

The 7th Asian Conference on Aging
& Gerontology (AGen)

OFFICIAL CONFERENCE PROCEEDINGS

Organised by The International Academic Forum (IAFOR)
in association with the IAFOR Research Centre at Osaka
University and IAFOR's Global University Partners

ISSN: 2432-4183



THINK TOKYO

MARCH 29-31, 2021 | TOKYO, JAPAN

“To Open Minds, To Educate Intelligence, To Inform Decisions”

The International Academic Forum provides new perspectives to the thought-leaders and decision-makers of today and tomorrow by offering constructive environments for dialogue and interchange at the intersections of nation, culture, and discipline. Headquartered in Nagoya, Japan, and registered as a Non-Profit Organization (一般社団法人), IAFOR is an independent think tank committed to the deeper understanding of contemporary geo-political transformation, particularly in the Asia Pacific Region.

INTERNATIONAL

INTERCULTURAL

INTERDISCIPLINARY

iafor

The Executive Council of the International Advisory Board

Mr Mitsumasa Aoyama

Director, The Yufuku Gallery, Tokyo, Japan

Lord Charles Bruce

Lord Lieutenant of Fife
Chairman of the Patrons of the National Galleries of Scotland
Trustee of the Historic Scotland Foundation, UK

Professor Donald E. Hall

Herbert J. and Ann L. Siegel Dean
Lehigh University, USA
Former Jackson Distinguished Professor of English and Chair of the Department of English

Professor Arthur Stockwin

Founding Director of the Nissan Institute for Japanese Studies & Emeritus Professor
The University of Oxford UK

Professor Chung-Ying Cheng

Professor of Philosophy, University of Hawai'i at Manoa, USA
Editor-in-Chief, The Journal of Chinese Philosophy

Professor Steve Cornwell

Professor of English and Interdisciplinary Studies,
Osaka Jogakuin University, Osaka, Japan
Osaka Local Conference Chair

Professor A. Robert Lee

Former Professor of English at Nihon University, Tokyo from 1997 to 2011, previously long taught at the University of Kent at Canterbury, UK

Professor Dexter Da Silva

Professor of Educational Psychology, Keisen University, Tokyo, Japan

Professor Georges Depeyrot

Professor and Director of Research & Member of the Board of Trustees
French National Center for Scientific Research (CNRS) & L'Ecole Normale Supérieure, Paris, France

Professor Johannes Moenius

William R. and S. Sue Johnson Endowed Chair of Spatial Economic Analysis and Regional Planning
The University of Redlands School of Business, USA

Professor June Henton

Dean, College of Human Sciences, Auburn University, USA

Professor Michael Hudson

President of The Institute for the Study of Long-Term Economic Trends (ISLET)
Distinguished Research Professor of Economics, The University of Missouri, Kansas City

Professor Koichi Iwabuchi

Professor of Media and Cultural Studies & Director of the Monash Asia Institute, Monash University, Australia

Professor Sue Jackson

Professor of Lifelong Learning and Gender & Pro-Vice Master of Teaching and Learning, Birkbeck, University of London, UK

Professor Sir Geoffrey Lloyd

Senior Scholar in Residence, The Needham Research Institute, Cambridge, UK
Fellow and Former Master, Darwin College, University of Cambridge
Fellow of the British Academy

Professor Keith Miller

Orthwein Endowed Professor for Lifelong Learning in the Science, University of Missouri-St. Louis, USA

Professor Kuniko Miyanaga

Director, Human Potential Institute, Japan
Fellow, Reischauer Institute, Harvard University, USA

Professor Dennis McInerney

Chair Professor of Educational Psychology and Co-Director of the Assessment Research Centre
The Hong Kong Institute of Education, Hong Kong SAR

Professor Brian Daizen Victoria

Professor of English
Fellow of the Oxford Centre for Buddhist Studies

Professor Michiko Nakano

Professor of English & Director of the Distance Learning Center, Waseda University, Tokyo, Japan

Professor Thomas Brian Mooney

Professor of Philosophy
Head of School of Creative Arts and Humanities
Professor of Philosophy and Head of School of Creative Arts and Humanities, Charles Darwin University, Australia

Professor Baden Offord

Professor of Cultural Studies and Human Rights & Co-Director of the Centre for Peace and Social Justice
Southern Cross University, Australia

Professor Frank S. Ravitch

Professor of Law & Walter H. Stowers Chair in Law and Religion, Michigan State University College of Law

Professor Richard Roth

Senior Associate Dean, Medill School of Journalism, Northwestern University, Qatar

Professor Monty P. Satiadarma

Clinical Psychologist and Lecturer in Psychology & Former Dean of the Department of Psychology and Rector of the University, Tarumanagara University, Indonesia

Mr Mohamed Salaheen

Director, The United Nations World Food Programme, Japan & Korea

Mr Lowell Sheppard

Asia Pacific Director, HOPE International Development Agency, Canada/Japan

His Excellency Dr Drago Stambuk

Croatian Ambassador to Brazil, Brazil

Professor Mary Stuart

Vice-Chancellor, The University of Lincoln, UK

Professor Gary Swanson

Distinguished Journalist-in-Residence & Mildred S. Hansen Endowed Chair, The University of Northern Colorado, USA

Professor Jiro Takai

Secretary General of the Asian Association for Social Psychology & Professor of Social Psychology
Graduate School of Education and Human Development, Nagoya University, Japan

Professor Svetlana Ter Minasova

President of the Faculty of Foreign Languages and Area Studies, Lomonosov Moscow State University

Professor Yozo Yokota

Director of the Center for Human Rights Affairs, Japan
Former UN Special Rapporteur on Myanmar

Professor Kensaku Yoshida

Professor of English & Director of the Center for the Teaching of Foreign Languages in General Education,
Sophia University, Tokyo, Japan

The Asian Conference on Aging & Gerontology – AGen 2021

Official Conference Proceedings

ISSN: 2432-4183



© The International Academic Forum 2021
The International Academic Forum (IAFOR)
Sakae 1-16-26-201
Naka Ward, Nagoya, Aichi
Japan 460-0008
www.iafor.org

Table of Contents

<i>Long-term Home Care Communication with Dementia Elders in Taiwan: A Focus on Nonverbal Communication Strategies</i> Chin-Hui Chen	pp. 1 - 12
<i>Influence of Demographic Characteristics on Subjective Well-Being of Older Adults</i> Emmy Ingaiza Margaret Disiye Peter Onderi	pp. 13 - 29
<i>Characteristics of Support Cases for Single Elderly People in Daily Life, Medical Care, Long-term Care, and Death Situations</i> Kanae Sawamura Makiko Okamoto	pp. 31 - 41
<i>Readiness for Decision Making towards End-of-Life Care among Unmarried or Divorced Middle-aged and Elderly Men in Japan</i> Makiko Okamoto Kanae Sawamura	pp. 43 - 52
<i>Envisioning a Healthier Build Environment for Elderly People with Dementia in Denmark - A Conservatory for People and Plants</i> Jon Dag Rasmussen Nanet Mathiasen Victoria Linn Lygum Lone Sigbrand	pp. 53 - 63

***Long-term Home Care Communication with Dementia Elders in Taiwan:
A Focus on Nonverbal Communication Strategies***

Chin-Hui Chen, National Pingtung University of Science and Technology, Taiwan

The Asian Conference on Aging & Gerontology 2021
Official Conference Proceedings

Abstract

The population of older people living with dementia in Taiwan is growing dramatically. If seniors with dementia are to remain in their own homes, higher-quality long-term home care services are vital. One way to achieve this quality goal is to promote better communication between seniors and providers. Accordingly, this study addresses an aspect of communication behaviour that tends to be overlooked in studies on dementia-care communication: nonverbal communication accommodations. Specifically, it presents a typology of nonverbal communication strategies used in long-term home-care service in Taiwan, based on in-depth interviews with 30 long-term home-care workers with at least one year of dementia-care experience. Prominent among these strategies are constant smiling; using one's fingers to draw patients' attention to one's eyes to maintain eye contact; gentle touching to express concern or care; and firm holding of hands, as a means of gauging acceptance or refusal of instructions. However, nonverbal signs of patients' understanding also emerged as crucial to care workers' decision-making. In particular, eye movement, turning the face to the side, looking downward, and maintaining steady eye contact all were reported to have different meanings, knowledge of which was essential to successful care communication. These findings not only extend our understanding of social-care practices, but also have the potential to enhance the wellbeing of dementia patients.

Keywords: Nonverbal Communication, Dementia Care Communication, Long-term Home Care, Taiwan, Gerontological Sociolinguistics

iafor

The International Academic Forum
www.iafor.org

Introduction

Increasing Demand for Long-term Home-care Services

Taiwan is ageing dramatically. According to the National Development Council, Taiwan (2019), people aged 65 and above comprise more than 15% of the total population, and by 2050, this proportion is expected to rise to 35.5%. It is therefore natural to expect increasing demand for care services among older people with serious physical and mental conditions. As a response, the government launched a ten-year long-term care programme in 2007, and the tax-financed long-term care service scheme launched at that time is still in place. As of 2012, this led to long-term home-care services being delivered to 27% of people aged 65 and above who had been classified as disabled using the Barthel Activities of Daily Living Index (ADL), the Instrumental Activities of Daily Living Index (IADL), and the Short Portable Mental Status Questionnaire (SPMSQ) (Ministry of Health and Welfare 2013).

Since long before the above-mentioned government programme was devised, care services in Taiwan had been delivered by specialist workers in seniors' own homes (Kane et al., 1998). The work in question includes peripheral services such as laundry, sewing, cleaning, meal preparation, and accompanying care users on necessary errands, as well as care *per se*, e.g., assistance when using the toilet, taking showers, putting on and taking off clothes, cleaning teeth, eating, taking medicine, turning to prevent bed sores, doing exercise, and getting into and out of bed.

Wu (2005) argued that Taiwan's long-term care should be further reformed to achieve the following four goals: 1) the development of multiple new types of home- and community-based services, 2) improvement of care-service quality via enhanced education and training for care workers and managers, 3) enhancement of support to local care services through the establishment of centralised care-management systems, and 4) sustainable financial resources. It is the second of these goals that the present study can make a contribution to, by raising important questions about what can be done to improve the quality of long-term home-care services, and more specifically, what can be done to enhance training programmes for long-term home-care providers to ensure service success.

Caregiver Training Programmes in Taiwan

Taiwan's existing caregiver training and licensing programme consists of two main parts. The first comprises 70 hours of classroom training on the relevant laws and regulations, long-term care resources, home-care services, stress management, professional image building, communication skills, care services for people with dementia, gender equality, psychology, nutrition, diseases and their diagnoses, physical care and fitness, how to handle emergencies, and hospice care. The second comprises at least 48 hours of practicum, including 10 hours of instruction and 38 hours of practice. Notably, training in communication takes up just 2 of the programme's 118 hours, and arguably produces only a vague or general understanding of what long-term home-care communication processes might be like. Hence, it is reasonable to expect that newly employed or inexperienced workers in this sector might find it challenging to communicate effectively with the physically and mentally ill people in their care.

In addition, the part of the programme covering dementia care lasts only 4 hours, while other health problems that long-term home-care users commonly have are not specifically targeted at all. Obliquely, this discrepancy can be seen as an acknowledgement by the training system that dementia care is sufficiently unique as to require additional attention, and presumably, specialised communication techniques. Nevertheless, the content of its existing dementia-related training does not include any references to communication skills. This is concerning, because dementia-care communication is marked by levels of complexity and uncertainty that could make it unusually difficult, as further discussed in the Literature Review section, below.

Moreover, because dementia patients who receive long-term home care are mostly older, care workers drawn from younger age cohorts should be learning to attend to age-related issues in care communication. However, interrelated issues of language, communication and ageing have not been emphasised in the training either, despite Ripich et al.'s (2000) findings that appropriate communication training for the caregivers of Alzheimer's disease (AD) patients can result in more successful communication with them and thus, a better quality of life.

Taken together, the above critiques of the existing training programme suggest that the delivery of satisfactory long-term home-care service to dementia patients could be compromised. That possibility inspired the present sociolinguistic study, which aims to obtain practical, experience-based communication-related recommendations for long-term home care workers who would like to provide high-quality care services to seniors with dementia.

Literature Review

Dementia: Trends and Challenges

According to the Taiwan Alzheimer's Disease Association (2019), approximately 18% of Taiwan's 65+ age cohort, and about 8% of its 85+ cohort, suffer from dementia. Moreover, it is predicted that over the next half-century, one Taiwanese person will be diagnosed with dementia every 40 minutes, such that by 2065, dementia patients will account for more than 5% of the population. These figures imply huge growth in demand for care services for dementia patients, whether institutional/community-based or home-based, and all the difficulties in carer-patient communication that will come with it.

As the 2019 Taiwan ADA (Alzheimer Disease Association) pointed out, dementia does not refer to one particular disease, but is defined by a series of syndromes including memory loss, language disorders, cognitive impairment, visual/spatial disorientation, decline in problem-solving abilities, and personality changes, among others. Most types of dementia progress slowly. AD is one of the most common types of dementia, while some dementia is triggered by strokes.

People with dementia tend to experience progressive impairment in the acquisition and retention of new information, though their remote memory is generally intact, particularly in the early stages (Patterson et al., 2007). It has also been found that as dementia increases in severity, impairment in executive functions and attentional abilities becomes greater (Mahendra et al., 2017). This led van Halteren-van Tilborg et

al. (2007) to argue that, during the performance of care-related tasks, multiple-task conditions should be avoided, and instructions given only after environmental distractions (e.g., the radio) have been reduced.

Dementia and Language Disorders

Dementia patients' abovementioned deficits also lead to language disturbances, which often manifest early. As noted in a review by Caramelli et al. (1998), early dementia of the AD type can be characterised by linguistic changes, including anomia and impairment during verbal-fluency tests; and when the disease progresses into the intermediate phase, lexical and discourse deficits become marked, and manifested especially as semantic impairment amid the preservation of syntactic and phonological abilities. Other forms of deterioration in communication in such patients include unnecessary repetition and losses of relevancy or meaning (Tappen, 1991). When Ripich and Terrell (1988) compared the communication between an interviewer and six patients with senile dementia of Alzheimer type (SDAT) against the same interviewer's communication with six elderly people who were well, they found that the SDAT group used more turns and more words, and also showed greater inconsistency caused by one subtype of cohesion-disruption: missing elements. The authors concluded that SDAT results not only in impairment of linguistic abilities, but also of discourse abilities, such that the development of thematic structures in conversations with SDAT sufferers would tend to be more difficult than with others.

Mentis et al. (1995) subsequently reported that dementia patients also have reduced abilities to change conversational topic while still preserving the flow of discourse. Difficulties with active contribution to the propositional development of topics were also observed, and usually manifested as failure to consistently and clearly maintain topics. Because of these discourse-pragmatic, linguistic, and cognitive problems associated with AD, the authors highlighted the need for further exploration of verbal interactions among AD patients, and how these problems affect conversations with them.

As to language and communication disorders observed in non-Alzheimer's dementias (for a review, see Cherrier et al., 1998), vascular dementia (VaD) patients exhibit aphasias and complain of word-finding problems. Also, as compared to AD patients, VaD patients experience more of the motor aspects of speech abnormalities, such as poor articulation and slower rates of speaking (Powell et al., 1988).

Dijkstra et al. (2004) conducted interviews aimed at eliciting details of family and life stories with 30 older adults who had dementia and 30 without dementia. The authors quantitatively coded the occurrences of discourse-building features, reflecting coherence and cohesion, and discourse-impairing ones such as disruptive topic shifts and empty phrases, and concluded that the healthy subjects exhibited more of the former, and the dementia patients more of the latter.

Based on experimentally elicited descriptive discourse and narratives by 30 persons with AD and a control group of 30 non-AD seniors in Taiwan, Lai and Lin (2012) identified key conceptual markers that could significantly differentiate between these two groups of Chinese speakers. Specifically, their findings indicated that the participants with AD used discourse markers less frequently, and also with less variation,

than the controls did. They further identified some particular conceptual markers (e.g., *dagai* ‘probably’, *cai* ‘only, just’) and non-conceptual ones (e.g., *danshi* ‘but’, *haiyou* ‘and’, *suiran* ‘though’, *suoyi* ‘so’) of which usage varied the most sharply between the two groups.

In a subsequent study, Lai and Lin (2013) assigned their AD and non-AD participants a category-fluency task and a picture-naming task, and sought to identify the nature of the AD patients’ action-object semantic impairment. They noted that the content of information given by the Chinese-speaking AD participants was seriously compromised by the significantly smaller number of semantic-lexical items that they produced.

Another study conducted in Taiwan by Lai (2014) assessed the predictive power of discourse features for the severity of AD. Based on analysis of the discourse-building and discourse-impairing features in interview-style conversations with 20 AD and 20 non-AD elderly Mandarin speakers, Lai confirmed that the AD group’s conversations included fewer discourse-building features and more discourse-impairing features than those of their non-AD counterparts; and established that – considered as variables – the discourse-impairing features had significantly stronger power to predict a person’s degree of dementia than the discourse-building ones.

Dementia-care Communication: Perceptions and Strategies

Ekman et al. (1991) reported that difficulty of communicating with patients suffering from severe dementia often makes caregivers feel hopeless, and that their work lacks meaning. The existing literature has proposed a variety of communication techniques for care workers in this situation, not only from the perspective of linguistics, but also nursing, communication sciences, psychiatry, public health, health/primary care, medical science, audiology/speech science, and psychology. Accordingly, its research paradigms and approaches have been quite varied. For instance, Tappen (1991) proposed some special techniques for nurses aimed at facilitating perioperative care communication with AD patients. Specifically, to help individuals with AD to comprehend surgery, Tappen advised that nurses’ communication be slow-paced, simple, concrete, and repetitive, and that their nonverbal communication be positive and supportive, such as by smiling steadily, touching, and maintaining eye contact. Acquiring knowledge of each patient’s past was also encouraged, as a basis for understanding what the patient is talking about and a foundation for further conversations. Lastly, Tappen recommended that nurses build greater awareness of how individual AD patients signal that they are being overwhelmed by information: for instance, through facial expressions, raised voices, and confusing verbalisations.

To gain a clearer understanding of how to improve therapeutic communication with AD patients, Tappen et al. (1997) invited advanced practice nurses to interview such patients in nursing homes as part of a treatment approach, under observation by the researchers. The interview- and observation data were subjected to content analysis aimed at establishing whether particular AD communication strategies were as effective as prior literature had claimed. The authors concluded that AD subjects could respond to open-ended questions as well as close-ended ones, but that nurses used more closed-ended questions in the treatment interviews. Thus, the authors recommended that closed-ended questions can be used for assisting AD sufferers to complete daily-living

activities, but that for the purpose of developing a relationship or expressing feelings/concerns, open-ended questions were preferable.

