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Environmental Factors Influencing Quality of Life for Adults Aged 50 and Older

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CLINICAL SCENARIO:

As the population of older adults in the United States continues to grow, an increased emphasis is placed on where and how adults age. There are a number of client and environmental factors that influence quality of life. As occupational therapists, it is important to understand the breadth of these factors and how they impact the client and their families. There is also a press for ongoing evaluation of the environmental capacity to meet clients' changing needs. Research shows that caregiver satisfaction, attachment to place, the type and quality of care available in long-term care facilities, meeting client needs and desires, and allowing clients to engage in social participation are all things that greatly influence quality of life on older adults as they age.

FOCUSSED CLINICAL QUESTION:
When comparing aging in place and aging in an independent long-term care setting in adults aged 50 years and older, what environmental factors facilitate the highest quality of life?

SUMMARY of Search, 'Best' Evidence appraised, and Key Findings:

- A total of 5 critically appraised papers (CAP) were written from selected literature investigating the quality of life for adults over 65 living in various home environments.
- A total of 17 research articles were thoroughly reviewed.
- A cohort study conducted by Gilleard, C., Hyde, M., and Higgs, P. in 2007 concluded that age, aging in place, place, and the attachment to place interact to affect quality of life and adaptability.
- A randomized control trial conducted by Graugler, J., Wall, M., Kane, R., Menk, J., Sarsour, K., Johnston, J., Beusching, D., and Newcomer, R. in 2010 concluded that caregivers who did not indicate an "incident" (dangerous behavior demonstrated by the person with dementia) at the baseline but reported an incident later were more likely to experience increased feelings of burden. The strongest predictors to nursing home admission was linked to the individual with dementia demonstrating persistent behavior disturbances.
- An in-depth qualitative study written by Ball, Perkins, Whittington, Connell, Hollingsworth, King, Elrod, and Combs in 2004 provided helpful information as well. This study used qualitative methods to evaluate five assisted living facilities for a year. The key reason residents were able to stay in assisted living relied on how well the community, the environment, and the resident fit. It also was determined by how well the facility was able to manage their decline. The resident-facility fit was both an outcome and an influence on the decline management process.
- A qualitative study written by Guse, L. and Masesar, M. in 1999 identified factors that are important to quality of life, these include: satisfying interactions with family and

friends, personal priorities being met, being satisfied with room and board, and addressing aspects of well-being, such as enjoying nature and being helpful to others.

- A qualitative study written by Van Leuven, K. in 2010 identified four themes to interview older adults and their primary caregivers about. These themes were older adult's health perceptions, negotiating with change, goals of health care for older adults, and staff views of health and health care. These themes identified many interesting priorities including a belief that social engagement is a key factor in health and health perceptions.

CLINICAL BOTTOM LINE:
The research studies provided a variety of perspectives from older adults, their caregivers, and health care personnel in which they are frequently in contact. A variety of environmental factors, as well as the attitudes, of the older adult can influence quality of life in adults over 50 years old. These environmental and client factors include attachment to place, age, mobility, dependence level, the quality of care they are receiving, interactions with staff and loved ones in their environment, and their perceptions of their well-being. Occupational therapists may be well positioned to advocate for high quality of life by encouraging the best match between the client and the environment. They also should encourage client-centered interactions and interventions among all disciplines and caregivers and in all environmental settings. They are also well positioned to do future research in home health, assisted living facilities, and skilled nursing facilities.

Limitation of this CAT:

- This critically appraised topic has not been peer-reviewed.
- An exhaustive literature review has not been conducted.
- A student in a masters of occupational therapy program has created this.

SEARCH STRATEGY:

Terms used to guide Search Strategy:

Patient/Client Group:

- Adults 50 and older

Intervention (or Assessment):

- Environmental impacts (including place of aging)

Comparison:

- NA

Outcome(s):

- Higher quality of life

Databases and sites searched	Search Terms	Limits used
10/2010 CINHAL - Ebsco Medline	The same terms were researched in each database system: "older adult" "65 years old" "aging in place" "assisted living" "independent living" "long-term care" "environment" "quality of life"	None

INCLUSION and EXCLUSION CRITERIA

Inclusion:
- Adults aging in Assisted Living Facilities
- Adults aging at home
- Adults over 50 years old
- Peer reviewed articles

Exclusion:
- Participants under 50 years old
- Any languages that were not English
- Studies written before 1998
- Moves were considered moves of choice rather than of necessity.

