Long-term acupuncture therapy for low-income older adults with multimorbidity: a qualitative interview study of patient perceptions

By

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Abstract

Objectives: Multiple chronic conditions are common, but often poorly managed, among the rapidly growing population of older adults. Polypharmacy, a heavy treatment burden, and inattention to the patient's priorities are frequent problems for older people with multimorbidity. This study's objective was to explore what benefits are perceived as a result of long-term, regular acupuncture treatment by this cohort, and their motivations to continue treatment. Methods: A qualitative design with inductive thematic analysis of semi-structured interviews conducted with 15 patients recruited from a clinic for low-income seniors in San Diego, CA. Results: Five main themes were identified: (1) mind-body effects; (2) the enhanced therapeutic alliance; (3) what they liked best; (4) the conventional health care system; and (5) importance of regular schedule. All five themes share the core concept of *reasons to continue*. Conclusion: These older adults with multimorbidity highly valued acupuncture as a way to reduce medication as well as a means to maintain health and abilities. In addition, they developed a strong trust in the clinic's ability to support them as whole individuals, which they contrasted to the impersonal approach of the conventional doctor's office.

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Chapter I: Introduction

Multimorbidity and Aging

Multimorbidity is strongly associated with lower functional status, poorer quality of life, more emergency hospital admissions, and increased mortality (St John, Tyas, Menec, & Tate, 2014; Eckerblad et al, 2015). It is usually defined as the presence of two or more chronic health conditions (Bahler, Huber, Brungger, & Reich 2015) and occurs in around two-thirds of people aged 60 and older in regions which have been studied, mainly in the developed world (Vogeli et al., 2007; Salive, 2013; Boeckxstaens et al., 2014; Kone Pefoyo et al., 2015; Sinnege et al., 2015). Multimorbidity increases with age: in a study of 31 million Medicare users, Salive (2013) found the incidence was 62% for those aged 65 to 74, and increased to 81.5% for those aged 85 and up; similarly, Kone Pefoyo et al. (2015) reported the incidence to be 66.4% for people aged 65-74, rising to 80.9% for 75- to 89-year-olds, in a study encompassing the population of Ontario, Canada.

The expected paired increase of age and multimorbidity will have a substantial impact on public health: The Robert Wood Johnson Foundation's *Partnership for Solutions* projected the number of Americans with multiple chronic conditions will reach 81 million by 2020 (as cited in Vogeli et al., 2007). Moreover, it will have a massive impact on the utilization and cost of health care. The average Medicare patient with a single chronic condition sees four different doctors each year; when the patient has five or more conditions, the number of doctors visited rises to 14 (Vogeli et al., 2007). *Partnership for Solutions* estimated that individuals with five or more conditions account for two-thirds of all Medicare spending, and patients with two or more chronic conditions take up 95% of Medicare expenditures (as cited in Vogeli et al., 2007). In a study in Switzerland – where, as in the US, health insurance is mandatory - of 230,000 insured

individuals aged 65 and up, the number of annual doctor visits was nearly four times as high among those with multimorbidity as those without, and total costs were 5.5 times higher, with an increase of 33% in cost for each successive chronic condition (Bahler et al., 2015).

As the figures above suggest, the care of people with multiple chronic conditions is not well centralized or coordinated. Existing guidelines for disease management are not designed for patients with multimorbidity, as the present system focuses on individual diseases rather than the totality of illness or the patient's priorities (Hughes, McMurdo & Guthrie, 2013; Bahler et al., 2015, Eckerblad et al., 2015). People with multiple chronic conditions suffer a variety of symptoms, leading to a total symptom burden which may be experienced as more than the sum of its parts. For instance, Eckerblad et al. (2015) found that people with digestive disorders, poor vision, or likelihood of depression had a higher risk of total symptom burden. The symptoms which are most important to a patient, however, may not be the ones prioritized by their disparate doctors, leading to the likelihood of polypharmacy and complex treatment regimes that may be especially hard for older people to adhere to. Hughes et al. (2013) created treatment protocols based on existing UK guidelines for two hypothetical patients; the result for a 75-year-old woman with five mild-to-moderate conditions included up to 21 medications, nine or more self-care or lifestyle recommendations, and tens of clinical appointments per year.

Multimorbidity does not affect everyone equally. People who are older, female, have more depressive symptoms, or are less educated experience it at a higher rate (St John et al., 2014). The association with education level raises questions about access to care for those with lower socioeconomic status, and Barnett et al. found there was a strong association between social position and multimorbidity in patients in Scotland (as cited in St. John et al., 2014).

Pain and aging

There is also an established relationship between multimorbidity and pain. Eckerblad et al. (2015) found that pain was the symptom with the highest prevalence, frequency, severity, and distress level in older patients in Sweden with at least three diagnosed conditions. Pain was reported in two-thirds of patients, while more than 40% said it occurred frequently to almost constantly during the prior week, and around one-third gave it a high severity or distress rating. Some chronic conditions or combinations have been found to be more commonly associated with pain; Scherer et al. (2016) reported that low back problems, particularly when combined with certain digestive disorders, were most likely to lead to high pain levels in patients aged 65 and up in Germany. There is also a well-established link between depression and pain in older people (Turk, Okiko, & Schraff, 1995; Gallagher, Verma, & Mossey, 2000; Landi et al., 2005), and both Eckerblad et al. (2015) and Scherer et al. (2016) noted an association between pain and depression in multimorbid patients. Thus addressing both depression and pain is particularly important in these people, regardless of other medical diagnoses.

Prevalence and significance.

There is a high prevalence of pain in the older population, particularly among those with lower socioeconomic status. Chronic pain essentially doubled from the lowest to the highest age group – with a prevalence of 62% in those 75 and older - in a study of chronic pain in a Scottish community, while other associated factors included living in public housing and being unable to work or retired (Elliott et al., 1999). Brown (2011) found that more than 90% of older community dwellers reported pain within the last month – predominantly musculoskeletal - and four out of ten described the quality of pain as on a spectrum from discomforting to excruciating. In light of that study, it is worth noting that not only is the prevalence of pain in older people

likely underreported (Weiner, 2002; Sofaer et al., 2005, Abdulla et al., 2013), but so is the severity. The group of older community dwellers studied by Eckerblad et al. (2015) reported pain scores similar to those of end-of-life cancer patients in a hospital, a revelation the researchers described as surprising.

Particular concerns for older patients.

While pain is recognized as a common problem for older adults, it is still thought to be underreported and undertreated (Ruoff, 2002, etc.) Furthermore, special considerations need to be taken when treating pain in this population, due to the co-occurrence of other conditions, the consequent likelihood of polypharmacy, physiologic changes that occur with age and affect drug metabolism, and the much greater risk of drug reactions as a result of all of the above. Ruoff (2002) noted that in older patients, adverse reactions happen more than twice as often as in younger patients, and the more medications taken, the more the risk of side effects increases (p. 44-45). Nonetheless, Ruoff did not advocate forgoing drugs, but rather suggested considering alternative medications, such as coxibs in place of NSAIDs, in high-risk patients. However, his key points for treating chronic pain in older patients also included tailoring the treatment approach to the individual and using non-pharmacologic approaches as well – although he did not specify any of these.

Acupuncture as treatment for multiple chronic conditions

The existing system of reductionist medicine, with treatment divided into individual organ systems, has not been successful in managing the needs of patients with multiple chronic conditions (Tinetti et al., 2012; Foell, 2013). In fact, this division of diagnosis and treatment may not be a logical response to the patient's needs, but rather an outcome of the health industry's unnatural and unwieldy fee-for-service construction. As Foell (2013) pointed out, although

medical authorities for thousands of years, from Huang Di to William Osler, have called to treat the person, not the disease, at present "disease labels are the currency for regulating access to medical services or subspecialisms", and he suggested the emergence of comorbidities is an "epiphenomenon of the division of labor in the health industry" (Foell, 2013, p. 310).

Core attributes of Chinese medicine would seem to put it in a prime position to address the needs of people with multiple chronic conditions – which, as argued earlier in this chapter, is overwhelmingly a concern of older adults. The very theory of Chinese medicine is based on the premise that every aspect of the body/mind - including the individual's environment – is interrelated with the others, and so should be treated at the same time. The close attention paid by the practitioner to the patient, and the resulting trust that develops, is a key component of acupuncture. This aspect of care is sadly missing in our current, divided health care system, leaving a significant unmet need; in a study of older patients with multimorbidity, Bayllis et al. (2008, as cited in Foell, 2013) found, "Trust in continuing relationships is repeatedly seen as the most important feature of care by patients." Time and again, the lack of a central, cohesive health-care presence in the lives of older adults with multiple chronic conditions has been decried by those observing the phenomena of aging and multimorbidity. One could conceive an ideal solution - perhaps an advocate with extensive health knowledge and clinical skills, or a place where patients could go to have their physical/mental/emotional concerns addressed all at once.

Purpose of Study/Research Question

Such places may already exist, unexamined by the scientific world. It is the purpose of this study to explore the experiences of people treated with acupuncture at one such place, posing the question: What are the perceptions of benefit of long-term acupuncture treatment, and what

are the motivations to continue it, among people aged 60 and older who suffer from multiple chronic conditions? It is hoped that this study will provide important knowledge, both in defining patient beliefs regarding the health advantages of long-term acupuncture treatment, and in the potential application of this understanding to increase awareness and outreach of acupuncture as a treatment modality for the rapidly growing demographic of older adults with multiple chronic conditions in the United States.

Definition of terms:

- Ba Liao points: In acupuncture: four points, needled bilaterally, on the inner Urinary Bladder line. The points are located over the four sacral foramina.
- Community-dwelling: Living at home, versus living in an institution.
- Comorbidity: Usually used interchangeably with the word multimorbidity. However, Valderas et al. (2009) made a distinction, defining comorbidity as the presence of one or more related, non-primary conditions in a person with any given primary disease. In contrast, they defined multimorbidity as the occurrence of two or more unrelated conditions where none is emphasized over the other. In this paper, the terms are used interchangeably.
- Five-element acupuncture: An approach developed by J.R. Worsley, positing that most disorders are caused by emotional/spiritual imbalances that can be corrected through use of certain points or point combinations based on the traditional Chinese medicine elements of wood, fire, earth, metal, and water.
- Grounded theory: An approach to qualitative research in which the theories are generated or developed during the process of the research – thereby they are "grounded" in the data.

- Intention-to-treat analysis: Includes all patients who were enrolled and randomly allocated to treatment in a scientific study in the final analysis, in the group to which they were allocated, regardless of whether they completed the intervention.
- Likert scale: A scale with five or seven points which allows the individual being surveyed to express opinions as to the frequency, importance, or likelihood of an event, or agreement with a statement, along a linear continuum. For example, the statement "I had a good experience in class" would be followed by the choices strongly agree, agree, undecided, disagree, strongly disagree.
- Multimorbidity: The presence of two or more chronic health conditions in an individual.
- NICE: National Institute for Clinical Excellence, an independent body set up by the UK government to determine which drugs and treatments are available through the NHS.
- NHS: National Health Service, Britain's socialized health care system.
- Phenomenological study: A type of qualitative study which explores the views of individuals who have experienced a common phenomenon. The idea is to distill a universal essence from the shared experience of the individuals.
- Pragmatic trial: A scientific trial that tries to replicate events as they would happen in the real world, as compared to a strictly controlled experimental environment.
- Short Form 36 (SF-36): A commonly used outcome tool that incorporates a set of 36 self-reported quality-of-life measures.
- TCM: Traditional Chinese Medicine, a standardized version of the thousands-year-old health care system. It was developed during Mao's reign in 1950s China and is now taught in most acupuncture colleges in the Western world.

