Exploring longevity with Australian centenarians

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Abstract

Aims There is an absence of Australian based-centenarian studies that focus on experiential understandings of ageing from centenarians themselves. The aim of this study was to explore the experience of life transitions with people who had reached the age of 100 years to reveal the factors contributing to their longevity.

Method Twenty four Australian centenarians were recruited into this narrative study to generate stories about their lives and understandings of their longevity. In-depth interviews were conducted in five Australian states.

Results Content analysis of the stories indicated a range of factors that participants identified as possible contributions to their longevity. These included good genes and luck as well as a range of lifestyle and environmental factors including hard work, leading a simple life incorporating moderation in all things, religious beliefs and connectedness with others and community. An emerging centenarian personality was identified that indicates that these people had an ability to accept life’s events, to accept and adapt to their own changing limitations and to cope with their feelings of impending mortality.

Conclusion Living to 100 years and beyond need not be a time of complete frailty, dependence and senescence. Findings from this study were consistent with other centenarian studies and indicate that detailed exploration with Australian centenarians in larger studies with specific and focussed research questions is required to inform future health and social policy and practice.
Introduction
This paper reports the findings of a study that aimed to produce a contextual snapshot of the lives of Australian centenarians through demographic and narrative data. Twenty-four Australian centenarians were recruited into this narrative study to generate stories about their lives and understandings of their longevity. The participants ranged between 100 and 109 years of age.

The number of people achieving the age of 100 is increasing and many people are intrigued and fascinated to know what it is like to live to this age. What lives have people lived that have enabled them to live beyond 100? On census night, 7 August 2001, there were 2,503 centenarians in Australia (Australian Bureau of Statistics, 2002). Of these, 85% were women and 15% men. Whilst it is common to assume that the majority of these people are frail and dependent, this is not born out in the available data. About 39% lived in private dwellings, whilst 17% lived alone; about 61% lived in health- and retirement-related accommodation (McCormack, 2001). These figures inform policy makers as well as those who work in the health and community sectors because not all older people are frail, dependent and/or living with dementia.

Non-indigenous centenarians are the fastest growing section of the population and it is estimated that the number of centenarians is doubling every seven to 10 years (McCormack, 2001). A number of factors may be relevant here; there was a dramatic decrease in childhood mortality early during the 20th century because of the advent of vaccinations, safer water supplies and improved public health measures (Perls & Silver, 1999). Public health improvements that began to have an impact on those born during the 1920s will cause an increase in the centenarian population for this group and all those that follow. In addition, improvements in care for middle aged and older people in terms of prevention, screening and interventions for major diseases such as stroke and heart disease may also be contributing factors.

Background
Despite the rapid increase in the centenarian demographic, there is a paucity of research with centenarians, particularly in Australia. International centenarian research has tended to focus on the bio-medical aspects of ageing with the notable exceptions of the ongoing New England Centenarian Study and the Japanese Okinawan Centenarian Study. Whilst the New England Centenarian Study focuses on genetic research with centenarians, it has also studied their medical, functional and cognitive capacities with the aim of determining why centenarians are healthier than the general population. Significant findings included that 21% of centenarian participants were cognitively intact, dispelling the myth that people who live to extreme old age will inevitably have dementia. Many participants were active and independent into their early 90s and if illness was experienced, it had been during the last five years of life. Significantly these people had lived the vast majority of their lives in good health and often escaped the diseases normally associated with ageing. In other words 'the older you get, the healthier you've been' (Hitt, Young-Xu & Perls, 1999).

The other characteristic identified was that centenarians shed emotional stress very well (Perls & Silver, 1999). Their stress shedding personalities and the familial support they received contributed as stress-reducing mechanisms. Reportedly the centenarians did not ignore stress, rather, they were very good at handling stress and losses. They seemed to accept their losses, grieve and then move on.

