The Impact of Engaging in Outdoor Activities as an Older Adult

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The Impact of Engaging in Outdoor Activities as an Older Adult

Disciplines
Occupational Therapy

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The Impact of Engaging in Outdoor Activities as an Older Adult

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Date: October 31, 2011

Review date: October, 2013

CLINICAL SCENARIO:

Baby boomers, like everyone else, grow less active as they age with potential to have a decreased quality of life. Inactivity may be due to environmental or personal factors, contributing to a vicious cycle of inactivity and ill health. Within the normal aging process the skeletal and muscular system naturally decrease in strength and density. If people aren’t engaging their bodies in activities these systems may decline even faster.

FOCUSED CLINICAL QUESTION:

What is the impact of engaging in outdoor activities as an older adult compared to those who do not engage in outdoor activities on their 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 outdoor activities and its impact on the quality of life for adults over 65 years.
- A cohort study by Kono, A., Kai, I., Sakato, C., Rubenstein, L. (2007) was deemed as the “best evidence” evaluated.
- This study screened 575 older adults and over a 20-month period conducted the same survey at three different times. Of the 575, only 137 participated in three surveys and were used to compile the data.
- The study concluded that the frequency of going outdoors may be a predictor of functional capacity and a predictor of deterioration in a long-range period.
- Although this study did not specifically use the term quality of life, it can be concluded that functional capacity, intellectual activity, self-efficacy for health promotion & daily activities can be related to a person’s quality of life.
- Inoue, K., Shono, T., Matsumoto, M. (2006) addressed the link between an absence of outdoor activities and mortality rates, concluding that those not participating in outdoor activities had a mortality rate of almost double those going outdoors.
- Onishi, J., et.al (2007) concluded that happiness levels were significantly higher in those participating in daily or recreational activities.
- Rantakokko, M., et.al. (2009) looked at what factors correlated with a fear of moving outdoors and found that women with poor socioeconomic status, musculoskeletal diseases, slow walking speeds & negative environmental factors in their area were related to a higher fear of moving outdoors.
- Wang, Y. (2008) found that outdoor equipped (tennis, golf, etc.) & non-equipped (walking, hiking, etc.) activities were significantly influencing perceived health of older adults.
CLINICAL BOTTOM LINE:
The research provided a variety of reasons why older adults may be disengaging from outdoor activities in a variety of questionnaires. A span of environmental factors and personal factors have been identified that influence older adults going outdoors that could lead to a decreased quality of life. Some of these factors include a fear of moving outdoors, poor streets, hills, poor lighting, functional impairments, the pleasure in activities, and mental health status. All of these factors have a potential negative relationship on the health of older adults. Occupational therapists are in a good position to advocate for safe neighbourhoods and to work with clients to find a way for them to participate in outdoor activities that clients enjoy by focusing on both personal and environmental factors and finding an appropriate fit for each client.

Limitation of this CAT: This critically appraised topic has not been peer-reviewed and the author is not an expert in this area. The search is not exhaustive and has been conducted by a 2nd year MOT student as part of a class assignment.

SEARCH STRATEGY:

Terms used to guide Search Strategy:

- **Patient/Client Group:** Older Adults
- **Intervention (or Assessment):** Outdoor activities
- **Comparison:** N/A
- **Outcome(s):** Quality of Life

Table 1: Summary of Audit Trail

<table>
<thead>
<tr>
<th>Source (database, library catalog, etc)</th>
<th>Search terms/Search strategies</th>
<th>Inclusion/Exclusion Criteria</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINAHL</td>
<td>&lt;Leisure activity&gt; and &lt;older adults&gt; and &lt;quality of life&gt;</td>
<td>N/A</td>
<td>Returned 13 citations, 0 good ones</td>
</tr>
</tbody>
</table>
### INCLUSION and EXCLUSION CRITERIA

- **Inclusion:**
  - Older adults 65+
  - Any outdoor activity
  - Academic Articles
- **Exclusion:**
  - Participants under the age of 65 years old
  - Any languages that were not in English
  - Studies written prior to 2000

### RESULTS OF SEARCH

Five relevant studies were located and categorized as shown in Table 2

**Table 2:** Summary of Study Designs of Articles, levels as noted by the Centre for Evidence based medicine (2011).
<table>
<thead>
<tr>
<th>Study Design/ Methodology of Articles Retrieved</th>
<th>Level</th>
<th>Number Located</th>
<th>Author (Year)</th>
</tr>
</thead>
</table>

BEST EVIDENCE

This article is identified as “best evidence” for demonstrating the effects outdoor activities on quality of life in older adults:


Reasons for selecting this study
- One survey was completed at each of the three collection times
- Participants were tracked over the 20 months
- Only participants who completed all three surveys were included in the final data
- Statistically significant relationships were found in going outdoors and efficiency in ADL’s, functional capacity, self-efficacy for daily activities, self-efficacy in health promotion and depression.

