ANALYSIS OF AGE-RELATED GAIT SPEED

To the Editor: According to “The Role of Energetic Cost in the Age-Related Slowing of Gait Speed,” walking is essential to a person’s daily life because it is required when performing different activities, but older individuals often walk more slowly because of poor fitness or health. The purpose of this study was to conclude whether it is a compensation approach of older individuals to lower their energetic expenditure cost by walking slowly. This study was conducted using 420 participants with a mean age of 68.1. To find energy expenditure, which was measured per minute and per meter, a 2.5-minute walking course was set up where participants would walk at their usual speed over 6 m.

The average usual gait speed was 1.1 m/s, although the study found that usual gait speed was slower in individuals aged 65 and older. The study also found that, as age increased, so did the energy expenditure per meter walked. When graphed, energy expenditure sloped upward between the ages of 65 and 80, and the slope was even steeper after the age of 80. Results “suggest that older persons may slow down to minimize energy expenditure in the face of age-related inefficiencies that cause the cost of walking per meter to rise exponentially.”

The results of this study may be used in evidence-based practice. If it is determined that older individuals have decreased their gait speed since they have become older, it may be an indicator of another problem. In this study, comorbid ailments found in participants included heart disease, chronic bronchitis, emphysema, chronic obstructive pulmonary disease, diabetes mellitus, and osteoarthritis. It was concluded through the findings that such conditions play a significant role in slowing gait speed. These findings should result in a physician looking closely at possible ailments if it is determined that an individual’s gait speed has decreased over the years, because there could be an underlying cause.

Some limitations were discussed in this study. Before the study was conducted, participants were required to undergo a health screening to determine whether they could participate in the study. As a result, some individuals who were not healthy enough could not participate in the study. Only participants who were healthier than the general population participated in the study. Also, there is no way to determine whether the participants were walking at a constant pace during the 2.5 minutes they were being examined. This study was conducted as a cross-sectional study and might benefit more from a longitudinal study being performed. Other limitations that were not discussed in this article include using participants from a single geographical area, because some conditions may be more prevalent in certain areas, and not using participants of different ethnicities. One study used Brazilian subjects to compare the gait speeds of different ages. The results of this study were similar in that the gait speeds of the participants aged 70 and older were significantly slower than in their younger counterparts. It was evident that gait speed had an age-related decline in this study as well.

This research could be extended by performing a longitudinal study that includes participants of different ethnicities and from different geographical locations. The variations in the participants would add validity to the findings that this study would produce. There is also evidence that a change in gait speed increases the risk of falls in elderly individuals. A study to further test and validate this greater risk is necessary. Adding the implication of variation within participants would result in significant findings. “Loss of mobility with age poses a substantive threat to life quality and seriously impacts the capacity to live independently. Slow or slowing gait speed frequently precedes mobility limitations and disability.” The information provided from this study should be used in the future of health care. Because of the evidence that slowing gait speed may be a result of another health condition, physicians should be aware that patients might need further examination for other health problems. It is important to stop the slowing of gait speed because it could result in a loss of mobility and therefore a loss of independence for elderly individuals, as well as increasing their risk of falls. It is of great importance to future studies to determine how to delay or improve gait speed.

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REFERENCES


MEMO FILM PROJECT: “MAN’S MEMORY. CINEMA AGAINST THE PATHOLOGIES OF MEMORY”

To the Editor: Dementia is an important cause of disability, responsible for the loss of 11.2% of disability-adjusted life years worldwide in individuals aged 60 and older, and distressing behavioral disturbances, not solved by drugs, often accompany it. In this context, many psychosocial interventions (e.g., videobiography), addressing behavior rather than cognition, have been developed, because emotions can mediate the patient–caregiver relationship in individuals with mild and more-advanced dementia; “in spite of everything... these patients... are still able to give us a great deal” (said the daughter of our patient). Various types of art can also awaken emotions.
The Memofilm project is an innovative collaboration between health professionals and filmmakers based on the making of 10 films lasting approximately 20 minutes, constructed, screen-played, and produced for one viewer (the patient).

Each screenplay is made starting from the clinical and autobiographical material of the patient, selected by the scientific team along with relatives and reinterpreted by the directors’ creative sensibility in relation to the identified therapeutic aims (correction of specific behaviors).