RESULTS OF SEARCH

Five relevant studies were located and categorised as shown in Table 1 (based on Levels of Evidence, Centre for Evidence Based Medicine, 1998)

Table 1: Summary of Study Designs of the Five Main Articles Retrieved

Study Design/ Methodology of Articles Retrieved	Level	Number Located	Author (Year)
Randomized Control Trial	I	1	Gaugler, J., Wall, M., Kane, R., Menk, J., Sarsour, K., Johnston, J., Beusching, D., and Newcomer, R. (2010)
Cohort study with empirical analysis	II	1	Gilleard, C., Hyde, M., and Higgs, P. (2007)

Qualitative	N/A	3	Ball, M., Perkins, M., Whittington, F., Connell, B., Hollingsworth, C., King, S., Elrod, C., and Combs, B. (2004) Guse, L. and Masesar, M. (1999) Van Leuven, K. (2010)

BEST EVIDENCE

The following study/paper was identified as the 'best' evidence and selected for critical appraisal. Reasons for selecting this study were:

- Level II: Cohort study with empirical analysis
- Largest sample size
- Highest level of evidence that is most related to the research topic
- Relevant occupational therapy practice implications

SUMMARY OF BEST EVIDENCE

Table 2: Description and appraisal of The Impact of Age, Place, Aging in Place, and Attachment to Place on the Well-Being of the Over 50s in England by Gilleard, C., Hyde, M., and Higgs, P. 2007.

Aim/Objective of the Study/Systematic Review:
Study Design: A secondary analysis of data gathered in the first wave of the English Longitudinal Study of Aging (ELSA) and the General Household Survey (GHS). It was a cohort study with empirical analysis. Blinding and allocation concealment were not addressed.

Setting: England, adults living in private households
Participants: Data were collected in a large representative population of English adults aged 50 and over using interviews and a self-completion questionnaire. The sample size consisted of 9, 987 participants although it was originally 12,100. Proxy interviews and data from younger partners (under 50) were removed prior to the analysis. Also, nonresponse to the "social capital" items on the nine-item questionnaire and nonreponse of the CASP 19 led to a reduction in the sample size. Five primary variables from ELSA data set were examined. These were respondent's age, the year when they moved to their present accommodation, the socioeconomic status of the area in which the respondent lives, the respondents; self-reported attachment to the area where they live and their self-reported well being.

Intervention Investigated: The study was identifying the relationship between attachment to place, age, area of residence, and length of residence in the area in comparison to an indicator of well-being, the CASP 19. Therefore, a specific intervention was not being analysed. Independent variables were age and/or cohort, degree of area deprivation, positive attachment to place, and current length of home residence as a proportion of respondents' adult lives.

Outcome Measures:

ELSA data	They examined five primary variables from the ELSA data set: age, year when the respondent moved into their present accommodation, the socioeconomic status of the area in which the respondent lives, the respondent's self-reported attachment to the area in which they live, and their self-reported well-being.
CASP 19	To assess well-being, a CASP 19 scale was used. The CASP is a 19-item needs-satisfaction based measure of quality of life designed to assess four domains of quality of life: control, autonomy, self-realization, and pleasure.
Nine-item questionnaire	To assess attachment to place, they examined responses to a nine-item questionnaire designed to assess social capital.
Aging in place calculation	They assessed aging in place by calculating the number of years the respondent had lived at their current address as a proportion of their adult life.

