power, sleep disturbance, gait problems, lack of mobility hazards of the house and footwear (Boelens et al., 2013). When these factors exist together the risk of falling increases by 80% (Boelens et al., 2013; Holt et al., 2012). Falls occur most commonly in mid-afternoon and this could be a result of the older population being tired or most active at this time of day (Boelens et al., 2013). Sleep initiation is more difficult and sleep disturbance more common among older adults and this can result from a number of things including the need to urinate, noise, pain or thoughts of anxiety or distress (Hill, Cumming, Lewis, Carrington, & Le Couteur, 2007). The lack of nocturnal sleep can result in daytime sleepiness and impairment in concentration and physical performance (Boelens et al., 2013). There is variation in the literature about whether men or women have a higher risk of falling. According to Lord et al. (2003) research on falls in a nursing home and intermediate care facility showed men have a higher risk because when they enter a home they are more disabled (Lord et al., 2003). On the contrary, Boelens et al. (2013) conducted a search of PubMed and ScienceDirect from the past 25 years to identify risk factors for falls in the population over 60 years old. They found in the literature that women may have a higher

risk of falling due to the increased risk of osteoporosis and the impact it has on anatomical changes on the body. Identifying risk factors in the older population is an important way to address the issue of falls in older people.

How can Manual Therapy Help

A 2013 literature review of PubMed and ScienceDirect conducted by Boelens et al. (2013) found that factors modifiable through manual therapy include muscle power, sleep quality, mobility, gait and osteoarthritis. Knee OA is a common mechanical impairment that can lead to a poor posture, pain and the likelihood of falling (Huard, 2012). The ankle and knee extensors are primary muscle groups responsible for locomotion and if impaired can impact on daily activities of living (Reeves, Narici, & Maganaris, 2006). Holt et al. (2012) identified in a systematic review of 11 randomized or quasi randomized trials that the most successful manual therapy treatment approaches to improve postural sway was through mobilization and massage to the feet, ankles and thoracic spine and a technique that glides the ankles joint. Not all research supports the claim that manual therapy can improve balance. A systematic review conducted by Holt et al. (2012) found that there is only a limited amount of research that investigates the role that manual therapy has on improving postural stability and balance. Nine of the eleven trials that reported some improvement in balance need to be interpreted with caution Holt et al. (2012) highlights this is because many had low participant numbers, inadequate follow up times and poor methodology quality.

Summary

Aging is an inevitable fact and results in a lessening of physical, and sometimes cognitive capacity (Gillsjö et al., 2012). The effects of aging are well documented and research allows for a better understanding behind common musculoskeletal complaints such as arthritis (Fors, Lennartsson, & Lundberg, 2007). Long-term pain is a common finding in many older people because of the existence of comorbid conditions (Lansbury, 2000). The most common causes of chronic pain in older people are arthritis, cancer, vascular disease and shingles (Marcus, 2004). Living with long-term pain can inhibit optimal independent function, it can reduce activity levels causing deceased mobility, strength and a decline in cardiovascular health (Chase, 2013). Living with constant pain can in many people also cause psychological effects such as decreased confidence in skills of daily living, fear of making the pain worse and depression (Tse, Wan, & Ho, 2011). Whilst pain is universal each individual has different

health beliefs and coping strategies and this can affect how one deals with pain (Gillsjö et al., 2012). The topic of how older people cope with pain is of interest to researchers (Higgins, 2008; Giddings, Roy & Predeger, 2007; Lansbury, 2000). Research by Higgins (2008) found coping with chronic pain was more manageable for their participants when they were able to complete self-management strategies that allowed a sense of control over maintaining and improving their own health.

A lot of international research is available on pain in older people and coping strategies for this pain. In New Zealand the research pool on this topic is very limited. What is available focuses on the adult population and is not specific to the older population in New Zealand (Taylor, 2005). There is limited research looking at musculoskeletal complaints of older people in a retirement village and much more research looking at pain in older people in residential care. Older people living in residential care require more support with daily living and it can be expected that this is a result of declining health, whereas retirement living is much more independent. Because of this, literature on residential care and retirement village living cannot be compared. This current study seeks to fill the void of literature on musculoskeletal issues of independent residents in a New Zealand retirement village. It aims to identify musculoskeletal complaints of acute or long-term nature. It also seeks to understand if these conditions are a burden to the participants, how they manage their situation and whether manual therapy could provide an avenue of help.

Part Two
Methods Section

Methodology

This section will give an overview of qualitative research and give a justification for the chosen methodology, which is descriptive phenomenology. This will be followed by an explanation on rigour and how this was applied in the research.

Qualitative Approach

A qualitative research method was chosen because it allows the researcher a means to study everyday life whilst focusing on the human experience (Schneider, Elliott, LoBiondo-Wood, & Haber, 2004). It allows for a description of people's experiences, attitudes and behaviours. The focus of qualitative research does not reduce the data to biology, sociology or behaviour instead seeks to understand the meaning behind the words (Schneider et al., 2004). There are many different theoretical approaches to choose from in qualitative research that identify recurrent patterns in data and explore meaning behind them (Kelly, 2010). The phenomenological approach was selected because the aim was to understand the participants' experience and this is the goal of phenomenology (Finlay, 2009). The approach is closely linked with the naturalistic paradigm which argues that knowledge is attained through interaction with a researcher and participants and that reality is based on individual and subjective realities (Reiners, 2012). There are two major types of phenomenological research, descriptive and interpretive. The descriptive approach recognises that the researcher may have preconceived ideas or prior knowledge about the phenomena and that they must set these aside to give an unbiased approach to the subject's experience. Interpretive phenomenology believes personal awareness on the topic does not obstruct the results but adds further knowledge to the phenomena (Reiners, 2012).

Descriptive Phenomenology

Descriptive phenomenological methodology was used in this research as a way to understand feelings and behaviours of older people with musculoskeletal impairments. This type of methodology can be attributed to Husserl, a German mathematician (1859-1938), who argued that the researcher must recognise what they already know about the phenomenon, and thus approach the data with these preconceptions put aside (Cohen, Kahn, & Steeves, 2000). Husserl's work was the basis of the approach known as descriptive phenomenological study of everyday living. Central to this is the idea that any existing knowledge on the subject should be bracketed or put aside so that it does not influence the description of the phenomenon. Heidegger (1889-1976), a student of Husserl, rejected the idea of being able to bracket and believed that personal awareness and interpretation on the topic was important. His reasoning contributed to the development of the approach known as interpretive or hermeneutic phenomenology. Both phenomenological approaches value the perspective of the participant and what contributes to their experience; however, descriptive phenomenology suits this research best because it allows a descriptive overview of village residents' life and experiences of and with musculoskeletal impairments.

Collecting Data in Qualitative Research

Collecting data in qualitative research usually requires a direct relationship between the researcher and the participants, and this is a way in which it differs from quantitative research (Schneider et al., 2004). This can be achieved through four common types of data collection and these are: focus groups, observational methods, audio-visual material or in-depth interviews. It is quite common to collect multiple types of data for example interview data and documents (Creswell, 2009). Interviews were chosen in this research as a way to collect descriptive material that can be used to give insight into the lived experience. An advantage of this type of data collection is that the researcher can have some control over the line of questioning and remain focused on the research question. Interviews give the researcher the opportunity to engage with the participant and get anecdotes or examples of the phenomena being studied. Interviews also allow the essence of the participants emotions to be uncovered whilst finding the meaning of their actions (Schneider et al., 2004). During an interview it is also important to be attentive for any non-verbal clues. These signs can sometimes provide a

better understanding and a depth to the interview material. For this reason it can be useful to record field notes in a journal soon after each interview.