Several other strategies for establishing rapport or encouraging AD patients' participation in discussions have also been recommended (Tappen et al., 1997). To facilitate the expression of feelings and concerns, for example, it has been deemed better to use broad openings, to speak as an equal, to establish commonalities, and to share about oneself. Other scholars have likewise argued that AD subjects feel more able to determine the directions of conversations and talk about topics that are salient to them if broad openings and speaking as equals are employed (e.g., Peplau, 1952; Ramanathan-Abbott, 1994). The use of verbal and nonverbal encouragers to reflect, paraphrase and summarise each discussion is also important to helping AD patients maintain conversations and follow themes through them when they have difficulties expressing their thoughts in a coherent manner (Carkhuff, 1993; Tappen et al., 1997).

Beach and Kramer (1999) studied caregivers' perceptions of communication with dementia patients in nursing homes. Analysis of their interview data using the grounded-theory method identified two core categories: 'compliance-gaining strategies' and 'learning the language'. The former highlights the need to confirm and accept the AD-suffering residents' reality, i.e., to enter their world, as well as to avoid 'no response' scenarios by creatively using a 'changing faces' strategy: i.e., calling upon another staff member to intervene in the communication process to stimulate the patient's response. The 'learning the language' category, on the other hand, refers to the effective employment of nonverbal messages to facilitate communication with AD patients, and the importance of knowing what they mean when they use particular types of nonverbal language themselves.

An expert team from neuropsychology, nursing, psychogeriatrics and speech pathology (Smith et al., 2011) integrated prior research findings on dementia patients' memory, cognition, and communication into two communication mnemonics: RECAPS, aimed at professional caregivers, and MESSAGE, for family members providing care. RECAPS stands for reminders (spoken prompts; written words and picture reminders), environment (have a permanent place for objects; don't change surroundings), consistent routines (keep up familiar routines and create new ones when needed), attention (avoid distractions; focus on attention), practice (maintain skills through use; practise new skills), and simple steps (break tasks into small, discrete steps; allow extra time). MESSAGE stands for maximize attention, watch your expression and body language, keep it simple, support their conversation, assist with visual aids, get their message and encourage/engage in communication. Crucially, both the communication models implicit in these mnemonics provide, in addition to knowledge-based communication strategies for dementia care, syntheses of practical insights into what content should be included in an effective caregiver-education programme. That research goal is shared by the present project.

Gap in the Literature

In light of the above review, it can be concluded that few prior studies have specifically addressed nonverbal aspects of communication as a means of enhancing interaction with dementia patients. This present study therefore aims to fill that gap by eliciting long-term home-care providers' views on how best to interact with their clients with

dementia using nonverbal communication strategies.

Methodology

The 30 participants in this study (26 female) were all Taiwanese long-term home-care workers with at least one year of experience of caring for elderly dementia patients. They agreed to be interviewed by the researcher to share the communication strategies they utilised to deal with dementia patients' various communication behaviours. The researcher also conducted field observations to examine one of these 30 individuals' actual practices when taking care of dementia patients who were unable to express their thoughts verbally, due to being in the final, severe stage of the disease. This field study enabled the researcher to take notes on the interaction and mutual communication between these nonverbal patient-carer dyads.

Findings

Each of the four main identified nonverbal communication strategies for dementia-care communication in long-term home-care contexts is dealt with in detail in its own subsection below.

Steady Smiling

Two of interviewees recommended smiles as an effective device for building rapport and good relationships with their clients.

Extract 1: I smile a lot because I want to build a good relationship with the client. (Interviewee 1, Female [F])

Extract 2: Every time I see them, I smile at them because they like our smiling. They don't like our unpleasant face because their children would not look at them with such a face. (Interviewee 3, F)

Using Fingers When Giving Instructions

Three of the participants advised the use of fingers to direct patients' attention to instructions they were being given, and deemed this especially useful when communicating with those who refused to talk or maintain eye contact.

Extract 3: Sometimes my client does not want to talk and I would use some gestures to help her engage in communication, or invite her to talk to me. I would also use fingers to draw her attention to me by saying 'look at me' while waving my finger in front of her eyes. (Interviewee 2, F)

Gentle Touch to Show Concern or Care

Six of the caregivers advised touching dementia patients when providing service, as a means of nonverbally showing concern and care, and thus stabilising their emotions by providing a greater sense of security.

Extract 4: In the process of taking care of clients with dementia, it is important to touch their foreheads, and then their faces. Skin touch can make them feel secure and cared about. They know people are showing care to them. (Interviewee 3, F)

Extract 5: My client sometimes scratches his swollen hands and feet. I touch his wounds to show concerns. He will then reply by saying 'I am okay'. (Interviewee 5, F)

Extract 6: I think hugging is the best body language to show in the world, so sometimes when I am ready to go home, I hug my client to show her my care and to give her a sense of security by promising her that I will come back again tomorrow. When she feels upset, I also hug her. (Interviewee 6, F)

Extract 7: Seniors with dementia sometimes have hearing problems, so even though they can see you speaking, they can't comprehend well. This is especially problematic when the clients also have eyesight problems. Their abilities to speak, hear and see decline to the extent that they can have problems interacting with others. In such cases, I touch their back while talking with them. Touching while speaking can help them get used to your presence, and can also help them pay attention to you when you are giving them instructions. (Interviewee 7, M).

Firm Holding of Hands to Check Acceptance or Refusal of Instructions

One of the caregivers also said she had encountered situations in which their clients refused to accept service or displayed aggression, and that the signs of such refusal or negative emotions were not always evident from their verbal expressions. Accordingly, they recommended that caregivers use their hands to detect or confirm such attitudes.

Extract 8: I would use body language to detect whether my clients with dementia are willing to follow my instructions. For example, I would hold their hands to make sure they do not shake my hands off, because that means they agree. (Interviewee 8, F)

It is clear from the above data that nonverbal signs given by dementia patients are important clues to their unspoken thought, to which long-term home-care providers should pay due attention. It is arguably even more important to attend to such clues when caring for those patients who suffer from aphasia to the point of not being able to talk at all.

During the field-observation phase of this research, the caregiver explained while delivering her service that she relied on the patient's eye movements to comprehend her acceptance or refusal of instructions, which she would then verbally acknowledge. Specifically, when the patient pointed her eyes sideways, it indicated that wanted something to be given to her, whereas pointing them downward indicated refusal, and maintaining steady eye contact, that she was listening. In the absence of these signs, according to the caregiver's observations, any attempt to communicate with this client would be interpreted as pressure, and it was better to wait for a while before giving either any further instructions, or services such as feeding that require the client's cooperation.

Discussion and Conclusion

The four nonverbal communication strategies identified in this research were said by those long-term home-care givers who used them to effectively convey concern and affection; to enable the more effective giving of instructions; and to stabilize patients' emotions so as to enhance their psychological wellbeing while care was being delivered. Most importantly, by means of nonverbal communication strategies, especially the observation of eye movement, caregivers were able to perceive seniors with severe dementia and aphasia as individuals, and as still capable of exchanging their thoughts and personal preferences with others. Even though on a surface level, such a communication process appears to consist simply of carers' monologues, it in fact can reflect mutual understanding by means of silent nonverbal messages. This finding could help others to interact more effectively with dementia patients suffering from aphasia, by enabling them to be seen as still having a need to be understood, a desire to form connections with others, and the ability to make decisions: in short, personhood.

The field observations conducted as part of this study appear to complement the understanding, arrived at via the interview data, of how long-term home-care workers communicate nonverbally with dementia patients. However, because these observations were only conducted with one carer-patient dyad. Future research could therefore usefully focus on observing more individuals in similar situations, as a means of identifying and exploring further nonverbal practices that might enhance dementia-care communication in long-term home-care contexts.

References

- Beach, D. L., & Kramer, B. J. (1999). Communicating with the Alzheimer's resident: Perceptions of care providers in a residential facility. *Journal of Gerontological Social Work, 32*(3), 5-26.
- Caramelli, P., Mansur, L. L., & Nitrini, R. (1998). Language and communication disorders in dementia of the Alzheimer type. In B. Stemmer & H. A. Whitaker (Eds.), *Handbook of neurolinguistics* (pp. 463-473). San Diego, CA: Academic Press.
- Carkhuff, R. R. (1993). *The art of helping* (7th ed.) Amherst, MA: Human Resource Development Press.
- Chen, C.-H. (2019). Exploring teacher–student communication in senior education contexts in Taiwan: A communication accommodation approach. *International Journal of Ageing and Later Life, 13*(1) 63-109.
- Cherrier, M. M., Mendez, M. F., Cummings, J. L., & Benson, D. F. (1998). Language and communication in non-Alzheimer's dementias. In B. Stemmer & H. A. Whitaker (Eds.) *Handbook of neurolinguistics* (pp. 447-461). San Diego, CA: Academic Press.
- Dijkstra, K., Bourgeois, M. S., Allen, R. S., & Burgio, L. D. (2004). Conversational coherence: Discourse analysis of older adults with and without dementia. *Journal of Neurolinguistics, 17*(4), 263-283.
- Ekman, S. L., Norberg, A., Viitanen, M., & Winblad, B. (1991). Care of demented patients with severe communication problems. *Scandinavian Journal of Caring Sciences, 5*(3), 163-170.
- Kane, R. A., Kane, R. L., Ladd, R. C. (1998). *The heart of long-term care*. New York, NY: Oxford University Press.
- Lai, Y. H. (2012). Discourse markers produced by Chinese-speaking seniors with and without Alzheimer's disease. *Journal of Pragmatics, 44*(14), 1982-2003.
- Lai, Y. H. (2014). Discourse features of Chinese-speaking seniors with and without Alzheimer's disease. *Language and Linguistics, 15*(3), 411-434.
- Lai, Y.-H., & Lin, Y.-T. (2013). Factors in action-object semantic disorder for Chinese-speaking persons with or without Alzheimer's disease. *Journal of Neurolinguistics, 26*, 298-311.
- Mahendra, N., Hickey, E. M., & Bourgeois, M. S. (2017). Cognitive-communicative characteristics: Profiling types of dementia. In E. M. Hickey & M. S. Bourgeois (Eds.) *Dementia: Person-centered assessment and intervention* (pp. 42-80). London: Routledge.

- Mentis, M., Briggs-Whittaker, J., & Gramigna, G. D. (1995). Discourse topic management in senile dementia of the Alzheimer's type. *Journal of Speech, Language, and Hearing Research*, 38(5), 1054-1066.
- Ministry of Health and Welfare, Taiwan (2013). *The long-term care service network programme (phase I): 2013-2016*. Taipei City: Ministry of Health and Welfare.
- National Development Council, Taiwan (2019). Population prediction for the 65 plus cohort. <https://pop-proj.ndc.gov.tw/dataSearch.aspx?uid=3109&pid=59>
- Patterson, A. F., Olsson, E., & Wahlund, L. O. (2007). Effect of divided attention on gait in subjects with and without cognitive impairment. *Journal of Geriatric Psychiatry and Neurology*, 20, 58-62.
- Powell, A. L., Cummings, J. L., Hill, M. A., & Benson, D. F. (1988). Speech and language alterations in multi-infarct dementia. *Neurology*, 38(5), 717-719.
- Ramanathan-Abbott, V. (1994). Interactional differences in Alzheimer's discourse: An examination of AD speech across two audiences. *Language in Society*, 23(1), 31-58.
- Ripich, D. N., & Terrell, B. Y. (1988). Patterns of discourse cohesion and coherence in Alzheimer's disease. *Journal of Speech and Hearing Disorders*, 53, 8-15.
- Ripich, D. N., Zioli, E., Fritsch, T., & Durand, E. J. (2000). Training Alzheimer's disease caregivers for successful communication. *Clinical Gerontologist*, 21(1), 37-56.
- Smith, E. R., Broughton, M., Baker, R., Pachana, N. A., Angwin, A. J., Humphreys, M. S., ... & Hegney, D. (2011). Memory and communication support in dementia: Research-based strategies for caregivers. *International Psychogeriatrics*, 23(2), 256-263.
- Taiwan Alzheimer's Disease Association. (2019). Getting to know dementia. Accessed on <http://www.tada2002.org.tw/About/IsntDementia?fbclid=IwAR2Ih9J4y3PEPWY7Bb-bjBhrZSggHvOgPKZ3uIO1CVxgsh6J3utgoQ-mPr0#bn4> (in Chinese)台灣失智症協會 (2019). 認識失智症.
- Tappen, R. M. (1991). Alzheimer's disease: Communication techniques to facilitate perioperative care. *AORN Journal*, 54(6), 1279-1286.
- Tappen, R. M., Williams-Burgess, C., Edelstein, J., Touhy, T., & Fishman, S. (1997). Communicating with individuals with Alzheimer's disease: Examination of recommended strategies. *Archives of Psychiatric Nursing*, 11(5), 249-256.
- van Halteren-van Tilborg, I. A., Scherder, E. J., & Hulstijn, W. (2007). Motor-skill learning in Alzheimer's disease: A review with an eye to the clinical practice. *Neuropsychology Review*, 17(3), 203-212.

Wu, S. C. (2005). Population aging and long-term care policy. *National Policy Quarterly*, 4(4), 5-24.

Influence of Demographic Characteristics on Subjective Well-Being of Older Adults

Emmy Ingaiza, Maseno University, Kenya
Margaret Disiye, Maseno University, Kenya
Peter Onderi, Maseno University, Kenya

The Asian Conference on Aging & Gerontology 2021
Official Conference Proceedings

Abstract

Research into well-being of older adults is at advanced stage the world over. Most of the studies are conducted in the west. A few studies done in Kenya have focused on older adults' abuse and vulnerability. Furthermore, these studies have used younger populations, thus lack self-reporting by the older adults themselves. This causal-comparative study sought to determine the level of subjective well-being of older adults and how demographic data related to the population and within groups influence the subjective well-being of older adults. Data was collected from older persons (n=140, >65yrs) participating in the Older Person's Cash Transfer programme that serves the non-pensionable and aged Kenyans. Findings revealed that the older adults experienced low levels of subjective well-being, low levels of positive affect and low levels of negative affect and were dissatisfied with their life. The findings further revealed that being married, having own source of income, attaining secondary school education and poor self-perceived health, significantly influenced subjective well-being. Relative absence of negative affect strongly predicted subjective well-being, followed by presence of positive affect and finally the dimension of satisfaction with life. The demographic characteristics did not reveal themselves as predictive variables in this study. Understanding the dynamics, emotional and cognitive processes of older adults may be useful in designing interventions, strategies and policy programs that could enhance subjective well-being of older adults.

Keywords: Subjective Well-Being, Positive Affect, Negative Affect, Satisfaction with Life, Older Adults', Demographic Characteristics

iafor

The International Academic Forum
www.iafor.org

Introduction

The 21st century older adults are living longer lives than the previous generations (Population Pyramid of the World, 2015a). It is estimated that 80% of older persons in the world will be living in low-income and middle-income countries by the year 2050 (United Nations Population Division, 2013). It is envisioned that these older persons will be faced with more concerns and worries about ageing (Pew Research Center Survey, 2014). This demographic gains towards the later years of life present challenges that necessitate healthy psychosocial and economic improvement. These statistical assessment is professionally supported by Grundy (2006) and Buki (2014) observations that older people's capacity to live a longer life of quality is a pressing issue. Moreover, Heppner, Casas, Carter and Stone (2000 p. 7) proposed that ageing concerns should go beyond biological changes; to consider the contextual factors that influence adaptive subjective well-being across the world. In context, subjective well-being represents life experiences that translate into personal happiness within the general normal daily life tasks and activities (Ryff, 2014). The emphasis is on healthy psychological experiences within the dimensions of satisfaction with life, presence of positive affect and relative absence of negative affect. The satisfaction with life dimension denotes the cognitive appraisal of specific domains in a person's life over a relatively long period of recall. The emotional appraisals reflect on an individual feelings experienced within a short-term frame that are relatively less stable. In this regard, well-being is a self-report measure of both emotional and cognitive appraisals relating to the there-and-then and here-and-now experiences respectively. According to Suzuki, Fujii, Gärling, Ettema, Olsson and Friman (2013) frequency of feelings is strongly related to global well-being measure than the emotional intensity. In line with the theory of Reasoned Action (Fishbein, & Ajzen, 1975) and the Theory of Planned Behaviour (Ajzen, & Fishbein, 1980) adopted for this study, subjective emotional experience serves as a signal that helps an older adult to engage in adaptive voluntary behaviour once the initial involuntary emotional surge has passed. Individuals high in negative affect exhibit on average low levels of subjective well-being and higher levels of life dissatisfaction. Positive affect is linked with an increase in longevity, a decrease in stress and a high subjective well-being (Paterson, Yeung, & Thornton, 2015). Forgas (2013) posits that experiencing negative affect is a normal part of life and human nature. Further evidence shows that cognitive and affective component have distinct findings and that one component may not be a reflective of the other component.

Studies into subjective well-being seeks to underscores the importance of subjectivity in assessing what makes life good and desirable according to an individualized criterion in relation to self, others and the environment (Diener, 2013). Past studies have indicated that in America, where the population are less concern with the growing older population (Pew Research Center Survey, 2014), that despite experiencing late-life disability, adequate health care and psychosocial support promotes successful ageing among the older adults (Romo, Wallhagen, Yourman, Yeung, Eng, Micco, Perez-Stable & Smith, 2012). Other studies by Trigg, Watts, Jones, Tod and Elliman (2012) revealed lower subjective well-being among the older adults with dementia while a study by Steptoe, Deaton and Stone (2015) showed that older adults experience varying levels of well-being. In Asia studies by Lu, Kao and Hsieh (2010) and Sargent-Cox, Anstey and Luszcz (2012) indicated higher levels of subjective well-being while others revealed a medium level of subjective (Suh, Choi, Lee, Cha, & Jo, 2012). Studies on well-being and ageing process in African context are scanty. In Sub-Saharan Africa, a study by Aboderin, (2010) observe that the increasing population poses a major concern due to inadequate policy approaches towards understanding the ageing process in the region. The observations of Aboderin are echoed by Mwanyangala, Mayombana,

Urassa, Charles, Mahutanga, Abdullah and Nathan (2010) who revealed a low subjective well-being and poor health status among the older population in Tanzania. Mwanyangala *et al* adds that having good health status was significantly associated with being male, married and not being among the oldest old, a high level of education and higher level of socio-economic status of the household. Using multivariate analysis two studies by Calys-Tagoe, Hewlett, Dako-Gyeke, Yawson, Baddoo, Seneadza, Mensah, Minicuci, Naidoo, Chatterji, Kowal and Biritwum, (2014) in Ghana and Phaswana-Mafuya, Peltzer, Chirinda, Kose, Hoosain, Ramlagan, Tabane and Davids (2013) in South Africa posit that being of a younger old age, being of male sex, having a high educational level and high income were associated with high levels of subjective well-being. The findings are similar with the studies conducted in Europe and Asia that well-being decreased with increasing age and that women reported poor subjective well-being.