The Japanese Okinawan Centenarian Study looks at successful ageing, that is, longevity accompanied by excellent health (The Okinawa Centenarian Study, 2004). To be considered a successfully ageing person, participants “... should have enjoyed a high quality of life throughout the life course up to and including a ‘super-elderly’ stage” (Suzuki, Willcox & Willcox, 2004, 180). These people have, to some extent, spent their long lives ageing naturally. This study commenced in 1976 and, since then, over 600 centenarians have participated and while the evidence shows that hereditary factors are significant for longevity, environmental factors seem to be more important (Suzuki et al., 2004). The researchers have developed and published The Okinawan way...
of life. The program provides guidance for cooking methods, dietary practices, physical exercise, coping with stress, natural helping and Ikigai creation, used to indicate “the source of value in one's life or the things that make one’s life worthwhile” as well as the “mental and spiritual circumstances under which individuals feel that their lives are valuable” (Nakanishi, 2003).

In Australia, McCormack (2001) researched the quality of life with 35 centenarians using a six item Quality of Life (QoL) tool. Items studied were the common indicators of QoL such as health, memory, social relationships, ability to do things for oneself, overall life satisfaction and the experience of living to 100. These centenarians viewed living to 100 years as positive and social relations were reported to be good. The increasing numbers of centenarians suggests that it is important to identify the factors that contribute to a mostly healthy longevity to inform policies and practices that will lead to a reduction in disability and dependency in this population. This current study has aimed to ask centenarians themselves what they think has contributed to their longevity.

The study

Aim
The impetus to conduct this study was to begin to address the absence in the literature of Australian based-centenarian studies that focus on experiential understandings of ageing from centenarians themselves. The aim was to explore the experience of life transitions with people who had reached the age of 100 years to reveal the factors contributing to their longevity. The study objectives were to:

- present a contextual snapshot of centenarian lives through gathering demographic and narrative data
- generate stories that informed health workers and the public about how this group of centenarians have lived their lives and contribute to positive images of ageing
- present new understandings of the ways that these people make transitions through key events in their lives.

The research questions were:

- What is it like to have lived to 100 and beyond?
- What has contributed to longevity?
- Is stress management significant in the lives of these people?

The research team comprised of the three authors and a research coordinator.

Method
Access to the centenarian population for the purpose of recruitment initially posed some challenges but following a media release, national media interest was generated. Initial contact was usually from family or friends who had heard a radio interview or had read about the project in the local paper. The names of 40 centenarians were collected during a two week period. A research coordinator contacted the relative, friend or the centenarian themselves.
and asked them to provide some demographic information and a short biography. They were also asked about the person’s memory status and their story telling ability.

Data were generated during 2004. Ethics approval was received from the relevant institutional ethics committee. The story told by each participant has been published in a book for public readership, therefore participants consented to public exposure, actual names have been used and a portrait photo selected by each person has been included with their story in the book.

All participants spoke English, and all were born in Australia with the exception of Milka who came from the former Yugoslavia. The 6 women and eight men were living in capital cities including Perth, Brisbane, Adelaide, Sydney and several people lived in small country towns, close to the farming communities where they were raised. The researchers travelled to various destinations in Australia to generate centenarian stories.

Story telling and claiming and/or reclaiming self identity is part of that narrational work (Gergen, 1971; Kleinman, 1988; Kelly & Feld, 1996; Nettleton & Watson, 1998; Brody, 2003). All participants were asked to talk about: what it meant to them to have reached the age of 100; why they thought they were living a long life and what they attributed this to; a key event in their life and how it had effected them; what they hoped for at the time of interview; and what is important to them. Whilst we asked these standard questions, the inquiry process started with participants’ storied accounts. Centenarians could select whatever was foremost in their minds; an aspect of their lives that they wanted to share.