Analysis Process when using Descriptive Phenomenology

The analytical steps used in this study were based on Colazizzi's method (as cited in Sanders, 2003; Shosha, 2012), which guides the analysis of descriptive phenomenology data. The steps involve reading and re-reading the data to obtain a general sense of the findings, and, at this stage if any ideas arise they can be recorded and put aside as a way to reduce premature findings. The next step is to identify meaningful statements or sentences that show relevance to the phenomenon. The ideas are highlighted and placed in categories, which lead to emerging patterns beginning to show through similarities in responses to experiences. These categories transition into potential themes where the act of reflection is required to ensure the true ideas are emerging (Sanders, 2003). A deeper meaning is uncovered by understanding the data well enough to see beyond the words. Themes are edited and revised to ensure that they provide meaning to the phenomenon (Schneider et al., 2004). It is important that through this process the genuine meaning of the participants' words must remain and quotes are a powerful way to show this.

Addressing Rigour in Qualitative Research

The need to establish rigour ensures that the findings are a legitimate portrayal of the phenomenon as experienced by that group of individuals. There are a number of frameworks that assess rigour and one of the more commonly used for qualitative research is that of Lincoln and Guba (1985). Their work uses four criteria: credibility, transferability, dependability and confirmability. Their criteria were followed to show that this study meets quality standards.

Credibility

Credibility in qualitative research is similar to that of internal validity in quantitative research and it is used as a way to check that the study tests what it set out to do (Shento, 2004). It is a way to check that the findings are consistent with the phenomena they represent and that the researcher has accurately recorded and portrayed the phenomena. According to Lincoln and Guba (1985), credibility is one of the most important criteria when representing

trustworthiness in descriptive phenomenology. For that reason several approaches were used in this research to ensure that there was truth in the findings.

The newly transcribed interviews were returned to the participants to check that the interview material was correct. This allowed the participants to confirm that the findings were true to their experience, before data analysis began. Another strategy used to ensure honesty was that each participant had the opportunity to decline involvement, thus allowing for a group of participants that wanted to give information. The researcher further aided this by building rapport in the early stages of the interview and making the participants aware that all experiences and narratives were welcomed. Participants were also given the option to be removed from the study up to two weeks after the transcribed interviews were returned to them.

Meetings were set up with supervisors to discuss experiences and perceptions about how the research was progressing. These collaborative sessions allowed a time for discussion around developing ideas and interpretations of the data. The meetings were a place for any flaws to be pointed out, such as developing biases towards something. Feedback was constantly given and assumptions were challenged.

Dependability/ Auditability

Dependability addresses the reliability of the research, ensuring the research is logical, traceable and that there is a recorded audit trail to set out development of the findings (Johnson & Waterfield, 2004). This should be detailed enough that someone is able to examine the data, methods and follow the analysis of concepts and distinguish that the findings are warranted (Tobin & Begley, 2004). A detailed process also shows that proper research protocols have been followed.

In this study dependability and auditability were addressed by keeping all documents in a managed location either online or in a folder for easy access. Mind maps, theme recognition documentation and a reflective journal identify the steps that were taken when analysing data and forming themes (Appendix A). The recording of these stages showed the progression of the data, with original impressions of the data and how patterns began to form. The

descriptions of the data, analysis and findings allow the readers to follow the trail and judge for themselves whether the appropriate steps and measures were taken.

Transferability

Transferability is concerned with how the findings can be related to another situation (Shento, 2004). The findings of qualitative research are often specific to a small environment or group of individuals however the prospect of transferability should not be rejected. It is the responsibility of the researcher to give a detailed context of how and who the research was conducted with to identify if the reader can transfer the findings (Lincoln & Guba, 1985). Having this information allows the reader to compare the phenomena of this research with another similar situation.

The information in this study can be transferred to another independent retirement village within the same socioeconomic bracket in New Zealand. The osteopathic practitioner would then be aware of a number of common musculoskeletal complaints and how some people in this setting may be managing them. Contextual information is readily given as a way to inform the reader if the data can be transferred. This includes the age group of residents, gender and the region the data was collected from.

Confirmability

Confirmability is closely linked to dependability as it ensures that the data represents a number of participants' opinions and not the perception of the researcher (Houghton, Casey, Shaw, & Murphy, 2013). A key criterion is that the researcher is able to identify their predispositions to the phenomenon and bracket them to ensure no bias occurs in the analysis process (Shento, 2004).

In this research the original data were constantly referred back to and compared to the themes ensuring the findings represented the participants' responses. The audio-recorded interviews were listened to for any subtleties to ensure a greater understanding of the data had been found and was represented in the themes: direct quotes were used as a way to confirm this. Throughout the research analysis stage the researcher wrote any preconceived ideas from clinic experience down. This allowed the researcher to acknowledge any arising thoughts, put them aside and remain as unbiased as is possible.

Methods

The remaining part of this section will look at data collection and data analysis methods, participants and ethical considerations.

Ethical Considerations

Ethical approval was granted by the Unitec Research Ethics Committee (reference: 2014-1100) (Appendix B). A detailed information sheet was provided (Appendix C) and a consent form (Appendix D) signed before the research commenced. The recorded interviews are kept under password on one computer. The recordings of the interviews were sent to a transcriptionist who was bound by a confidentiality agreement (Appendix E). The transcribed interview material and any associated notes are kept in a locked cabinet that only the researcher has access to. The participant consent forms are held in a locked file cabinet at Unitec in Mt Albert. All of this information will be held for five years as per the Unitec Research Ethics Committee (UREC) ethics approval for this study. After five years the information will be destroyed and deleted from the computer

When completing the research, sensitivity to ethical considerations was considered. The background culture of residents at a retirement village, where the average age of entry is 75 years, is a generational culture, with expectations of courtesy, language, hospitality and dress (Rubin & Rubin, 2005). pp None of the interviewees expressed expectations and preferences about cultural difference that were unfamiliar, but if they had their preferences would have been respected and the situation altered to suit.

Participant Sample and Recruitment

Inclusion criteria

The criteria for participation in this study were that the participants were independently living residents at an Auckland retirement village who were confident and capable in English communication so that verbal interviews could take place. Individual communication barriers did not arise however they would have been discussed on a case-by-case basis, as individuals respond to these barriers differently.

Recruitment

A meeting was arranged with the company's director of research and the village manager to explain and gain consent for the research. It was decided the best way to recruit participants was via a flyer on the residents' notice board and a flyer placed in each independent resident's mailbox. These processes had poor responses so a letter that outlined the research was sent to all independent residents. This generated a list of forty names of willing interested participants. The first ten names were selected from the list, each participant was phoned and an interview was set up. The group was arbitrarily selected; no indication of age or ethnicity was identified during the selection process. Convenience sampling was used and if participants fitted the inclusion criteria they were chosen

The participants

Seven women and three men were recruited and one of the women subsequently withdrew after the interview. The youngest participant was 67 years and the oldest 93 years of age. The participants selected a place to be interviewed. All interviews took place on the village grounds. Nine people still allowed for a rich collection of data, as noted by Schneider et al., (2004) the quality of data is more important than the number of participants in the study.