In Kenya, people aged above 65 years accounted for 2.8% in 2015 and is projected to increase to 6.1% by 2050 (Population Pyramid of world, 2015b). As it is elsewhere across the globe, Kenyan older people form an increasingly important sub-group that requires adequate health care, psychosocial and economical support in regard to aging process. A review by Walaba (2014) found out that ageing Kenyans with positive experiences healthily lived beyond 100 years and still were useful to the society. In contrast a study conducted in a rural population in Western Kenya by Kabole, Kioli and Onkware, (2013) revealed that 63% of the older adults do not experience goodness in old age. Another study in Nairobi slums by Kyobutungi, Egondi and Ezeh (2010) found out that different groups of persons have different level of subjective well-being. In addition, a survey conducted by Kenya National Commission on Human Right (2009) and Pew Research Center Survey (2014) show that many Kenyans have fears and anxieties about growing old. The reviewed literature provides evidence that link good governance with the development of strategies that enhance subjective well-being of older adults. Therefore, this study sought to gain an understanding into the influence of demographic characteristics on subjective well-being of older adults participating in Older Persons Cash Transfer Program in Kenya.

Both Intrapersonal and interpersonal experiences have been found to have a predictive influence on subjective well-being of older adults. This is demonstrated by an integrative model by Galinha and Pais-Ribeiro (2011) that the predictors of subjective well-being were exclusively intrapersonal; satisfaction with life, negative state affect and positive state affect. As is the case with the current study, this result underpins the importance of using the self-reporting method on ageing process. Another study by Siedlecki, Salthouse, Oishi and Jeswani (2014) examined the relationship among types of social support and facets of subjective well-being found out that there were no significant differences in predictors of subjective well-being across age. The results of this studies emphasize that predictors of subjective well-being are dynamic; its depended on factors such as demographic characteristics of the sample, variables being assessed, time frame and prevailing environmental situations. Similarly, a cross-sectional and correlation study by Suh, Choi, Lee, Cha and Jo (2012) among older Korean adults showed that older age and lower economic status reduced life satisfaction and that being female, having a monthly income, living with a spouse, having knowledge about aging were associated with enhanced well-being. They concluded that living with a spouse was among the most powerful predictors of well-being, followed by perceived health status.

In this study, subjective well-being was considered alongside older adult's demographic characteristics of gender, age, living arrangements, income, sources of income, employment

and self-perceived health. Gender has been found to influence the subjective well-being of older adults. Despite women having higher life expectancy than men, older men reported better health than their female counterparts in an Indonesian sample (Ng, Hakimi, Byass, Wilopo, & Wall, 2010), in Nairobi slums, Kenya (Kyobutungi *et al.*, 2010), in rural South Africa community (Phaswana-Mafuya *et al.*, 2013) and in a Brazilian sample (Cachioni *et al.*, 2017). On the contrary, a study by Mehmet and Yordan (2012) found out that gender did not affect quality of life among Turkish older adults living in nursing homes. Age, marital status, education and socio-economic status also influence subjective well-being of older adults. An earlier study by Yang (2008) reports marital status significantly influenced subjective well-being of older adults. Studies indicate that participants in older age groups, those not in any marital relationship and low educational and low socioeconomic status indicate low subjective well-being (Ng, *et al.*, 2010; Gomez-Olive, Thorogood, Clark, Kahn, & Tollman, 2010; Kyobutungi, *et al.*, 2010). The researchers conclude that the declining health with increasing age is likely to increase demand for health care and other services as people grow older. Therefore, understanding the determinants of healthy ageing is essential in targeting health-promotion programmes. Other studies have given an indication that older adults are relatively satisfied with their ageing until relatively late in life when taking into account the factors associated with increased age such as poor health and widowhood, which explained for poorer subjective well-being in older cohorts (Cachioni, *et al.*, 2017; Walaba 2014)). The reviewed literature gives dissimilar results regarding the influence of age on subjective well-being.

Income has been found to influence subjective well-being of older adults. An earlier study by Pinquart and Sörensen (2000) and Lee (2010) indicated that income was correlated more strongly with well-being. Another study by Ingrand, I. Paccalin, Liuu, Gil, and Ingrand, P. (2018) adds that perception of personal financial situation has a direct influence on quality of life. In tandem with this study, Dai, Zhang, and Li (2013) indicated that health, economic status and family relations had a direct influence on subjective well-being among the Chinese living in major cities. Paid employment is critical to the well-being of individuals; it provides a direct access to resources therefore, fostering satisfaction (Warr, 2003). Living arrangement is one of other factors that has an influence on subjective well-being. Studies in Vietnam reveal that having quality contact with adult children (Pinquart & Sörensen, 2000) and intergenerational co-residence (Yamada & Teerawichitchaian, 2015) significantly increased subjective well-being of older adults. Similar results by Reichstadt, Sengupta, Depp, Palinkas and Jeste (2010) indicated that older adults who maintained a social support system had a positive well-being in San Diego, California. Another study by Bryant, Bei, Gilson, Komiti, Jackson and Judd (2012) found out that relationship status was also significantly associated with satisfaction with life among community dwelling Austrian older adults. The above studies were conducted in community with well-known living arrangement. However, the living arrangement in the current study area is not well documented. Earlier studies have theorized that subjective well-being is shaped within the context of time and space (Nordbakke & Schwanen, 2013; Chung and Lee, 2011). The studies found out that different and multiple demographic characteristics influenced subjective well-being of older adults at different times in various parts of the world.

The reviewed studies were carried out in the developed world, with a few studies done in developing countries. If the current trend in ageing population continues, then more and more Kenyans are expected to live longer. Therefore, subjective well-being is an important concept that require an understanding within the Kenyan context.

Current Study

This causal-comparative study sought to determine the level of subjective well-being of older adults and how selected demographic data related to the population and within groups influenced subjective well-being of older adults. It also sought to determine whether the dimensions of subjective well-being and the selected demographic variable had a predictive power on subjective well-being.

Method

Participants and Procedure

The participants were 140 older adults enrolled into the Older Persons Cash Transfer programme that provides about 18 USD to poor households aged 65 years and above (GOK, 2009; GOK, 2012). The programme seeks to improve subjective well-being of non-pensionable older Kenyans, who were not formally employed as envisioned under the Social Protection Policy (GOK, 2006). This study was carried in June, 2018 in Kajulu ward, Kisumu East sub-county, Kisumu County, Kenya. Procedures were approved by Maseno University School of Graduate Studies. The research permit number 15184 was granted by the Kenya National Commission of science, Technology and Innovation. The consent and permission was granted by the County Commissioner and the Director of Education, Kisumu County. Proportionate stratified random and simple random sampling methods were used

Measures

Subjective well-being was conceptualized both as a one-dimensional and multi-dimensional concept. As a one-dimensional concept the older adults were asked a single question 'How can you describe your overall health?' The respondents were given alternative responses ranging from very poor, poor, moderate, good and very good health status. As a multi-dimension model subjective well-being consists of three components; satisfaction with life (SWLS, Diener, Emmons, Larsen, & Griffin, 1985), relative presence of positive emotions and relative absence of negative emotions (PANAS, Thompson, 2007). The five-item on SWLS was completed by the older adults to measure cognitive-judgmental process of satisfaction with life experiences. The items were scored on 5-point Likert scale and interpreted in terms of relative life satisfaction ranging from 1 = '*Extremely dissatisfied*' 2 = '*Dissatisfied*' 3 = '*Neutral*' and 4 = '*Satisfied*' 5 = '*Extremely Satisfied*'. Secondly, PANAS was used to assess the emotional experiences of the older adults. PANAS consists of 10 words that describe different feelings and emotions. Five of the items measure the presence of positive affects; being inspired, alert, attentive, active and determined. The other 5 words measure the relative absence of negative affects; being afraid, upset, nervous, ashamed and hostile. The items on PANAS were rated on a 5-point scale ranging from 1 = '*Very slightly or not at all*' 2 = '*A little*' 3 = '*Moderately*' and 4 = '*Quite a bit*' 5 = '*Extremely*' to measure the extent to which their affect has been experienced during the past few weeks. Merz, Malcane, Roesch, Ko, Emerson, Roma, Roma and Sadler (2013) acknowledges that both positive and negative affect represent independent constructs ranging from low to high levels of emotional experience. The scores for both SWLS and PANAS were computed as group data for the sampled population respectively. If the older adult is highly satisfied with life and frequently experiences positive emotions and relatively low negative emotions, the older adult is said to have high subjective well-being (Eryilmaz, 2010).

Data Analysis

Descriptive analyses were conducted to explore on the older adults' demographic characteristics: gender, age, education level, employment status, marital status, income levels, and other sources of income, living arrangements and the self-rated overall perceived health. Correlation and regression analysis was used to determine the level and predictors of subjective well-being. The Post Hoc Tukey HSD analyses was used to test for the variance in between group of demographic characteristics on subjective well-being of older adults.

Results

Subjective Well-Being of Older Adults

Subjective well-being of older adults was measured both as one-dimensional as well as a multi-dimensional concept. As a one-dimensional concept the results in Table 1 revealed that the majority of the older adults experienced a poor self-perceived health status which translates to low subjective well-being.

How can you describe your overall perceived health?	Gender		Frequency	Percentage
	Female n (%)	Male n (%)		
Very Poor	11(15.5)	13(18.8)	46	32.9
Poor	56(78.9)	55(79.7)	70	50
Moderate	4(5.6)	1(1.4)	24	17.1
Good	0	0	0	0
Very Good	0	0	0	0

Table 1: Frequency, Percentage for Health Status of Older Adults

The ANOVA results in Table 2 revealed that majority of older adults were dissatisfied with their life ($M = 2.24$, $SD = .42$), they indicated varied responses of positive affect ($M = 2.70$, $SD = 1.08$) and that the majority (79%, $n = 114$; $M = 1.46$, $SD = .58$) experienced very little of the negative affect. Unlike positive emotions that were spread across 5-point Likert scale, negative affect was skewed towards the lower level of the scale. The responses on the three dimensions of satisfaction with life, positive affect and negative affect were computed into a single score showed that a majority (74%, $n = 103$; $M = 2.24$, $SD = .42$) of older adults experienced a low subjective well-being. The two measures both as a unidimensional concept and a multi-dimensional concept gave similar results that older adults experience a lower subjective well-being

	Frequency of responses N (%)					M	SD
	1	2	3	4	5		
Satisfaction with life	11(8)	114(81)	14(10)	1(1)	-	2.53	.45
Positive affect	27(19)	58(41)	31(22)	16(12)	8(6)	2.70	1.08
Negative affect	114(79)	26(19)	1(1)	2(1)	-	1.46	.58
Subjective Well-Being	-	103(74)	36(26)	1(1)	-	2.24	.42

Table 2: Frequency, Percentage, Mean and Standard Deviations for the Domains of Subjective Well-Being of Older Adults

A regression model in Table 3 revealed that 97.5% of any variance in subjective well-being of older adults could be explained by variations in satisfaction with life, presence of positive affect and relative absence of negative affect and two demographic characteristics of age bracket and highest academic level. This explained a good prediction power for future observations.

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	.988 ^a	.976	.975	.067

a. Predictors: (Constant), Negative Affect, highest Academic Level, Age Bracket, Satisfaction With Life, Positive Affect.

Table 3: Regression Model for the Goodness-of-Fit Variables of Subjective Well-Being of Older Adults

Table 4 revealed p value $<.001$ which is less than the set value of 0.05, indicating that the regression model was statistically significant in predicting subjective well-being. Further the results showed that the relative absence of negative affect ($\beta = .326$, $p = <.001$) was the strongest predictor of subjective well-being, followed by presence of positive affect ($\beta = .321$, $p = <.001$), lastly the dimension of satisfaction with life ($\beta = .317$, $p = <.001$). On the contrary, the demographic characteristics did not reveal themselves as predictive variables of subjective well-being.

Variables	Un-standardized Coefficients		Standardized Coefficients B	t	Sig.
	B	Std. Error			
(Constant)	.092	.037		2.46	.015
Age bracket	-.003	.006	-.007	-.499	.618
Highest academic level	-.002	.009	-.003	-.203	.839
Satisfaction With Life	.317	.013	.339	25.28	.000
Positive Affect	.321	.005	.820	60.96	.000
Negative Affect	.326	.010	.451	33.52	.000

Dependent Variable: Subjective Well- Being

Table 4: Regression Analysis of Predictors of Variables on Subjective Well-Being of Older Adults

Influence of Demographic Characteristics on the level of Subjective Well-Being of Older Adults

The one-way Analysis of Variance results in Table 5 revealed that demographic characteristics of marital status, other sources of income, academic level, and self-perceived health had a statistical influence on subjective well-being of older adults. Post hoc Tukey

HSD test was conducted to establish where the mean differences lied between groups of the respective categories.

Significant Demographic Characteristics		Sum of squares	Df	Mean square	F	Sig.
Marital Status	Between groups	17.172	2	8.586	174.22	.000
	Within groups	6.752	137	.049		
Other Source of Income	Between groups	6.618	2	3.309	26.193	.000
	Within groups	17.307	137	.126		
Highest Academic Level	Between groups	1.940	3	.647	4.001	.009
	Within groups	21.984	136	.162		
Overall Self-Perceived Health	Between groups	1.456	2	.728	4.439	.014
	Within groups	22.468	137	.164		

Table 5: ANOVA Results for Demographic Characteristics with Significant Influence on Subjective Well-Being of Older Adults

Post Hoc Tukey HSD Test Analyses

The analysis on marital status indicated that all categories of being married, separated and widowed ($p < .001$) had a significant influence on older adult's subjective well-being as indicated in Table 6.

Marital status		Mean Difference	Std. Error	Sig.	95% Interval Lower Bound	Confidence Upper Bound
Married	Widowed	-.631*	.038	.000	-.72	-.54
	Separated	-1.461*	.131	.000	-1.77	-1.15
Widowed	Married	.631*	.038	.000	.54	.72
	Separated	-.830*	.131	.000	-1.14	-.52
Separated	Married	1.461*	.131	.000	1.15	1.77
	Widowed	.830*	.131	.000	.52	1.14

*. The mean difference is significant at the .05 level.

Table 6: The Influence of Marital Status on Subjective Well-Being of Older Adults

In spite of 60%; $n = 84$ of the respondents getting added income from their children and relatives, Table 7 below shows that subjective well-being was highly influenced by older adults who have savings followed by those who have invested in businesses and finally those who get financial assistance from their children and relatives.

Other sources of income		Mean Difference	Std. Error	Sig.	95% Interval Lower Bound	Confidence Upper Bound
Savings	Business Investment	.454*	.067	.000	.30	.61
	Children and Relatives	.008	.084	.995	-.19	.21
Business Investment	Savings	-.454*	.067	.000	-.61	-.30
	Children and Relatives	-.446*	.087	.000	-.65	-.24
Children and Relatives	Savings	-.008	.084	.995	-.21	.19
	Business Investment	.446*	.087	.000	.24	.65

*. The mean difference is significant at the .05 level.

Table 7: The Influence of Other Sources of Income on Subjective Well-Being of Older Adults

Further, the study results revealed that subjective well-being is higher in older adults who attained secondary level of education. This gave an indication that having a higher educational level is associated with a higher subjective well-being of older adults as shown in Table 8.

Highest Academic Level		Mean Difference	Std. Error	Sig.	95% Interval Lower Bound	Confidence Upper Bound
Less Primary	Primary	-.099	.081	.611	-.31	.11
	Secondary	-.902*	.287	.011	-1.65	-.16
	College	-.252	.205	.609	-.79	.28
Primary	Less Primary	.099	.081	.611	-.11	.31
	Secondary	-.803*	.293	.034	-1.56	-.04
	College	-.153	.213	.889	-.71	.40
Secondary	Less Primary	.902*	.287	.011	.16	1.65
	Primary	.803*	.293	.034	.04	1.56
	College	.650	.348	.247	-.26	1.56
College	Less Primary	.252	.205	.609	-.28	.79
	Primary	.153	.213	.889	-.40	.71
	Secondary	-.650	.348	.247	-1.56	.26

*. The mean difference is significant at the .05 level.

Table 8: The Influence of Academic Level on Subjective Well-Being of Older Adults

Moderate self-perceived health and poor self-perceived health ($r = .275^*$, $p = .013$) had more influence on subjective well-being (Table 9). Further, a half of the respondents indicated to having a poor self-perceived health and none gave an indication of experiencing good or very good self-perceived health.

Overall health	self-perceived	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Very Poor	Poor	.127	.077	.226	-.05	.31
	Moderate	-.148	.102	.317	-.39	.09
Poor	Very Poor	-.127	.077	.226	-.31	.05
	Moderate	-.275*	.096	.013	-.50	-.05
Moderate	Very Poor	.148	.102	.317	-.09	.39
	Poor	.275*	.096	.013	.05	.50

*. The mean difference is significant at the .05 level.

Table 9: The Influence of Overall Self-Perceived Health on Subjective Well-Being of Older Adults

Discussion

This study investigated into the influence of demographic characteristics on subjective well-being of older adults. The results revealed that the older adults experienced lower level of positive affect, and low level of absence of negative affect and were dissatisfied with their lives and experienced a low level of subjective well-being. These findings are similar to previous studies that found low level of subjective well-being in low income countries across the world (Pew Research Center Survey, 2014; Aboderin, 2010, Mwanyangala, *et al.* 2010) among the rural Tanzanian older adults. This results are also consistent with that of Kabole *et al.* (2013) that revealed 63% of the older adults do not experience goodness in old age. The unidimensional measure of well-being gave an indication that the older adults experience a poor self-perceived health status. This agrees with the results of (Romo, *et al.* 2012) that found a low level of well-being among the older adults with dementia. However, this results are dissimilar with findings of Lu *et al.* (2010) and Sargent-Cox *et al.* (2012) that revealed a higher levels of subjective well-being while other studies revealed a medium level of subjective (Suh *et al.* 2012). Other studies, for example, Steptoe *et al.*, (2015) showed that that well-being is low at all ages in sub-Saharan Africa.