A conversational approach to interviewing was adopted with the use of prompts to encourage rich story telling. The aim was to gain insight into a segment of a person’s life, as experienced, understood, explained and justified by that person. Through taking time and being interested in the storied lives of centenarians, we built collaborative relationships. A common refrain expressed by centenarians was I’ve neverthought about this, but now that you ask …’ As these older people narrated their stories, they started to hear their life anew through hearing and prompts made by the others (Brody, 2003; Koch, 1999; Aranda, 2001; Frank, 1995; Holstein & Gubrium, 2000).

Interviews lasted between two to four hours. Whilst some participants showed great stamina, others found the interview process tiring so the interview length was not determined by the story telling capacity of participants but rather by their own physical limitations. The interviews were conducted in the person’s own home and often with a friend or family member present to support the participant. Most of the interviews were audio-taped and transcribed but notes were also taken if a person’s voice was frail and soft.

Analysis
Interview transcripts were analysed concurrently. Whilst the three researchers provided an independent content analysis of each story, a systematic process was developed through immersion in the text, intensive re-reading of the transcript and documenting evidence to support our interpretive claims. At weekly meetings we aimed to generate consensus interpretations. Whilst commonalities were sought, few were apparent. Emerging from these stories are the factors that have contributed to longevity plus some insights into the experience of longevity. These will be the focus of this paper while the individual stories are recorded elsewhere.

Findings and discussion
Description of participants
The participant’s age range was 100 to 109. There were 16 women and eight men. In this study the number of men was higher than the 15% cited in the New England study (Perls & Silver, 1999). This was a diverse group of people with a wide range of socio-economic status. Eighteen people were raised in the country and, while rural living was seen as a positive experience, people also commented on the hardships. Max felt that his country upbringing had made him a resourceful person. He recalled a childhood where hard work had been the focus:

‘Being raised in the country meant that you were very resourceful…Mum taught us kids
how to cook because we lived out in the bush and she had ‘turns’. You know you’d be sitting at the table... and we used to get the smelling salts and a glass of water. It just came natural to get breakfast and wash up the dishes, clean the cutlery and run down to get any meat from the butchers, something like that.

It had been necessary for Max to live with his Aunt and he recalled:

...my grandmother coming and staying a while and she used to cry about: the work I had to do but I got by. On Monday, being wash day I had to fill the copper and set the fire ready. After school on Monday was bath night (those days we only bathed once a week). I had to bucket the water from the copper and carry it inside; the kids had their bath first, then aunt followed by Uncle, and then I came last.

Fifteen participants had received primary school education only, many left school aged 11 or 12 years. Long distances were endured to travel to school in the country and this often contributed to leaving school early. Two centenarians had attended secondary school and seven women had further education at teacher’s college, business college or nursing training. Mona recalled that education for girls was most often considered an expense that was not justified:

I left school at 14 because I didn’t like going by train from Yongala to Jamestown. My father said leaving school was a good idea [because] we were wasting money on train fares sending me to Jamestown. That was Dad’s idea of it.

Significantly, 14 participants were devout Christians and their beliefs and church community had been an important aspect of their lives. There was criticism however of the church routine as Jean revealed:

I didn’t like the Minister. He was very strict. They weren’t so nice. They expect you to do everything for them and do nothing in return. He expected you to work all day, get up at daylight and work all day.

Religion was a significant influence in the lives of most of these centenarians. Apart from their capacity to accept and adapt to events, many felt that their daily prayers had been essential to their survival. This finding was consistent with previous studies that have found a deep spirituality evident among older women in particular (Perls & Silver, 1999; The Okinawa Centenarian Study, 2004). It is important for those providing care to this population to accommodate people’s religious practices in whatever settings and whatever means they identify as important.

All but one person had married, but often not until they were aged in their late 20s or early 30s. Marrying later was a consequence of the Great Depression, because men had wanted to be sure they could support their wives. Maude recalled:

When men were unemployed they received coupons for vegetables and meat...it was very, very tough...very cruel. My husband didn’t think he would be able to keep me. We were friends for a long time and we were married in 1937.