- Thematic content analysis: A qualitative analytical method using the systematic examination of data to identify and order codes and themes.
- WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index, which measures pain, stiffness, and physical function in patients with hip and/or knee osteoarthritis.

Chapter II: Literature Review

Overview

This chapter begins with a discussion of the impact of chronic pain on the lives of older adults, as documented in qualitative studies. The next section looks at the results of two sets of quantitative trials: those investigating acupuncture treatment for chronic pain, and those focusing specifically on older adults for various other health conditions. The chapter continues with a review of qualitative and mixed-methods research into the experiences of people treated with acupuncture, including both studies nested in larger quantitative trials and stand-alone studies. It concludes with a literature review integration summarizing the existing literature and making a case for the current study.

Search Terms

Different combinations of the following search terms were used in the research for this review, querying PubMed, Evidence-Based Complementary and Alternative Medicine, and Elsevier Ltd.: Acupuncture, aged, attitudes, clinic, epidemiology, geriatric, multimorbidity, pain prevalence, perspectives, qualitative study, Asset and Health Dynamics Among the Oldest Old, Health and Retirement Study, "Age Ageing"[jour] qualitative, "Age Ageing"[jour] acupuncture, "The Gerontologist"[jour] pain.

The Experience of Pain – Qualitative Studies

Pain is a subjective experience that can have profound effects on the daily existence of those who live with it. A number of qualitative studies have explored how older adults experience chronic pain and how they cope with it, including why they may not seek treatment. Sofaer et al. (2005), using a grounded theory approach to explore the limitations and strategies of such people, found two inter-relating themes: desire for independence and control, and

adaptation to a life with chronic pain. The researchers theorized that when independence and control are effective, adaptation also tends to be. One of the strategies for adaptation that emerged was helping others, in the sense that "helping others was instrumental in distraction from pain, and that it was this that contributed to well-being" (Sofaer et al., 2005, p. 465). Other strategies included acceptance of a life with pain and participation in community activities, although it was notable that many people said they felt socially isolated. The theme of social isolation was further explored in a phenomenological study of older adults with neuropathic pain, which found that isolation – due to pain and the inability to make plans because of the possibility of another episode - extended to spouses as well as patients (Sofaer-Bennett et al., 2007).

The idea of acceptance of a life with pain also appeared in a study by Makris et al. (2015) concerning older adults with restricting back pain. Asking why such people might not seek treatment, one of three main themes that emerged was the belief, on the part of both participants and providers, that pain in older age was inevitable. In this study, however, belief in the inevitability of pain was seen not as a positive coping mechanism, but rather as a negative social attitude – ageism. The second theme was negative attitudes towards medication and surgery, which many participants had acquired through experience of side effects from prescription drugs and polypharmacy. Participants also criticized poor communication from their doctors and a lack of options for treatment. The final theme was the prioritization of other comorbidities compared to back pain; the authors noted, "Restricting back pain rarely occurred in isolation as most participants reported the presence of multiple chronic conditions" (Makris et al., 2015, p. 6). Many participants themselves gave a higher priority to other conditions which were treated by specialists, reducing the likelihood they would have their back pain addressed. Thus ageism (the belief that aging necessarily leads to pain), unsatisfactory experience with doctors, medication

and surgery, and the perceived need to prioritize other conditions over pain in those with multimorbidity, were seen as blocks to seeking care for chronic, debilitating back pain.

Quantitative Studies of Acupuncture

Acupuncture and pain.

Acupuncture is widely used to treat pain, and there is a considerable body of research into its effectiveness for this and other conditions, including some studies specifically focused on older people. It is beyond the scope of this review to present a comprehensive assessment of acupuncture pain trials, but research with particular relevance to the present study will be discussed.

A study that stands out for its pragmatic approach and influence on public health policy addressed low back pain in the UK. Thomas et al. (2005) applied a randomized, two-arm pragmatic design to investigate the clinical- and cost-effectiveness of acupuncture plus usual care compared to usual care only for people aged 18-65 with persistent, non-specific low-back pain. Patients were offered up to 10 acupuncture treatments, and the average number of treatments taken was eight. Six different acupuncturists were involved, and there was no treatment protocol; diagnosis and treatment were on an individual basis, including moxibustion, massage and advice on diet and lifestyle.

The results were particularly interesting, as they bucked the trend of other research which has shown mainly short-term relief for pain. Using the Short Form 36 (SF-36) Bodily Pain dimension as the primary outcome measure, Thomas et al. showed a trend over time towards less pain in the acupuncture group compared to the usual care group, which was not statistically significant at the 12-month follow-up, but became highly significant at the 2-year follow-up. Additionally, at 24 months the acupuncture group was significantly more likely to report no pain

events in the last year, and less likely to report the use of pharmaceuticals for pain relief. The results (the study also showed cost-effectiveness) moved the National Institute for Clinical Excellence (NICE) to incorporate acupuncture into its guidelines for treatment of low back pain under the National Health Service (NHS), using the trial's treatment plan of 10 sessions over 12 weeks (Society for Acupuncture Research: Expert Interview Series [Hugh MacPherson]. Retrieved from www.AcupunctureResearch.org).

In contrast, a slightly larger (294 compared to 239 participants) study in Germany found only a short-term effect from acupuncture treatment for osteoarthritis of the knee (Witt et al., 2005). There were a number of significant differences between the trials, however, any or all of which could account for the discrepancy in outcome. First, the German study included patients aged 50-75, with an average age of 64, whereas Thomas et al. excluded people over 65. It is known that as people age, their capacity to recover slows, so age could be a significant factor in duration of treatment effect (Galloway and Jokl, 2000). Second, the focus of Witt et al. was osteoarthritis of the knee, a physiologically different phenomenon than low back pain, which usually would be diagnosed differently in traditional Chinese medicine as well. Third, acupuncture in the German trial had a much stricter protocol than the Thomas et al. study. M.D.s performed the acupuncture, choosing from a list of designated points. Finally, the comparison was with "minimal acupuncture"– shallow needling at non-acupuncture points, so-called because it was judged the intervention might not be physiologically inert (Witt et al., 2005, p. 136). There was also a wait-list control group.

The outcomes for the eight-week acupuncture intervention were significantly better than for the minimal and wait-list groups, including measures for pain, stiffness, and physical function on the WOMAC scale. There was also a greater reduction in analgesic use from weeks one to

eight in the acupuncture group (42% to 22%) and minimal group (38% to 23%) compared to the wait-list group (52% to 45%). However, the differences between the acupuncture and minimal groups lost their significance after 26 and 52 weeks, and the authors concluded: "Our results suggest that a single course of acupuncture treatment has only limited long-term point-specific effects" (Witt et al., 2005, p. 142). That conclusion leaves an open question as to what length of treatment is appropriate for older people with osteoarthritis, and what effect long-term acupuncture might have for them.

While Witt et al. looked at older patients, McKee et al. (2013) examined a group of middle-aged people (mean age 54), from a low-income, ethnically diverse area of New York City. The focus was again chronic pain, but in this case it was due to osteoarthritis or other neck or back pain – with back pain by far the most common condition at 60%, followed by osteoarthritis (17%) and multiple conditions (16%). The study was of a similar size to the Thomas et al. (2005) low back pain study and treatment lasted up to 14 weekly sessions, with an average uptake of 10 treatments. Of particular relevance to the present capstone study, treatments were given at four inner-city clinics staffed by student acupuncture interns from two local colleges, who were supervised by licensed acupuncturists. The practitioners were free to choose their own method of treatment and to modify the plan as needed for each individual. There was no control arm.

The results showed at least a 30% improvement in pain for 30% of participants, using the Brief Pain Inventory (BPI) and the Chronic Pain Grading Scale (CPGS). There was some attrition as only about two-thirds of people attended five sessions or more, with people citing lack of interest (27%), poor health (23%) and lack of improvement (18%) as reasons for dropping out. The researchers conjectured that the improvement rate might have been higher had

the acupuncturists been more experienced, and had the academic year of the colleges not caused inconsistency in the schedule and changes in the roster of clinicians. On the other hand, they thought that the substantial variation in number of treatments given per patient might have caused misestimation of the size of the effect. Again, the question of optimal length of treatment was up in the air.

A major concern for pain patients, especially older ones, is the phenomenally prevalent use of opioid drugs, with their attendant side effects and risk of addiction (Grey & Hall, 2016). Zheng et al. conducted a trial comparing real electro-acupuncture (REA) to sham electro-acupuncture (SEA) in 35 patients who used opioid-like medications (OLM) for non-malignant chronic pain. Treatment was twice weekly for 6 weeks, with a 12-week follow-up. Patients kept daily diaries of their pain, OLM consumption, and side effects, and also completed the McGill Pain Questionnaire (MPQ) and Beck Depression Inventory (BDI) at numerous points during the study.

Both groups significantly reduced their OLM consumption over the course of study, with no significance between the groups - although there was a trend to greater change in the REA arm - and total incidence of side effects also decreased. Although only 26 of 35 participants completed the six-week treatment, and three more were lost to follow up, intention-to-treat analysis insured all were included in the results. But for those who actually completed the six-week course, OLM use was reduced by 64% in the REA group and 46% in the SEA group. The researchers theorized that the strong SEA effect was likely due to "potent non-specific effects of sham needling" (Zheng et al., 2008, p. 675). Additionally, both groups received verbal encouragement from one of the researchers; the effect of this was not accounted for in analysis.

Finally, the treatment effect was found to be short-term, maintained for eight weeks after treatment.

Acupuncture for other conditions in older adults.

Other studies have found positive results for different conditions which affect older adults. One of the most prevalent conditions, as previously mentioned, is depression. This was the focus of a large trial (755 patients) in the UK comparing acupuncture, counselling and usual care alone, although it was not restricted to older people; adults of all ages (18 and up) were included (MacPherson et al., 2013). Patients in the acupuncture and counselling arms received up to 12 weekly sessions, and acupuncture treatments followed a protocol allowing for some customization. The mean number of treatments, as in McKee et al.'s (2013) study, was 10. There were statistically significant benefits for both treatment arms at three months, including a reduction in antidepressant drugs, which 69% of participants were taking at baseline. There was also a notable decrease in analgesic use in the acupuncture arm at three months, but this did not hold up after the intervention was over.

Two earlier studies with smaller sample sizes were restricted to older populations with different concerns. Bergstrom et al. (1999) tested acupuncture for urge and mixed-type incontinence in 15 women with an average age of 76 who had not responded to treatment at a specialty incontinence unit at a hospital in Sweden. Most patients were treated twice weekly for a total of 12 sessions. Using Ba Liao points plus UB 23, KD 3, SP 6 and LI 11 – points chosen for their proximity to innervation of the bladder and sphincter – the researchers found significant improvements in the type and intensity of urge to void, as well as objective improvement in leakage. There was also a significant improvement in self-assessed quality of life. Moreover, the

improvements were sustained at the three-month follow-up. Overall, seven of the 15 participants reported they were symptom-free or much improved one month after treatment concluded.