The present study also sought to determine predictors of subjective well-being. The results revealed predictors of subjective well-being were purely intrapersonal; relative absence of negative affect ($\beta = .326, p = < .001$), presence of positive affect ($\beta = .321, p = < .001$) and satisfaction with life ($\beta = .317, p = < .001$). The demographic characteristics were not revealed as predictive variables of subjective well-being. This results were similar to the findings by Galinha and Pais-Ribeiro (2011) that intrapersonal predictive variables from within the individual self. Further, the results by Suh *et al.* (2012) among Korean older adults showed that interpersonal variables; living with a spouse and perceived health status were among the predictors of well-being. The results of the current study point to the finding of longitudinal studies (Chung & Lee (2011); Siedlecki *et al.* 2014; Nordbakke & Schwanen, 2013) recognises that predictors of subjecting well-being are dynamic depending on sample characteristics, timeframe and environment. Therefore, the need for a longitudinal study within the Kenyan context.

Thirdly the current study also determined the influences of demographic characteristic on subjective well-being. Marital status, other sources of income, academic level and overall self-perceived health had a significant influence on subjective well-being of older adults. Marital status was found to have the highest significant influence on subjective well-being of older adults. The categories of marital status; living with a spouse, being separated and widowed all had a significant influence on subjective well-being of older adults. The results

of this study are consistent with the findings of Kenya National Commission on Human Right (2009) and Yang (2008) which identified marital status as significantly affecting subjective well-being of older adults. However, a study by Calys-Tagoe *et al.*, (2014) revealed that marital status had insignificant effect on subjective well-being of the Ghanaians older population.

Sources of income in this case; own savings, business or investment significantly influenced the subjective well-being of older adults. The previous studies have indicated significant relationship between income (Calys-Tagoe, *et al.* 2014; Phaswana-Mafuya, *et al.* 2013, Lee, 2010) and levels of socio-economic status (Suh *et al.*, 2012) with subjective well-being. This result relates with the findings of Ingrand *et al.* (2018) that personal financial situation has a direct link with quality of life. Conversely, there was no literature to compare the relationship between subjective well-being and the sources of income. Notably for this study, it is not the amount of money received but the source of the funds that matters. This study showed that for the older adults who receive cash transfer from the government, having yet another source of income and particularly self-earned money; from savings, business or investment is an added attribute towards enhancing subjective well-being. This has an implication towards the design of the older person's cash transfer programme and interventions.

Earlier studies have found that higher education level was associated with psychological well-being (Cachioni *et al.*, 2017; Ng *et al.*, 2010; Gomez-Olive *et al.*, 2010; Kyobutungi *et al.*, 2010; Phaswana-Mafuya *et al.*, 2013). The reviewed literature studies have compared the results of level of education with other demographic characteristics. For example, a study by Pinquart and Sörensen (2000) indicated that income and education were correlated to well-being. Contrary to Pinquart and Sörensen findings, the current study observes that education had a significant difference with subjective well-being while income insignificantly influenced subjective well-being. Findings by Mwanyangala, *et al.* (2010) indicated that both a high academic level and a higher socio-economic status among the rural population in Tanzania were associated with a good health status.

Self-perceived health was found to have a significant mean difference with subjective well-being of older adults. This agree with studies such as that of Lee (2010) in Korean society and by Low *et al.*, (2013) conducted in 20 other countries including Kenya. The results of current study disagree with the findings of a national study by Dai *et al.*, (2013) that family relations had a stronger effect than health and economic status on subjective well-being. On the contrary, the current study reveal living arrangement had insignificant influence on subjective well-being of older adults.

Limitations, Implications and Future Directions

The limitations of this study relate to designs and instrumentation. The research examined behavioural, cognitive and emotional experiences connected to long recall of past events. The recall of these activities could have potential to under estimation or over estimation based on older adults' affective status at time of responding to questionnaire. Secondly, study population was confined to older adults who were participating in Older Persons Cash Transfer programme. These limitations prevented generalizations of study findings to other samples. Another limitation is in regard to small sample size in current study that limits analyses. In spite of these shortcomings, this study contributes to knowledge on subjective well-being of older adults.

The current study has the following implications and recommendations. First, poor self-perceived health emerged as a significant variable on subjective well-being of the older adults. The study therefore, recommends inclusion of psychological interventions in mental health care systems for ageing persons. Secondly, current study showed that secondary educational level had a significant influence on subjective well-being. In the pursuit to augment subjective well-being of older adults, this study recommends strengthening of educational program to encapsulate most citizens beyond secondary schooling. Lastly, this study revealed the importance of self-earned money towards subjective well-being. The study recommends Governments to enhance her citizen's earnings, savings and investment abilities during the productive working period so as to promote self-earned money in old age.

The current study suggests the following key directions for future research. Previous studies have given an indication that concept of subjective well-being is contoured within the context of time and space. Future research may purpose to carry out a longitudinal study with a larger sample size and a wider geographical coverage to allow for comparison and generalization of results. Secondly, current study involved low income and low academic level cohort. Therefore, this study suggests inclusion of high income and higher academic group to help increase an understanding into the concept of subjective well-being among the Kenyan older adults. Own source of income had a significant influence on subjective well-being, therefore further research would benefit in examining the influence of sources of income on subjective well-being of older adults.

Conclusion

The older adults experienced a lower level of subjective well-being, are dissatisfied with life, experience a little presence of positive affect and a little absence of negative affect. Higher academic level, being married, having own source of income and a poor self-perceived health status had a significant influence on subjective well-being of older adults. The study suggest that older adults require attention that is focused in priority areas of their individualized lives.

References

- Aboderin, I. (2010). Understanding and Advancing the Health of Older Populations in sub-Saharan Africa: Policy Perspectives and Evidence Needs. *Dimensions and determinants of health in old age in Kenya and Nigeria: implications for Policy' Public Health Reviews*, 32 (2), 357-76.
- Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behaviour*. Prentice Hall. Englewood Cliffs: NJ.
- Bryant, C., Bei, B., Gilson, K., Komiti, K., Jackson, H., & Judd, F. (2012). The relationship between attitudes to aging and physical and mental health in older adults. *International Psychogeriatrics*, 24(10), 1674-1683. doi.org/10.1017/S104161021200074
- Buki, (2014). Editors Introduction. The relevance of counselling psychology in addressing major social issues. *The counselling psychologist*, 42(1), 6-12. <http://dx.doi.org/10.1177/0011000013516369>
- Cachioni, M., Delfino, L. L., Yassuda, M. S., Batistoni, S. S. T., & de Melo, R. C. (2017). Subjective and psychological well-being among elderly participants of a University of the Third Age. *Brazilian Journal of Geriatrics and Gerontology*, 20(3). doi.org/10.1590/1981-22562017020.160179
- Calys-Tagoe, B.N.L., Hewlett, S.A., Dako-Gyeke, P., Yawson, A. E., Baddoo, N. A., Seneadza, N. A. H., Mensah, G., Minicuci, N., Naidoo, N., Chatterji, S., Kowal, P. & Biritwum, R. B. (2014). Predictors of subjective well-being among older Ghanians. *Ghana Medical Journal*, 48(4). doi: <http://dx.doi.org/10.4314/gmj.v48i4.2>
- Chung, S. D., & Lee, S. H. (2011). Changes in life satisfaction of Korean elderly: comparisons of 1994, 2004 and 2008 national survey results on the elderly life conditions and welfare need. *Journal of the Korean Gerontological Society*, 3, 1229–1246.
- Dai, B., Zhang, B. & Li, J. J. (2013). Protective Factors for Subjective Well-being in Chinese Older Adults. The Roles of Resources and Activity. *Happiness Studies*, 14, 1225. Doi:10.1007/s10902-012-9378-7
- Diener, E. (2013). The remarkable changes in the science of subjective well-being. Perspective Psychological Science. *A Journal of Association of Psychological Science*. 8(6) 663-666. doi: 10.1177/1745691613507583.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75.
- Eryilmaz, A. (2010). The relationship between using of subjective well-being increasing strategies and academic motivation in adolescence. *Journal of Clinical Psychiatry*, 13(2), 77-84.

- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research*. Addison-Wesley, Reading, MA.
- Forgas, J. (2013). Don't worry, be sad. On the Cognitive, Motivational and Interpersonal Benefits of Negative Mood. *Current Directions in Psychological Science*, 22 (3): 225–232. doi:10.1177/0963721412474458
- Galinha, I., & Pais-Ribeiro, J. L. (2011). Cognitive, affective and contextual predictors of subjective well-being. *International Journal of Wellbeing*, 2(1), 34–53. <http://dx.doi.org/10.5502/ijw.v2i1.3>
- GOK, (2006). *Social Protection Policy, 2006*. Ministry of Gender, Children and Social Development. Government Printer, Nairobi.
- GOK, (2009). *Kisumu District development plan 2008-2012*. Office of the Prime Minister, Ministry of State for Planning, *National Development and Vision 2030*. Government Printers, Nairobi.
- GOK, (2012). *Kenya Social Protection Sector Review*. Ministry of State for Planning, National Development and Vision 2030.
- Gomez-Olive, X. F., Thorogood, M., Clark, B. D., Kahn, K., Tollman, S. M. (2010). Assessing health and well-being among older people in rural South Africa. *Global Health Action*, 3, 23-35, doi: 10.3402/gha.v3i0.2126
- GOK, (2012). *Kenya Social Protection Sector Review*. Ministry of State for Planning, National Development and Vision 2030.
- Heppner, P. P., Casas, J. M., Carter, J., & Stone, G.L. (2000). Maturation of counselling psychology: Multifaceted perspectives, 1978-1998. In Steven D. Brown & Robert W. Lent, (2000). *Handbook of counselling psychology*, (3rd ed.). John Wiley & Sons. Canada.
- Ingrand, I., Paccalin, M., Liuu, E., Gil, R., & Ingrand, P. (2018). Positive Perception of Ageing is a key Predictor of Quality of Life in Ageing People. *PloS ONE*, 13(10) doi: 10.1371/journal.pone.0204044
- Kabole, A. L., Kioli, F. N., & Onkware. K. (2013). The social context of abuse of elderly people in Emuhaya District, Kenya. *Sociology and Anthropology* 1(2): 76-86. doi: 10.13189/sa.2013.010206
- Kenya National Commission on Human Right, (2009). *Human Rights Report. Growing Old in Kenya: Making it a positive Experience*. <http://www.knchr.org/Portals/0/StateOfHumanRightsReports/>
- Kyobutungi, C.; Egondi, T., & Ezeh, A. (2010). The health and well-being of older people in Nairobi's Slums. *Global Health Action*, 3. doi: 10.3402/gha.v3i0.2138
- Lee, J. G. (2010) Predictors of life satisfaction among older adult in South Korea: differences by education level. *Journal of the Korean Gerontological Society*, 30, 709–726.

- Low, G., Molzahn, A. E., & Schopflocher, D. (2013). Attitudes to aging mediate the relationship between older peoples' subjective health and quality of life in 20 countries. *Health and Quality of Life Outcomes*, 11, 146. doi: 10.1186/1477-7525-11-146
- Lu, L., Kao, S., & Hsieh, Y. (2010). Positive Attitudes Toward Older People and Well-being Among Chinese Community Older Adults. *Journal of Applied Gerontology*, 29(5), 622–639. <http://dx.doi.org/10.1177/0733464809343289>
- Merz, E. L., Malcarne, V. L., Roesch, S. C., Ko, C. M., Emerson, M., Roma, V. G., & Sadler, G. R. (2013). Psychometric Properties of Positive and Negative Affect Schedule (PANAS) Original and Short Forms in an African American Community Sample. *Journal of Affective Disorders*, 151(3), 942-949. doi: 10.1016/j.jad.2013.08.011
- Mwanyangala, M. A., Mayombana, C., Urassa, H., Charles, J., Mahutanga, C., Abdullah, S., & Nathan, R. (2010). Health status and quality of life among older adults in rural Tanzania. *Global Health Action Supplement 2, 2010*. doi.org/10.3402/gha.v3i0.2142
- Ng, N., Hakimi, M., Byass, P., Wilopo, S., & Wall, S. (2010). Health and quality of life among older rural people in Purworejo District, Indonesia. *Global Health Action*, 3, 78- 87. doi: 10.3402/gha.v3i0.2125
- Nordbakke, S., & Schwanen, T. (2013). Well-being and mobility: A theoretical framework and literature review focusing on older people *Mobilities*, 9(1), 104–129. <http://econpapers.repec.org/article/tafrmobxx/v>
- Paterson, T. S., Yeung, S. E., & Thornton, W. L. (2015). Positive affect predicts everyday problem-solving ability in older adults. *Aging & Mental Health*, 20(8), 871-879. doi:10.1080/13607863.2015.1043619
- Pew Research Centre, (2014). *Attitudes about aging: A global perspective*. <http://www.pewglobal.org/2014/01/30/>
- Phaswana-Mafuya, N., Peltzer, K., Chirinda, W., Kose, Z., Hoosain, E., Ramlagan, S., Tabane, C. & Davids, A. (2013) Self-rated health and associated factors among older South Africans: evidence from the study on global ageing and adult health, *Global Health Action*, 6:1, 19880, doi: 10.3402/gha. v6i0.19880
- Pinquart, M & Sörensen, S. (2000). Influences of socioeconomic status, social network, and competence on subjective well-being in later life: A meta-analysis. *Psychology and Aging*, 15(2), 187-224. <http://dx.doi.org/10.1037/0882-7974.15.2.187>
- Population pyramid of the World (2015a). *Population pyramid of the World*. <https://www.populationpyramid.net/world>
- Population pyramid of the World (2015b). *Population pyramid of Kenya*. <https://www.populationpyramid.net/kenya>

- Reichstadt, J., Sengupta, G., Depp, C., Palinkas, L., & Jeste, D. (2010). Older adults' perspectives on successful aging qualitative interviews. *American Journal of Geriatric Psychiatry, 18*(7), 567-575. doi: 10.1097/JGP.0b013e3181e040bb
- Romo, R. D., Wallhagen, M. I., Yourman, L., Yeung, C. C., Eng, C., Micco, G., Perez-Stable, E., & Smith, A. K. (2012). Perceptions of successful aging among diverse elders with late-life disability. *The Gerontologist, 53* (6), 939-949. <http://dx.doi.org/10.1093/geront/gns160>
- Ryff, C. D. (2014). Psychological well-being revisited: Advances in the science and practice of eudaimonia. *Psychotherapy and Psychosomatics, 83*(1), 10-28. doi: 10.1159/000353263.
- Sargent-Cox, K. A., Anstey, K. J. & Luszcz, M. A. (2012). Change in Health and Self-Perceptions of Aging over 16 years: the role of psychological resources. *Healthy Psychology, 31*(4), 423-432. doi: 10.1037/a0027464
- Siedlecki, K.L., Salthouse, T.A., Oishi, S., & Jeswani, S. (2014). The Relationship between Social Support and Subjective Well-Being across Age. *Social Indicators Research, 117*(2): 561-576. doi: 10.1007/s11205-013-0361-4
- Steptoe, A., Deaton, A, & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *Lancet, 385*(9968), 640-648. doi: 10.1016/S0140-6736(13)61489-0
- Suh, S., Choi, H., Lee, C., Cha, M., & Jo, I. (2012). Association between knowledge and attitude about aging and life satisfaction among older Koreans. *Asian Nursing Research, 6*(3), 96-101. doi.org/10.1016/j.anr.2012.07.002
- Suzuki, H., Fujii, S., Garling, T., Ettema, D., Olsson, L., & Friman, M. (2013). *Rules for aggregated satisfaction with work commuters. Transportation, 1-12.*
- Thompson, E. R. (2007). Development and validation of an internationally reliable short-term of the positive and negative affect schedule (PANAS). *Journal of cross-cultural psychology, 38*, 227-242
- Trigg, R., Watts, S., Jones, R., Tod, A., & Elliman, R. (2012). Self-reported quality of life ratings of people with dementia: the role of attitudes to aging. *International Psychogeriatric 24*, 1085-1093. <http://journals.cambridge.org/action/displayAbstract>
- United Nations Population Division. (2013). World population prospects: The 2012 revision. New York: United Nations.
- Walaba, A.A. (2014). The plight of the aged and the ageing persons in Kenya: A Review of existing literature. *International Journal of Advanced Research, 2*(4), 68-82. www.journalijar.com/uploads/87_IJAR-3035.pdf
- Warr, P. (2003). Well-being in the workplace. In: D Kahneman, E Diener, N Schwarz (eds.) *Well-Being: The foundations of hedonic psychology*. New York: Russell Sage Foundation Publications.

Yamada, K., & Teerawichitchaian, B. (2015). Living arrangements and psychological well-being of the older adults after the economic transition in Vietnam. *Journal of Gerontology*, 70(6), 957-968. doi.org/10.1093/geronb/gbv05

Yang, Y. (2008). Social inequalities in happiness in the United States, 1972 to 2004: An age-period-cohort analysis. *American Sociological Review*, 73, 204–236. doi.org/10.1177%2F00031224080730

Characteristics of Support Cases for Single Elderly People in Daily Life, Medical Care, Long-term Care, and Death Situations

Kanae Sawamura, The Japan Research Institute Ltd., Japan
Makiko Okamoto, The Japan Research Institute Ltd., Japan

The Asian Conference on Aging & Gerontology 2021
Official Conference Proceedings

Abstract

In Japan, the number of older persons who cannot be supported by family members in decision-making is increasing. Difficulties in making medical decisions due to dementia or deteriorated physical conditions are apparent. Considering the aging process, difficulties in maintaining the quality of daily living must exist beforehand, and support is required from earlier stages. We collected real cases from local government staff, care managers, social welfare personnel, and private support companies, according to five scenarios of supported decision making: (1) Difficulty with daily activities, (2) Receiving serious medical treatment, (3) Being discharged and rebuilding life, (4) Rearranging care services and residence according to functional decline, and (5) Dealing with death. Of the 134 collected cases, most were in Scenario 4 ($n = 52$) and involved men aged 75 to 84 years ($n = 45$). Even if it becomes difficult for a person to recognize problems and carry out solutions, expressing intentions, which is the basis of decision-making, plays an important role for the person and the most sustainable one. What is lost by the absence of family members is the “point of contact” between the individual and the outside world, which is related to the fact that issues cannot be discovered until Scenario 4 and that support at each stage is not continuous. In light of the decrease in the number of supporters and the increase in the number of people who need support, contact should be established in a way that requires less human involvement, such as through the use of information technology.