Main Findings:

Percentage Who Had Moved Home in Last Year and in Last Five Years
The proportion in each age group who had moved home in either the last year (n = 401) or in the last five years (n=1,528) was examined. Residential mobility declined with increasing age as anticipated. The likelihood of having moved home in the last five years declined from 18.2% for people in their 50s to 12.9% for people in their 80s (chi square 20.78, $p < .001$). Most of the moves recorded must be considered moves of choice rather than of necessity.

Association between Age, Area of Residence, and Proportion of Adult Life Spent in Current Resident and Attachment to Place (n = 10,750)
The next analysis examined the relationship between respondents' age, the proportion of their adult life spent in their current home (their aging in place), the status of their area of residence (place), and their sense of attachment to their area or residence (attachment to place). Overall, most respondents reported that they felt very much part of their area (n=6594, 65.8% of the present sample.) Age and aging in place were powerfully associated with attachment to place. Older people (in this case people in their 70s and 80s) and those who had spent most of their adult life in their current home were much more likely to feel part of the area, although those in the oldest age group (those in their 80s) reported less attachment (72%) than did those in their 70s (78%). When comparing CASP 19 scores and age, chi square was found at 186.02 and $p < .0001$. When comparing CASP 19 scores and aging in place, chi square was found at 92.68 and $p < .0001$. When comparing CASP 19 scores and socioeconomic status of place chi square was found at 12.03 and $p < .01$.

Analysis of variance: Effect of Age, Socioeconomic Status of the Area, Proportion of Adult Life Spent in Own Residence, and Attachment to Place on CASP 19 Scores (n=9,978)
They examined the effects of attachment to place, age, area of residence, and length of residence in the area on the indicator of well-being, the CASP 19. They conducted a four-way analysis of variance, treating CASP 19 total score as the dependent variable. These independent variables were age and/or cohort, degree of area deprivation, positive attachment to place, and current length of home residence as a proportion of respondents' adult lives. From these responses, greater well-being was systematically associated with attachment to place, younger age, and with the degree of area deprivation.

CASP 19 Scores compared with Age Group and Area of Residence (n > 10,000)
There was no significant interaction between aging in place and aging, suggesting that aging in place did not significantly benefit the oldest age groups, nor was there any significant interaction between aging in place and place and/or area deprivation. This leads one to suggest that 'aging in place' in poor areas neither amplifies nor minimizes the impact of the area on personal well-being. In areas of the greatest deprivation, age appeared to have no influence on personal well-being. Statistical significance was calculated at $p < .05$.

Mean CASP 19 Scores (associated with greater well-being):
Attachment to place
Those reporting a strong attachment to their area: CASP 19 Average 42.52
Those not reporting a strong attachment to their area: CASP 19 Average 39.50