SUMMARY OF BEST EVIDENCE

Table 3: Description and appraisal of: The frequency of going outdoors predicts a long-range functional change among ambulatory frail elders living at home, a cohort by Kona, A., Kai, I., Sakato, C., Rubenstein, L. (2007).

**Aim/Objective of the Study/Systematic Review:** The purpose of this study was to look at the relationship in functional and psychosocial changes and the frequency of going outdoors over a 20-month period.

**Study Design:** This was a cohort study in which data from 137 elders was measured 3 times, at baseline, 9-months, & 20 months through questionnaires.

**Setting:** The study never specified where the questionnaire took place, it states that local volunteers distributed and collected the questionnaires to participants insinuating that they took place in the participant’s home.

**Participants:** A sample of 137 subjects were selected from 575. Elders were screened by the City Governmental Welfare Department and then local volunteers judged the elders as being frail and needing some assistance to live independently, from this 137 participants were selected. They were asked to participate based on the following qualifications:
- Participants were over the age of 65 years
- Needed some assistance to live independently
- Were considered frail by the volunteers
- Defined “frail” as needing some assistance in the home, but able to walk independently

There were 7 drop-outs at the 9-month survey & 23 drop-outs at the 20-month survey leaving 107 participants for the combined data scores at the end of the 20 months.

**Intervention Investigated** The study was investigating if there was a relationship between the frequency of going outdoors on the subsequent functional and psychosocial changes over 20 consecutive months. Therefore, there was no control/experimental group; all participants completed the same survey’s that were distributed by the volunteers of the study in the community. Each of the three surveys consisted of the same questions and measures. Participants who met the requirements stated above were provided with a number of outcome measures, which volunteers distributed and collected. The authors did not describe the timeframe or location for the data collection. They were distributed and collected at baseline, 9-months and 20-months during the study.

**Outcome Measures:**

<table>
<thead>
<tr>
<th>Outcome areas:</th>
<th>Measures:</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often they go outdoors</td>
<td>3-point scale: 1- 4+ times a week, 2- 1-3 times a week, 3- less than once a week</td>
</tr>
<tr>
<td>Functional Capacity in ADL’s</td>
<td>Index of Competence: range from 0-20 with a high score indicating higher levels of functional capacity.</td>
</tr>
<tr>
<td>Psychosocial status</td>
<td>Index of Competence: same as above</td>
</tr>
<tr>
<td>Self-efficacy for health promotion</td>
<td>15-item scale: scored 1- not confident at all to 4- very confident with a total range from 14-56 with higher scores indicating more confidence.</td>
</tr>
<tr>
<td>Self-efficacy for daily living</td>
<td>Modified falls efficacy scale: scored 1- not confident at all to 4- very confident, with a total range from 15-60 higher scores indicating more confidence.</td>
</tr>
<tr>
<td>Depression</td>
<td>Geriatric Depression scale: ranged from 0-15 with higher scores indicating more symptoms of depression.</td>
</tr>
<tr>
<td>Social Supports</td>
<td>Social support scale: Range of 0-24 with higher scores indicating a higher availability of social supports</td>
</tr>
</tbody>
</table>

**Main Findings:** The results of this study indicate that there was a significant relationship between functional capacity (p<.001), self-efficacy for daily activities (p<.001), self-efficacy for health promotion (p<.043), depression (p<.015) and ADL’s (p<.001) and the frequency of going outdoors. Over the 20-month span the total score in ADL’s and people going outdoors 4+ times a week had a significant difference (p<.002) compared to those who were not going outdoors and as having lower overall deterioration rates.

Table 4 shows the mean scores of ADL’s reported at each of the 3 collection times for the three point outdoor scale.

**Original Authors’ Conclusions:** That the frequency of going outdoors may be part of a multi-variate component indicator for frail elders in functional and psychosocial problems. It may also be a predictor in long-term deterioration in those not going outdoors as frequently.

**Critical Appraisal:**

**Validity:** The authors did not discuss the validity of their research. There was a bias within the study volunteers as they select participants on a vague definition of what ‘frailty’ means to themselves. There were also some limitations within this study:
- Chronic conditions were not considered as covariates in the analysis
- Participants were selected and volunteers judged them depending on “frailty”
- The frequency of going outdoors may be influenced by other factors of function such as season or culture.

**Interpretation of Results:** The authors performed a well-conducted 20-month longitudinal cohort study to demonstrate the relationship between going outdoors and the functional and psychosocial changes over time. The differences found in the total scores of ADL’s performed and the frequency of going outdoors was significant, as well as the significance in functional capacity, depression and self-efficacy of older adults. This reveals an association of going outdoors and a greater quality of life. The authors identified the limitations and that future research should look at an intervention of increasing outdoor activities and its outcomes. Overall, the results are in favour of outdoor activity in older adults and that the more they can get outdoors the more highly functional they will remain as they continue aging.