Barad et al. (2008) found acupuncture treatment to be beneficial in 27 patients treated in a geriatric rehabilitation unit in an Israeli hospital. Patients showed significant improvement in pain, appetite, bowel function, and general well-being using a 10-point Likert scale at the beginning and end of treatment. The results were especially remarkable as patients received an average of only three to four acupuncture treatments, given twice weekly. (Points were chosen based on traditional Chinese medicine diagnosis and usually included ST 36, SP 6, LV 3, LI 4, LI 10, and KD 3.) However, it must be noted that medical and physical therapy were also part of the intervention, and there was no control group; so it is impossible to know to what extent the positive results were due to those other therapies, or simply to time. Nonetheless, the treatment proved safe and suggested that acupuncture may be beneficial in helping geriatric patients recover from acute illness or surgery.

Qualitative studies of acupuncture

The concept of holism.

A smaller number of qualitative acupuncture studies have been published in the last 20 years. Such research explores the experience and perceptions of people receiving acupuncture, rather than seeking to determine its effectiveness in a clinical setting. One of the earliest, seminal studies used mixed methods to find both who used acupuncture in the U.S. and why they valued it. Cassidy (1998) distributed written surveys to 575 acupuncture patients in five different states, including room for free-hand comments on some questions and a final question which asked participants to describe their "own story" (Cassidy, 1998a, p. 18). Her results were published in two parts, with Part I establishing, first, a number of demographic features. Although it covered a swath of US states, the study sample was not notably diverse - nearly 90%

white and almost three-quarters female, mainly aged 30-60, well-educated and professionally employed – and the author remarked that her sample of middle-class Americans able to pay out-of-pocket was in line with samples from earlier research (and therefore probably representative of American acupuncture users at the time). Part I also gave the results of questions as to what extent and in what ways participants believed their health and quality of life had changed through acupuncture. More than 90% said their complaints had "disappeared" or "improved," while a majority reported improved quality of life and the use of fewer prescription drugs and doctor visits (Cassidy, 1998a, p. 22).

Qualitative analysis of the added comments and story, published in Part II, found that participants valued what Cassidy called "expanded effects of care" which were "improvements in physiological and psychosocial adaptivity" (Cassidy, 1998b, p. 189). The physiological improvements in coping included reduced reliance on drugs, a lesser tendency to experience medication side effects, and quicker recovery from minor infections and surgery. Features of improved psychosocial coping included increased self-awareness and self-efficacy, a feeling of being centered, in balance, or whole, and having made significant life changes. The study also evoked themes of a close patient-practitioner relationship (which others have called the therapeutic alliance), and a sense that acupuncture treats the whole person, or is holistic.

Holism was, in fact, a core concept of Cassidy's research. She defined it carefully as a philosophy and as a theoretical model for health care, including five features: that health is a positive state; that it resides in the mind, emotion, spirit, and social body as well as the physical body; the idea of individual responsibility for health; the importance of health education; and the priority of gentle, natural, or low-tech interventions. Indeed, the idea that Chinese medicine is holistic, and that this was how participants perceived it and why they valued and used it, was central to her conclusion.

There is one notable oddity in Cassidy's study, which is that her results seemed to be based on an a priori assumption that Chinese medicine works, and how it works. In doing so, she equated Chinese medicine and holistic health care before this became a discovery of her study. Moreover, the term she chose to portray how it works was "expanded effects of care", which later appeared as a finding of her research. In the results section, after briefly describing the theory of qi in Chinese medicine, she explained: "This is the first component of the 'whole body' or *expanded effects of care* [italics added] concept that characterizes both Chinese medicine theory, and holism theory" (Cassidy, 1998b, p. 195-196). Yet later, in the discussion section, she named "the expanded effects of care" as one of the "aspects of care that these respondents named as outcomes and as valued" (Cassidy, 1998b, p. 199). This term, then, appeared not to be a true finding which emerged from analysis of the results, but rather a preconception on which the finding was based.

Mixed-methods study in Britain.

In a replication of Cassidy's (1998) work, Gould and MacPherson (2001) published another mixed-methods study with similar aims in the UK. Their study was smaller - with 72 respondents to a questionnaire and 11 individual interviews conducted - and more local, with all participants recruited in York, England. There were demographic similarities – 75% of respondents were women and the average age was 50 – but there were also some differences. Nine out of ten patients claimed physical symptoms as their main reason for seeking treatment, and only 9% cited emotional problems, whereas in Cassidy's study, two-thirds listed mood care or wellness care as reasons they had sought treatment, with fewer than 60% saying they had sought care for musculoskeletal problems.

Nonetheless, the results were remarkably similar, with 96% of patients reporting some positive physical changes, and more than 80% noting some positive emotional or mood changes – regardless of the reason they had initiated treatment. The qualitative portion of the study found that patients valued both the physical and non-physical effects of acupuncture, the holistic treatment approach, the close patient-practitioner relationship, and the opportunity for health maintenance, better quality of life, and preventative care, all of which echo Cassidy's results. The similarities between the studies are especially interesting to note in light of the fact there was no consistency between styles of treatment, let alone treatment protocol: Cassidy's study involved six clinics - some of which practiced different styles of acupuncture - in five American states, while Gould and MacPherson recruited from four unrelated clinics in one area of Britain.

An interesting finding from this study was two-fold: first, that non-physical changes – which included mental/emotional changes, lifestyle changes, and major life changes – were significantly more likely in those who had had more than 21 treatments. Furthermore, a majority of participants placed more value on these improvements than any other. Second, that longer-term patients changed their treatment goals over time, such that health maintenance and well-being came to the fore, even though most patients originally sought treatment for physical complaints. Like Cassidy, Gould and MacPherson emphasized the holistic nature of acupuncture, which they called "holism-in-action" (Gould & MacPherson, 2001, p. 267).

Expansion of the holism discussion.

Building on these two founding studies, other researchers, particularly in the UK, continued to develop the concept of holism in acupuncture. Paterson and Britten (2003) conducted a longitudinal study of 23 people with chronic illness who were naïve to acupuncture, and interviewed them, individually, three times over six months to explore what aspects of

treatment they perceived as important. (The study also tested the efficacy of three health questionnaires completed before each interview.) Chronic conditions (defined as a problem of at least six months' duration) included abdominal distension, asthma, emotional problems, fatigue, headache, musculoskeletal problems, psoriasis, recurrent shingles, and subfertility; it was not reported if any participants had more than one condition. Once again, participants were recruited from a number of different clinics – in this case, seven – and there was no mention of any particular style of acupuncture. The study's findings, as the authors noted, were similar to those of Cassidy (1998) and Gould and MacPherson (2001), in that participants described both "symptom effects" and "whole-person effects" (Paterson & Britten, 2003, p. 674). Paterson and Britten identified two categories for whole-person effects; "changes in energy and strength" and "changes in personal and social identity" (Paterson & Britten, 2003, p.674), which they equated with Cassidy's "improvements in physiological coping" and "improvements in psychosocial coping." A noteworthy and unique finding of this study was that the three components – changes in symptoms, changes in energy, and changes in personal/social identity – occurred at different stages of treatment and in different sequences for different individuals, and the authors concluded that while the components were distinct, they were indivisible and "linked together into a holistic whole" (Paterson & Britten, 2003, p. 680). They also suggested that six-month follow-up was a "bare minimum for measuring outcomes of acupuncture in people with chronic illness" (Paterson & Britten, 2003, p. 680), as treatment goals and expectations shifted over time for this group of patients. This observation resonates with Gould and MacPherson's determination that longer-term patients tend to change their treatment goals as they experience changes in their health.

The same research team returned with a paper dealing entirely with the concept of holistic care (Paterson and Britten, 2008). This was a qualitative, secondary analysis of five longitudinal interview studies from the UK and Australia, specifically aimed at defining what holistic care means in the context of people using acupuncture for chronic health problems. Similar, qualitative methods were used in the design and primary analysis of all the studies, with each participant interviewed two to three times over four to six months.

A unique feature of this study was that it included patients treated with traditional acupuncture (which was practiced in all of the previous studies, regardless of the particular style), "Western-style" (medical) acupuncture, and acupuncture delivered in a sham-controlled clinical trial. Results showed the three patient populations had very different experiences which were best described in relation to "being treated as a whole" (Paterson & Britten, 2008, p. 268). Patients treated with traditional acupuncture had the most holistic experience, felt as having multiple problems and general health treated at once, as well as developing a new understanding of how to relate to their own bodies. Western-style acupuncture, on the other hand, rarely evoked references to holism, as the treatment tended to focus on a single symptom. Moreover, patients complained of delays, limited time, and lack of patient participation in deciding how often and when they would be treated. Because most medical acupuncture took place in clinics run by the NHS, while most traditional acupuncture was delivered in private clinics, the researchers also examined medical acupuncture performed in private establishments and traditional acupuncture performed within the NHS, to determine whether the different settings were responsible for the contrasting results. They found the holistic approach was still limited in the private practice, as treatment was restricted to musculoskeletal problems, and even these were treated one at a time. Traditional treatments within the NHS, on the other hand, were given with "an explicitly holistic

approach" (Paterson & Britten, 2008, p. 271), addressing multiple problems and overall well-being at one time, with the exception of one pain clinic with limited resources.

Holism was largely absent in the clinical trial, where participants were treated for one condition only, with limited communication between acupuncturist and patient. Although some people were satisfied with focusing on a single health condition, other people - in all three groups - reported having either multiple health problems, or both physical and emotional distress, and these "expressed the most enthusiasm for 'being treated as a whole'" (Paterson & Britten, 2008, p. 272). Significantly to the context of the present study, the authors concluded: "Our research suggests that holism – being treated as a whole person – is most important to patients with complex problems, especially where there is co-morbidity and emotional upset." (Paterson & Britten, 2008, p. 275) They also discussed the matter of optimum length of treatment for these more complex patients. Their conclusion was that the optimum varies for each person and should be determined jointly by the patient and provider based on individual response, but they threw in what could be read as an admonition to third-party providers: that there is no evidence to their knowledge that patients demand more acupuncture than their practitioners consider they need.

Studies focusing on specific populations.

Subsequent to the studies discussed above, a few studies which were part of larger quantitative trials, focusing on specific groups of people, were published. All of these studies found that attributes of holism were important to the treatment experience, although they mentioned the terms *holistic* or *holism* only in passing, if at all, without employing it as a core concept. The idea that traditional acupuncture is experienced as a holistic practice seems to have been accepted as a given by this point, beginning around 2010. The aim of the research, in each

case, was still broadly to explore the experience of particular groups of people being treated with acupuncture for specific conditions.

People with medically unexplained symptoms (MUPS).

Rugg et al. (2011) looked at a novel population: people with medically unexplained symptoms (MUPS), who make high use of primary care, often with frustrating results for both patient and provider. MUPS manifests much like fibromyalgia or chronic fatigue, with debilitating chronic pain, fatigue, and emotional problems. There was already guidance – in Britain, where the study took place – for management of MUPS; the guidelines shared certain attributes with traditional acupuncture, such as engaging patients in an active role in their own health care and using explanatory models to link physical and psychological problems. The study used semi-structured interviews of 20 participants from a quantitative trial in which patients with MUPS were offered 12 treatments with Five-Element acupuncture over six months. Trial subjects, who had a history of at least eight doctor visits per year, were referred from four primary care practices in socioeconomically diverse areas of London. Each participant in the qualitative study was interviewed once before the trial began, and once after it ended. The demographics were similar to those of earlier studies, with a largely female (80%), white (80%), and middle-aged (56 years) population.