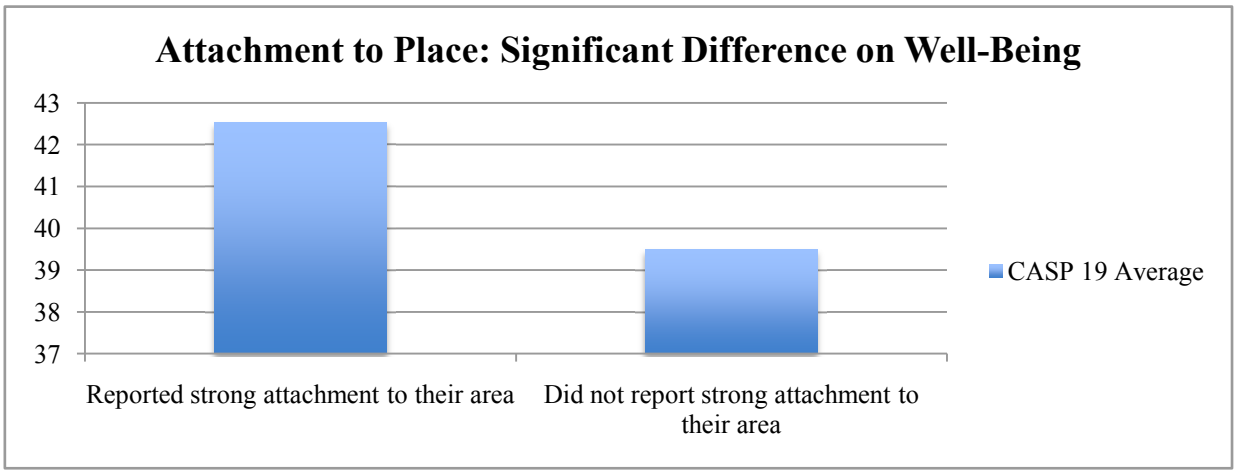
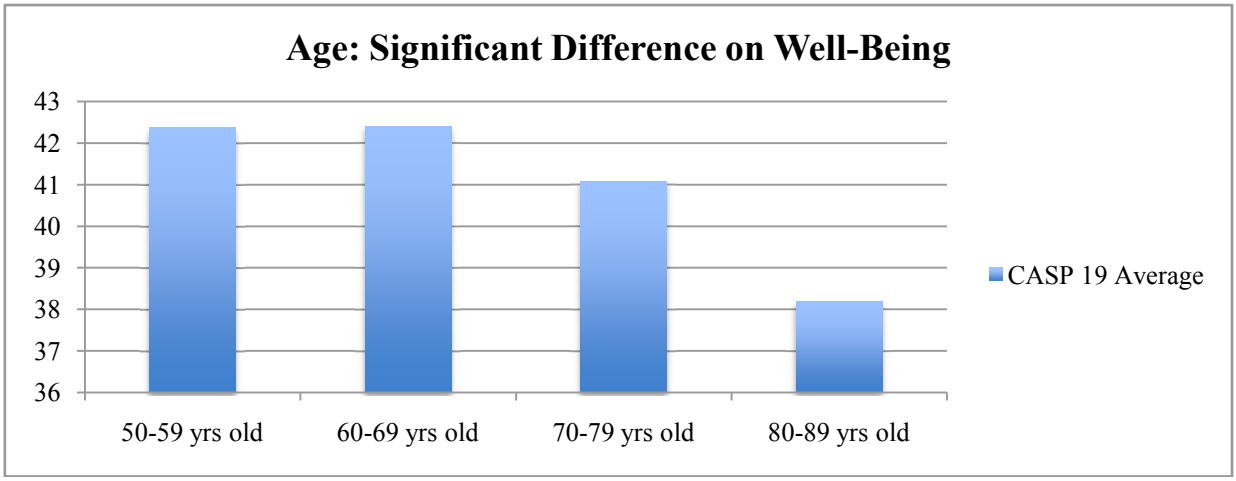


Table adapted from: Gilleard, C., Hyde, M., & Higgs, P. (2007). The impact of age, place, aging in place, and attachment to place on the well-being of the over 50s in England. Research on Aging, 29,590-605. doi: 10.1177/0164027507305730 (Original table © 2007, Research on Aging)

Younger Age
Those in their 50s: CASP 19 Average 42.36
Those in their 60s: CASP 19 Average 42.40
Those in their 70s: CASP 19 Average 41.07
Those in their 80s: CASP 19 Average 38.2