Keywords: Decision Making, Activities of Daily Living, Legal Guardians, Quality of Dying and Death

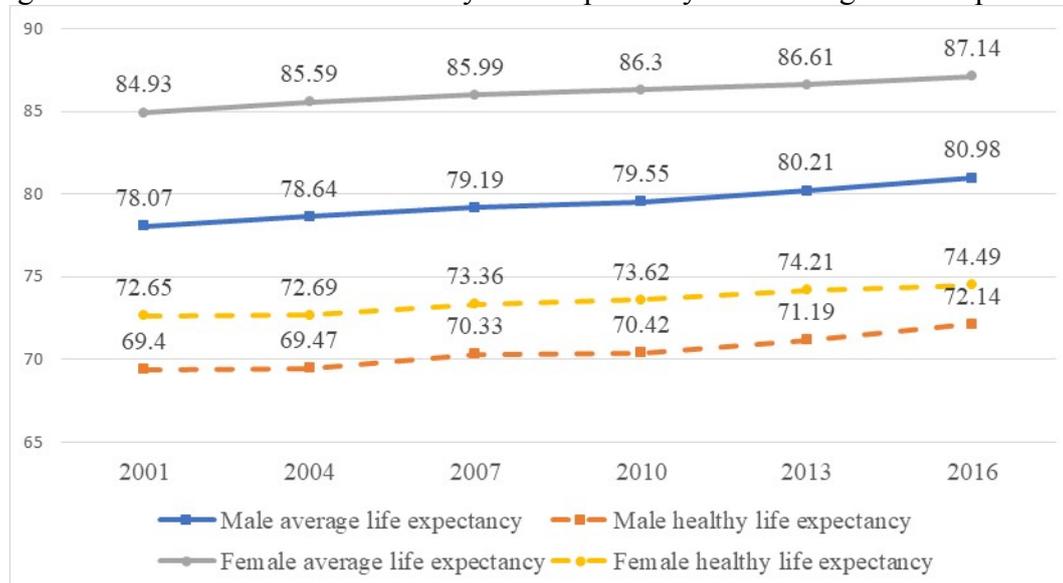
iafor

The International Academic Forum
www.iafor.org

Background

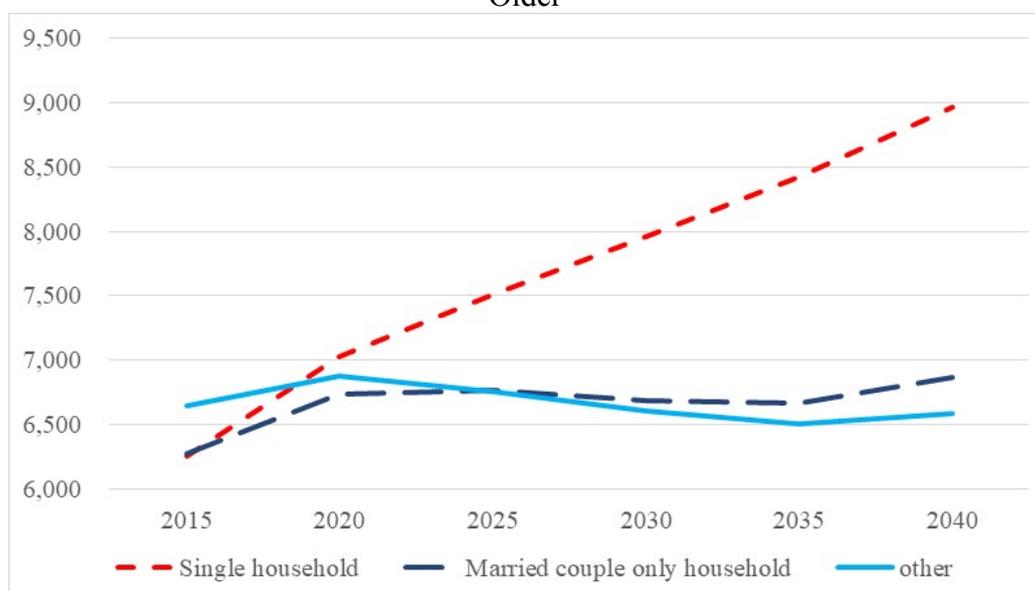
Despite the fact that longevity is increasing in Japan, the final approximately 10 years of life are characterized by some form of functional impairment (see Figure 1).

Figure 1: Difference between Healthy Life Expectancy and Average Life Expectancy¹



At the same time, families are becoming smaller. As the birthrate declines and the unmarried rate increases, the number of people without child support is expected to increase (Figure 2).

Figure 2: Number of Households in Which the Head of the Household Is 65 Years Old or Older²



¹ Annual Report on the Ageing Society: 2018 (Summary)., Cabinet Office, Government of Japan

² For the period from 1990 to 2015, the data are from the National Census conducted by the Statistics Bureau of the Ministry of Internal Affairs and Communications. For the year 2040, the data are from the National Institute of Population and Social Security Research, “Future Projections of the Number of Households in Japan (Estimates for 2008).”

Under these conditions, we believe that the biggest challenge facing older people is the increased burden of decision-making in the final stages of life. The reasons for this are as follows.

First, as their physical and mental functions decline with advancing age, older persons have to make more important and novel decisions than before, for example:

What kind of daily assisted living support services do they need?

- What kind of housing for older adults will they move into?
- Should they undergo a major surgery or not?

Such decisions may need to be made.

In addition, from a policy perspective, the goal is to optimize one's own life by purchasing services from the market (exercising choice). The basic concept emphasized by Japan's public Long-term Care Insurance System is the opportunity to receive services from a variety of entities based on choice (Figure 3). While it is desirable to have a variety of options and to be able to make choices, it is also a heavy burden, considering the decline in physical and mental functions that is the reason for needing such services.

Figure 3: Basic concept of the Japanese public Long-term Care Insurance System³

**Introduction of the Long-Term Care Insurance System
(a mechanism to enable society to provide long-term care to the elderly)**

【Basic Concepts】

- **Support for independence:** The idea of Long-Term Care Insurance System is to support the independence of elderly people, rather than simply providing personal care.
- **User oriented:** A system in which users can receive integrated services of health, medicine, and welfare from diverse agents based on their own choice.
- **Social insurance system:** Adoption of a social insurance system where the relation between benefits and burdens is clear.

Regarding this issue, the use of the adult guardianship system is now being promoted, and decision-making guidelines are being developed.

Along with the introduction of long-term care insurance, support measures for property management and personal care of people with impaired judgment are being developed, mainly through the adult guardianship system.

Guidelines for decision-making support have been developed for people receiving end of life care and for people with dementia. Figure 4 illustrates these guidelines.

³ https://www.mhlw.go.jp/english/policy/care-welfare/care-welfare-elderly/dl/ltcisj_e.pdf

Figure 4: Recently developed guidelines for decision making

Title	Year
Guidelines for Decision-Making Support for the Provision of Welfare Services for Persons with Disabilities, etc.	2017
Guidelines for Decision-Making Support in Daily Life and Social Life of People with Dementia	2018
Guidelines for the Decision-Making Process for Medical Care and Treatment in the Final Stage of Life, Revised 2019	2018
Guidelines on Support for People Without Relatives Who Have Difficulty in Making Decisions Regarding Hospitalization and Medical Care	2019
Guidelines for Guardianship Affairs Based on Decision-Making Support	2020

It is certain from population projections that the number of people who cannot receive support will increase and that resources for support will decrease.

We anticipate that there will be a need for methods that can support decision-making over the long term by broadening the range of targeted people beyond only for those with dementia or who are faced with end-of-life.

Purpose of the Study

The purpose of our study was to determine what activities are needed to maintain quality of life and quality of death in the later stages of life. To accomplish this purpose, we set up five scenarios for investigation and analysis.

In Scenario 1, the subject has a slight functional decline and has minor difficulties in daily life, such as housework.

In Scenario 2, the subject was hospitalized and has undergone serious medical treatment.

In Scenario 3, the subject was discharged from hospital and has rebuilt their life.

In Scenario 4, the subject has experienced further functional decline and has reassessed the services they use and where they live.

In Scenario 5, the subject has expressed their wishes regarding procedures to be followed after their death.

The results of this study are expected to provide suggestions regarding the kind of support that will be needed in the future and how to provide it in order to ensure quality of life and quality of death in old age.

Method

This survey was conducted via email between December 25, 2019, and February 10, 2020.

Study Sample

The survey was sent to professionals in six prefectures in Japan who had agreed to participate in the survey.

The participating institutions and professions are shown in Table 1. They included public institutions such as local government, social welfare councils, and community comprehensive support centers; welfare supporters closely associated with the lives of older persons, such as care managers and community members; professionals, such as medical institutions and legal professionals; and private stakeholders, such as elderly support providers.

Table 1: Participant institutions and professionals

Classification	Number of participants	Number of cases collected
Local government	3	46
Social welfare councils	9	31
Community comprehensive support center	3	4
In-home care support offices	2	8
Council of Civil Liberties Commissioners and Children's Commissioners	1	1
Medical institutions	2	18
Lawyers and judicial scriveners	2	6
Private companies	2	20

Criteria for Cases to Be Collected

Information about cases in which no supporters were available and decision-making difficulties had arisen was collected from participants via e-mail.

Questionnaire

The data collected were as follows:

- Basic characteristics of the support recipient (sex, age, economic status).
- Relatives and other supporters (family members living together, relatives, friends, acquaintances, neighbors).
- Health status, level of care required, cognitive function, and decision-making ability of the person to be supported.
- Reason for support, situations where support was difficult, contents of support, and collaborating organizations.
- Basic characteristics of respondents (occupation).

Analysis

We analyzed cases according to their decision-making process and clarified their characteristics.

The Stages of the Decision-making Process

1. Problem recognition/need clarification.
2. Designing solutions to problems.
3. Execution of the solution.
4. Evaluation.

In the analysis, we focused mainly on problem recognition/need clarification and on designing solutions to problems, both of which are central to decision-making.

Results

Basic Information

Number of Cases

A total of 134 cases were collected including both cases involving multiple scenarios and cases involving a single scenario. When categorized based on the most major support scenarios, Scenario 4 was the most common (Table 2).

Table 2: Collected cases ($N = 134$)

Scenario	n	%
1	30	22.4%
2	12	9.0%
3	6	4.5%
4	52	38.8%
5	27	20.1%
unrecognizable	7	5.2%

Basic Attributes of the Subjects

Basic attributes of the subjects of the cases are shown in Table 3.

Two-thirds of the subjects who received support were male, and the most common age group was 75 to 84 years old.

Many did not have a spouse now due to unmarried, bereaved, or separated; even if they had children, there were many situations where support could not be provided due to lack of contact, refusal to get involved, or the child's own disability.

Table 3: Basic Attributes of the Subjects

	Male		Female		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Age						
40 to 64 years old	10	11.1	2	4.5	12	9.0
65–74 years old	24	26.7	7	15.9	31	23.1
75–84 years old	45	50.0	18	40.9	63	47.0
85–94 years old	10	11.1	14	31.8	24	17.9
Over 95 years old	1	1.1	3	6.8	4	3.0
Marital status						
Married	6	6.7	2	4.5	8	6
Common-law marriage	1	1.1	1	2.3	2	1.5
Divorced	33	36.7	10	22.7	43	32.1
Bereaved	20	22.2	16	36.4	36	26.9
Unmarried	28	31.1	15	34.1	43	32.1
Unknown / No record	2	2.2			2	1.5
Total	90	100	44	100	134	100

Scenario 1 Cases

Typical cases related to Scenario 1 are as follows.

The person feels anxious about the future.

The subject had a bad relationship with relatives who supported them during their sudden hospitalization.

The subject has no one to ask for help when they are hospitalized in the future, and are worried about what to do.

The patient talked with the social welfare council and care manager, clarified the points of concern, and signed a voluntary guardianship contract and a power of attorney for posthumous affairs contract with a legal professional.

Signs of difficulty in continuing independent living.

Garbage is strewn around their apartment, and the landlord is concerned.

The local government person in charge of welfare talked with the subject and the subject started using the nursing care insurance service.

It becomes difficult for the subject to continue with independent living, as they cannot receive support from people close to them.

They live in an elderly care facility because of the aftereffects of stroke. The subject's younger brother became ill, and there was no one to pay the bills or do the subject's shopping.

A private support provider was contracted to provide services on behalf of their brother.

Characteristics of the Problem-Solving Process in Scenario 1

The characteristics of the problem-solving process in Scenario 1 are as follows.

Difficulties

Anticipation of future problems is often vague or limited to a specific area (e.g., worry about the grave), so designing solutions requires clarification of the problem and confirmation of the situation.

Since subjects' judgment at this stage is not impaired enough to use the public system, they have to go through the process on their own.

Since the issues are extensive and long-term, it is necessary to formulate multiple solutions.

Advantages

The subject or their close supporters are often willing to solve the problem actively.

Scenario 2 Cases

Typical cases related to Stage 2 are as follows.

The subject's intentions were clear, but the medical institution refused treatment because there was no one else to sign the consent form.

The subject was transported to the emergency room with a broken bone. The subject consented to the surgery, but because of their advanced age, the medical institution demanded that another person sign the consent form; otherwise, the subject would be discharged. Since the subject's intentions were confirmed, a staff member of a public institution who knew the subject well negotiated with the hospital, and the medical institution decided to perform the surgery with only the subject's signature.

It is difficult to perform a medical procedure because the subject's intentions are unstable.

A subject is diagnosed with cancer after being transported to an emergency room and has to choose whether to undergo surgery. Since the patient's intentions were inconsistent, the ethical review committee of the medical institution and people who knew the patient had a meeting and decided to perform the surgery.

Characteristics of the Problem-Solving Process in Scenario 2

The characteristics of the problem-solving process in Stage 2 are as follows.

If the subject's intentions are clear, it is possible to negotiate for medical treatment based on those intentions.

If the subject's intentions are not clear, a collective review based on the subject's circumstance is conducted by the ethics review committee or conference.

Scenario 3 Cases

Typical cases related to Scenario 3 are as follows.

Unable to complete procedures and negotiate for services to be used at home after discharge from the hospital.

The landlord was trying to evict the subject at the time of hospitalization, but the social worker of the medical institution and the care manager from the Long-term Care Insurance System took care of the procedures for using the long-term care insurance services and negotiations with the landlord, and the subject was discharged with the cooperation of local residents.

Characteristics of the Problem-Solving Process in Scenario 3

The characteristics of the problem-solving process in Stage 3 are as follows.

Intensive support is provided through the involvement of multiple supporters, including discharge coordinators at medical institutions, care managers at in-home care support offices, officers at local governments tasked with seeing to older persons' welfare, social welfare councils, community comprehensive support centers, private support companies, and legal professionals.

The individual is often unable to be involved because of a decline in physical and mental functions.

Collaboration with informal resources (neighbors and acquaintances) can be attempted.

Stage 4 Cases

Typical cases related to Stage 4 are as follows.

It became difficult for the subject to live at home due to a decline in IADL (Instrumental Activities of Daily Living), and since the subject did not fully understand the necessary services and public systems, the community comprehensive support center provided support and connected her to private services.

There were accidents involving fire and falls, and the subject needed some kind of support to continue living at home, but they did not understand the use of the adult guardianship system.

A local support organization helped the subject to sign a contract with a private life support provider.

Characteristics of the Problem-Solving Process in Scenario 4

The characteristics of the problem-solving process in Scenario 4 are as follows.

The subject has difficulty recognizing the problem and may have unrealistic intentions.

The problem-solving process needs to be led by an entity other than the subject.

A combination of institutional support, legal professionals, and other support resources is necessary.

Scenario 5 Cases

Typical cases related to Stage 5 are as follows.

The subject made the decision based on life expectancy and dealt with it by means of a contract.

The subject had not socialized privately since retirement. The subject became ill and was hospitalized, and it was found that they had approximately two weeks to live. After consultation with the social worker at the medical institution and the care manager, the patient signed a contract to entrust the post-death procedures, including their funeral and disposal of assets, to a lawyer.

There was no one to take care of the remaining procedures after death.

A subject who had been using a certain public service died suddenly and payment for their cremation and removal of their belongings from the residence was needed. In addition, the subject's bank book and other documents needed to be transferred to relatives, but the relatives refused to get involved, so the public service could not be reimbursed, and the bank book could not be returned.

Characteristics of the Problem-solving Process in Scenario 5

The characteristics of the problem-solving process in Stage 5 are as follows.

If information regarding the subject's will and heirs, and the power of attorney contract for dealing with posthumous affairs are known, the people close to the subject can provide support based on that information.

When a person dies without such information being available, the local government can take over the body, cremate and bury it, but the disposition of property and payments for services used before death may go unpaid.

Discussion

Among the five scenarios, Scenario 2, which involves the criterion of medical expertise, and Scenario 5, where a power of attorney for postmortem affairs possibly exists, can be addressed even though they are significant because the issues are limited and a specialized framework is in place.

In scenarios 3 and 4, where the subjects are living their individual daily lives, are more diverse and the burden of support is higher because the subjects' ability to solve problems has reduced.

Even if it becomes difficult for a person to recognize problems and carry out solutions, expressing intentions, which is the basis of decision-making, plays an important role for the subject and is the most sustainable one.

What is lost by the absence of family members is the "point of contact" between the subject and the outside world, which is related to the fact that issues cannot be discovered until Scenario 4 and that support at each stage is not continuous.

Conclusion

Receiving support after a subject's problem-solving ability has deteriorated to the point that they are unable to maintain the quality of daily life on their own is highly burdensome for both the support providers and the subject. Currently, the burden is increased by the discontinuous support provided at each stage.

Maintaining contact between older persons and the outside world prior to Scenario 1 will enable early identification of problems and reduce the difficulty of solving problems in subsequent stages.

In light of the decrease in the number of supporters and the increase in the number of people who need support, contact should be established in a way that requires less human involvement, such as through the use of information technology.

Contact email: sawamura.kanae@jri.co.jp

***Readiness for Decision Making towards End-of-Life Care among
Unmarried or Divorced Middle-aged and Elderly Men in Japan***

Makiko Okamoto, The Japan Research Institute, Ltd., Japan
Kanae Sawamura, The Japan Research Institute, Ltd., Japan

The Asian Conference on Aging & Gerontology 2021
Official Conference Proceedings

Abstract

BACKGROUND: Previous research has found that 70% of patients are unable to express their end-of-life (EOL) preferences. Hospitals in Japan often ask the patient's family members to guess and express the patient's will and take decisions on his/her behalf, but never-married and divorced men often have no relatives to fulfill such functions. **METHODS:** An internet survey was conducted on February 14–24, 2020. The sample size was 3,224 and it was balanced among 3 layers: gender, age (50s, 60s, 70s+), and marital status (never-married, divorced, widowed, married). The sample included 471 never-married men and 472 divorced men. **RESULTS:** Overall, it was found that 3.1% had no support in the event of hospitalization. Among all participants, the never-married or divorced men had little contact with relatives, few friends, and little communication with their neighbors; 20% of them had no one to support them when hospitalized. Sixty percent of all participants never discussed their advanced care planning (ACP) with their families or friends, and this number was around 84% among never-married or divorced men. Among all participants, 11.7% had written an “ending note” to communicate their will regarding end-of-life and after-death decisions. This number was much lower for never-married men at 3.6%. **CONCLUSIONS:** As never-married and divorced men have little chance to share their thoughts with others, they are more likely to have difficulties in making and communicating EOL decisions. The number of never-married elderly men is increasing rapidly, and a solution to help them express their EOL decisions is needed.