Although this was a narrower group of people (those with MUPS), and although a particular and perhaps less common type of acupuncture was employed (Five-Element), the results of Rugg et al.'s study were strikingly similar to those of earlier studies, and the authors cited the holistic nature of the sessions as one of the elements valued by patients. Participants said they valued time spent with a caring, attentive practitioner; they began to take a more active role in their care; and they experienced physical improvements and psychological and social

changes. Worth noting is that some of the changes were unexpected – predominantly increased physical and/or mental energy and "an ability to take on new tasks" (Rugg et al., 2011, p. e312). Participants also noticed, along with less pain, improved ability to cope with pain, reduced medication and better sleep.

Although the results were comparable to those from prior studies, there were some significant nuances. First, the researchers highlighted the fact that patients were not paying for acupuncture as an important distinction (although, in Paterson and Britten's secondary analysis of five trials, the NHS and clinical trial patients were also receiving unpaid treatment), and that their population represented diverse educational and socioeconomic backgrounds. Second, like other qualitative studies nested in quantitative trials, this study helped illuminate the linked trial's results. The quantitative results showed an improvement in well-being, as measured by the W-BQ12 questionnaire - which has dimensions for energy, anxiety and depression, and positive well-being - and in individualized health status, as measured by the Measure Yourself Medical Outcome Profile, or MYMOP. However, they did not show significant change in generic functional health as measured by the EuroQol-5D. Rugg et al. theorized the lack of change in this measure was due to its emphasis on function while not providing an energy component, and they suggested another outcome tool with an energy component and specific measure of anxiety and depression would be more suitable in future trials. The issue of appropriate outcome measures for acupuncture research is an ongoing debate, as the sheer diversity of health and personal changes, let alone the intangible nature of "improvements in psychosocial coping", and the difficulty of attributing major life changes to a particular intervention, are very hard to capture with quantitative tools.

The third significant nuance had to do with length of treatment. One of the important findings of this study, as in others, was that patients improved their ability to cope through taking on an active role in their health as they continued treatment. In light of this finding, Rugg et al. suggested longer-term care could add more benefit, especially "given the chronic and complex nature of the health problem and the degree of change required to move from a passive to an active role" (p. 312-313). The observation is in line with Gould and MacPherson's discovery that non-physical changes and shifting in treatment goals were more likely in patients undergoing long-term (more than 21 weeks) treatment. It also suggests that people with chronic, multifactorial conditions would especially benefit from long-term acupuncture.

Low back pain.

Two further UK studies which were part of larger clinical trials supported the broad findings of all the studies discussed above, namely multifaceted improvement, the importance of the therapeutic relationship, and the patient's active role in health cultivation, ultimately leading to long-term personal or behavior changes. The first (Hopton et al., 2013) was nested within a trial of acupuncture for low back pain, and was aimed mainly at determining acceptability of the treatment. Two of the three major themes derived from the study were "facilitators of acceptability" and "mediators of acceptability" (Hopton et al, 2013, p. e56806); the first included the now-familiar factors of reduction in physical and mental/emotional symptoms, increased physical activity, more relaxation, and medication reduction, while the latter involved the therapeutic alliance, lifestyle advice, and the patient's engagement in recovery. (The final theme of barriers to acceptability included needle-related discomfort, temporary worsening of symptoms, pressure to continue treatment, and cost.)

The study was small – 12 interviews – and specific demographics were not given, although participants in the larger trial were aged 18-65, and the interviewees were chosen to reflect the diversity of participants in the larger trial. Ten of the 12 were women, and only half expressed satisfaction with their back pain at three months after the trial, although a majority said they were satisfied with their acupuncture treatment.

Depression and comorbid pain.

The second study (Hopton et al., 2014) was larger and more complex, employing 52 phone interviews of three groups drawn from a RCT investigating the use of acupuncture or counselling compared to usual care for people with depression and co-morbid pain. The focus of the study was the experience of depression and processes of change within both acupuncture and counselling. Traditional acupuncture was used in the RCT, including "the integration of relevant lifestyle support into the treatment strategy based on acupuncture-specific advice if considered appropriate by the acupuncturists" (Hopton et al., 2014, p. 2). Results within the acupuncture group showed that change sprang from three stages: the development of a therapeutic relationship; individual diagnosis and treatment (vs., presumably, disease-specific protocol), and engendering changes in health behaviors. Interestingly, while the characteristics of holistic care described by Cassidy (1998) and Paterson & Britten (2008) were found in both these studies, the language shifted from discussing holism to emphasizing the therapeutic relationship.

A final, noteworthy point from Hopton et al. (2014) had to do with the duration of the treatment effect. The researchers noted that, regarding musculoskeletal pain, several people felt relief lasting only a few hours or days after a session, but improvement tended to build up as treatment continued.

Research with special significance to the current study.

The last three papers to be discussed have particular relevance to the current study, albeit for different reasons. The first, a study from China, involved a group of young women receiving acupuncture for chronic pelvic inflammatory disease. On the face of it, there is not much in common with the present study. However, the chronic nature of the women's complaints, and the study's focus – to explore why these patients persisted in treatment for three months or longer – do share some key concerns with our study. Liang and Gong (2014) interviewed 15 women, two-thirds of whom were infertile and seeking to become pregnant. The four main themes to arise from the results were patient characteristics, including the force of their desire to become pregnant or avoid more serious disease; the patient-practitioner relationship, focusing on the caring nature of the practitioner; the characteristics of acupuncture, including the option of using modalities such as moxibustion, massage and cupping, its lack of serious side effects, and its holistic nature; and the clinic environment. An important aspect of the environment was its communal nature; participants interacted with one another in the clinic to share concerns and progress, and the authors found "the mutual support gained from each other is a complementary benefit to visiting the doctor" (Liang & Gong, 2014, p. 4).

There were some serious limitations to Liang and Gong's study, first and foremost that the second author was the attending acupuncturist for all the participants, most of whom were still undergoing treatment. The emphasis on praising the acupuncturist's personal style as the most important part of the patient-practitioner relationship suggests that some bias may have existed. The researchers also incorporated findings not in the scope of their study, namely that their results "pointed to the outcome of acupuncture as effective in genuinely improving illness, and not just a placebo" (Liang & Gong, 2014, p. 4). Nonetheless, their work contributed two

noteworthy insights. The first was the significance of social/emotional benefits patients experienced in the communal clinic setting. The second was the finding that participants experienced hope, confidence, and a sense of responsibility for their treatment, and that this emotional support was an especially important motivation to persist in treatment given the heavy psychological and physiological burdens of chronic disease and ineffective treatment. The latter finding adds to the body of knowledge suggesting that a holistic approach with a strong therapeutic alliance is tremendously important to patients with chronic disease.

The contribution of a communal setting to patient outcomes is an important finding of the present capstone study. The community acupuncture clinic, a popular style of clinic in the US, is one such setting, and was the focus of a recent study in Portland, Oregon. Tippens et al. (2013) examined patients' perspectives on care at two clinics run by Working Class Acupuncture (WCA). As the name suggests, the clinics aim to attract people who may have lesser financial means, and more than half the study respondents reported making less than $35,000/year. The study method was somewhat similar to that of Cassidy (1998) in that it used written surveys with one open-ended question: "Is there anything you would like to share about your experience at WCA"? (Tippens et al., 2013, p.2). A total of 265 people responded to the question, with two main themes emerging: aspects of health care delivery unique to the community setting, and patient engagement in health care. Among the valued aspects of community care were a "warm" and "welcoming" environment, and patients described the group feeling as "more powerful and comforting" and offering a "sense of well-being, healing and striving for health" (Tippens et al, 2013, p. 4). The theme of patient engagement in health care echoed similar findings from other studies, including the promotion of feelings "of personal control over their care, health, and wellness" (Tippens et al., 2013, p. 5) as well as improvements in energy and well-being.

Two findings unique to the study were, first, the extent to which the community model promoted a sense of cohesion, although this may in part have been due to the liberal political bent of Portland (the responses included such statements as "American health care system beware!"). But the authors found that "the mission and philosophy of the clinic appears to encourage and support patient engagement in care by providing a strong sense of allegiance and purpose," (Tippens et al., 2013, p. 5) – suggesting that patients not only felt satisfaction in flouting the status quo, but also bonded with others at the clinic in such a way as to enhance their health outcomes. The second finding was more of an observation - that because community acupuncture, through its low cost, allows people the option of more frequent treatment, it "raises pertinent questions about the dose-response relationship of acupuncture and health outcomes" (Tippens et al., 2013, p. 6)

The third study with particular relevance to the present one was, like the two Hopton studies in Britain, nested in a larger quantitative trial. Kligler et al. (2015) conducted interviews with 37 people who had been part of the ADDOPT trial – in which they were treated with acupuncture for chronic pain - discussed earlier in this review. The study's similarities with ours were: 1) it looked at an ethnically diverse, mainly low-income population; 2) it drew from an inner-city location; and 3) acupuncture was given at clinics staffed by student interns from a local acupuncture college – in fact, another branch of the same college which staffed the clinic in our study. No specific demographic information was given for the participants in the qualitative study, but in the larger study, the mean age was 54, and 53.5% were Hispanic, while 42% were from households earning less than $20,000/year.

The aim of the study was to explore the acupuncture treatment experience of people from this population, as it had not been the focus of research to date. The authors' conclusion was that

their results were very similar to those from studies of other populations, in terms of the benefits patients experienced, including a close and caring patient-practitioner relationship, the sense of being treated as whole, a deep sense of relaxation during treatment, multifaceted improvements, and the development of self-efficacy. Also notable, however, was the finding that many patients found the pain relief only temporary. The study also looked at reasons for trying acupuncture and barriers to using it. Among the most prominent motivators was a negative feeling about medications – that they did not work, caused side effects, and were not natural. The major barriers were cost and access. Thus, while this low-income, ethnically diverse, inner-city population had the same, beneficial holistic experience as more middle-class acupuncture users, they did not necessarily have the resources to continue with it after the trial was over. A notable limitation to the study was that it was conducted six to 18 months after the intervention, so relied on participants' long-term recall.

Literature Review Integration

Pain and depression are two common and often interrelated symptoms, which may create a higher symptom burden in older people with multimorbidity. Qualitative studies have found that chronic pain reduces mobility and engagement in social or communal activity, which can lead to isolation and strain relationships with spouses or other family members. Nonetheless, many studies suggest that pain is both underreported and undertreated in older people, in part due to beliefs on the part of both provider and patient that pain is a natural and inevitable element of aging. Research has also suggested that sufferers of chronic pain may not seek relief due to poor relationships with doctors and mistrust of medications and surgery, often after negative experience with side effects or due to fear of polypharmacy.

Acupuncture is commonly used to treat pain and numerous studies have provided evidence that it is effective for certain types of pain relief, including neck or back pain and pain from osteoarthritis, in people of all ages. Fewer studies have focused on older populations, and these have often trialed acupuncture treatment for other conditions, including major depression, rehabilitation from acute illness, and urinary incontinence, with some evidence of success.

Qualitative studies have found that people perceive and experience not only pain or other symptom relief from acupuncture, but a wide range of benefits – including mood lift, increased energy, and stress relief - that together may be described as enhanced well-being. People value acupuncture for its holistic approach and effect, and return to their acupuncturist for treatment of new complaints as they arise, or for general health maintenance, these studies suggested. Many people described the relationship with their acupuncturist – the therapeutic alliance – as an important component of the treatment process. Furthermore, significant reduction in prescription drugs and the ability to avoid surgery as symptoms improve are common findings of many qualitative studies, although these results have not always been quantified.