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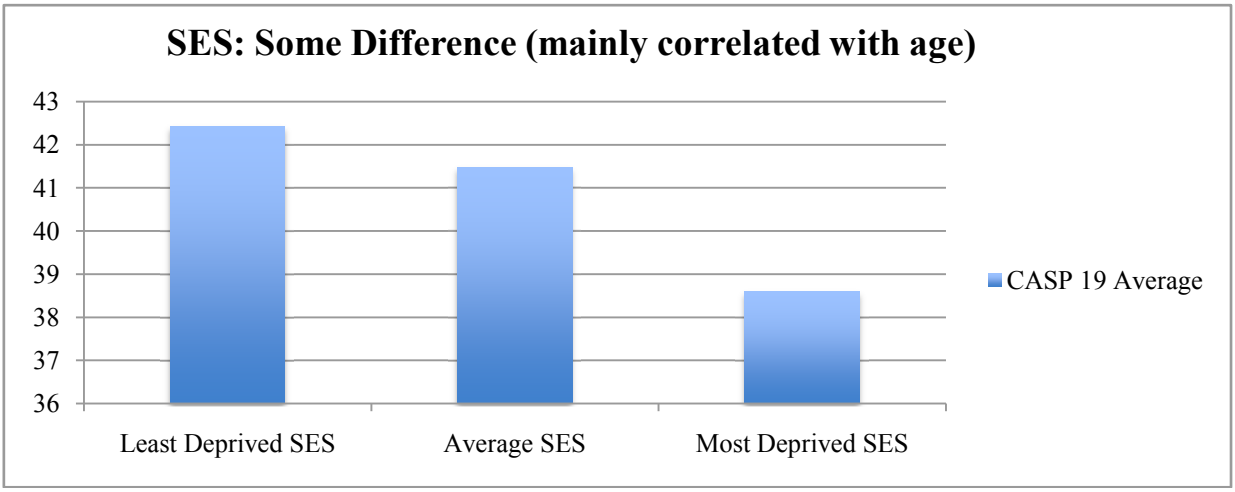
Area of Deprivation
Those in the least deprived area was 42.43
Those in an average socioeconomic deprivation was 41.48
Those in the area of greatest deprivation was 38.60



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(From pgs 594-601)

Original Authors' Conclusions

- Older age cohorts are less likely to move home than younger age cohorts. This finding applies to people who are living in their own homes and who have chosen either to move or stay put and excludes any unchosen moves such as those leading into nursing home or residential home accommodation since the latter group was excluded from the ELSA survey.
- Age and aging in place were both associated with increased feelings of attachment to one's area, regardless of socioeconomic status. Aging in place does "bind" people to their community, for good or ill.
- The feeling of belonging is associated with a sense of well-being independent of how much people over 50 have aged in place. Although feelings of attachment tended to grow with age, longer life itself did not lead to greater well-being. People in their 70s and 80s reported lower levels of well-being than people in their 50s and 60s did.
- Based on this information, it may be that the feeling of well-being itself that contributes to a sense of belonging and connectedness. Community, as a variable, may be less determined by the structural features of communities of proximity and more influenced by lifestyle, temperament, and emotional state of the individual. Communities of proximity neither foster nor suppress older people's sense of attachment or feelings of belonging, but they clearly impact their perception of their own well-being.

- Aging in place neither amplifies nor moderates this impact of "community". Age, or age group, does. Individuals in their 80s seems to dull the impact to the adverse effects of place. Levels of well-being amongst this age group in the ELSA sample did not vary across area deprivation.

(From pg 602)

Critical Appraisal:
Validity

Methodology:
- Researchers utilized secondary analysis of data gathered in the first wave of the English Longitudinal Study of Aging. This was a cohort study using empirical analysis.

Bias/Limitations/Missing Information:
- To address potential item non-response bias for the CASP 19, chi square analyses were performed comparing those who had full CASP 19 scores with those who did not have complete scores. Those who did not complete the full CASP 19 were more likely to be older, have lower socioeconomic status, report poorer health, have more ADL problems, and show more impairment on cognitive testing, compared with those who did complete the questionnaire. To try to reduce this bias, they imputed missing values for all those who had responded to at least 10 items of the CASP using mean values from the responses they had already supplied (p 594).
- Although they tried to reduce the bias, this lead to calculating information from fully complete and partially complete surveys to conduct their final conclusions, which could be considered a major limitation.
- Only questionnaires and secondary information were utilized. It did not address personal interviews, family concerns, or perspectives or health care information.
- The study did not address a range of cognition, physical disabilities, or other underlying impairments of the participants that could have impacted their perspective of moving. They identified that individuals who experienced unchosen moves, such as those leading into nursing home or residential home accommodation, were excluded from the study, but did not identify specific exclusion criteria.
- The sample size was large; however details about how they gathered information was unclear. It was also vague how they obtained any of the information they used for the study.
- The information itself was complex and not extremely comprehensible, this limited the ability to discuss and easily generalize to other similar populations.