Data Gathering

Preparing for Interviews

The practice interview was held 12 weeks before data gathering began to allow review and integration of learning. The interview lasted 30 minutes and consisted of ten main questions about health and mobility with subsequent questions to gain more information (Appendix F). This practice allowed the depth of interview questions to be gauged and how open they were to interpretation. The interview was recorded using an audio recorder for clarity. The mock interview allowed for a time to tailor the interview questions to get the best response from the participant. These skills allowed the focus to stay on the phenomenon whilst still allowing the participants to explore what was important to them.

Data Collection

The one hour face-to-face interviews were completed in either the participant's home or a central location in the village. To get a rich explanation of phenomena, interviews were

completed with the participants in their own environment so they felt at ease to describe their true experiences and provide rich descriptive data. The participants were encouraged to feel relaxed by choosing their own seating, and having the recorder placed unobtrusively. One hour allowed enough time to build rapport and cover relevant elements of a health story; each individual appeared to enjoy the opportunity to tell it. Open-ended questions were used, and probing questions were used when more detail was sought. Most participants had something to offer on each interview questions although some questions were of more relevance depending on the participant's situation and this was expected. To really comprehend the participant situations questions relating to their opinions, their activities and their social circumstance were sought. This type of questioning allowed for a complete description of their reality for the residents and variation in each person's individual experience to be expressed. The questions covered topics of pain and joint mobility, previous manual therapy experiences, medication use, quality of life and general health (Appendix F). Each participants experience is different so the prearranged questions were a guide not a schedule.

Data Set

Nine participants' information was used, totalling 301 minutes (five hours).

Data Analysis

The transcriptions were returned to participants: five of the nine transcriptions were returned with amendments that were minor and did not influence the data. The amended copies were used when analysing the data. The steps of Colaizzi as described by Sanders (2003) and Shosha (2012) were used as a guideline in the descriptive phenomenological analysis process. This was a thorough way of comprehensively interpreting the phenomena through the development of themes. Prior to beginning the data analysis the researcher was aware that any prior preconceptions must be put aside, to limit any bias that could influence the findings. This was monitored by having the researcher write any ideas in another document as a way to acknowledge the information and put it aside, these ideas were not used in data analysis. A table below outlines the process that way followed.

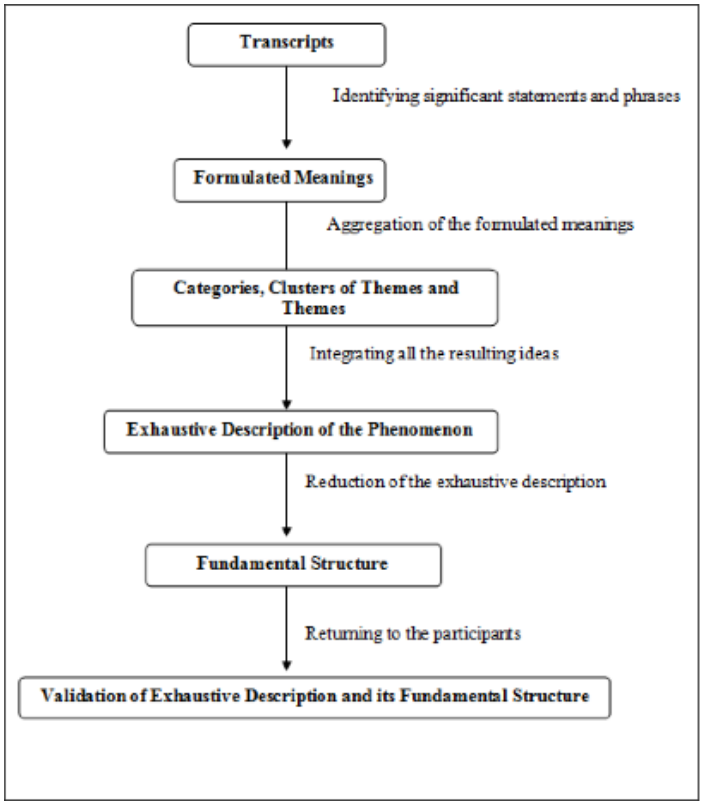

Figure 1. A summary of Colaizzi's strategy for phenomenological data analysis (Shosha, 2012).

Formulated Meaning: The audio recordings were listened to numerous times, respecting the participant story whilst listening for the overall narrative. When the transcript material arrived and was read, the voice of the participant could be heard accompanying the words. The repeated hours listening and reading allowed familiarity with the content.

Categories/Cluster Themes: The development of codes allowed a way to organise and label relevant words within a large amount of data. Codes were created by highlighting short words interpreted as relevant to the phenomena. Originally documents were produced with 22 codes (Appendix G). After some time reviewing the codes and brainstorming (Appendix H) a deeper category of themes were made. These categories grouped codes that were linked under a common topic. For example Tai Chi, gym, swimming, walking were collected under the heading exercise.

Exhaustive Descriptors: The themes begun to develop by broadening the identified codes and highlighting data that seemed significant to the main five categories (Appendix A). There were five original themes and 16 sub-themes. The process of reviewing and reflecting over

eight weeks allowed patterns to be seen across the data. It also allowed themes to be edited, removed and combined as the constantly reviewed data was seen through various levels of depth. Schneider et al., (2004) agrees the back and forth process of listening and note taking ensures that themes reflect the true meaning and not a preconceived view.

Fundamental Structure: Each theme was checked against the original interview material to determine that the theme told a convincing story and helped answer the research question 'What musculoskeletal and physical health aspects are independent retirement village residents experiencing'. Direct quotes were identified that clearly described a situation or emotion; these were used to ensure the true essence of the participant information was being portrayed in the themes. Themes begin to be refined by collaboration with supervisors and peers.

Theme Validation: The final analysis checked that each theme had a clear focus. Three main groups were developed with three to four subthemes each. Each theme had its name revised several times before it was finalized. Each stage of the analysis process was recorded as a way to show progression though the stages of theme development.

This section has explained the chosen methodology. It has given a detailed description of the employed methods, including participant descriptors, data collection and data analysis. The following section will be in a manuscript format and will explain the findings in a way of themes. It further discusses the relevance of themes in the discussion.

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Part Three
Manuscript

An assessment of the health status of a group of independent residents of a retirement village especially in relation to aspects of physical health and musculoskeletal function

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An assessment of the health status of a group of independent residents of a retirement village especially in relation to aspects of physical health and musculoskeletal function

Abstract

Aim: To assess the health status of nine independent retirement village residents to build a picture of the presence and effects of musculoskeletal complaints on their lives.

Methods: Nine independently living residents from an Auckland retirement village were randomly selected from a list of forty residents who expressed interest in participating. They were interviewed on their present and past health with a specific focus on musculoskeletal issues. The method, including analysis, was guided by a descriptive phenomenological process.

Results: Three main themes were identified that portrayed musculoskeletal impairments of independent residents 1) Coping with the hard work of aging, 2) Slowing the momentum of age 3) Understanding what happens as one ages.

Discussion: The findings showed that although residents were experiencing musculoskeletal impairments they were not focused on pain. They chose instead to focus their energy on adapting or improving their health.