None of the qualitative acupuncture studies to date, however, has focused on an older population. A few involved people with complex chronic conditions (although it was not reported whether multiple conditions existed), and these studies suggested that such people would a) benefit especially from a holistic health care approach, such as traditional acupuncture; and b) benefit further from longer-term treatment with acupuncture. It is the present study's aim to explore the effect of long-term, holistic care in the shape of traditional acupuncture on older adults with multiple chronic conditions, a subject which has not been addressed in the literature.

Chapter III: Methodology

Design and Ethics

This was a qualitative study which used thematic content analysis of semi-structured, one-on-one interviews. Study participants were recruited using purposive sampling, a method commonly used in qualitative research to select individuals who will be able to purposely answer the research questions posed (Cresswell, 2007). The study was approved by the institutional review board of Yo San University. All study participants were guided through a written, informed consent process before being interviewed.

Study Sample

Participants were recruited from a free acupuncture clinic for low-income seniors in San Diego, CA. We chose to study the patient population of this clinic for three primary reasons: 1) it has a core of patients who have been receiving weekly acupuncture treatments over a period of years; 2) the patients are all older adults; 3) most of the patients suffer from multiple chronic conditions. The clinic is jointly run by a local charitable organization – which provides the location - and a local acupuncture college, which staffs the clinic with student interns, who are supervised by licensed acupuncturists/instructors employed by the college. Patients must state they are at least 60 years old and have low income to be treated at the clinic; however, they are not required to show proof of age or income.

Recruitment and Interviews

The principal investigator (RP) recruited patients directly from the clinic through verbal interaction while onsite. Inclusion criteria comprised: being aged 60 or older, self-reporting at least two chronic conditions, having attended regular acupuncture sessions (in most cases, weekly) for at least 12 months, and being conversationally fluent in English, as the interviews

were conducted in English. A total of 22 agreed to be interviewed, although three of these subsequently were not reachable as the clinic entered a new semester in which fewer student interns were signed up; therefore, the clinic reduced its patient roster, the three dropped out, and the researcher was unable to contact them by telephone. A further two changed their minds and declined to be interviewed. These two were the oldest clinic patients, both over 90. Whether by chance or circumstance, four out of the five who could not be interviewed were men, whereas two-thirds of the participants successfully recruited were women. In total, 17 patients were interviewed; two of the interviews were subsequently disqualified as it turned out the interviewees (one of each sex) did not fully meet the inclusion criteria. This left 15 participants. Although small, the sample was the same number as that studied by Liang and Gong (2014), while Hopton et al. (2013) interviewed 12 people as part of a larger RCT and Gould and MacPherson (2001) conducted 11 interviews in a mixed-methods study. Moreover, our study population was diverse, with fewer than half identifying as non-Hispanic white; additionally, of the non-Hispanic whites, two were born and raised outside the US. Data were not collected for education level or household income, but during the interviews it became evident that the participants covered a variety of social and economic backgrounds – despite all having fixed or other low income at present.

Interviews took place in a private room in the same building as the clinic. Most patients were interviewed following their acupuncture treatment, although in two cases participants traveled to the site on a day they were not scheduled for treatment. We wanted to choose a site that would make it convenient for participants to incorporate the interview into their schedule; home interviews were considered, but rejected because some patients had unstable living arrangements. As the clinic was an environment the patients seemed to feel comfortable in and to

enjoy visiting, it was chosen in lieu of home. RP, who was trained in qualitative research methods, conducted all the interviews between March 2016 and July 2016. She was known to some of the participants as a former student acupuncture intern, and later a licensed volunteer acupuncturist, at the clinic, and had given acupuncture treatments to six of them at some time in the previous five years. She did not work at the clinic consistently during that time, and most recently spent three months as a volunteer there between May 2015 and August 2015. At the time of the study, she was a licensed acupuncturist and doctoral candidate at Yo San University, and the participants were informed of this.

The interviews were semi-structured, using an interview guide based on the purpose of the study, existing literature, discussion with an experienced qualitative researcher, and clinical experience. The guide had a backbone of questions supplemented by probes designed to prompt more in-depth answers when necessary. The initial guide was used for the first three interviews; after these were transcribed and read, it was modified with two additional questions and used for subsequent participants. The average interview length was 24 minutes, with a range of 14 – 42 minutes. The shorter times occurred during the first few interviews, before the guide was modified. The interviews were recorded and transcribed verbatim and then checked for accuracy. All personal identifying details were removed before data analysis began.

Analysis

We used thematic content analysis (Braun & Clarke, 2014) to order the data and identify emergent concepts and themes. The coding began with structural coding and later expanded to include descriptive coding. In structural coding, codes are developed from the interview questions themselves; as the structural codes did not allow all of the salient content to emerge,

we added descriptive coding, which is based on the content of the participants' answers (Saldana, 2013; Hurst, 2015).

In the initial coding process, JL and RP independently coded the same three interviews, selected for depth and richness of content. These codes were compared and discussed to resolve differences between the readers. Ultimately, a total of seven interviews were read and coded by both researchers. Two of these transcripts were re-coded a second time by both researchers and compared again to establish inter-rater reliability; eventually all the transcripts were re-coded by RP with the final codes. The data analysis was ongoing, such that early transcripts were coded before interviewing was complete; thus as further transcripts were analyzed, codes were further refined as new content emerged, in an iterative process. RP kept reflective memos to record initial impressions, thought development, and possible emotional or intellectual biases throughout the process. Keeping memos is a component of "confirmability" (Cobb & Forbes, 2001): the leaving of an audit trail such that an independent reviewer can go over not only the raw data, but the analytical process, to verify the study's outcomes.

All coding was done without software, using the comment feature of Microsoft Word to highlight data and label codes as they were identified from the transcripts. The codes were next organized in an Excel spreadsheet, with corresponding excerpts from the text ordered alongside each code, allowing comparison between and within categories as the coding process evolved. In addition, SimpleMind Desktop (SimpleApps, xpt Software & Consulting B.V. and ModelMaker Tools, the Netherlands) was used to help the researchers visualize the relationships of content to codes and codes to themes (the emergent organization of language) both within and across interviews.

Chapter IV: Results

Study Sample

The study population included 10 women and five men. Fewer than half (n=7) were non-Hispanic white, while more than a quarter (n=4) identified themselves as Hispanic/Latino, and two each as African-American and other racial background. The mean age was 70.5 years, with a range of 62-83 years. Patients had attended the clinic for a mean of 5.3 years, with a range of 1-15 years. (For full demographic results, see Appendix A: Table 1). The mean number of self-described comorbidities was 4.4, with a range of 2-11. (For full comorbidity results, see Appendix B: Table 2). Notably, although during the interview the majority of participants said their initial reason for coming to the clinic was pain, patients listed anxiety as equally prevalent, and depression nearly as prevalent, as chronic pain.

Transportation

Although the clinic was no-cost, it did entail travel, in some cases with considerable time and effort. Mean travel time was 33.5 minutes. The most common form of transport was by car; eight participants drove themselves, sometimes with a walk of up to 20 minutes after parking, as parking near the clinic was scarce and expensive. Four people walked, with times varying from 5-30 minutes; one participant rode a bike and took the bus, which took 45 minutes; and two participants relied on public buses. They had the longest commute time, about an hour and a half each. It was thus clear that this cohort was relatively mobile and independent, but also dedicated to their weekly acupuncture treatments.

Themes

Our results offer valuable insight into the meaning that regular acupuncture treatment has for older adults with multiple chronic conditions and why they persist in treatment over a long

time when cost is not a barrier. While we found the positive benefits experienced by these patients were similar to those described in earlier studies of younger populations (Cassidy, 1998; Gould and MacPherson, 2001; Paterson and Britten, 2003; Rugg et al.,2011; Liang and Gong, 2014, Kligler et al., 2015), the unique characteristics of this group and of the clinic resulted in a particular significance to their lives and, consequently, a strong and sometimes urgent desire to continue treatment. The codes coalesced into five themes: (1) mind-body effects; (2) the enhanced therapeutic alliance; (3) liked best; (4) the conventional health care system; and (5) importance of regular schedule. All five themes share the core concept of *reasons to continue.*

Mind-Body Effects

Mind-body effects comprised four interconnecting categories: quantifiable or symptom changes, such as pain reduction; subtle effects, for example a sense of "flowing better"; the treatment experience; and the concept of benefit.

Quantifiable/symptom changes.

The most oft-cited type of symptom relief was from pain, but patients also described improvements in conditions such as digestive disorders, nocturia, and skin rashes. A few patients attributed improvement in lab results, for instance regarding cholesterol levels, other blood markers, and glaucoma, to their acupuncture treatment, and others believed it had lowered or stabilized their blood pressure. The most prevalent measurable marker of relief was reduction in pain medication. Five patients reported cutting back or eliminating prescription drugs, in some cases dramatically:

> *I was on 20 bottles at one time. Then when I started acupuncture, I'm only down to about seven. Six or seven.* (P15, 62 years old).

> *I have been treated for depression and all that through my, through my other plan, [a name] plan, and for almost three and a half years I was heavily sedated – medicated. I was taking 22 different kinds of pills…That was before I started acupuncture. And after I started acupuncture, I told my doctor I'm feeling better, I've tried it all and I want to stop my medication, she says 'Don't just stop one day to the next. Please, I'll wean you off of it.' And took her a long time to wean me off of it, but I'm now med-free.* (P12, 65 years old)

Subtle effects.

Subtle effects were more often noticed as a change in feeling, or a perceived increase in capacity, than as a specific improvement. Patients remarked on increased energy and motivation, a sense of inner balance or improved orientation, and mood lift. An example of the almost ineffable nature of such changes came from one patient who said that after acupuncture she was "able to actually feel like myself."

Some participants used simple language but expressions that suggested a momentous effect, as in "I'm getting back my health," or "I mean, it's so overall, I mean - it's kept me healthy." Others noted specific improvement which expanded into a sense that their overall health had been maintained, as this patient, discussing what had improved:

> *And then my cholesterol has been like even. They tried to put me on cholesterol medication prior to my moving out here and acupuncture and - it's been good, you know? I've not got a high reading on any of that stuff. So I, maybe it's just my belief, I do believe that it's been acupuncture that's kept me so healthy at this age.* (P4, 83 years old)

Treatment experience.

Most patients said they felt deeply relaxed and calm while undergoing treatment; two women likened the experience to meditation. Other feelings noted while lying on the table were "comfortable," "cheerful and happy," "like floating," and "in balance." But not all experience was positive; one participant said he felt "nothing different" after the needles were inserted, while another spoke of being "anxious and uncomfortable" and still another found it drained her energy. All three of these people felt they benefited from the treatment, though. The feeling immediately post-treatment was intense for several patients:

> *I usually sit in the car for a few minutes after an acupuncture treatment, and I am so relaxed that I have to open the windows to be sure that I'm awake enough to drive home.* (P14, 77 years old)
>
> *But when I leave, I feel, I don't know how to explain it. I just, I need to really sometimes just sit in my car and come down from it, because I feel really good. I guess that's how you feel when you take drugs.* (P4, 83 years old)
>
> *I've left a couple of sessions euphoric. I mean, I just, the needles went in good, and the massage, and the communication – I just, yeah, I've gotten some good sessions.* (P10, 79 years old)

Concept of benefit.