Clinical importance:
- Understanding the relationship between the four independent variables and the expected outcomes can help identify how change will affect older adult populations. These individuals were considered functioning participants of their community. Understanding how to accommodate change with the client and environment can facilitate smooth transitions and enriched lives.
- Occupational therapists are encouraged to take a multifaceted approach that evaluates all areas of a lifestyle to see how these facets can most appropriately work together. This study identifies key factors in the person, environment, and various occupations that create the highest level of satisfaction. Therefore, this study is applicable to occupational therapists because it considers what ultimately creates successful aging in older adults and what can most greatly impact their quality of life.

Interpretation of Results/Conclusion:

1. Residential mobility declined with increasing age.
   - Most of the moves recorded were considered moves of choice rather than of necessity.
2. Most respondents reported that they felt very much part of their area. Age and aging in place were highly associated with attachment to place.
   - In contrast to the strong influence of both 'age' and 'aging in place' itself, in regards to socioeconomic status, was scarcely predictive of attachment. The association between area deprivation and attachment to place was not only weak, but it was also not robust. However, the association between age, aging in place, and attachment to place was robust and remained significant when examined within each grouping of area deprivation.
3. Higher quality of life was associated with attachment to place and with younger age.
   - Aging in place had only a very modest impact on well-being. There was no significant interaction between aging in place and age, suggesting that aging in place did not significantly benefit the oldest age groups.

Table 3: Characteristics of included studies

	Gaugler, et al. (2010)	**Ball, et al. (2004)**	**Guse, et al. (1999)**	**Van Leuven, et al. (2010)**
Purpose	Qualitative study sought to determine the ramifications of temporal change in individual behavior problems when accounting for increases in caregiver burden and time to nursing home admission. This project had two research questions: 1) Are pattern of change in specific behavior problems associated with change in caregiver burden over a three-year period? 2) Do patterns of change in specific behavior problems predict time to nursing home admission over a three-year period?	Qualitative study to gather more information regarding the process of aging in place in assisted living facilities (ALFs) and the factors that influence this phenomenon in a variety of ALF contexts.	Qualitative study to examine quality of life and elements of successful aging from the perspective of residents in a long-term care facility.	The goal of this four-stage interpretive study was to investigate the beliefs, values, lifestyles, and health status of adults' age 75 and older that identified themselves as healthy. The central questions of the study were: 1) What attitudes and perceptions contribute to thriving in older adulthood? 2) What can we learn from thriving older adults about structuring health care encounters to facilitate continued thriving?
Intervention	Temporal Changes: Randomized Control Trial	N/A Qual: Ethnography Design	N/A Qual: Phenomenology Design	N/A Qual: Phenomenology Design
Outcomes used	- Medicare Alzheimer Disease Demonstration Evaluation (MADDE) Sample - 19-item Memory and Behavior Problems Checklist - 7-item short form of the Zarit Burden Interview - Cox proportional hazards models were	- Resident, family member and direct-care staff worker informal and in-depth interviews. - Review of resident and facility records and marketing materials. - Participant observations during 457 visits throughout a one-year time	- Structured questionnaire of client - Face-to-face interviewing of client	- Focus groups of medical staff - 24 hour participant observation sessions - Face-to-face interviewing of client and staff members - Chart review - Group interview with two staff members at each site