Keywords: Loneliness, Family, Advance Care Planning, Advance Directives, Dementia, Hospitalization

iafor

The International Academic Forum
www.iafor.org

Introduction

Previous research¹ has found that 70% of patients cannot express their will at the end of their life. “Final years of life” may vary as per the life expectancy in each country. I focused on the peak age range for the occurrence of death. For Japanese men, the number of deaths at ages 85–89 is 133000, which is 19% of the total deaths. This percentage is higher than that in any other 5-year-age group. By the same calculation, the most common age range at death for men is 80–84 in Singapore, 75–79 in Korea, 70–74 in Indonesia, and 65–69 in Thailand (Figure 1).

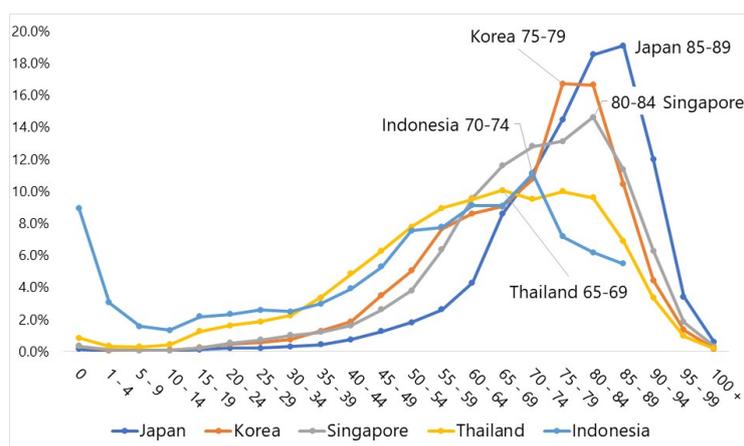


Figure 1: Most Common Ages at Death for Males in Asian Countries²

As the most common age at death is 85–89 years for men in Japan, the last decade of life is estimated to be between 75 and 84 years. In total, 11.6% of men between 75 and 79 and 23.0% of men between 80 and 84 were certified for long-term care by the long-term care insurance committee (Kaigo-nintei-shinsakai) (Figure 2). Approximately 2.7% of men between 75 and 79 and 3.8% of men between 80 and 84 were hospitalized on the date of the survey (MHLW 2020). As the average length of hospital stay was 19 days among patients aged 60 and over (JILI 2019), the majority of men aged 75–84 years are likely to be hospitalized more than once in the last decade of their life.

¹ Ministry of Health, Welfare, and Labor of Japan Advance care planning (Jinsei-kaigi) promotion. Retrieved from: https://www.mhlw.go.jp/stf/newpage_02783.html (2021, March 7)

² UN Demographic Yearbook 2019 (Table 19). Deaths by age, sex, and age-specific death rates by sex: latest available year, 2010–2019.

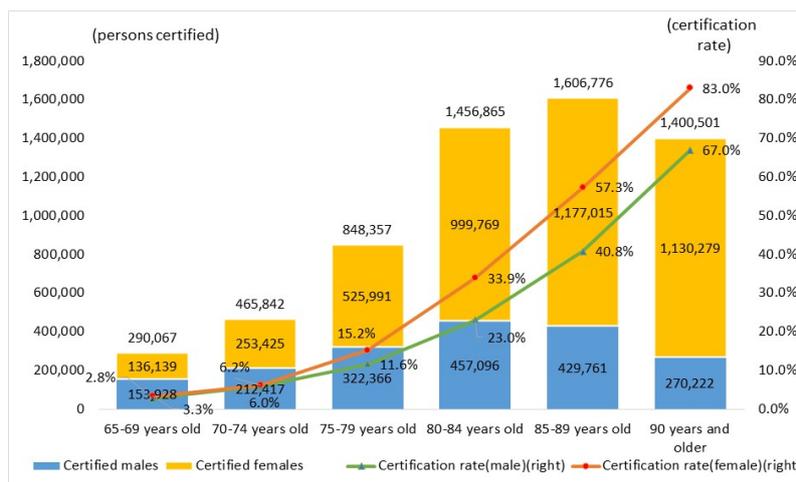


Figure 2: Number of People Certified for Long-term Care and Certification Rate³

Hospitals in Japan often demand that patients’ family members come and guess the will of the patient and speak for him/her. Even if the patient is not living with dementia and can express his/her own will, most of the hospitals demand the patient’s family or relatives, which is often the patient’s spouse or children, to come to the hospital to make and communicate the necessary decisions on behalf of the patient. However, never-married and divorced men often have no relatives who are willing to fulfill such functions.

It was found that among men aged 75–84, 2.7% were never-married and 3.0% were divorced. This number is higher than that in Korea or Indonesia, but not as high as in the U.S. or European countries (Figure 3).

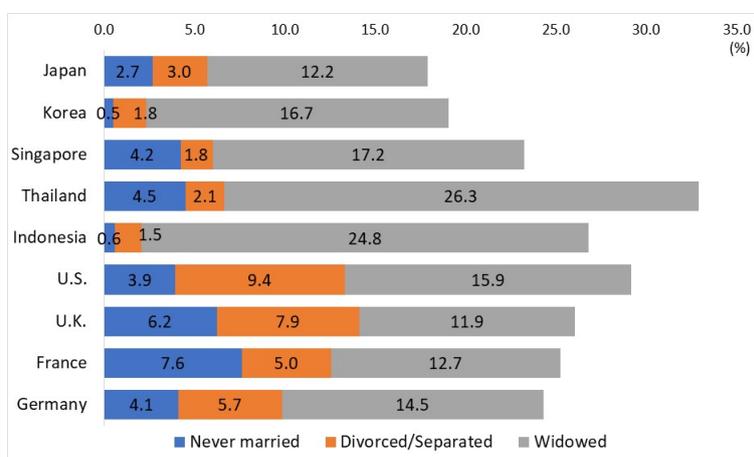


Figure 3: Marital Status of Men Aged 75–84⁴

Never-married or divorced old men had been a minority in Japan until the 2010s. However, their population is expected to increase rapidly. Sixteen percent of men aged 70 and over are estimated to be never-married or divorced by 2040 (Figure 4). The number of never-married or divorced men aged 70 and over is estimated to be approximately 2 million by 2040 (Figure 5).

³ Cabinet Office of Japan, Gender Equality Bureau (2018) *White Paper on Gender Equality 2018*, p. 15 Figure I-SF-43.

⁴ United Nations Statistics Division Demographic Statistics Database | Retrieved from: <http://data.un.org/Data.aspx?d=POP&f=tableCode:23> (2021, March 7)

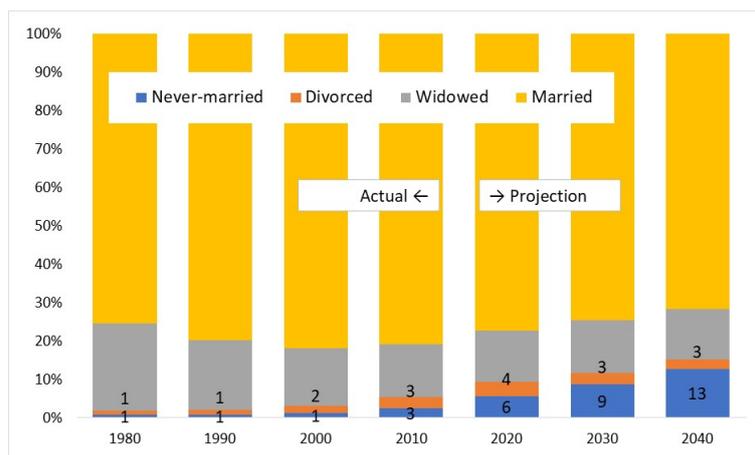


Figure 4: Marital Status of Men Aged 70 and Over in Japan⁵

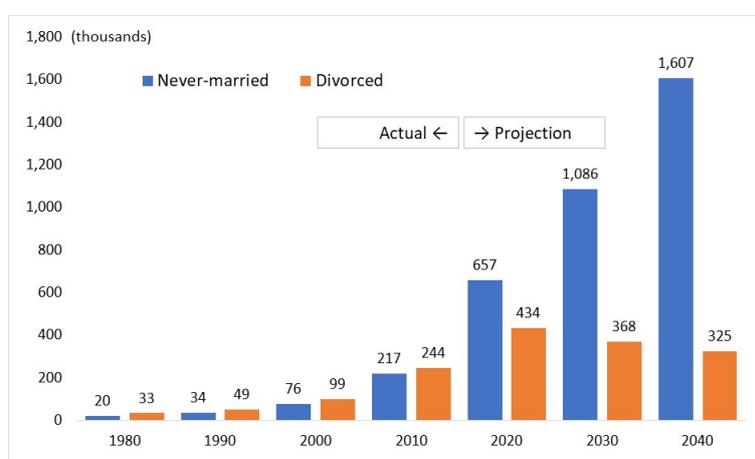


Figure 5: Number of Never-married or Divorced Men Aged 70 and Over⁶

Methodology

An Internet survey was conducted on February 14–24, 2020. The total sample size was 3,224 individuals. The sample was balanced among the three layers: sex (male, female); age (50s, 60s, 70s+); and, marital status (unmarried, divorced, widowed, married).

The sample included 471 unmarried men and 472 divorced men. The ratios in the sample size did not reflect the actual ratios in the Japanese population; therefore, the ratios of gender, age, and marital status were calculated based on the Japan Census 2015, to get a clearer and complete picture regarding “unmarried men in their 50s and older.”

The survey items were as follows:

- Basic attributes (gender, age, marital status, occupation)
- Relationships with family members, relatives, friends, and neighbors
- People to support you when you are hospitalized or need help

⁵ National Institute of Population and Social Security Research (2018) *Household Projections for Japan : 2015-2040*, Table 4 The breakdown of divorced and widowed was calculated based on the composition in Japan Census 2015

⁶ State of Maryland Office of the Attorney General (2019) *A Guide to Maryland Law on Health Care Decisions, August 2019*. Retrieved from: <https://www.marylandattorneygeneral.gov/Health%20Policy%20Documents/adirective.pdf>

- Communication regarding preferences for long-term care or EOL care
- Anxiety about decision-making in the last years of life
- Preparation in terms of advance care planning and “ending note”

Outcomes

It was found that 36.5% of never-married men and 37.0% of divorced men in their 70s and over have no relatives within the third degree of kinship (Figure 6). Consanguine family members within the third degree of kinship often have a legal duty to support each other, before the Public Assistance Act is applied (in case of need). Hospitals are likely to ask patients’ relatives to come and help, and this is often a family member in the third degree of kinship. They usually inherit the estate of the deceased person. That is to say, if the patient dies due to a medical error, those relatives are the heirs to inherit the right to claim damages. Hospitals ask the patient’s relative to sign a consent form before the surgery to reduce the likelihood of them suing the hospital if the surgery is unsuccessful.

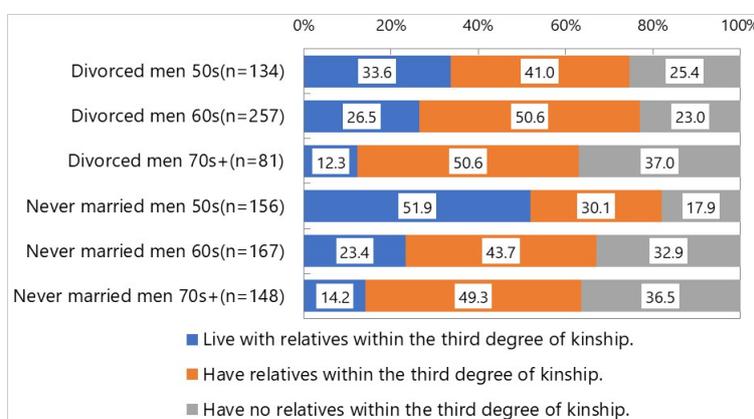


Figure 6: Relatives within the Third Degree of Kinship

In total, 92.8% of men and women aged 50 and older have someone who can support them when they are hospitalized; in case of never-married men the number is much lower at 65.7%. About 20% of divorced or never-married men have absolutely no one to help them with EOL decisions (Figure 7).

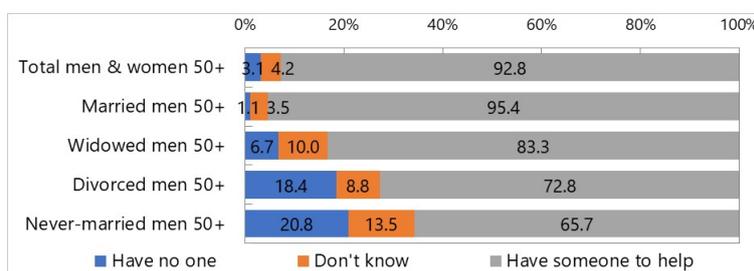


Figure 7: Having Someone to Come to the Hospital and Support

There is a polarization between those who are connected with both relatives and friends and those who are not connected to anyone. Of the men and women aged 50 and over, 21.9% answered that they had no friends to talk to or ask for advice. This rate was higher in never-married men (40.2%). Among never-married men with no relatives within the third degree of kinship, those in their 50s had the least number of friends (Figure 8).

As the number of never-married and divorced men increases in the future, the gap between those who have plenty of relatives and friends and those who do not is likely to widen.

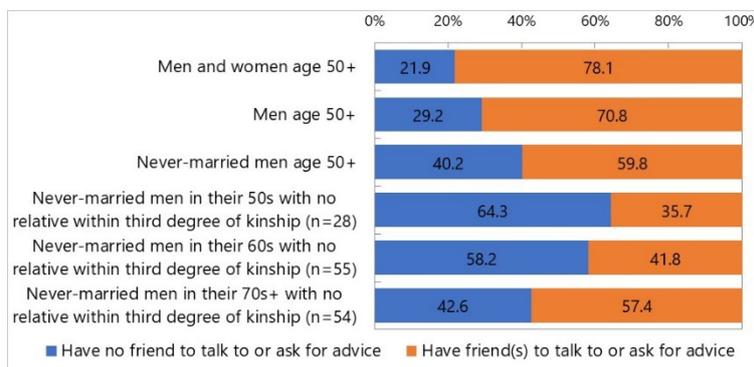


Figure 8: Having Friends to Talk to and Ask for Advice

Men in their 50s and over have anxiety about communication and expressing their intent for the final years of life. Further, 55.9% of men aged 50 and over are anxious about developing dementia and losing the ability to take decisions by themselves when they get older. Over 40% are anxious that they will be moved to a nursing home or undergo medical treatment or surgery they do not want (Figure 9). The level of anxiety is not influenced by whether they are married and have relatives, or are single with few relatives. The risk of developing dementia is the same, and even if they have family members who can speak for them, this fact does not make them any less anxious (Figure 10).

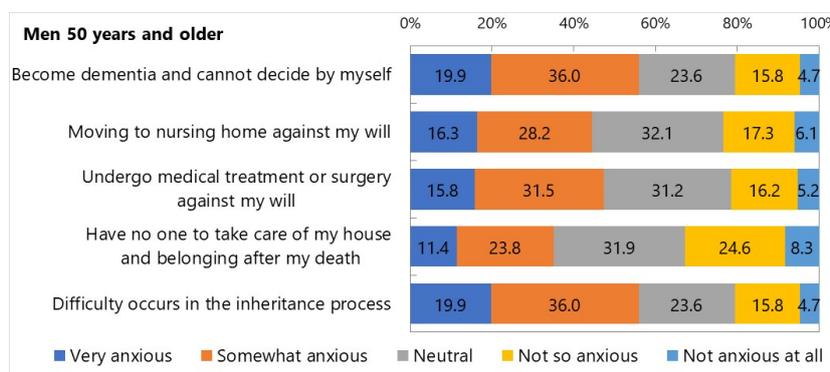


Figure 9: Anxiety about Decision Making in the Final Years

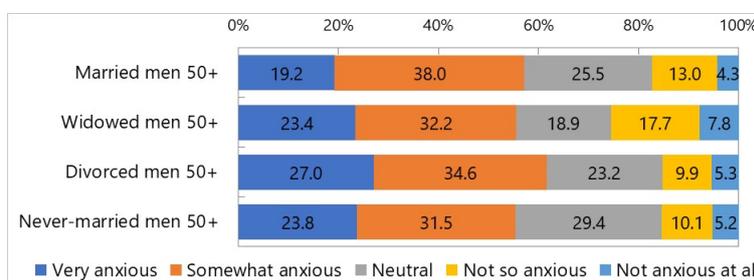


Figure 10: Anxiety about Dementia and Not Being Able to Take Independent Decisions

Anxiety about decision-making about EOL care does not drive them to prepare in advance. About 14.8% of men and women aged 50 and over have told someone about how they want to be treated in their final days, or be cared for in the final years of their life (Figure 11). This rate is lower in divorced and never-married men. Divorced men and divorced women were in contrast. Only 5.9% of divorced men have told someone about their will, but 15% of divorced

women have told someone. This may be because mothers often get custody after divorce and the children care about their single mother, but fathers tend to become estranged from the children after divorce. As for the never-married, 5.2% of never-married men and 10.3% of never-married women have told someone about their will. Never-married men and women are both likely to have few relatives, but women have more acquaintances than men.