Occupations for men varied and included farmers, small business, baker, carpenter and park ranger. The Great Depression and the Second World War changed the employment path for many men. Paid employment for the women was abandoned on marriage, but often resumed in later years. Some women, particularly those who were teaching and nursing, experienced long working lives. The women typically had advanced skills in home making including sewing and cooking. Eleanor returned to teaching and worked with deaf children until she retired at the age 75 years. She said: ‘I loved every minute of it. If I had my time over I’d go and do the whole darn thing all over again. No regrets. Absolutely adored children’. Jean remained in her position as postmistress until she was 92 years of age.

Three people were living in their own homes, three with a daughter and seven lived independently in a unit or hostel room in an aged care or retirement complex. Eleven people were living in a nursing home; most of these were centenarians with an average age of 103. For these people it had only been during the previous five years that they had become more dependent. A good quality of health
was the norm, although the loss of sight, to the extent that reading was prohibited, for 12 people had considerably impacted on their quality of life.

The majority of the people in this study had remained illness free throughout their lives and most did not take medication. This is consistent with previous findings that functional impairment was compressed toward the end of life, although some had a long history of age-related disease (Perls & Dellara, 2003). The compression of morbidity hypothesis predicts that centenarians delay or even escape diseases that would otherwise be fatal. Three morbidity profiles were identified:

1. survivors – had a diagnosis of an age-related illness prior to turning 80 and had survived it (Evert, Lawler, Bogan & Perls, 2003)
2. delayers – delayed the onset of age-related illness until the age of 80
3. escapers – reached 100 without a diagnosis of age-related illness.

Those in the present study could indeed be escapers. Evert et al. (2003) found that: when including only the most lethal diseases of the aged, heart disease, non-skin cancer and stroke, that 87% of males and 83% of females delayed or escaped these illnesses. Further exploration is needed of these potential factors that contribute to longevity, particularly in the Australian context.

What is it like to live one hundred years?

When asked what it meant to have reached the age of 100 most people were surprised at their longevity. Jack said that he didn’t expect to live to this age: ‘but I am happy I have. Oh, definitely’. Gilbert also felt pleased: ‘... it gives me a very happy satisfaction feeling ‘cos I’ve lived this long’. They tended not to think about their age and had not developed a personal theory about living a long life or ageing well. This was often expressed as ‘I have been lucky’. Alf said: ‘I’m lucky, I have a good memory. I can still remember little songs I learnt at school’. Whilst most were pleased that they had achieved the age of 100 and were happy with their lives, some were tired and were ‘ready to close their eyes and go to sleep’. Isabell expressed her thoughts through humour, and at the same time revealed complex thinking about her longevity:

All I’ve got to worry about today is that I’m 100 (laughter) and I can’t do anything. Oh, gosh. I think it’s stupid to live so long. Live on too long. Why are we left here? We’re taking up space. You can’t answer that one can you?

This comment is not consistent with Isabell’s physical appearance or ability because she enjoyed good health and lived almost independently in a hostel.

What has contributed to longevity?

Genetic inheritance was nominated by a few as the reason for their longevity. Some had siblings or parents who had lived into their 90s and much less often their 100s, but this was not the case for the majority. So, what lifestyle and environmental factors were identified? Significantly most people talked about the contribution that hard work had made to their longevity. Hard work and keeping active was mentioned consistently as a factor that had contributed to longevity. This was a group of people who had laboured hard for long hours of a day, even if they were not in paid employment, like many of the women. They had farmed, built houses and roads, walked long distances and had not had large amounts of leisure time. Milka had worked very hard during her life, as had her mother. She explained her beliefs about her longevity:

Because of my family. Healthy blood. I follow my mother. My mother was strong too. She went to collect wood. With wood on her back she knitted. Hard work. Hard labour in the middle of winter carrying manure.