Keywords: older adult, health and functional limitations, qualitative research, descriptive phenomenology

Introduction

The accumulated effects of aging affect individuals increasingly as they age and have a major influence on their quality of life. Aging occurs at a cellular level across a life span and leads to a decline in physical, psychological and social domains. These changes occur as a result of genetics, lifestyle factors, environmental risks and behaviour (Sherman, Forsberg, Karp, & Törnkvist, 2012). Typical muscular impairments in people over 65 years include decreased muscle strength and mass, denser and stiffer connective tissue, increased tendency to develop adhesions: slower gait and a decline in balance (Dreebren-Irimia, 2013). A regularly diagnosed complaint in the older population is osteoarthritis (OA) and by the age of 65 years more than half the population will have x-ray evidence of joint OA (New Zealand Orthopaedic Association, 2003).

The changes associated with aging may affect the lives of older people in that they have decreased mobility and poorer balance. This decrease in function can inhibit many activities of daily living. Impaired balance means falling is a regular occurrence and walking devices need to be used continually (Donald, 2013). Older people often attribute a decrease in function and pain to normal aging and each copes with their circumstances uniquely (Sarkisian, Liu, Ensrud, Stone, & Mangione, 2001). There are beliefs that aging is associated with pain and this can interfere with the person's willingness to seek help because they think little can be done to help (Lansbury, 2000).

How individuals cope with aging decline is variable: Antonosky (1987) suggests that an individual coping mechanism is based on three dimensions: comprehensibility, manageability and meaningfulness (Sherman et al., 2012). This type of coping strategy moves the focus away from specific diseases and onto areas that the individual can control and improve. Findings from a large (n=9,704) American cohort study suggest that older people who attribute symptoms to old age may utilize health services less, missing out on care that could improve quality of life and experiencing slow disease progression (Sarkisian et al., 2001). Understanding an older person's quality of life can be a useful way to understand changes that could be made to improve their circumstances (Bergland & Narum, 2007).

How an individual copes with long-term pain may be to do with their personality and outlook on their situation. Gillsjö, Schwartz-Barcott, Bergh, and Dahlgren (2012) found in their

phenomenological study of 19 older adults that there was a vast disparity in how their participants dealt with their pain. One group had a determination to live a fulfilled life despite the pain whilst another group of participants had feelings that life had gone on longer than it should.

The transition through aging can be improved with a multidisciplinary approach to the provision of health care. Manual therapy is a term that covers a large range of disciplines (for example, osteopathy, physiotherapy, chiropractic, podiatry) which can be used to help improve muscle and balance issues. There is a variety of effective manual therapy treatments that can decrease pain and improve mobility (Marcus, 2004). Providing reassurance and patient education is also important for recovery. Manual therapists can work with patients to set manageable goals that aim to help improve physical function, sleep and gait, decreasing arthritic pain and provide education to increase physical activity (Dreebren-Irimia, 2013). There is limited research looking at musculoskeletal complaints of older people in a New Zealand retirement village and much more international research looking at pain in older people in residential care. This study aims to identify musculoskeletal complaints of acute or long-term nature. It also seeks to understand if these conditions are a burden to the participants, how they manage their situation and whether manual therapy could provide an avenue of help.

Methods

Study Design

A qualitative research method was chosen because it allows the researcher a means to study everyday life whilst focusing on the human experience (Schneider, Elliott, LoBiondo-Wood, & Haber, 2004). Descriptive phenomenological methodology was used in this research as a way to understand feelings and behaviours of older people with musculoskeletal impairments. This type of methodology can be attributed to Husserl, a German mathematician (1859-1938), who argued that the researcher must recognise what they already know about the phenomenon, and thus approach the data with these preconceptions put aside (Cohen, Kahn, & Steeves, 2000).

Sampling

The criteria for participation in this study were independently living residents at an urban retirement village who were confident and capable in English communication. Convenience sampling was used to recruit ten participants who fitted the inclusion criteria. They were aged between 67 years and 93 years: three were male and six were female. One person did not continue in the study. The study was approved by the Unitec Research Ethics Committee (reference: 2014-1100). Written consent was obtained before the interviews commenced. The transcribed interviews were sent back to the participants for review. Five copies were returned with changes. Privacy was maintained with the use of password protected computer files and a secure location for hard copy of information.

Data Collection

Nine face-to-face interviews were conducted and audio recorded. Each interview lasted for approximately 45 minutes with a focus on musculoskeletal health. Participants were also asked about their experience with manual therapy. Interviews were chosen as a way to uncover thoughts, understand feelings and behaviours from the perspective of the person thus providing an account of the experience of being in the world of everyday life, of living in and through the world.

Data Analysis

A descriptive phenomenological approach was used to analyse the audio and transcribed interviews. Colaizzi's (1978) five step approach was used as a guideline to identify themes (Sanders, 2003; Shosha, 2012). The audio recordings were listened to numerous times to become familiar with and immersed in the data. Important aspects of the individuals' experiences were identified and extracted as concepts. Potential themes began to emerge reflecting patterns in the data that related to the incidence of ideas. The back and forth process of listening and note taking ensured that the themes reflected the true meaning and not a preconceived view (Schneider et al., 2004). The themes were also checked to judge how they addressed the research question. The final step entailed naming and expressing a structure and focus for each theme. Themes were discussed with supervisors throughout the process.

Findings

Analysis revealed how the participants coped with aging and how they managed their musculoskeletal concerns. These findings allowed for a deeper understanding of the participants' background and attitudes to their situation. Three major themes were found; *Coping with the hard work of aging*: *Slowing the momentum of age*: and *Understanding what happens as one ages*. Each theme has subthemes that give further detail.

Coping with the Hard Work of Aging

Age gradually sneaks up

The participants could not describe a point at which they begun to feel old. Aging to the participants was an on-going process that gradually changed the life they had been living 20 years previously. Many explained that a progressive decrease in energy meant that life moved at a slower pace for them now. More than one participant described how they had lost the incentive to do things that they once loved such as sewing or quilting. Many described things that they could no longer do, such as hobbies that require strength and mobility.

So my brain is very active. My heart is very on fire, but my legs don't keep up with it all. [P9]

Many of the participants accepted that what they experience is part of normal aging:

We do things a lot slower now, let's face it. [P4]

What could once be achieved in one day now takes a few. [P8]

People say to me, "Well, you are nearly 87. You can't do what you used to do", and I gradually realised they are right. [P1]

You've got to have 'attitude'

The participants were all living with some decline to their health, yet many looked at their situation in a positive light. This attitude portrayed that life was enjoyable despite its challenges. Many used resources such as literature or health services for guidance on diagnosed health conditions or where similar situations applied.

You either love life or you don't. I've found a way around it. Growing old is something you've got to embrace, not fight. [P9]

There was a sense of being powerless against aging "*…you sort of go on as best you can". [P5]*

Another participant required time and reassurance to help cope with a big decision.

I had 18 months to decide on surgery. Time gave me the ability to recognise that it was the right decision. After the surgery I couldn't move, the nurses kept telling me to get up, I needed reassurance. "Oh, we probably spent a couple of hours trying to free up that nerve," so he [the surgeon] said, "I'm not surprised." And once he said that I felt good. I knew it wasn't me, it wasn't psychological, it was going to take a long time. [P10]

To be old is to be frustrated

Almost all of the residents had given something up because of the effects of aging. Balance was a big contributing factor; without the ability to confidently get up and move around residents could no longer garden, and going to the toilet could be quite a daunting process because of the slippery tiled floor and low seats.