The feelings described above were distinct from the answers patients gave when asked directly about benefits. In response, they spoke of improvement over time. Frequently the improvement was multifaceted, including pain relief, better sleep, reduced medication, regulation

of blood pressure, and increased wellness. Patients also said they had maintained abilities or regained the ability to do enjoyable things; one was proud that she remained free from dependence on doctors and drugs at her age. Two patients answered with more deeply personal tales: one spoke of the compassion she felt from the staff and for other patients, while another told of a pivotal gain in self-esteem and personal development after encouragement from the supervisors:

And I see how much I've changed. So. I didn't expect that. That was just…And that was because of the, the caring attention that I got from people who listened. That's number one. I mean, if I were to train practitioners, I would tell them that's more important than the needles, it's more important than lying around on whatever you call that, table. For me that's number one. I may be, you know, it may not be number one to other people, but it's number one. Caring, focused, helpful attention. (P11, 75 years old)

These last two perceived benefits were related more to the enhanced therapeutic alliance than to acupuncture treatment itself.

The Enhanced Therapeutic Alliance

The therapeutic alliance – a close, personal working relationship between patient and practitioner – is an important component of acupuncture in the Western world (Cassidy, 1998; Paterson and Britten, 2008). Our study sample, due to its long relationship with the clinic, experienced benefits that may have gone beyond the patient-practitioner alliance documented by those researchers. Patients formed relationships not only with their acupuncturists, but with the clinic supervisors and their fellow patients; and they developed a role in relationship to the clinic

environment itself. Of these three, the relationship with individual acupuncturists was the most transient.

Relationships with acupuncturists.

The acupuncturists were all student interns who were usually present for three to four months, meaning the patients were treated by at least three to four different individuals every year. Thus, while there was a personal relationship with each acupuncturist, there was also a relationship with the concept of *student intern* or *therapist*. One patient said she learned from them; another emphasized her awareness that they were learning from her. When asked how they felt about the interns, some participants focused on their technical skills, in a few instances criticizing a particular intern's skills – although in all of these cases they clarified that most of their experiences had been good. Three patients spoke of how they generally enjoyed the company of young people, who they described as "ambitious" and "just getting started in life", or even "fun":

> *Cause they're gonna make me feel better, they're young, you know, it's nice chatting with young people, I don't do that much, during the day. I'm surrounded by cranky old people [laughs]*. (P7, 65)

Other patients spoke in more personal terms, using words like "fondness," "friendship," and "special connection." Three people noted the interns' attentiveness, saying they "treat you like you're the only one," and "I don't get that attention from anybody." Nonetheless, several people said that having the same acupuncturist treat them consistently was not important.

Relationships with supervisors.

Relationships with the supervisors were more longstanding, and in most cases were described in more intimate terms. Three patients used the same words to portray this relationship: "I love them." Others described the supervisors as "welcoming", "caring", and "compassionate", and said they felt "very attached" and "connected" to them.

> *It's just a lot of…the care, the care is genuine. I almost call it loving care, you know. It's just…I love it.* (P13, 71 years old)

Supervisors were valued for practical as well as emotional support. Many patients said they had been given advice, particularly dietary, but also regarding various lifestyle and medical aspects. Some of this advice is commonly given by acupuncturists; at the clinic, it was dispensed by both the students and the supervisors in different ways. Such close personal attention was an important part of the treatment experience.

Relationships with other patients.

Due to the long-term nature of treatment, patients developed relationships with one another. These ranged from minimal to intimate, and varied in quality. One participant spoke of irritation with other patients; others, however, spoke of a "special bond", "friendship", and said the clinic patients were "special people", and "like family." Several people expressed empathy, compassion, or tolerance for their fellow patients:

> *And the people here, you know they're looking for well-being and you feel their pain and you want to…you know. I became good friends with [a name], who has so many – poor guy, went through so much.* (P8, 66 years old)
>
> *And I think, ah well, this place is for sick people. Something is wrong with the people that come here to get well, right? So if anybody complains or says something to me, I'm not gonna respond, you know, in a violent way or, you know. Because I know they are sick also like I am sick.* (P6, 65 years old)

Patients seemed to have developed a concept of the clinic as a whole, rather than concentrating solely on their own health care or their one-to-one relationship with an acupuncturist. The whole encompassed their social relationships within the clinic – with interns, supervisors, and other patients – and the clinic's role as a central hub where they absorbed lifestyle advice and brought concerns and information about their other medical care. It was the basis for the feeling, among some patients, that this was a "special" group of people who were "like family", and among others, for the sense of empathy or compassion for others being treated at the clinic.

Liked Best

There was also a distinction in how patients described what they liked best about acupuncture from their other portrayal of its benefits. When asked what they liked best, only three participants mentioned symptom improvement. Most people, instead, used the word "feeling": "feeling on top of the world," "feeling in control of my health," feeling relaxed and calm, feeling optimistic and motivated.

> *I feel more, the word is together. I have more energy. More optimistic. You know, not feeling well is a real downer. Even if you're not depressed. Which I'm not. If you don't feel like doing anything, it's not a really good feeling. So I like the feeling. I'm feeling motivated.* (P11, 75 years old)
>
> *I leave feeling better. That's what I like best about it. You know, just how I feel. Not necessarily, and the pain's reduced too, but that I, you know, feel better.* (P7, 65 years old)

For the most part, these feelings were separate from the very transient euphoric feelings experienced during and immediately after treatment. They represented an increased capacity for coping that could be carried forth into the days ahead.

Context of the Conventional Health Care System

This was a study about acupuncture. No questions were asked about conventional medical care - what earlier studies have labelled "biomedicine". Here we call it the conventional health care system because, more than medicine, it was the entire system - including the navigation through insurance plans, the laboratory testing, the doctors' waiting rooms, and the panoply of prescriptions - that patients talked about. While questions were not asked about it, patients provided numerous comments on it – about as many as they did on acupuncture benefits, which was the focus of the interview - and far more than they devoted to Chinese medicine. It emerged, during data analysis, that participants talked about the conventional health care system in order to explain or understand their perceived need and desire for acupuncture treatment. It was the background which illuminated their perceptions of the care they received at the clinic.

Two-thirds of the patients expressed a strong desire to avoid medication or invasive medical procedures. For several, the aversion was based on experience with side effects:

> *Gosh, I don't remember, there were so many, they were trying different medications but they were making me so nauseated. What else? I was taking quite a lot, but I don't remember. That's another thing, my memory's not that good. But yeah. I just remember counting them, I go 'no way am I going to keep doing this'.* (P15, 62 years old)

> *I've had arthritis for very long, long, long - it's chronic. And the pills, Celebrex, and all the hundred pills, that make your stomach worse. So I take a pill for one thing, and it worsens another thing. So now I have indigestion, a stomach pain, and that's the worst.* (P5, 72 years old)

However, through their narratives, many patients also made it clear that they used the conventional health care system extensively. Several spoke of regular visits to multiple doctors, or numerous lab tests, or ongoing treatment, including effective medication. One person acknowledged the limitations of acupuncture compared to Western medicine:

> *I mean I wish it could cure my bladder problem, and I wish it could cure my heart problem, but I know this is not going to happen in acupuncture, it's not going to happen anywhere. You know, you've got to go to a doctor and get the pills, you know what I mean?* (P13, 71 years old)

While there were a handful of positive or neutral comments about the conventional health care system, the overwhelming majority were negative, despite – or perhaps because of –

patients' extensive use of it. Three people criticized it for treating symptoms rather than seeking and addressing causes, and there were numerous complaints about being treated, as one man put it, as "just another number." People related tales of ineffective or inadequate care, poor communication, unsatisfactory diagnosis and treatment and unnecessary or unsuccessful surgery. Several patients spoke of how "it's all about drugs", and contrasted the dependence on drugs to acupuncture:

> *Like I said it's all about drugs. All they want to do is sell you a pill. The pharmaceutical industry, that's why they're so big and it's crazy. And I love that the acupuncture is the complete opposite of that. Completely opposite.* (P9, 67)
>
> *I often wonder why this is not included in health care. I think that, I don't know, maybe, maybe it's the pharmaceutical company that keeps it out. Because if you don't need the medication, if acupuncture keeps you feeling wonderful and helps your pain wherever it is, why would you have to take medication?* (P4, 83)

The overall feeling for the conventional health care system may have been most succinctly expressed by one woman who said, "Doctors are just, something. But they're not healers."

The Importance of Regular Schedule

We asked how long the treatment effect lasted. Responses varied from two hours to two weeks. Two participants said their pain relief typically lasted only hours, although both of these women also mentioned conditions that had improved over time. One participant spoke critically of the short-term effect of acupuncture:

> *My complaint is that, that it's just, it doesn't seem to last. It seems to, you know, you have to do it every week.* (P11, 75 years old).

However, most people cognitively grouped the observation that their pain relief was relatively short with the anticipation of returning to the clinic each week, and did not see the need to return as a problem:

> *And I feel, I feel on top of the world usually after a treatment for like five days straight. And then, then you know, it's time to come back again.* (P9, 67 years old)

For this reason and others, patients highly valued the regular schedule. Their patience was tested three times a year when the clinic closed for a two- to three-week break between college semesters. One participant described arriving at 6:00 am on the first day to be early in line to ensure a spot on the roster, while another spoke of waiting for hours outside in the cold rain for the same reason. One woman said she wished the clinic would never take a break, and others said they felt health conditions starting to worsen, or new problems arising, during the time off. The passion displayed in these narratives was not always reflected in the reasons they cited: people said the regular schedule was important because it facilitated health maintenance, because it helped them exercise discipline over their own health, because the treatment effect did not last, and because they looked forward to it. Perhaps a more telling reason, given by multiple patients, was that they could incorporate their visits to the clinic into their lives. For them, the visits seemed to comprise an important part of their lives.

Reasons to Continue Treatment

The themes discussed above are all subsumed under the core concept of *reasons to continue*. The reasons can be described further as social need, subtle need, and urgent need. Social needs included the caring atmosphere, social connections, and habit. Subtle needs ranged from "feeling better", to maintaining health, to being "a health junkie." The urgent needs included hope of improving illness as well as a strongly expressed desire to stay in the realm of the mentally and physically able:

> *I need the companionship. I need the treatment. I need to feel at ease. Otherwise I'd go back to my other, prior, way of being treated, is being heavily sedated or medicated. And I'd rather not go back to that. And that's why I keep coming here. Because that, acupuncture treatment itself does more so for me than all the combined medication I ever had in my whole life. I mean that's why I keep coming.* (P12, 65 years old)

> *People say why you have to come endure this rainy season and cold? Because I take this as a matter of life and death because my heart is out of whack, you know, and sometimes I feel depressed, so I have to come here, because I feel like dying sometimes. So I have to come here.* (P6, 65 years old)

For older people suffering from multiple chronic conditions, subtle needs may quickly become urgent needs if not attended to. They are also more likely to experience isolation and loneliness, leading to increased social need. Thus the strongly expressed desire to continue treatment was a natural response by this group to the benefits they perceived from acupuncture.