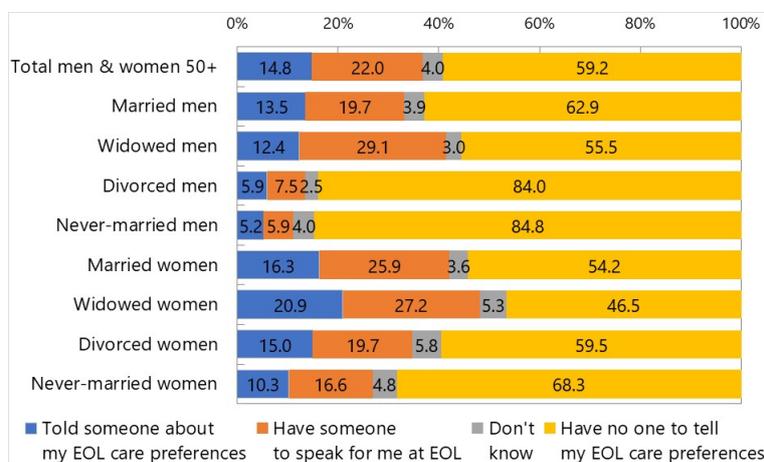


Figure 11: Told Someone about ACP or EOL Care Preferences

Since it is difficult to “tell” someone how one wants to be treated at the end of life, a tool called “ending note” was created recently, which is now widely known in Japan. It is usually a notebook with many write-in columns and questions to answer. The ending note often includes items such as DNR order, whether you want to be cared for at home or in a facility, list of properties, insurance, debts, or personal history. Many local governments are distributing “ending notes” free of charge, encouraging the elderly to express their wishes for EOL care in advance and to write down administrative correspondence about what they want to be done after their death.

A total of 11.7% of men and women aged 50 and older have written or are in the process of composing an “ending note” but only 3.6% of never-married men have done this (Figure 12). Men are more reluctant than women to prepare for EOL care. An individual, whether male or female, is more likely to prepare ending notes if he/she lives alone, away from their family. If an individual is living with relatives, he/she would find it easier to discuss EOL decisions orally or expect relatives to estimate his/her wish based on their conversations and behavior, rather than writing the will down in a notebook. Based on the findings of this study, it is assumed that people with no relatives generally find it hard to write such a note as they cannot think of anyone who would read and execute their will in the right way.

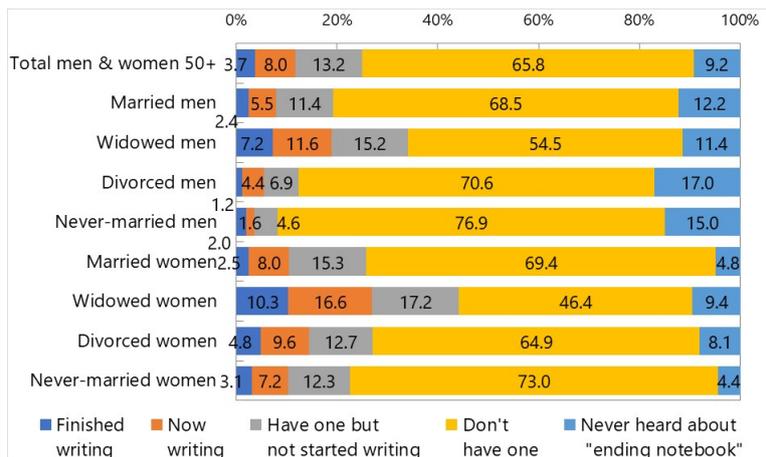


Figure 12: Wrote an “Ending Note”

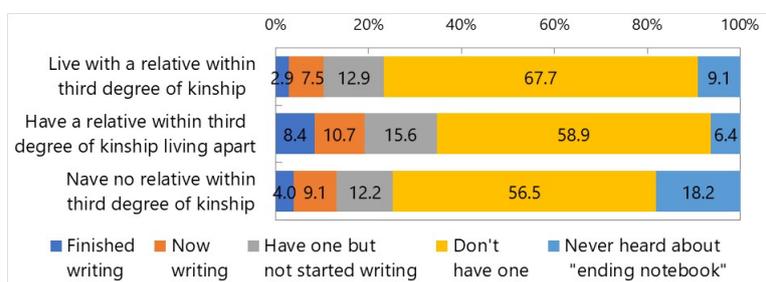


Figure 13: Relative and Writing an “Ending Note”

Even if they neither tell nor write down how they want to be treated at the end of life, they still want to be cared for as per their own preferences, rather than leave the decisions to their family or friends (Figure 12). This tendency is more common among divorced men, but only 5.9% of divorced men have told someone about their EOL care preferences (Figure 11). This makes it very difficult for others to estimate how they want to be cared for.

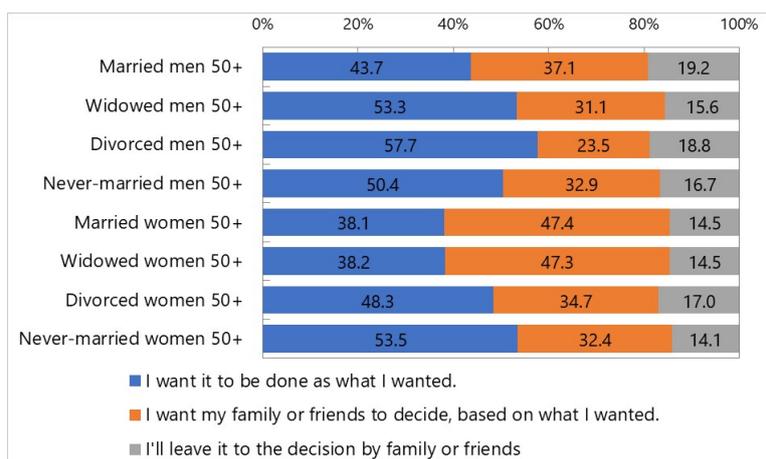


Figure 14: Delegation of Decision Making When I Cannot Express My Thoughts

Even in the U.S., where advance directives are more widespread than Japan, these directives are not executed automatically. Forms distributed by the state government demand naming one’s agent who will make healthcare decisions for them^[6]. It is very important not only to express the will in a document, but also to assign someone to execute it.

Of the never-married men in their 50s, 53.9% said their parents or siblings will decide about their medical treatment when they are unable to express their wishes. As for never-married men aged 60 and over, nearly 40% said their siblings will take decisions for them. However, a helpful relative is often likely to be middle-aged or old and frail themselves.

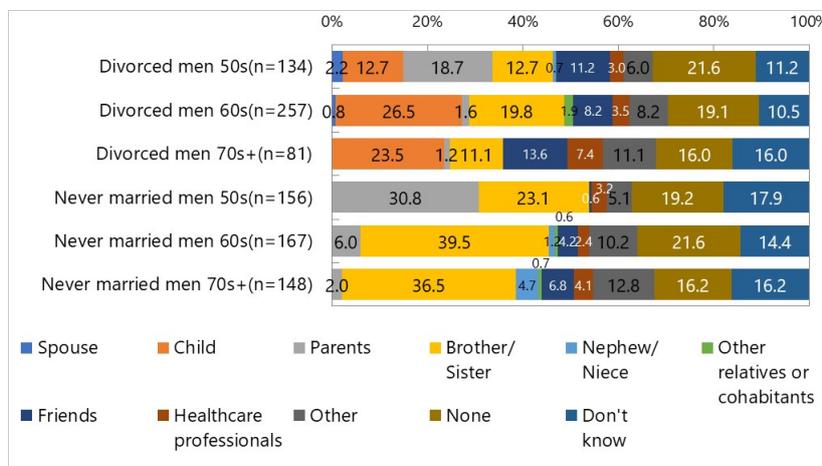


Figure 15: Person Who Takes Decisions about Treatment or Care on Behalf of You

Conclusion

Never-married and divorced men are less likely to have relatives in close kinship, friends, or neighborhood acquaintances whom they can ask for help. If a never-married or divorced man is hospitalized and cannot express his thoughts, there will be no one who can accurately determine or understand what he wants. In order to organize thoughts about how he wants to be cared for in his latest years, he should tell someone, or write it down in a document, such as an “ending-note”. Ending note is a tool now widely known in Japan, but it is not a legal document, so it is left to the person who reads the ending note to decide whether to fulfil the writer’s wishes or not. Never-married or divorced men without relatives or friends find it hard to imagine who will read their ending notes, which discourages them from writing them. With no thoughts expressed in advance, it gets harder to estimate the EOL preferences. This is like the chicken or egg dilemma. To overcome this issue, one solution is that older individuals must be encouraged to create and maintain connections with people to whom they can entrust the execution of EOL intentions. Another solution is to build a mechanism to estimate and execute intentions semi-automatically even if there is no one available to assume the EOL decision making responsibility.

References

- Dening, K.H., et al. (2011) Advance care planning for people with dementia: A review. *International Psychogeriatrics*, 23:10, 1535–1551.
- Detering, K.M., et al. (2010) The impact of advance care planning on end-of-life care in elderly patients: randomized controlled trial. *BMJ*, 340:c1345.
- Japan Institute of Life Insurance (2019) *Research on Life Security* (Seikatsu-hosho ni kansuru chosa) p42 Figure II-8.
- Konno R., et al. (2019) Best evidence for advance care planning in older adults with dementia and their families: an umbrella review protocol. *JBI Database System Rev Implement Rep*. 2019 Nov 20.
- Ministry of Health, Welfare, and Labor of Japan (2019). *Patient Survey 2017*.

Contact email: okamoto.makiko@jri.co.jp

***Envisioning a Healthier Build Environment for Elderly People with Dementia in Denmark
- A Conservatory for People and Plants***

Jon Dag Rasmussen, Aalborg University, Denmark
Nanet Mathiasen, Aalborg University, Denmark
Victoria Linn Lygum, Aalborg University, Denmark
Lone Sigbrand, Aalborg University, Denmark

The Asian Conference on Aging & Gerontology 2021
Official Conference Proceedings

Abstract

Scientific research has shown how exposure to daylight and continual contact with greenery, natural elements and habitats are crucial factors for human well-being. In the wake of these findings, it is highly important to improve access to facilities that enable and promote these effects of increased life quality and well-being among all groups of people in our societies. The paper describes an in-progress project focusing on how to enhance the everyday conditions of elderly people in a care home setting in Denmark, all of which are living with Dementia. The paper presents a vision for a new physical extension to the existing building structure on the care home location that supports everyday life, activities and the overall well-being among the residents. The vision can be seen as the first step in the development of a set of generic guidelines for the design and use made to be transferred and tested in other settings in Denmark and internationally. In drafting and designing the conservatory the project group employs principles of Universal Design in combination with newer research findings on the health-promoting potentials of spaces characterized by access to natural light, plant growth and living environments. Furthermore, the work rests on a holistic ambition to create brighter, greener, naturally aligned and healthier conditions for residents, care home workers and visiting relatives alike.

Keywords: Health Design, Care Homes, Elderly People, Dementia, Daylight, Nature, Greenery, Universal Design

iafor

The International Academic Forum
www.iafor.org

Introduction

This paper presents an evidence-based vision resulting from the initial phase of an interventional research and design project in progress. The work is conducted in a care home located in the municipality of Greve, Denmark and sets out to create a bright and green conservatory with health- and welfare-enhancing effects in the care home facility that is primarily dedicated elderly residents living with dementia. Our overall ambition is the creation of a supplementary built extension to the existing structure that supports the general well-being as well as the maintenance of bodily and sensory faculties among the elderly residents. Furthermore, the project will result in the formulation of a set of generic guidelines applicable in future projects aimed at enhancing existing care home structures and/or creating new facilities and design solutions suited to improve the well-being and general life quality among elderly people living with dementia in care homes, nationally in the Danish context, as well as internationally. As a research team working within the realm of Universal Design, we are also preoccupied with an inclusive and holistic approach to the project in question. In this regard, the built extension also seeks to accommodate and include the array of other actors with a relation to the care home; care workers, visiting relatives along with other regular and professional users of the facility. Inherent to this ambition is the possibility of enhancing elements that adhere to both personal and professional lives for the broadest possible number of people within the care home setting. To the research team a central core value in both practical and academic regards consists in the creation of a space that succeeds in providing beneficiary and health-promoting qualities to all participants in the facility. Currently, the project is in its initial stages, thus the paper will focus on the overall vision and general outline of the work in regards to the background knowledge on which the project rests, the primary motivations, a number of preliminary methodological considerations, as well as the general visions, expectations and future goals actualized in the finished and final conservatory.

Background

The dementia prominence currently emerging on a global scale present a significant and acute challenge on both individual, social and societal levels. In Denmark and Scandinavia, as well as internationally, the dementia prevalence relates to the demographical changes and the so-called *aging societies* (Harper, 2006). As dementia is connected to a number of illnesses often developed in the later years of the human lifespan, we currently see an increase in dementia prevalence that is closely tied to longer life spans and increased life expectancy. The World Alzheimer Report (Prince et al, 2015) reveals that approximately 1-2% of people aged 60-64 years develop dementia. This percentage further increases to 24-45 among people aged 90 years and above.

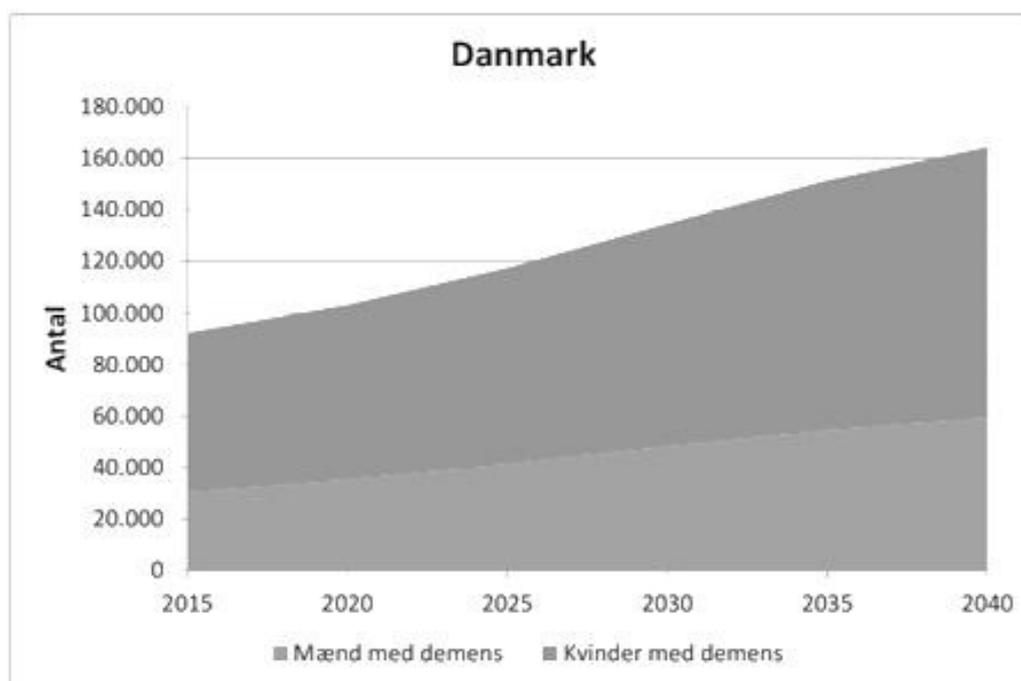


Figure 1: The expected increase in numbers of people having dementia in Denmark from 2015 up until 2040. The illustration is based on statistics from 2013. The top dark grey part of the graph illustrates how large a number of the total amount are woman, the lower part illustrates the amount of men.

Source: Nationalt Videnscenter for Demens (National Center for Knowledge on Dementia): *Forekomsten af demens hos ældre i Danmark. Hele landet og de fem regioner, 2013-2040*.

In Denmark (approx. 5.8 million citizens) the Alzheimer Organization estimate that of the 40.000 elderly people above 65 currently living in care homes, 60-80% deal with severe and progressed conditions of dementia. Seen in the perspective of current and estimated future life expectancy and demographical changes occurring worldwide, the need for attention (and solutions) pointing towards ‘dementia-friendly’ initiatives and environments are highly relevant and acute. Following the statistics presented above, we face a number of societal challenges in accommodating the life situations of people currently living with dementia in care home settings in the best possible manners, but also in preparing for a larger group of elderly people with dementia in the years to come. This challenge also adheres to the built environment and to the acknowledgement of the means, methods and potentials inherent to architecture and design initiatives that are able to promote and support health and well-being among people with dementia. With this project, we aim to develop and propose a design solution, and a set of generic guidelines and principles, hopefully able to alleviate and ease some of the brute and devastating consequences and conditions experienced by people living with dementia. This need comprises a main motivation, thus the primary foundation, of the project described in this paper.

Method – Mapping the Environment

In working with the project as an evidence-based intervention, we apply a number of on-site data collection techniques and methods. The methodological combination comprises both natural scientific measurements and qualitative approaches that enable us to gather and produce knowledge (data) on which the design process, the general development of the project as well as the subsequent formulation of generic guidelines rests. A central goal

with this effort is to obtain a substantial insight into both qualitative and quantitative aspects of everyday life in the care home. The acquisition of knowledge is primarily focused on the general life situation among the residents (with dementia), but we also concentrate on the staff, other professionals with errands and doings in the facility as well as on visiting relatives. Furthermore, this ‘mapping of the environment’ carried out by field-research methods aims at analyzing the application and meanings ascribed to the different existing rooms and settings in the care home. In Denmark, the residents of care homes have their own room, sometimes two adjoining rooms, along with their private bathroom. Meanwhile, they also have a set of common facilities (indoors and outdoors) at their disposal in which different activities, pursuits and chores are arranged and conducted. In order to understand the physical premises as well as the individual and social application of the existing environment, we intend to employ the following methods in our data collection.

- Analyses of the physical environment (indoors and outdoors).
- Conduction of participant observation and focused ethnographic fieldwork (e.g. Hammersley & Atkinson, 2019).
- Structured observations (concerning use of the existing environment, activities, daily chores, patterns, routines etc.).
- Measurement of daily light exposure among representatives of both residents and staff (pin-sized technology).
- Interviews with residents, staff and management.
- Application of specific dementia-sensitive observation tools (yet to be determined).

The primary objective with the field research employed is to establish an empirical understanding of the everyday routines and patterns shared by residents, staff and visitors in the care home setting. Furthermore, the research approaches employed contribute to our knowledge about the specific care home facility, its concrete physicality and the activities, practices (in terms of daily patterns, care work etc.) and other routines that define the setting and the everyday among residents and staff. This knowledge is a central component in the subsequent design process as it reveals how specific rooms and facilities play certain roles in the structure of daily living. Furthermore, the application of on-site research methods contributes to central design-related insights applicable in developing the physical extension to the existing care home structure: e.g. the best possible position/placement in relation to daily patterns of movement, activities and social/institutional practices and logics. In order to ensure the best possible design-solution in terms of practical accessibility, planned as well as intuitive use and general relevance in relation to residents and staff, we conduct this on-site ‘mapping’ of the care home environment.