See, they [health providers] don't always cater for us older people. Most toilets including the ones at the optometrist are too low and there are no handrails. It is impossible to get up and down when you have no strength in your legs. [P9]

I miss the gardening- it's one of the reasons I came here because I can't bend over to tend to the gardens, I had to pay a gardener at the old house. I am not able to move quickly and freely anymore. [P3]

Losing the ability to drive was a downward spiral for one participant. The lack of balance also affected her confidence to travel.

Another participant described how she had lost confidence to stand in the sea because if she was knocked over by the waves she simply would not have the strength to get back up.

We were strong swimmers back then and now I'm afraid, I realised how disabled I really was in that surf... I couldn't go out very far because I couldn't guarantee I could get up when I got knocked over. [P3]

Slowing the Momentum of Age

An ambivalent relationship with mobility

Limited balance was described as an inconvenience, as participants found most things took longer as they aged, and they were also more tired. The act of standing and walking was now similar to that of a child with a wide leg stance, lack of confidence, wobbling and fear. Posture was also affected because balance requires a point of equilibrium. The physiotherapist provided walking devices for the participants even if they did not agree initially that they needed them. The devices were considered a hindrance in the beginning however most grew fond of their devices as they provided an element of independence.

I walk like a penguin on ice. [P3]

I'm very bent over, if I stand up I go over. [P9]

I said, "Oh, you're not going see me walking with a walker". But it became my best friend. [P9]

The walker is not helpful for things like funerals, because they are no good when there's a crowd. You're much better off with a walking stick. Then, it's complicated, because I can't hold my stick, my handbag, my cup of tea, and then shake hands and say, "How do you do, how nice to meet you?". [P9]

In fact I wouldn't do without the walker now. [P1]

A fall is just part of life now

Almost all participants were accustomed to falling.

I've had a couple in the garden but it's nothing serious I just get right back up. [P8]

The reactions to falling are no longer as rapid, and participants explained that putting ones hands out only mildly reduces the impact. The injuries that followed were not regarded with anger or regret but described as a part of life. Broken bones were the most common consequence. One participant described a recent fall onto a mallet at croquet that caused broken ribs followed by pleurisy. Another participant explained that it was not the injury that brought pain; that was already there.

I was in agony from the side of my leg that gave way. One of our consultants said "You get up the hill" which is up to the accident and emergency for an x-ray. And I thought "I would if I could walk up there". [P3]

Keep healthy by keeping moving

The participants used exercise as a way to maintain and improve health. They believed that it was their own responsibility. The residents' pool was a popular exercise setting due to its close proximity and the nil cost. Some chose to do an activity to specifically combat the issue of balance. Others used exercise as a way to cope with pain.

And that's why I run in the water because I couldn't run anywhere else and I think that running is good for my knees. [P9]

There was a sense of loyalty to the activity that gave the participant the most relief or gains.

I went to Curves [a local gym], and within four months, I felt better and stronger. I've continued with Curves ever since. But when we were coming here my husband said, "Oh, they've got a gym here." I said, "But those gyms aren't my Curves gym". [P7]

Yeah, I'm not standing as long, it's one of the things I've got Tai Chi for so that I can stand for longer. Oh, I've been going about six years. [P3]
If I'm sore I go to the beach for the salt water, the salt water really relieves the aches and pains. [P4]

Manual therapy experiences

A wide variety of therapies had been or were being used to treat muscle and joint complaints. These included chiropractic, massage, hand therapy, physiotherapy, osteopathy, Bowen therapy and an occupational therapy. Participants retained quite a lot of the knowledge that they had been given and portrayed a sense of trust in their therapist. The participants expressed gratitude when they could see and monitor improvements. The physiotherapist located at the village was used or had been used by every participant. There were mixed experiences in the use of physiotherapy.

I can hardly move after treatment, it is very tiring doing all the exercises, he puts weights on my leg to strength my hip joint. Now I have got a bad back (laughter). No, he's very good. [P8]

Oh yes I get relief from it but it's very short lived. [P5]

The participants were asked about their knowledge on osteopathic care. There was a wide consensus from those who had experienced the profession that it had been very useful to them.

Yes, he was brilliant, I saw the osteopath in Hamilton, I had two meetings with him...Of no more than maybe 10 minutes at a time...I didn't need to go back again. [P6]

However those that did not know what osteopathy was considered it to be something that treated the bones, as suggested by the name.

Understanding what Happens as one Ages

Making sense of what's happening to their bodies

Participants made assumptions about their health as a way for them to rationalise the changes that they could feel but not understand. Arthritis was the most common condition about which assumptions were made and these were often based on the participants' reaction to the weather, pain, swelling, trauma or what they had seen in family experience. There was also some mystery around whether the symptoms were coming from the participants mind.

Mind you, I don't know whether it's physical or mental thing. [P8]

I think I genetically inherited my mother's and my grandmother's genes with osteoarthritis. [P3]

Participants expressed fear about having unknown symptoms.

I went for a brain scan because I had previously had a melanoma removed. They said, "oh well you never know what's floating around in there". I had days of thinking I have a tumour in my brain. [P7]

Participants came to their own conclusions even if the investigations were inconclusive.

It's been a complete mystery to me to be honest, because I used to be very fit. All of sudden the whole system started sliding down around about in my late 60s. It hurt to pick things up, and you can see my writing. I used to have beautiful handwriting, until that evil witch stepped in and took that away as well. The doctors have mentioned Parkinson's, but not for definite, but to me I think it's definite. [P5]

What difference does a diagnosis make?

Participants described how they had tests and examinations done to try and identify the origin of their pain and musculoskeletal or neurological symptoms. Most could not give a diagnosis of their condition and most appeared unbothered by this because it did not change their situation. The participants that had diagnosed musculoskeletal complaints usually had strategies to combat the symptoms through medication and exercise.

Since about 2000, I began to feel this sort of weakness and numbness in my feet and legs. But nobody would take any notice of it. I'd often go to doctors and say, "Look my feet feel so heavy". And I did go to a neurologist person in Middlemore [a public hospital] in about 2011 and she did a lot of tests but nothing ever came out of it all. [P9]

I've been to about five specialist doctors over the years since then and they haven't got any ideas, how I can improve this balance problem. They check everything like blood tests and x-rays, but nothing came out which would suggest how I could get rid of it. [P8]

The scary reality of medication

Although the participants were all taking a reasonable amount of medication, there was only a mild apprehension about this and only towards the medication that had previously given a bad side effect. It had become quite expensive to afford for a few. This is because with every new aliment came a new tablet. The medications provided relief from pain and depression but the side effects that resulted were sometimes severe.

I was recommended to take some Nurofen for my sore back. It caused my kidneys to shut down. I was so sick I couldn't do anything I thought I was dying. I needed a lot of rehab after that, I had to learn to stand and walk again. [P9]

I was given a large dose of prednisone because the doctor suspected that I might have an aneurysm. I got very happy, and very talkative and I wanted to do things like dance. I couldn't sleep either, I didn't sleep for three weeks, I would be on the cusp of sleep but I never fell asleep, it was terrible. I managed to get off the prednisone and started taking Voltaren and continued taking it for seventeen years. Then one day I got very nauseous, this carried on for ten days until they diagnosed a stomach ulcer. [P7]

The themes provide a portrait about musculoskeletal complaints of independent residents of a New Zealand retirement home. They give insight into how this group of older people manage their daily life and what approaches they use to maintain and improve their health.