Chapter V: Discussion

Comparison with Existing Literature

The mind-body effects of long-term acupuncture treatment described by patients in this study are similar to those reported in previous qualitative research of shorter-term acupuncture therapy in the U.S. and the U.K. Cassidy (1998), Gould and MacPherson (2001), Paterson and Britten (2003), Rugg et al. (2011), and Kligler et al. (2015), all described symptomatic relief and psychological benefits such as stress reduction, increased energy, and more motivation. Kligler et al (2015) also singled out "the experience of deep relaxation and quiet during the acupuncture treatment" (p. 5) as a distinct and important component of therapy for patients with chronic neck, back, or osteoarthritis pain; that jibes with our finding that many patients felt intensely relaxed during treatment, but also distinguished the feeling from other benefits they experienced.

While the effects were similar, the study population was different. Many previous qualitative studies have looked at populations with an average age of 45-56 (Gould & MacPherson, 2001; Paterson & Britten, 2003; Rugg et al., 2011; Hopton et al., 2014), while Cassidy (1998) described a cohort predominantly aged 31-60 and Liang and Gong's (2014) study of women with pelvic inflammatory disease reported a mean age of 32. Our study sample, in contrast, had a mean age of 70.5. This may be the first qualitative acupuncture research to concentrate exclusively on an older population - and the first to focus on a cohort with multimorbidity. Moreover, these findings are valuable as they highlight how long-term acupuncture therapy addresses characteristics and needs which are unique to this demographic.

Unique Characteristics and Needs

The prevalence of anxiety, depression and chronic pain was an important feature of this study. Chronic pain and depression may be hard to separate, especially in older people (Sofaer et al., 2005; Hopton et al., 2014). That we found improvements in both mood and pain, as well as a widespread disaffection with conventional health care, suggests that long-term acupuncture has particular potential benefit for an older population. It should also be noted that older people are especially vulnerable to loneliness and isolation. While not a benefit specific to acupuncture, social contact and the sense of belonging and being cared for were important aspects of the clinic experience in this study.

Against the backdrop of anxiety, depression, pain, and dissatisfaction with doctors' care, there were a number of benefits related to the enhanced therapeutic alliance. First was the communal/social aspect of care, involving student interns, supervisors, and other patients as well as the clinic environment. Other qualitative studies have emphasized the importance of the therapeutic alliance in acupuncture outcomes (Bishop & Lewith, 2008; Rugg et al., 2011; Hopton et al., 2014; Liang & Gong, 2014; Kligler et al., 2015). While the therapeutic alliance between patient and practitioner played an important role in this clinic, so did the relationship between patient and clinic supervisor. This was the more enduring relationship, as the student interns who performed acupuncture changed every few months, while the supervisors remained in place for years. Consequently, many patients came to depend on the supervisors for both practical and emotional support. Practical support included other health and lifestyle advice as well as outside referrals to doctors, dentists, and social services. Some patients regularly discussed the care they were receiving from their other health care providers with the supervisors. In effect, it seemed, while the acupuncturists assessed and treated the patients' specific complaints each week, the

clinic acted as a central hub that reviewed and coordinated the entirety of their health care. While this did not occur with every patient, it did for many of them. In practice, it had some key elements in common – a thorough initial assessment, plan of care, diagnosis and treatment, counselling and health education, referrals to health care providers and social services - with the geriatric evaluation and management (GEM) process described by Boult et al. (2001), a coordinated care model which was found to reduce functional decline among high risk older adults living at home. Future research is needed to investigate the effect on functional decline in older people receiving long-term acupuncture, particularly in a communal setting such as this clinic.

Another potential benefit of the communal clinic was social interaction between patients. While some patients had minimal contact with others receiving treatment, many formed friendships, leading to a sense of bonding between people with common needs and purpose. Some participants even suggested feeling an increased sense of empathy or compassion toward others receiving acupuncture. This connection may be related to an observation made by Sofaer et al. (2005) that helping others who were perceived as worse off than oneself was a coping mechanism for older people with chronic pain. Perhaps due to the sum of social interactions – with practitioners, supervisors, and other patients - many participants claimed an affinity and identity in relation to the clinic, and they appeared to value this role. Other qualitative studies of acupuncture have reported the value of a communal setting in the therapeutic process (Tippens et al, 2013; Liang & Gong, 2014).

Implications for Delivery of Care

A notable point which arose from the data was the relatively short duration of treatment effect. While the length of effect has not been highlighted in other qualitative studies, the

duration of pain relief demonstrated in quantitative acupuncture trials has varied (Thomas et al., 2005; Witt et al., 2005; Zheng et al., 2007; McKee et al., 2013), perhaps with some relationship to age. For example, Thomas et al. found relief from low back pain in 235 patients aged 18-69 lasted up to two years following a single, short-term course of treatment, while Witt et al. found only short term relief in people aged 50-75 with osteoarthritis of the knee. It is significant to note, then, that the duration of effect reported by our study population was generally less than one week. A variety of reasons could account for this. Because they knew they could return to the clinic weekly, it may be that patients conflated the expectation of both the deeply relaxed, meditative or sedated feeling during treatment with symptom relief, such that the term *treatment effect* to them meant the full benefit of the entire experience; therefore, they did not credit incremental symptomatic improvements over time. This theory is supported by the fact that several patients described conditions, particularly pain, that had improved dramatically since beginning treatment. It is possible that some patients overstated their weekly need for treatment so as to be able to keep coming to the clinic, which they counted on for social and logistical support as well as mental and physical relief. It is equally conceivable that some patients, whose conditions were not curable, felt relief for a few hours or days only, as they stated.

These findings have strong implications for delivery of care to the older demographic with chronic conditions. People generally pay for acupuncture treatment one of two ways: through health insurance or out of pocket. Both methods pose a dilemma for long-term care, as most health insurance plans limit the number of treatments allowed, while cost is often a barrier to continuing treatment (Bishop et al., 2011; Hopton et al., 2013; Tippens et al., 2013; Kligler et al., 2015). This study population was unusual in that ability to pay was not a barrier to long-term acupuncture. With regular treatment, they experienced benefits which they believed decreased

their dependence on conventional health care while improving their day-to-day abilities, pain level, and mood: in other words, their quality of life.

The length of care delivered was another important feature of this study. With a median treatment history of 3.5 years, participants were able to describe how their lives were affected by acupuncture at the clinic over time. Maintenance of health and abilities figured strongly in responses, as did mood lift, motivation, and an overall sense of well-being, and all patients said the regular schedule at the clinic was very important to them. They depended on it not only for continued relief of symptoms, but to address new symptoms as they arose and for encouragement in maintaining a healthier lifestyle. A noteworthy effect was the reduction in medication for one-third of the patients in the study, particularly in light of the numerous prescriptions some of them said they had been taking.

Previous research has suggested that longer periods of therapy can provide different types of benefit, or special benefit to different groups of people. Gould and MacPherson (2001) found that emotional, lifestyle, and major life changes were significantly more likely in patients who had had more than 21 treatments; Rugg et al., in a study of people with medically unexplained physical symptoms, noted that such patients could benefit further from a longer period of maintenance treatment. Conversely, in a quantitative trial, Witt et al. (2005) found significant but only short-term improvement in pain and joint function in people aged 50-75 years who received 12 sessions of acupuncture over eight weeks for osteoarthritis of the knee – suggesting, perhaps, not that acupuncture was an inadequate treatment, but that the length of treatment for this group of people was inadequate. It may be that the medical and insurance communities should rethink their guidelines regarding acupuncture for older people, especially for those with complex and

chronic conditions. Our study's finding of profound discontent with the conventional health care system also suggests a great need to find a viable alternative.

Strengths and Limitations

The racial, ethnic, and cultural diversity of this study sample, despite its small size, increase the scope of the study's findings. The small sample size was a limitation; however, it was not unusual in terms of qualitative research. Other published acupuncture studies have used 11-15 interviews (Gould & MacPherson, 2001; Hopton et al., 2013; Liang & Gong, 2014), and we believe this sample was sufficient to offer insight which is both valid and valuable.

Another limitation was that these patients were self-selected for mobility; sicker people not ambulatory enough to travel to the clinic might respond differently to acupuncture. Additionally, the data on health conditions was self-reported as we did not access medical records. However, some multimorbidity studies have also used self-reported conditions (St John et al., 2014) or symptoms (Eckerblad et al., 2015). Moreover, there is no standardization of conditions applicable to multimorbidity, but using 12 or more conditions specific to the study population is advised (Fortin et al., 2012). Our study included 17.

Some might consider it a limitation that all participants, due to the very fact of having attended the clinic for so long, were necessarily biased in favor of acupuncture. Non-responders would not likely have kept attending for a year or longer. However, the study's purpose was to find out what benefits these long-term attendees perceived from treatment and why they persisted with it, and in that sense they were an appropriate purposive sample to answer the research questions. A further acknowledged limitation of qualitative research is that results cannot necessarily be generalized. However, it is worth noting that this study described benefits similar to those from studies of younger populations.

The principal investigator's history as an acupuncturist at the clinic could be seen as both a limitation and a strength. Patients who knew her previously might have felt they needed to give more positive reviews of acupuncture, although in the analysis no difference was found between the responses of those she had treated and those she had not. Being accustomed as they were to frequently changing acupuncturists, patients might not have remembered her well, or have given her role much import. On the other hand, her close knowledge of the clinic gave her added insight into its dynamics. As the researcher is the data collection instrument in qualitative research, her relationship with the clinic could make her a more powerful tool; but it is critical the researcher acknowledge and account for her own biases as she collects and interprets the data (Cohen & Crabtree, 2008).

Suggestions for Future Research

The short duration of treatment effect, and the importance of the regular schedule voiced by participants, were unique findings of this study. The optimal "dosage" of acupuncture for older people - either in terms of duration of needle retention or frequency of treatment – has not been studied, to our knowledge. There is anecdotal evidence that older people respond better to a shorter time of needle retention, and they can be "overdosed" by longer needle retention times, manifesting as fatigue or sedation. Future, quantitative or mixed-methods research is needed to determine the optimal time of needle retention for older adults. Similarly, the optimal frequency of treatment should be studied, first in quantitative acupuncture trials without the compounding factors of the enhanced therapeutic alliance found at the clinic in our study, or using mixed methods to explore the patient's emotional perspective as well as ascertain the physical response. Finally, it would be enlightening to conduct longitudinal studies of older people with and without

multimorbidity, beginning when they initiate long-term acupuncture, to determine whether there is a correlation between the therapy and cognitive and functional changes over time.

Conclusions

By illustrating the benefits that older adults with multiple chronic conditions perceive from long-term acupuncture treatment at a free clinic for low-income seniors, this study contributes valuable information towards identifying why such patients persist in treatment, how it affects their lives, and how acupuncture may be used optimally to benefit them. Patients in this study described a short duration of treatment effect, yet also spoke of long-term benefits that affected their lives in varied ways through continual treatment. Physical/mental symptomatic relief, social contact, and an enduring and enhanced therapeutic alliance which included practical and emotional support from the clinic staff were all benefits that led to improved quality of life for patients. While more research is needed to determine the optimal frequency of acupuncture for this group, long-term acupuncture may be considered as a treatment modality for older people with multiple chronic conditions, especially as a way to cut down on polypharmacy. As importantly, the clinic environment in which it was delivered may be considered as a model for delivering acupuncture to this demographic.