Some commented on the benefits of regular exercise and others prided themselves on maintaining a daily exercise habit. Apart from the Okinawan study little has been written about activity and longevity with this group of older people. Maintaining physical activity remained an important aspect for those who were able and included daily exercising, gardening or walking. Those who had limited physical capacity did express frustration and boredom.

Nutrition was mentioned consistently in terms of home grown and home made food eaten in moderation. Eating well, but simply and sensibly
were common features of their approach to food. One of the significant findings of the Okinawan Centenarian Study is that Okinawans reportedly eat fewer calories and that this may well be linked with longevity. This is achieved by eating unrefined, complex carbohydrates and practicing calorie control through a cultural practice called hara hachi bu which involves eating until 80% full. This practice also promoted to leanness and low body mass index (The Okinawa Centenarian Study, 2004).

The centenarians thought that maintaining an interest in world events and immediate surroundings was important. For example, even though Hazel could not read since losing her sight, she listened to the radio each day and was eager to discuss current issues in politics.

This was a group of people who thought it was important to contribute to the community and held an ethos of giving to others with no thought of gain for oneself. In this way a sense of belonging was experienced and people were connected to their community and to others. This finding was consistent with Perls and Silver (1999) who found that although centenarians outlived family members and friends, they continued to have close relationships and were almost never loners. Indeed we found this group to be engaging, the sort of people who connected and communicated with others. Jean reflected:

*I was interested in people. My mother used to say that when I was going to school I knew everybody in the district. I used to go home with them just to say hello to their mother and I'd perhaps have a drink of cordial or a piece of cake and then go home. I like meeting people.*

Maintaining social connections could be an important aspect of longevity, however as people aged there were fewer contemporaries remaining with whom to share stories, social activities and life events. Jack spoke movingly about this:

*I think of my old friends every night. I say a prayer for all my friends, they're all gone. They all died young men. I've had wonderful mates, as I say, they all died young men. I've had about six mates over the years and they're all gone. Well, I think it was more or less friendship, more or less friendship I'd say. See, a mate or friend, they would do a lot for you. And you would do a lot for them. If they were in trouble, you would help. Yeah, I've had some wonderful mates. Yeah, we helped each other.*

Without exception helping others with no thought for personal gain or recompense was considered vital. Myrtle's comments reflected these beliefs:

*Live a quiet life...do what you can for anybody. Of course, in my earlier days I've gone and helped people. That's very important. It is very important to help others because in helping...*
NEWS

Funding boost to improve dementia service delivery
Sixteen organisations caring for and supporting people living with dementia will receive $2.28 million under the Federal Government's Dementia Service Development Grants program. The funding will assist these organisations to increase their research and education efforts and improve practical care and support to people with dementia and their carers and families. In announcing the funding at the launch of Dementia Awareness Month, Senator Santoro, the Minister for Ageing, said the need for research and education was particularly important because a better understanding of dementia and the needs of people with dementia would help shape and improve the future delivery of care and support.

The sixteen successful organisations were:
- New South Wales
  - OCTEC Inc
  - Riverina Division of General Practice and Primary Health Ltd
  - St Vincent's Clinic (Sisters of Charity Outreach)
  - University of Newcastle
- Victoria
  - Peninsula Health Residential Outreach Support Service
  - Uniting Aged Care Kingsville
  - Southern Health
  - Eastern Access Community Health Inc.
- South Australia
  - Alzheimer's Australia SA Inc.
  - University of South Australia
- Australian Capital Territory
  - Alzheimer's Australia ACT Inc.
  - Pharmaceutical Society of Australia
- Northern Territory
  - Alzheimer's Australia NT Inc.
- Tasmania
  - Advocacy Tasmania Inc.
- Western Australia
  - Anglican Homes Inc.
  - Queensland
  - Alzheimer's Australia QLD

other people, you are helping yourself. It was a wonderful life. Yes, it was a clean happy life.

Moderation in all things emerged as important advice from centenarians and included moderation with food and alcohol. Simple living involved eating fresh food that was prepared at home. During their early years much of the food was home grown.