Discussion

The aim of this study was to gain an insight into the musculoskeletal complaints independent residents of a retirement village were experiencing. The findings in this study identified participants' interpretations of their general health, coping strategies around movement and manual therapy experiences. The participants were adaptable, with many accepting their age and the accompanying frailties. They used a great deal of self-management skills and paced their lives accordingly. The majority of participants had musculoskeletal complaints, but few

had pain associated with these complaints. This is an unusual finding as most research on musculoskeletal issues in older people focuses on pain management or prevention (Gillsjö et al., 2012; Higgins, 2008; Lansbury, 2000; Tse, Wan, & Ho, 2011). The main musculoskeletal complaints of the participants included arthritis, back pain and sciatic pain, which are common conditions for this age group (Lansbury, 2000). The findings illustrated that the participants were not focused on musculoskeletal complaints and that they concentrated on maintaining a life though adaptation and independence. This discussion is broken into the three main themes identified in this research. Under each theme is a deeper discussion about similar or differing research.

Coping with the Hard Work of Aging

The findings suggest that most participants attributed decreased energy and lack of mobility to growing older. The low energy only prevented participants participating in hobbies and did not hinder their lives. Yet research from Sherman et al. (2012) identifies that fatigue can be more serious and may lead to a person's inability to manage daily life activities. Older people then have the risk of becoming dependent on help from others to manage everyday life.

There is a wide pool of research available on understanding why older people attribute disability to old age (Gjorup, Hendriksen, Lund, & Stromgard, 1987; Rakowaki & Hickey, 1992; Williamson & Fried, 1996) which was also a finding in this study. It suggests that it is a way for participants to rationalise symptoms that they do not know the cause of, and if the symptom is minor or the pain on a low scale, it is even more commonly associated with age. This was confirmed by the participants who thought when you get older you are no longer as likely to do the things you once could. However it allows older people to think that it is normal to have impairments that may easily be altered through treatment. Sarkisian et al. (2001) agree that age is not a disability, and suggest that older people may use this association of aging as a coping mechanism for a modifiable disease.

The coping mechanism for health conditions was also reflected in participants' attitudes to age. One participant from the current study suggested that they felt powerless against aging and that they carried on the best they could, whilst another participant accepted aging by finding ways around impairment. These people also used available resources such as books or accessible health facilities such as the pool. Similar findings by Lansbury (2000) showed older people preferred to manage their pain by using convenient, inexpensive facilitates that

did not need major behaviour changes.

Slowing the Momentum of Age

A key finding in this study was the way in which the participants dealt with poor balance. Falls were a regular occurrence in the lives of the participants, although only a few resulted in serious injury. The small house sizes in the village allowed participants to be within reach of something to steady themselves on if they were going to fall. Falling is a common occurrence amongst this age group. In 2013, 190,000 fall related injuries were lodged with the New Zealand Accident Compensation Corporation (Donald, 2013). The physiotherapist on site provided walking devices allowing participants to maintain freedom and independence. The devices compensate for weakness in the lower extremity by supporting a portion of body weight (Bateni & Maki, 2005). A negative consequence identified by Van Hook, Demonbreun, and Weiss (2003) is that the devices can reduce arm swing in the gait cycle and contribute to changes to the musculoskeletal system that affect overall posture. There was no indication from participants that the devices were monitored or adapted to suit their individual needs.

Exercise was a dominant feature for the participants in this village, many swimming, walking or participating in Tai Chi. Exercise was used by the participants as a strategy to combat weakness or poor balance and the population of people in this research seemed very motivated to keep fit and healthy and perhaps there is an association with their relatively affluent surroundings. As McDonald-Miszczak and Wister (2005) highlight in their findings that older adults with a higher socioeconomic background seem to have better healthcare practices because they are able to afford more health care services.

Tse et al. (2011) and Donald (2013) confirm that exercise is beneficial for this age group in reducing falls and fractures; that exercise is also effective for pain relief, improving joint range and mobility is perhaps a reason so few participants in this study experienced constant pain. It also appeared that participants in this study were familiar with various forms of manual therapy. A common theme amongst research of this age group is that participants did what they could to tend to their body. Giddings, Roy, and Predeger (2007) found that their participants were aware that their situation could worsen and as a result did self-monitoring and preventive care to avoid it. Higgins (2008) findings suggest a similar thing, as participants ‘tended to their body’ with routines of self-care, using this as a way to cope and

forget about the pain. In this study no one specific therapy was most popular instead participants appeared loyal to the providers that had produced the best results. Half the participants had used osteopathy but the remainder had little idea about what it was.

Understanding what's Happening as one Ages

The study findings suggested there was a high level of undiagnosed musculoskeletal and neurological complaints and that the participants came to various conclusions about their health based on symptoms. It is possible this is not the case, and that tests were completed and a diagnosis made, but this had not been retained by the participant. It also became evident that participants were not interested in a diagnosis when it would not change their condition, in comparison with a finding by Gjorup et al. (1987) who suggest that a diagnosis helped their participants feel more relaxed about their situation. It appears that older people may often receive minimal information leading to a lack of understanding or vice versa (Lansbury, 2000). Older people do not like to be a nuisance and so health practitioners may not be aware that their patients do not understand their conditions. An osteopath may be able to help because they have more appointment time than many doctors and can help a patient understand their musculoskeletal complaints more clearly. A treatment plan with attainable goals is common osteopathic practice and this would be useful to combat the frustration of patients who do not know how to improve their situation (Parsons & Marcer, 2006). Older people who have a sense of control have higher indicators for health and wellbeing (Caprara et al., 2013). Findings from this study also identified that the participants were on a number of medications. There were some serious side effects and participants often waited until any symptoms were very severe before seeking help, unsure whether they would resolve or not. The participants saw their doctor every three months as protocol at the village. Osteopathic treatment usually occurs every week or two, which may also provide an avenue to monitor general health and allow patients to express any concerns.

Limitations

The village is located in a high socio-economic area and this may have influenced how participants aged and how much healthcare they could afford. New Zealand also has a diverse pool of ethnicity. In this study most participants identified with Caucasian European ethnicity and the findings may not transfer to a different ethnicity where their coping strategies may be quite different. Different nationalities may also have different musculoskeletal complaints

depending on their surroundings and climate.

Conclusion

This study gave an insight into the musculoskeletal complaints of a small group of older people at a retirement village. The most common complaint was OA followed by a broad variety of neurological impairments. The findings highlighted that participants were actively seeking ways to maintain and improve health. Manual therapy, specifically osteopathy could firstly be used to improve biomechanics and secondly to provide guidance on health related queries that may not be addressed because participants attribute them to old age. Regular osteopathic treatment may provide another element of social activity and a way for practitioners to monitor health: for this to occur treatment must be affordable. Osteopathy care could meet many of these needs, and it is recommended that the information be provided for this population.

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Part Four
Appendices

Appendix A: Theme Development

Find it harder to find deep meaning when there does appear to be any

Quote
Participant 10
Participant 9
Participant 8
Participant 7
Participant 6
Participant 5
Participant 4
Participant 3
Participant 1

Indiviuadual experience of pain

Couping mechanisms

I had a lot of time to decided about the surgery, but I didn't have support from my family. I found it hard getting up after surgery but once the surgeron told me it wasn't in my mind I had more confidence.