The study, carried out in Bologna (in compliance with the Helsinki Declaration), involved residents of the Giovanni XXIII Institute and individuals living at home. Written informed consent was obtained. An intervention group of 10 individuals (five with Alzheimer’s disease, five with vascular dementia; two male, eight female, aged 73–95) and a control group (four with Alzheimer’s disease, six with vascular dementia; four male, six female, aged 64–93) were selected. A relative or a case manager offered participants their own film two to three times a day during 2 months. After 2 months of watching, 1 month of suspension followed. The control group received usual care. A blinded investigator performed three evaluations: at baseline, after 2 months, and after the suspension.

The sample was clinically characterized according to Cumulative Illness Rating Scale (severity 1–2.07), Clinical Dementia Rating Scale (1–4, only two cases of stage 4), Mini-Mental State Examination (range 3–27), Neuropsychiatric Inventory (NPI, range 5–52), and distress (range 2–33). A personalized situational checklist was created for each participant.

After 2 months of testing, there were greater reductions in NPI scores in intervention participants (4–94% in seven participants, two worsened, one unchanged) than in controls (6–38% in four subjects, three worsened, three unchanged). The distress of the professional case-manager or of the primary relative varied similarly, albeit not in total correspondence with NPI. In the intervention group, the reduction varied between 10% and 77% in seven of 10 caregivers (worsening in 2, no change in 1); in controls, caregiver distress decreased 17% and 29% in two cases (worsening in 4, no change in 4) (Figure 1). Considering single disorders, agitation, mood, wake–sleep rhythm, and psychosis changed more frequently than the others.

After the month of suspension, reassessment of behavioral parameters showed that three intervention participants continued to improve, versus one control. Distress improved in one intervention patient and one control.

Regarding the checklist, nine intervention participants showed some recognition of the items identified, even in presence of unchanged NPI. Participants recognized three to seven situations or objects, relatives, or health professionals with their own name. In one case, recognition of her own home interrupted the escape delusion. Incontinence (one case) and wandering (two cases) improved greatly.

Thus, the video-stimulation had a positive effect on disruptive behaviors and caregiver distress, as reported in other studies albeit without definitive conclusions.6–9

Above all, new recognition of personal situations inserted in the checklist and the satisfaction that the caregivers expressed are important.

From the professionals’ point of view, the Memofilm reinforced the knowledge of the patients’ personal history and reminded them of their past, so that the film could be useful in staff training by humanizing the disease (high tech-high touch).

Patients’ relatives are the protagonists as well; they are involved in the “writing,” and they are present in the film with images and words. The film can validate the memories of the spouse and creates a meta-scientific “sense” well perceived by the patient. So, we intervene on patients and on staff inducing positive repercussions on patient-caregiver interaction and on the satisfaction of relatives.

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The cost of each memofilm was approximately 1,000 Euro.

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REFERENCES


RELATIONSHIP BETWEEN BLOOD PRESSURE AND PHYSICAL AND COGNITIVE FUNCTION IN THE OLDEST OLD

To the Editor: Sabayan et al. demonstrated in a longitudinal study that higher systolic blood pressure (SBP) and pulse pressure (PP) were associated with lower activity of daily living (ADL) disability scores (both P = .01). Similarly, higher SBP, diastolic blood pressure (DBP), and mean arterial pressure (MAP) were associated with higher Mini-Mental State Examination (MMSE) scores (all P < .05).

The presence of vascular risk factors such as hypertension, diabetes mellitus (DM), heart disease, and smoking since middle age increase the risk of Alzheimer’s disease (AD). The relationship between blood pressure (BP) and dementia has been the subject of numerous epidemiological studies, and midlife hypertension is a risk factor for dementia and AD, but the association between BP and risk of dementia is lower in older adults. A previous study examining 2,053 individuals aged 65 and older demonstrated that the prevalence of hypertension was lower in individuals with AD (60.6%) than in those with normal cognitive function (70.5%, P = .005). In multivariate analysis, AD was found to be negatively correlated with hypertension (odds ratio = 0.649, 95% confidence interval = 0.461–0.916).4 The 96 individuals aged 85 and older were examined in a subgroup analysis of this study population. Participants were divided into three groups according to SBP level (Group 1 [110–144 mmHg], n = 55; Group 2 [147–161 mmHg], n = 18; Group 3 [162–215 mmHg], n = 23). Mini-Mental State Examination (MMSE) (P = .87) and Lawton-Brody instrumental activity of daily living (IADL) (P = .26) scores were similar in the three groups. Although the median IADL score in Group 3, the highest blood pressure group, was higher than in the other groups, this finding was not significant. The median ADL score of Group 3, the highest blood pressure group, was significantly better than others (P = .03) (Table 1). These results suggest that higher BP is associated with less physical disability at age 85. Furthermore, higher BP was not related to cognitive decline at age 85 and older.