What is important now?
Not surprisingly people were concerned with their own health and that of their family. Eleanor reflected:

Well, to see my children carry on, lead good lives and be happy. I know you can't have your health all the time, but we all have to have some little stresses I suppose in life. I want my grandchildren to grow up and be happy... I don't wish for them to give me things, I just wish for them when they come and give you a big love and a big kiss. That's worth more to me than say, oh here's ten dollars.

Return of lost eyesight was wished for, more mobility desired and sickness in family members was a concern. Keeping busy emerged as an issue, especially for those with impaired sight and physical limitations. The desire to be occupied and fulfilled had not diminished with age and left some with feelings of boredom for long periods during the day. Hazel expressed her frustration:

Nothing is important now. Just get up each morning and taken to the shower and brought back, and breakfast is shved on the table. I mostly lie on the bed with my little transistor wireless. That's it for the day.

Maintaining daily comfort was important as was seeking contentment. Overall there was a high level of satisfaction with their life as it had been lived. Readiness 'to go to sleep' was expressed by some. When Jean aged 109 was asked what her wish would be, she said: 'To die, to go to sleep. Peaceful. Put me under the pine tree. I like sleeping. Just turn me over, shut your eyes, it's lovely'.
Some speculation about the Centenarian personality

All of the participants had lived through significant events during their lives and these included: two world wars; the Great Depression; loss of children as babies, young people or adults; loss of spouses; loss of parents and siblings; and illness. From a contemporary perspective it would be expected that these would be experienced as stressful events, however these people believed that their lives had not been particularly stressful. They viewed difficulties, loss and sadness as a part of life and accepted what life brought. When problems arose they advised 'do what you can to make things better and then forget it' or 'give it time, wait for things to change'. A philosophy of 'take each day as it comes' prevailed. The range of things that had helped when life dealt a blow included the support of family and friends, hard work, taking guidance from religion and positive thinking. Travel had helped at times for those who could afford it. Overall this group were not worriers with the exception of two, and expressed an approach to life that was accepting and pragmatic.

People in this study had not avoided losses, stressful events or life threatening situations but they had an ability to accept life's events, to accept and adapt to their own changing limitations and to cope with their feelings of impending mortality. This finding may be in common with the centenarian personality identified by Perls and Silver (1999) in a study with 60 centenarians. They used a personality assessment tool (the NEO Five-Factor Inventory) to measure neuroticism, extraversion, openness, agreeability and conscientiousness. They found that centenarian women experienced less neuroticism or feelings of anger, fear, guilt and sadness. This also included low levels of depression, anxiety, hostility, social unease, impulsiveness and vulnerability. Similarly, the Okinawan Study (2004) found that centenarians scored low on feelings of time urgency and tension, and high on self confidence and unfailingsness. People who achieved extreme longevity were found to be optimistic, adaptable and had an easygoing approach to life. Similar to the centenarians in the present study, moderation was a key value. The implication of this finding is that if centenarians are natural stress shedders, can this quality be taught to others? It may be that stress reduction programs, regular physical exercise and alternative approaches (like yoga) can assist people to cope better with ageing and the changes it brings. One aspect of this personality could be humour and we noted that this was certainly true for many centenarians in our study.

Conclusion

The findings reinforce the emerging understandings that living to 100 and beyond need not be a time of complete frailty, dependence and senescence. Indeed, these centenarians have shown us that living to this age can be experienced as satisfying. Longevity commonalities were related to lifestyle and environment as well as characteristics of an emerging centenarian personality. Findings from this study were consistent with other centenarian studies and point the ways forward for future Australian research with this group of people.

As a community we need to ensure that we continue to learn from this group of people and take this learning to inform approaches to the planning and provision of broader primary health care services. Clearly detailed exploration with Australian centenarians in larger studies with specific and focussed research questions is required.

Acknowledgement

The original research on which this paper was based was funded by the RDNS Foundation.

References