A positive attitude is what gets me though. Im so lucky not to have pain

I keep active because its good for your muscles and always look for ways that might help though magazines

I feel powerless but I just keep trudging on. Also use anitdeppressants other wise I get very sad about the whole situation

Iv been very lucky. I also have a high pain tolerance

Comparison to past mother who was very ill, I use the knowledge to my benefit, I no what to expect how to cope. I keep busy still working full time.

Shock first and then you get used to it, but I wish something could be done about it.

A point at which you notice your age

I can do all the things that I want because there is no issue with my brain but my body cant keep up I don't have as much stregnth anymore

I don't have as much energy anymore, i tirer more quickly.

I cant do my hobbies any more, I can life and I don't have the enegry either

Just normal aging. A lot of this is normal aging I reckon too, I have to face that.

Appendix B: Ethics Approval

Emma van der Vliet
1 Cobblers Lane,
Riverhead 0820
Auckland

11.12.14

Dear Emma,

Your file number for this application: **2014-1100**

Title: **An assessment of the health status of a group of independent residents of a retirement village especially in relation to aspects of physical health and musculoskeletal function**

Your application for ethics approval has been reviewed by the Unitec Research Ethics Committee (UREC) and has been approved for the following period:

Start date: 9.12.14
Finish date: 9.12.15

Please note that:

1. The above dates must be referred to on the information AND consent forms given to all participants.

2. You must inform UREC, in advance, of any ethically-relevant deviation in the project. This may require additional approval.

You may now commence your research according to the protocols approved by UREC.

We wish you every success with your project.

Yours sincerely,

pp.

Sara Donaghey
Acting Deputy Chair, UREC

cc: Elizabeth Niven
Cynthia Almeida

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Appendix C: Participant Information Sheet

Research Project Title: An assessment of the health status of a group of independent residents of a retirement village especially in relation to aspects of physical health and musculoskeletal function

About this research
The purpose of this study is to understand the experience of daily living for older people 65+ in relation to physical and musculoskeletal health. The information will provide a snap shot of a small group's health that may be used to show how a manual therapy clinic could be useful on the retirement village premises.

The researcher
Emma van der Vliet a Unitec Osteopathy Masters student.

What is being done

Face to face interviews that will be audio recorded, to collect information on present and past health with a specific focus on musculoskeletal issues.

The interview information will be transcribed using professional services, the transcriber will sign a confidentially agreement. The transcription will be returned to the participant to read and amend if they chose to. The interview transcript will then be returned it to the researcher.

The data will be analyzed to identify common pathologies that are amenable to osteopathic intervention.

A report will be created to inform the feasibility of a possible osteopathy student clinic at this retirement setting

What this means for you

A one hour interview that will have questions aimed at your musculo-skeletal health.

You will receive a copy of the final manuscript once all the research has been collected and analyzed , so you can read what the research discovered.

You may withdraw at any time up to two weeks after receiving a copy of the interview transcript.

Please contact me if you need more information about the project. Emma van der Vliet 0211485838 or emmalvdvliet@gmail.com
If you have any concerns about the research project you can contact my supervisor: My supervisor is Elizabeth Niven, phone 021 654935 or email eniven@unitec.ac.nz

Appendix D: Participant Consent Form

Participant Consent Form

Research Project Title: An assessment of the health status of a group of independent residents

of a retirement village especially in relation to aspects of physical health and musculoskeletal function.

I have had the research project explained to me and I have read and understand the information sheet given to me.

I understand that I don't have to be part of this research project should I chose not to participate and I may withdraw at any time up to two weeks after receiving a copy of my interview transcript.

I understand that everything I say is confidential and none of the information I give will identify me and that the only persons who will have access to the full interview will be the researcher and her supervisors. I also understand that all the information that I give will be stored securely on a computer at Unitec for a period of 5 years.

I understand that my discussion with the researcher will be audio-taped and transcribed. I understand that I may make any changes on the interview transcript when I receive a copy, and return it to the researcher.

I understand that I will be sent a copy of the final report.

I have had time to consider everything and I give my consent to be a part of this project.

Participant Name: ……..

Participant Signature: …….. Date: ……

Project Researcher: …….. Date: ……

UREC REGISTRATION NUMBER: (insert number here)

This study has been approved by the UNITEC Research Ethics Committee from (date) to (date). If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 8551). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

Appendix E: Confidentiality Agreement

Research Title:

Researcher/s Name:

Address:

Phone number:

Email:

I _____ (full name - please print)
Agree to treat in absolute confidence all information that I become aware of in the course of transcribing the interviews or other material connected with the above research topic. I agree to respect the privacy of the individuals mentioned in the interviews that I am transcribing. I will not pass on in any form information regarding those interviews to any person or institution. On completion of transcription I will not retain or copy any information involving the above project.

I am aware that I can be held legally liable for any breach of this confidentiality agreement, and for any harm incurred by individuals if we disclose identifiable information contained in the audiotapes and/or files to which we will have access.

Signature: ……. Date: ……

UREC REGISTRATION NUMBER: ####
This study has been approved by the UNITEC Research Ethics Committee from **(date) to (date)**. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 8551). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

Appendix F: Interview Guide

List of interview questions

How would you describe your general health

Do you suffer from any arthritis

Do you know what this is

Who diagnosed it

When and how long ago

Where you given any advice on how to manage it

How does it feel after exercise

Describe the pain- burn, shoot, achy, catching, jarring

What made you realise there was a problem

Does the (arthritis) inhibit you doing anything

When you have pain does it stop you doing something

How well can you move around

What causes the most inconvenience, does this inhibit you doing anything

How has this changed in recent years

Do you have any problems with movement in your shoulders, hips, knees, back, hands, feet

What sort of stretch's are you doing

Where did you learn them

Have you had a previous injury to that particular area

How do you notice the lack of hand strength

Any pain with walking or standing

How do you no about..

How often do you visit podiatrist

Are there any other health conditions that prevent you doing anything

How would you describe your mobility

How is your mobility with gardening or getting around

Does this affect your quality of life

How does your mobility compare with husband/wife/ friends

Do you think the lack of movement is a result of previous injuries or being guarded