**Summary/Conclusion:** The evidence provided in this study is important because it shows that as we age it is still important to be going outdoors as it can be related to the functional and psychosocial areas of life. Although the authors did not address validity within this study, it still serves as a reliable source based on the validity of the measures used in determining that outdoor activities can help improve the quality of life in older adults.
Further research is needed with larger studies that examine the benefits of more frequent outdoor activity. Occupational therapists have specific skills in activity analysis and environmental modification which could be beneficial to this population to alter the way of doing a task to keep older adults going outdoors more frequently as they continue to age.

Table 5: Characteristics of included studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Intervention Investigated</th>
<th>Comparison Intervention</th>
<th>Outcomes Used</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inoue, K., Shono, T., Matsumoto, M. (2006).</td>
<td>To determine whether the absence of outdoor activities is associated with an increased risk of mortality among older adults living at home.</td>
<td>N/A</td>
<td>Questionnaire: Demographics, functional impairment, ADL, &amp; outdoor activities</td>
<td>Hazards ratios for mortality in the 5-years was significant in those with hearing, speech, ADL impairment &amp; absence of outdoor activities all with a p&lt;.05 significance level.</td>
</tr>
<tr>
<td>Onishi, J., Masuda, Y., Suzuki, Y., Gotoh, T., Kawamura, T., Iguchi, A. (2006).</td>
<td>To clarify what pleasurable activities older adults like to participate in and to investigate the relationship between those activities and their quality of life.</td>
<td>N/A</td>
<td>Questionnaire: demographics, pleasure taken in activities, &amp; quality of life, the PGC morale scale, &amp; a Likert scale</td>
<td>Age showed a significant negative relationship with physical exercise &amp; joining club activities.</td>
</tr>
<tr>
<td>Rantakokko, M., Manty, M., Iwarsson, S., Tormakangas, T., Leinonen, R., Heikkinen, E., Rantanen, T. (2009)</td>
<td>Study which individual characteristics &amp; environmental factors correlate with fear of moving outdoors &amp; whether fear of moving outdoors predicts development of mobility limitations.</td>
<td>N/A</td>
<td>Questionnaire examining fear of moving outdoors, mobility &amp; environmental factors. The MMSE, depression scale &amp; physical examinations.</td>
<td>A significant correlation was found that with each additional year of age increased the odds of reporting fear of moving outdoors by 7%.</td>
</tr>
<tr>
<td>Wang, Y. (2008).</td>
<td>To determine whether participation in physical activity can improve health related quality of life among older adults and to further explore the effect of different categories of physical activity on older adults health perception.</td>
<td>N/A</td>
<td>Behavioural Risk Factor Surveillance System (BRFSS), Physical activities were broken into 5 categories: Equipped Indoor Activities, Non-Equipped indoor activities, equipped outdoor activities, non-equipped outdoor activities, &amp; home activities and they</td>
<td>All 5 categories of physical activity had significant influence on how older adults perceived health (p&lt;.05).</td>
</tr>
</tbody>
</table>
IMPLICATIONS FOR PRACTICE, EDUCATION and FUTURE RESEARCH
Kono, A., Kai, A., Sakato, C., Rubenstein, L. (2007) found a significant relationship in the frequency of going outdoors and efficiency in ADL’s, functional capacity, self-efficacy for daily activities and health promotion and depression, which can all be related to the quality of life. Clinically, this suggests as occupational therapists we need to bring a focus to our practice in empowering older adults to engage in activities that get them outdoors. Occupational therapists can work with clients to explore their environment and address personal factors that may be keeping them from going outdoors. In studies done by Onishi, J. (2006) & Rantakokko,M. (2009) they both found evidence that as older adults continue to age their level of physical activity and outdoor engagement continually decrease. Occupational therapists could provide an advocacy role for neighbourhood safety if environmental modifications are not enough in some communities. All health care professions, caregivers, home health care and the clients would benefit from education in ideas to assist older adults going outdoors more, often as well as city employees to ensure that there is a safe environment to fulfill these needs (street lights, pathways, etc.). Creating a coordinated effort between caregivers, clients, and facilities could help promote and establish routines for older adults in going outdoors on a regular basis. Further research is needed to determine if it matters what types of activities older adults are engaging in while outdoors, or if it simply matters that they are getting up and going outdoors from indoors. Other research in the future could focus on chronic diseases including randomized control trials comparing those who engage in indoor activities verse those who engage in outdoor activities and potential cultural differences.

REFERENCES