	used to relate the time0varying measure of recent change in behavior with time to nursing home admission. - Mini-mental State Examination - Activity of Daily Living Tasks - Caregiver ADL and IADL – frequency of community based service utilization and caregiver functional status	period.		
Findings	- One of the strongest individual behavior disturbances to predict increases in caregiver burden was incidence of waking the caregiver up at night. - Incidence occurrence of each behavior problem was the strongest predictor of increases in burden. - Changes in problem behaviors greatly increased the rate of nursing home admission. - Increases on the various MPBC subscales were associated with greater burden over time, whereas decreases were associated with lower burden throughout the three-year study period. - Increases in 'dangerous' behaviors (self destruction, destruction of others or property) were likely to lead to quickly expedite nursing home admission. -Decreases in the 'dangerous' behavior were likely to delay time to nursing home admission.	- The ability of residents to remain in assisted living was principally a function of the "fit" between the capacity of both residents and facilities to manage decline. - Resident-facility fit was both an outcome and an influence on the decline management process. - Multiple community, facility, and resident factors influenced the capacity to manage decline. - Resident and facility risk also was an intervening factor and a consequence of decline management.	The following items were identified as priorities in quality of life and autonomy: Time with family and friends, good food and mealtimes in long-term care facilities, when to have a bath, mobility, independence, feeling healthy, being helpful to others, enjoying nature, relationships with staff members. - Overall, residents reported being optimistic about their quality of life. - Health problems and limited mobility were the major factors that took away from quality of life.	Themes identified were: -Health Perceptions -Negotiating with Change -Goals of Health Care for Older Adults -Staff Views of Health and Health Care -All of the older adults believed that they were strongly involved in managing their own health and felt the need to "stay active" mentally and physically. -The group self-reporting as healthy were generally positive and recalled stories of having to adjust to change by actively engaging with others to successfully 'get through it.' This was seen regardless of place of residence, level of function, or degree of difficulty associated with stress. -Staff reported wanting to increase independence in long-term residence, however during observations it was evident that residence were often prevented from ambulating, moved about in wheelchairs, and were diapered more often. -Staff reported a tension between safety and independence. -For most residence, health was a state of mind and not reflected in the diagnosis list. - Goals of health care for older adults included the following: -All participants acknowledged the importance of finding the right health care provider. -Community-dwelling participants believed that health care was a means to stay healthy and maintain quality of life. -Reasons expressed by community-dwelling participants for avoiding placement were concerns about burden on family, fears of helplessness, and concerns about loss of dignity and quality of life. -Residents of ALF recognized that for them, health care included a

				supportive environment. -All those who said they had a positive experience in an ALF said they had chosen to make it positive by becoming engaged in facility activities, familiarizing themselves with staff, and continuing to engage in hobbies.

IMPLICATIONS FOR PRACTICE, EDUCATION and FUTURE RESEARCH

- Occupational therapists are positioned to advocate for individual rights, educate staff members and caregivers, create programs that incorporate the findings in this study, create interventions that allow for environmental modifications, and collaborate to include community support. Some specific treatment implications are listed:
- Environmental modification:
    - With assisted living and skilled care residents, encourage them to frequently leave the room and get involved with facility activities, as well as interactions with staff, other residents, and outside contacts.
    - Small group activities may be more effective than those involving large groups for stimulating conversation among members.
    - Use client-centered intervention opportunities as ways to increase ambulation.
    - Have a private room and increase client's privacy when possible.
    - Encourage community-dwelling older adults to stay active in their areas of interest.
- Other General Treatment Implications:
    - Increase feelings of humor, love, feeling respected, honesty, and contentment.
    - Increasing the use of schedules will help clients know when they will have a bath and when meals are served.
    - Understanding the relationship between age, aging in place, attachment to place, and it's impact on older adults ability to age well will help to create treatments to address the client factors that may result from these environmental factors.
    - Increase time spent in nature and time spent being helpful.
    - Work with client to diminish aggressive symptoms.
    - Create a coordinated effort of facilities, residents, and families in the management of resident decline.
- Advocacy/Education implications:
    - Increase opportunities for consuming healthy and nutritious food.
    - Provide caregiver support and connect caregivers with each other.
    - Provide a skills training or environmental modification intervention earlier in the caregiving process to alleviate incident behavior problems such as waking the caregiver up at night, and thus reduce emotional distress.
    - Provide caregiver support and connect caregivers with each other.
    - Advocate for residents to be well-informed about their own needs and foster communication about the capacity of the facilities ability to meet them.
    - Increase opportunities for occupational therapy students to gather insight into the quality of life for older adults before they begin their practice.
- Future Research:
    - Further research is necessary to draw more comparisons between aging in place and aging in assisted living facilities, the environmental impact, and client factors that contribute to quality of life and aging gracefully.

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