Do experience muscle or joint pain

How often

When with what sort of activity

How much exercise do you do

How do you feel after specific exercise

Have you had any physical treatment before- chiro, physio

How was that experience

Did the treatment provide relief

How many session did you go to

What physical changes would make your life easier

Have you had treatment from an osteopath before

What type of treatment did they perform

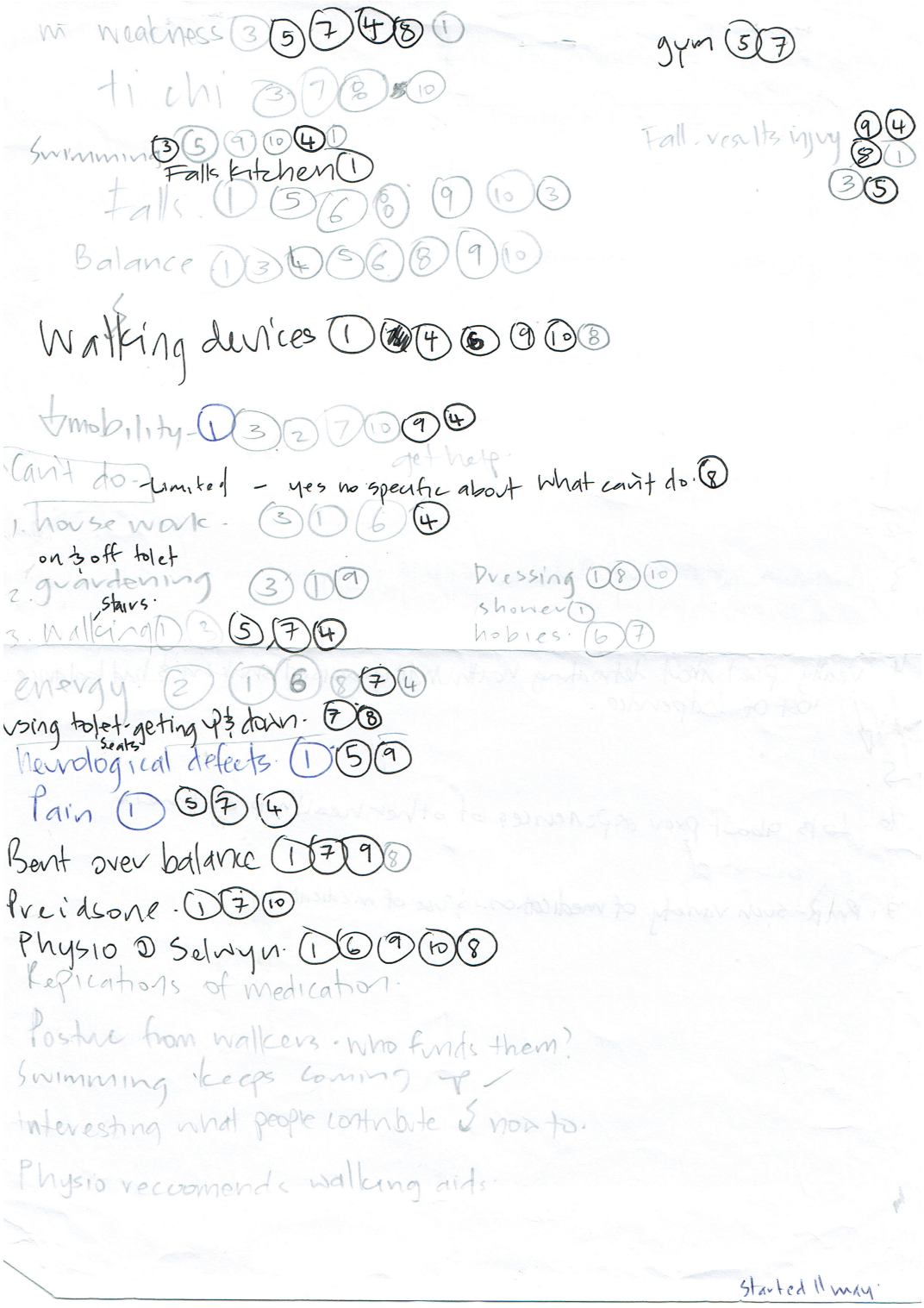
Why did you swap from physio to osteo

How did you hear about osteopathy

What is your idea of osteopathy , now that you have visited one

Would you be willing to see an osteopath again

Appendix G: Code Development



Appendix H: Development of Theme Ideas

Medication quick fix Relation to the research Q.

Repercussions and benefits??
Gives a idea of systemic health. It is also another way for osteos to help be monitoring heath, if a person is having regular appointments and they are having issues such as dizziness then we would refer them to the dr for a check up. This may allow the dr to investigate things quicker then every 3 months

It shows an avenue that if medication can't help that osteo treatment maybe used as an alternative.

What steps are taken when medication cant be taken- one persons info
This links with above, is there an multisciplinary approach

Cost associated with medication- two people
???

A multidisciplinary approach Relation to the research Q.

Manual therapy experiences
Gives an idea about how much residents might know about manual therapy and how much they utilise it. Would we actually be used in this setting.

Also may give an idea of the MS complaints that they have previously had treated.

Mixed ideas on what osteopaths do, bones comes up more then once. Really good experiences to the question why even get treatment.

The use of activity- exercise as a treatment- does exercise help
So many people are helping them selves
Does physio take them to the pool, could be a way for us as students to learn more exercise based stuff, watching them move in the pool, advising exercises

The availability seems to make a big difference to adherence. If the clinic was on premises more individuals would come.

Indicates that rehab programs post fall may be useful.

A diagnosis does or doesn't help
Could manual therapy, help people live more comfortable with their conditions

Answer any questions that people have, eliminating assumptions

Individual experience of pain Relation to the research Q.

Coping mechanisms
How are people coping with there MS complaints at the moment. Is it more attitude or actions

A point at which you notice your age- cant do list
What are these points that make people feel old, are they amendable. Is it actions do these cause people to feel old.

Feeling good is temporary- nothing under this topic
Contributing health to a specific event-assumptions about ones health
Helps to unpick the MS complaints, reasons why people may suffer certain aliments more than others.
Could the now complaints we avoided

Falls and the repercussions
Subsequent injuries
How falling is having wider replications on MS health, long term effects as a result

Walking devices/ adapting life to instability
Are people willing using these devices. Are there MS (posture, HA, ank mobility) replications from using the devices. Who sets them up, are they ever removed from the individual.
Are there any MS problems that are causing the balancing or contributing to worsening it.

Musculoskeletal injuries
Assumptions about ones health
Do people think they don't have MS problems when they do and vis versa.
Can some of these assumptions be wrong and be rectified by manual therapy advice.
Are these assumptions contributing to making MS worse.

Lex defects- only one persons info
Cant do- lack mobility- iv had to give up
An area and goals that physical therapy can use to improve

.

Appendix I: Journal Publication Guidelines

Journal of Aging and Health Manuscript Guidelines

Manuscripts must be submitted for review via the *Journal of Aging and Health* SAGE Track website at http://mc.manuscriptcentral.com/jah.

Manuscripts should be prepared in accordance with the 6th edition of the Publication Manual of the American Psychological Association. Double space all manuscripts, including references, notes, abstracts, quotations, and tables, on 8 1/2 × 11 paper.

The title page should be a separate document and include all authors' names and affiliations and highest professional degrees, the corresponding author's address and telephone number, and a brief running headline.

Place acknowledgments in a separate document under the heading AUTHOR'S NOTE.

The title page should be followed by a structured abstract of 100 to 150 words that includes the following subheadings: Objectives, Methods, Results, and Discussion. On the abstract page include 3 to 5 words or short phrases for indexing purposes.

The abstract page as well as the first page of the text should include the manuscript's title without the authors' names to facilitate blind review.

Tables and references should follow APA style and be double-spaced throughout. Ordinarily manuscripts will not exceed 30 pages (double-spaced), including tables, figures, and references.

Authors of accepted manuscripts will be asked to supply camera-ready figures. Submission of a manuscript implies commitment to publish in the journal. Authors submitting manuscripts to the journal should not simultaneously submit them to another journal, nor should manuscripts have been published elsewhere in substantially similar form or with substantially similar content. Authors in doubt about what constitutes prior publication should consult the editor.

More information found https://au.sagepub.com/en-gb/oce/journal-of-aging-and-health/journal200849#submission-guidelines

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Full name of author: Emma louise van der vlet

Full title of thesis/dissertation/research project:

An assessment of the health status of a group of independant residents of a retirement village especially in relation to aspects of physical & musculoskeletal function.

Department of Osteopathy

Degree: Most Osteopathy Year of presentation 2016

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