Scientific Foundations

Light and Exposure to Light

As human beings, we have evolved underneath the sky in close relation to daylight and the impact of rhythms induced by the sun's movement across the celestial body. Recent scientific findings reveal, that we, as products of this evolutionary process, need exposure to natural sources of light in order to stay healthy and well-functioning (Andersen et al. 2012). Daylight varies significantly in terms of intensity, color and directionality. Furthermore, it varies from day to day and from moment to moment. Instinctively, humans relate and adjust themselves to these changes and live in close connection with the conditions they impose. The variations indicate e.g. the actual season and time of day and these very direct and intuitive sources of

information informs our bodies and actions, thereby creating a connection between people, actual place/position and the natural environment at large. Research within the non-visual effects of light has progressed intensely and received an immense attention during the last 20 years. This is due to the discovery of a hitherto unknown light sensitive cell: intrinsically photosensitive retinal ganglion cell (ipRGCs) (Berson et al., 2002; Brainard et al, 2001). The discovery of this cell has underlined the important relation between exposure to (natural) light and well-being. The non-visual effects of light are related to a complicated system of photoreceptors which regulate the human biological clock and the circadian rhythm structuring general bodily timing, the production of melatonin hormone and thus the quality of sleep - effects that directly influence human health, performance and well-being. Research documents that light exposure and well-being are tightly connected, but these findings has also raised a discussion on how to identify and secure the proper levels of light exposure at the proper time (see CIE Position Statement, 2019; The Society of Light and Lighting, 2020). These discussions relate to particular issues on defining artificial lighting design schemes and to environments of artificial lightning in general. However, this project intends primarily to make use of stimuli obtained through natural sources of light. These findings indicate that daylight is of great importance for humans in general - and for fragile people with dementia in particular (Figueiro, 2008; Torrington & Tregenza, 2007; van Someren, 2006). Even though we in Denmark live in buildings often characterized by excellent levels of daylight, the interior light level will never be as intense as the levels occurring in the exterior environments in broad daylight. Due to this circumstance, we need to move outside in order to gain the essential/necessary amount of daylight exposure. Because some elderly people with dementia are cognitively challenged due to their condition, it can be difficult, as well as a personally craving and disturbing task, to make use of exterior environments for this group. Stimuli characteristic of the outdoors such as the wind in ones face, the sunbeams on the skin, the sounds, rain and other influences, as well as the more diffuse sum of these influences occurring in the outdoors environment, can be difficult to process and understand for people with dementia (see below). To this reason, persons with progressed conditions of dementia often prefer to stay in a more orderly and impression-manageable environment that is provided by indoors and more stimuli-sheltered facilities. This complex entails a need for developing news types of health-promoting and –beneficiary spaces within care home facilities (and other kinds of welfare institutions) dedicated and designed to accommodate this diverse group of people. The acknowledgement of the very clear and evident need for dementia-friendly environments has led to the vision and formulation of this project in which we seek to offer elderly people with dementia living in care home facilities (close to) equal opportunities towards the exposure to the naturally occurring and health-beneficiary daylight. Furthermore, research investigating how elderly people experience sensory loss (Rasmussen, Swane & Winther, 2020) and reduced mobility in everyday life, show how they become more depended on the complementary senses and their vision. These findings also illustrate how there is a distinct connection between seeing well, or hearing well for that case, and feeling well (ibid.) and how this is particularly pronounced among elderly people (Sörensen & Brunnström, 1994).

Greenery

In parallel to the descriptions of daylight and its health- and welfare-enhancing properties presented above, there is a growing body of scientific work concerned with the potentials and effects inherent to plants, greenery and other natural elements (e.g. Hartig et al, 2014; Sidenius, Karlsson, Lygum & Stigsdotter, 2017). Employing these findings, the second axis in this interventional design project is comprised by the strategic and active use of greenery

and a range of other growths and natural elements. Sitting on a garden bench, picking a bouquet of flowers, watching birds on the feeding board from the indoors are all different ways to experience and connect with the natural surroundings and environment. Promising research results indicate that this connection can benefit people with dementia living at care homes. Both quantitative and qualitative research investigating the effects of passive engagement with nature such as watching the clouds go by, and active engagements with nature e.g., weeding a plant bed, point to several health benefits. These include improved well-being and mood, decreased agitation and aggressive behavior, less use of medication, fewer fall accidents as well as improved sleep patterns (see Detweiler et al., 2012; Gonzalez & Kirkevold, 2014; Whear et al., 2014 for literature reviews). Furthermore, indoor gardens, plants and vegetation as well as views of natural and green environments can make the natural world accessible for people that do not have the opportunity, or a desire, to go outdoors. Simultaneously, indoor gardens and conservatories can be an advantage at care homes located in climates with long, cold and dark winters (e.g. in Denmark and Scandinavia) as they provide access to natural elements, surroundings and vistas during the inaccessible and uninviting months of the year. For example, a research study indicated that indoor horticultural activities at a care home had positive effects on the resident's sleep, their levels of agitation and general cognition (Lee & Kim, 2008). Providing possibilities to connect with nature in an indoors environment can therefore, with distinct benefits, be included as part of a strategy for improved well-being at care homes for people with dementia. When envisioning different ways to connect and engage with elements of nature from the indoors, and with people with dementia in mind, an array of design considerations has to be taken into account. This concerns e.g. physical access, seating, plantings and maintenance (Cooper Marcus & Sachs, 2013; Sigbrand et al, 2019) to allow for the right type and amount of natural stimuli to promote and enhance the well-being of this particular group of people.

Envisioning a Dementia-supportive Environment

The envisioned conservatory will contribute with a new supportive environment in the care home facility. Because people with dementia gradually lose their cognitive abilities as the condition progresses, their sensory perception and sensory faculties becomes increasingly important. As the cognitive capabilities declines, the affected people must rely on their senses to a much larger degree than before (Sonntag, 2013). Meanwhile, this also becomes problematic as the *sensory integration* – the processes in the brain that allows us to handle the information provided by our senses – suffer damage as the dementia condition progresses. Due to this people with dementia can benefit significantly from an environment characterized by simple, structured and sheltered sensory stimuli, allowing them to encounter and experience the world they inhabit in more balanced and manageable ways. This presents a challenge when working with design because all elements and present influences in spaces used by people with this condition must be balanced and manageable in terms of sensory ‘output’ and expression. Furthermore, it is favorable if different stimuli and sources of sensory ‘content’ are possible to differentiate from each other. In the conservatory, we are working with a principle of ‘small caves’ on the one hand, and a principle of ‘visibility/clarity’ on the other. It is important that the users of the conservatory are able to withdraw into sheltered and safe compartment-like nooks while simultaneously maintaining a view/an outlook over the entire space. Furthermore, we work with the notion of ‘experiential zones’ that adhere to all the human senses. In *zoneing the design*, we apply different functional ‘caves’, compartments and sections in the conservatory. The different compartments adhere to the social/individual possibilities of the design so that the users will

find a 'zone of rest', a 'zone of work/activity', a 'zone of chit chat', a 'zone of slumber' etc. The zones are equipped with appropriate furniture, objects and items (lamps, blankets, pillows, sofas, working tables, chairs etc.). This principle makes it possible to facilitate zones that are at once singular in their character contributing with a distinct atmosphere to the space, while also containing a range of different sensory influences that makes it possible to address and engage the users regardless of their individual sensory and cognitive faculties. By working with *a complementary approach to sensory participation / engagement* we aim to ensure that any user will receive a part of the present stimuli, impressions and experiences while staying in the conservatory. Following this principle of sensory attentive design all zones of the space seeks to engage with the entire range of human senses; the so-called 'outer senses' of sight, hearing, smell and taste as well as the 'inner senses' of touch, balance and movement. Describing this in detail, the 'zone of chit chat' that is dedicated social activities among two or more residents is defined by stimuli engaging with all the seven aforementioned senses. Besides the furniture that allows for the assigned activities, the different zones also contain auditory, visual, aromatic and scented qualities as well as design elements that engage with qualities of touch, balance and movement. In the 'zone of chit chat' a scent of the indoors greenery in the space; the herbs (alluding also to taste) and flowers in the interior bed intermingle with a vista of the park with its trees, grass and wild birds and the daylight entering the space through the skylight. Furthermore, a low-voiced sound of watery glug is appearing from the fountain in the acoustically balanced conservatory. Stimuli of touch, balance and movement are evoked through the application of tactile entities such as wooden materials, heated tile floors, blankets, and through different achievable levels of difficulty in regards to mobility, e.g. gentle slopes and small steps applicable to the elderly residents while using different parts of the conservatory. Obviously, it is a challenge to secure an adequate amount of sensory stimuli, as well as an adequate balance between these sources of sensory information, that apply equally well to all the users of the conservatory in a diverse group of elderly residents. This ambition entails a close collaboration with both users and staff in the design phase of the work but also requires a plan and a set of guidelines for the overall use as well as the maintenance and the ongoing adjustments of the space. Meanwhile, in applying the notion of 'experiential zones' in the design we are able to highlight a number of wanted qualities applicable by all users regardless of their sensory and cognitive conditions while trying to secure the highest possible degree of immediate, simple and direct albeit sheltered and structured exposure to natural elements. In line with the foundation in research pointing to the many health-promoting potentials of daylight and the presence of greenery, plants, vegetation and other elements of nature, we are working with the four classical elements as a general point of aesthetic reference in this project. By thinking through the elements of water, earth, fire and air we seek to develop a conceptual 'design scheme' that provide great inspiration, while also securing a consistent, simple and earthbound aesthetic line in the space. As the classical Greek notion of the four elements encompasses, all matter can ultimately be composed of these basic elements in different combinations. Furthermore, the fundamental elements are all important prerequisites for life, growth and well-being to both people and plants and therefore they have a central position in the design as well. In a concrete manner the four elements present a design strategy focusing on the use of natural materials such as wood, wool, plant fibers, soil and more. In a slightly more abstract perspective the active use of the four elements in the design contribute to making the conservatory a microcosm allowing for the processes of both human and non-human life and co-existence. In this regard, we work with the idea that the space must be suited to encompass and support the lives and well-being of both people and plants. In a holistic sense, the conservatory and the processes going on in this space (flower growth, fire from the wood stove in winter, grapes emerging in summer,

presence of water etc.), are both abstract images of life, as well as concrete and earthbound possibilities to partake in the very processes of life in the everyday life of the daily users.

Universal Design, Light, Greenery and Enhanced Well-being

In continuation of the descriptions above, the main goal with the interventional design project is to enhance a number of everyday conditions directly related to the elderly residents living with dementia. Nevertheless, the beneficiary properties connected to daylight exposure, greenery and the presence of other natural elements in the envisioned conservatory, also adhere to, and contribute to, the well-being and general welfare among the other groups engaged in the care home setting. Following the principles of Universal Design (e.g. Steinfeld & Maisel, 2012)) the build environment ideally should include any human actor, in any thinkable physical, mental, social and sensory state and/or circumstance. Subscribing to this design philosophy as a research team, we aim to reflect and acknowledge every possible need and requirement met by the elderly residents as well as by all other current and future users of the envisioned conservatory. Even though this ambition is set to fail at the outset, whereas total inclusion in the built environment remains an unreachable ideal (e.g. Gosset et al, 2009), the philosophy of universal design encourages us to work through all possible needs of any potential user. This applies whether this person is a child, an elderly person, a resident, a relative, a professional or any other one-time or recurrent user of the facility in question. In designing the conservatory, it is therefore also highly important to include the empirical knowledge produced during our on-site data collection in the care home (cf. section above). This material contains knowledge and observations regarding the individual needs (residents and staff) as well as the social and collective structures (residents in interaction with care workers, relatives, other professionals) in the facility. Simultaneously it also contains knowledge about the daily chores, patterns, pursuits, meals and other daily routines and activities that will constitute an empirical backdrop assisting us in the design and visionary process developing the best possible conservatory in the care home setting. By drawing on insights concerning the individual residents as well as the social/collective and situational wholes in which they partake during everyday life, we are able to ensure a design process, and a final product (the conservatory), taking both residents and all other actors into account in the best possible manner.

Conclusion

The paper presents a vision for an in-progress interventional design and architectural project with which we develop design principles and guidelines for a built extension to an existing care home structure. The central aim of the work is to provide a health- and welfare-enhancing space, a conservatory, for residents in a Danish care home in which the majority are living with dementia-related conditions in their everyday life. The project rests on a number of scientific findings pointing towards the many potentials of regular exposure to both daylight and an array of natural elements. Furthermore, the paper presents a number of methodological considerations on how to acquire empirical knowledge applicable in the design and developmental process as well as a scientific contextualization in existing work on the health benefits and potentials of natural elements in architecture in general, and in settings used by people with dementia in particular. In the paper, we account for the overall visions and motivations embedded in the work and simultaneously we take the first steps towards making these visions concrete and applicable in the design of welfare architecture. In this regard, the paper explores a number of preliminary thoughts on design principles and notions of a dementia-supportive environment with multi-sensory elements. Developing a notion of

sensory attentive design, we work towards the creation of a space defined by experiential zones that seek to engage with the entire range of human senses. With this approach, we aim to develop an inclusive space applicable by a wide range of users regardless of eventual cognitive and sensory challenges posed by dementia, or by other conditions. Finally, we relate the envisioned conservatory to the philosophy of universal design. Doing so, we empathize how the space will contribute with qualities of well-being and general welfare among the entire group of people with a relation to the care home setting.

Acknowledgements

The research project is funded by the Villum Foundation.

A big thanks to NB care home center and the Municipality of Greve for engaged participation.

References

- Andersen, M; Mardaljevic, J. & Lockley, S.W. (2012). A framework for predicting the non-visual effects of daylight – Part I: photobiology based model, *Lighting Res. Technol.* 44 (2012), pp. 37-53.
- Berson, D.M.; Dunn, F. A. & Takao, M. (2002). Phototransduction by Retinal Ganglion Cells That Set the Circadian Clock, *Science* Vol. 295 (2002), pp. 1070-1073.
- Brainard, G.C.; Hanifin, J.P.; Greeson, J.M.; Byrne, B.; Glickman, G.; Gerner, E. and Rollag M.D. (2001). Action Spectrum for Melatonin Regulation in Humans: Evidence for a Novel Circadian Photoreceptor. *The Journal of Neuroscience* 21(16):6405-6412.
- CIE Position Statement on *Non-Visual Effects of Light Recommending Proper Light at the Proper Time*, 2nd Edition October 3, 2019, CIE Position Statement - Proper Light at the Proper Time (2019)_0.pdf (02.05.2021)
- Cooper Marcus, C. & Sachs, N., (2013). *Therapeutic Landscapes: an Evidence-based Approach to Designing Healing Gardens and Restorative Outdoor Spaces*. Wiley, NY.
- Detweiler, M. B., Sharma, T., Detweiler, J. G., Murphy, P. F., Lane, S., Carman, J., Kim, K. Y. (2012). What is the evidence to support the use of therapeutic gardens for the elderly? *Psychiatry Investigation*, 9(2), 100-110.
- Figueiro, M. G. (2008). A proposed 24-hour lighting scheme for older adults. *Lighting Res Technol* 40, pp. 153-160
- Gonzalez, M. T., & Kirkevold, M. (2014). Benefits of sensory garden and horticultural activities in dementia care: A modified scoping review. *Journal of Clinical Nursing*, 23(19-20), 2698-2715.
- Gossett, A., Mirza, M., Barnds, A. K. & Feidt, D. (2009). Beyond access: A case study on the intersection between accessibility, sustainability, and universal design. *Disability and Rehabilitation: Assistive Technology*, 4(6): 439–450.
- Hammersley, M. & Atkinson, P. (2019) *Ethnography: Principles in Practice* (4th ed.). New York: Routledge.
- Harper, S. (2006) *Ageing societies*. New York: Routledge.
- Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2014). Nature and health. *Annual review of public health*, 35, 207–228. <https://doi.org/10.1146/annurev-publhealth-032013-182443>
- Lee, Y., & Kim, S. (2008). Effects of indoor gardening on sleep, agitation, and cognition in dementia patients—a pilot study. *International Journal of Geriatric Psychiatry*, 23(5), 485-489.

- Prince, M., Wimo, A., Guerchet, M. Ali, G. C., Wu, Y.T & Prina, M. (2015). *The world Alzheimer Report 2015: The Global Impact of Dementia*. London: Alzheimer's Disease International (ADI).
- Rasmussen, J. D., Swane, C. E. & Winther, I. W. (2020). *Sansesvækkelse i alderdommen: Et etnografisk studie*. Copenhagen: Forlaget Ensomme Gamles Værn.
- Sidenius, U., Karlsson Nyed, P., Lygum, V. L., & Stigsdotter, U. K. (2017). A Diagnostic Post-Occupancy Evaluation of the Nacadia® Therapy Garden. *International Journal of Environmental Research and Public Health*, 14(8).
- Sigbrand, L., Bredmose, A., Jensen, P. H., Kirkeby, I. M., Lygum, V. L. & Mathiasen, N. (2019, 2nd Ed.). *SBI-anvisning 263. Plejeboliger for personer med demens – detaljer og eksempler*, 2nd Ed. Copenhagen: BUILD – Department of the Built Environment, Aalborg University.
- Sonntag, J. (2013). *Demenz und Atmosphäre: Musiktherapie als ästhetische Arbeit*. Frankfurt: Mabuse-Verlag.
- Steinfeld, E. & Maisel, J. (2012). *Universal Design: Creating Inclusive Environments*. Hoboken, NJ: John Wiley & Sons.
- Sörensen, S. & Brunnström, G. (1994). Quality of light and quality of life: An intervention study among older people, *Lighting Res. Technol.* 27 (2) (1994), pp. 113-118.
- The Society of Light and Lighting. Position statement on Circadian Lighting, 2020 <https://www.cibse.org/getmedia/9f0bf299-86b6-44da-9b1b-d57247f9af7f/SLL-Circadian-Lighting-Position-Statement-v2-July-2020.pdf.aspx> (02.05.2021)
- Torrington, J. M. & Tregenza, P. R. (2007). Lighting for people with dementia, *Lighting Res. Technol.* 39, 1 (2007), pp. 81-97.
- van Someren, E. J. W. (2006). Circadian rhythms and sleep in human aging, *Chronobiology International*, 17:3 (2006), pp. 233-243.
- Whear, R., Coon, J. T., Bethel, A., Abbott, R., Stein, K., & Garside, R. (2014). What is the impact of using outdoor spaces such as gardens on the physical and mental well-being of those with dementia? A systematic review of quantitative and qualitative evidence. *Journal of the American Medical Directors Association*, 15(10), 697-705.

Contact email: jdr@build.aau.dk



©The International Academic Forum 2021
The International Academic Forum (IAFOR)
Sakae 1-16-26-201
Naka Ward, Nagoya, Aichi
Japan 460-0008
www.iafor.org