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Appendix A: Table 1 Interview participant characteristics

Characteristics	No. participants (%)
Age (range 62-83)	
>80	1 (6.7%)
75-79	4 (27%)
70-74	3 (20%)
65-69	5 (33%)
60-64	2 (13%)
Gender	
Female	10 (67%)
Male	5 (33%)
Ethnicity/race	
African-American	2 (13%)
Hispanic	4 (27%)
Non-Hispanic white	7 (44%)
Other/multiracial	2 (13%)
Average years at clinic	5
Range	1-15
Average no. comorbidities	4
Range	2-11

Appendix B: Table 2 Interview participant comorbidities

Comorbidity	No. participants (%)
Anxiety	8 (53%)
Chronic pain	8 (53%)
Depression	7 (47%)
Osteoarthritis	7 (47%)
Hypertension	6 (40%)
Thyroid disorder	6 (40%)
Osteoporosis	3 (20%)
Asthma	2 (13%)
Cardiovascular disease	2 (13%)
COPD	2 (13%)
Fibromyalgia	2 (13%)
IBS	2 (13%)
Bipolar disorder	1 (7%)
Cancer	1 (7%)
Diabetes	1 (7%)
Glaucoma	1 (7%)
Guillain-Barre syndrome	1 (7%)

Appendix C: Code tree

Primary Code	Theme
Ambivalence	Mind-body effects
Benefits	Mind-body effects
Coping	Mind-body effects
Duration of treatment effect	Mind-body effects
Feeling about needles	Mind-body effects
On the table	Mind-body effects
Initial reason for coming	Mind-body effects
Desire more frequent treatment	Importance of regular schedule
Importance of regular schedule	Importance of regular schedule
Other clinic benefits	Enhanced therapeutic alliance
Relationship with other patients	Enhanced therapeutic alliance
Relationship with supervisors	Enhanced therapeutic alliance
Relationship with therapists	Enhanced therapeutic alliance
Dietary/lifestyle advice	Enhanced therapeutic alliance
Gratitude, empathy, compassion	Enhanced therapeutic alliance
Desire to avoid medication/procedure	Conventional health care system
Experience of side effects	Conventional health care system
Extensive use of health care system	Conventional health care system
Just another number	Conventional health care system
Treats symptoms, not causes	Conventional health care system
Belief in Chinese medicine	Conventional health care system
Likes best	Liked best
Why continue?	

Appendix D: Copy of IRB Approval Letter

February 25, 2016

Rachel Pagones

253 Calle De Madera

Encinitas, CA 92024South Pasadena

Dear Rachel,

Your research proposal has been approved, with no additional conditions or recommendations effective through March 31, 2017.

Should there be any significant changes that need to be made which would alter the research procedures that you have explained in your proposal, please consult with the IRB coordinator prior to making those changes.

Sincerely,

Ed Mervine
IRB Coordinator

Appendix E: Recruitment Flyer

Acupuncture research

Volunteers are needed to join a study to help us understand how acupuncture affects the lives of older people with chronic health conditions

- Are you 60 or older?
- Have you had acupuncture for one year or more?
- Do you suffer from more than one chronic health condition?
- We would like to interview you about your experience with acupuncture

Appendix F: Informed Consent Form

Yo San University of Traditional Chinese Medicine

13315 W. Washington Blvd.

Los Angeles, CA 90066

Consent Form for Long-Term Acupuncture Therapy for Older Adults with Multimorbidity: A Qualitative Interview Study of Patients' Perceptions

Principal Investigator:

Rachel Pagones, L.Ac., doctoral candidate

Phone: (760) 917-7180

Email: elcaminoacu@yahoo.com

If you are interested in joining the study or learning more, please contact Rachel Pagones, L.Ac., Doctoral Candidate, Yo San University of Traditional Chinese Medicine
(760) 917-7180
elcaminoacu@yahoo.com

INTRODUCTION

This study is being conducted as a doctoral research project by Rachel Pagones, a licensed acupuncturist and doctoral candidate in the Healthy Aging and Longevity Program at Yo San University in Los Angeles. Rachel Pagones is the principal investigator of the study (referred to in the rest of this document as "the PI").

You have been asked to join this research because you meet the conditions of people we are interested in studying. The conditions are: you are 60 or older, you have two or more chronic health conditions, and you have had acupuncture at the Seniors' Acupuncture Clinic in San Diego for one year or more. There will be around 20 people in the study in all.

Your decision to join the study is up to you. You will be asked about your age and your health conditions for the study; if you feel uncomfortable doing this, you may not want to participate. Before deciding whether to join, you may talk about the study with another person you trust. Whether you decide to join the study or not will have no effect on your relationship with the Seniors' Clinic.

This study is being funded by the PI.

Purpose

The purpose of the study is to understand how acupuncture treatment for one year or more affects older adults with multiple chronic health conditions.

Procedures

If you join the study, you will first be given a short written survey asking about your age, your race/ethnicity, and your health conditions. You will then take part in a one-on-one interview with the PI which will last from 45 minutes to one hour. The PI will ask you some questions about your experience with acupuncture at the clinic. You will be free to answer in your own words. The interview will be audio-recorded.

Length of the study

This study consists of one interview. It will take place in one visit. We expect the study to be finished in April 2017.

Possible risks

This is a study of your past experience with acupuncture, so there is no risk from acupuncture treatment itself. If you are continuing your acupuncture treatments, the risk is no greater than your usual risk with acupuncture. Talking about your experience with your treatments may bring up some emotions which could make you feel uncomfortable.

Potential benefits

There are no direct benefits to you from being in the study. But we expect that what we learn will help us understand how older adults who suffer from chronic health conditions may be helped by acupuncture treatment. The study may help us to communicate with clinics, doctors, and others about how acupuncture could benefit people like you.

Withdrawal

You may withdraw from the study at any time by contacting the PI. Contact information is at the end of this form. Withdrawal will have no effect on your relationship with the Seniors' Clinic.

Confidentiality

Your confidentiality is very important to the researchers, and we will do our best to make sure that your private information is kept confidential. Information about you will be handled according to the data protection policies approved by Yo San University's Internal Review Board. We may quote some of your words from the interview in the study results, but we will not use your name and we will be careful to remove other details about you that might tell someone who you are. Only age and sex will be used in the results. There is still a small chance that someone reading the published study could be able to identify you.

When it is finished, the study will be presented to the doctoral committee and others at Yo San University. The study may be published in a professional journal. It may be presented at professional conferences.

All audio recordings and other information gathered for the study will be kept in a secured and locked place. They will be destroyed no less than three years after the study is over.

Financial considerations

There is no cost to you for being in the study. If you participate, you will be given a $20 CVS gift certificate in recognition of your time and effort. You will receive the gift certificate whether you finish the interview or not.

Contact information

If you have questions about the research at any time you may contact the PI using the information below:

Principal investigator:

Rachel Pagones, L.Ac., Doctoral Candidate

Yo San University

13315 W. Washington Blvd.

Los Angeles, CA 90066

(760) 917-7180

elcaminoacu@yahoo.com

If you have questions concerning your rights as a research subject, you may contact the Institutional Review Board coordinator, below:

IRB coordinator:

Andrea Murchison

Yo San University

13315 W. Washington Blvd.

Los Angeles, CA 90066

(310) 577-3000

IRB@yosan.edu

Thank you for your interest in this study.

If you agree to participate in the study you should sign and date below. You will be given a copy of this consent form and the Research Participant's Bill of Rights to keep.

I give my consent to participate in the research project titled "Long-term acupuncture therapy for older adults with multimorbidity: a qualitative interview study of patients' perceptions". I have read this consent form and the PI has explained it to me. I have had a chance to ask questions about the study and my questions have been answered to my satisfaction. I understand that I will be given a copy of this consent form to keep.

_____ _____

Participant's name (print) Participant's signature

_____

Date

_____ _____

Principal investigator's name (print) Principal investigator's signature

_____

Date

Appendix G: Demographic Survey

Yo San University of Traditional Chinese Medicine

13315 W. Washington Blvd.

Los Angeles, CA 90066

Long-Term Acupuncture Therapy for Older Adults with Multimorbidity: A Qualitative Interview Study of Patients' Perceptions

Principal Investigator: Rachel Pagones, L.Ac., Doctoral Candidate

DEMOGRAPHIC SURVEY

1. **Please circle the most appropriate answer: I am male female transgender**

2. **Please circle the most appropriate answer: Are you Hispanic or Latino**
   Yes No

3. **Please circle the most appropriate answer(s): I am African-American Asian Caucasian Native American or Alaska native Native Hawaiian or other Pacific Islander Other**

4. Please state your age (not your birthdate):

5. Please check all health conditions that you currently have:

___Anxiety

___Asthma

___Cancer

___Cardiovascular disease

___Chronic obstructive pulmonary disease (COPD)

___Chronic pain

___Depression

___Diabetes

___Fibromyalgia

___High blood pressure

___Hypo- or hyperthyroid

___Irritable bowel syndrome

___Osteoarthritis

___Osteoporosis

___Parkinson's disease

___Rheumatoid arthritis

___Post-stroke

6. Please write below any other health condition(s) you have:

Appendix H: Interview Guide

1. May I ask your age?
2. How do you get to the clinic? How long does it take you to get here?
3. How long have you been coming to the seniors' clinic?
4. What first brought you to the seniors' clinic?
    - Why did you decide to try acupuncture? Had you used acupuncture before? What was that like?
5. Tell me about how you feel during an acupuncture treatment.
    - What do you feel about the needles?
    - How do you feel when you're lying on the table?
    - How do you feel after the treatment is over? How long does the feeling last?
6. Tell me a little more about your health conditions
    - What are they?
    - How long have you had them?
    - What other treatments have you tried?
7. Tell me how your health conditions have changed since you began coming to the clinic.
    - Has acupuncture changed the way you cope with your health? If so, how?
8. Have you had any major health events, such as illness or operations, or developed any new conditions, since you've been coming to the clinic? Were these treated by acupuncture?
9. What other changes, if any, have you made in your life that influenced your health since you've been coming to the clinic? Why did you decide to make these changes?

10. What other treatments – such as medical procedures or medications from doctors, clinics, or hospitals – have you had since you began your acupuncture treatments?
11. What benefits do you think you've gotten from your acupuncture treatments at the clinic?
12. Have you felt other benefits at the clinic apart from acupuncture, and if so, what are they?
13. How important to you is the regular schedule at the clinic? How important is cost?
14. What is your relationship like with the clinic supervisors? How important is this relationship to your treatments?
15. What do you like best about coming to the clinic?
16. What is it like seeing the other clinic patients week after week? Do you have a relationship with them? How important is this?
17. How do you feel about the interns/therapists?
18. Why do you keep coming to the clinic?
19. Is there anything you expected to get out of acupuncture treatment that you haven't? If so, what is it?
20. Is there anything you've gotten out of your treatments that you didn't expect? If so, what is it?

Appendix I: Description of Study Clinic

The clinic in this study is a no-cost clinic in downtown San Diego open to people aged 60 and older who describe themselves as having a low income. There is no means-testing to qualify for treatment. Patients at the clinic are treated by student interns from Pacific College of Oriental Medicine (PCOM), who in turn are supervised by licensed acupuncturists employed by the college. While all the interns are trained at PCOM, there is no standard treatment style or protocol. Interns may diagnose and treat based on principles of Traditional Chinese Medicine (TCM), Japanese, Five Element, and auricular acupuncture. Different lengths, gauges, and brands of needles are used; most needles are DBC or Seirin brands. Ear seeds are frequently used, and electro-acupuncture and moxibustion are occasionally, if rarely, employed. Brief massage is sometimes added to a treatment. Needles are generally retained for 20-30 minutes. There are no herbal prescriptions.