bleeding in elderly adults with dementia (hazard ratio = 1.03, 95% confidence interval = 0.92–1.16).

CONCLUSION

Although it is plausible that ChEIs may result in peripheral cholinergic adverse events, this large population-based study found no significant association between ChEI use and upper GI bleeding in elderly adults. Lack of a significant association between ChEIs and upper GI bleeding may be because adverse GI events resulting from ChEIs are typically transient and decrease with continued use of the drugs.[10]

This study has potential limitations. First, use of administrative databases precludes the ability to capture clinically important information such as disease severity and GI pathology. Second, given the small proportion of the subjects who received rivastigmine or galantamine, the effect of individual ChEIs on upper GI bleeding could not be meaningfully compared with that of the nonuser cohort. Future research is needed to estimate the incidence of upper GI bleeding in chronic users of ChEIs and in high-risk individuals, such as those living in long-term care residences or with a history of upper GI hemorrhage.

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PREVENTING OLFACTORY DETERIORATION: OLFACTORY TRAINING MAY BE OF HELP IN OLDER PEOPLE

To the Editor: The olfactory system changes with age.[1,2] It has been reported that 50% of people aged 65 and older and more than 80% of people aged 80 and older have olfactory deficits.[1,3] Because odor identification[1,2] and sensitivity to odors[2] decrease with age, older people are more likely to be harmed by fire or poisoned by rotten food.[4,5] Previous studies have proven the usefulness of olfactory training in treating olfactory deficits with varying etiologies.[6,7] The aim of this prospective study was to examine the effect of olfactory training in older people over a period of 3 months.

MATERIAL AND METHODS

All aspects of the study were performed in accordance with the Declaration of Helsinki. The ethics board of the Faculty of Medicine of the Technical University of Dresden approved the study (protocol EK 4002009). Written informed consent was obtained from all participants.

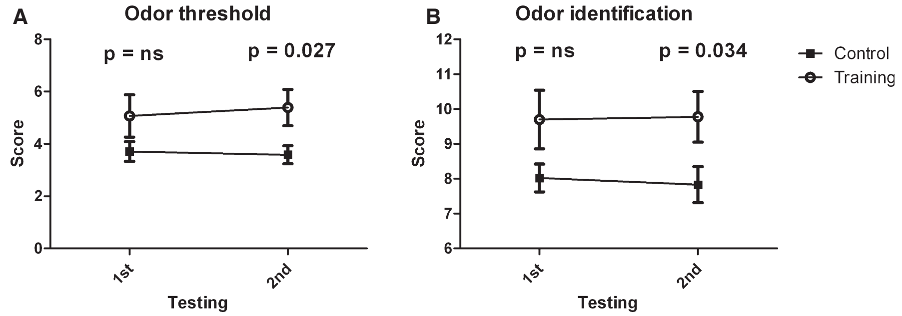

Figure 1. Olfactory training prevents deterioration of olfactory function. Olfactory test scores of the training (n = 23) and control (n = 48) groups for odor (A) threshold and (B) identification are shown. Mean scores and standard errors are plotted from both testing sessions (before and after training). Only participants who followed the olfactory training protocol as instructed were included in the training group. Scores were significantly different between the two groups for odor threshold and odor identification from the second but not the first testing session.

Ninety-one participants (64 female, 27 male; mean age 81 ± 8.6, range 55–96) with a Mini-Mental State Examination score greater than 25 points were included in the study, 43 of whom (46.7%) performed the olfactory training. They were instructed to smell four common odors two times daily (in the morning and evening) for 30 seconds each. The odors were chosen according to previous studies:[6,7] citronellal (lemon), cineol (eucalyptus), phenyl-ethyl-alcohol (PEA; rose), and eugenol (cloves). Forty-eight (52.2%) participants were in the control group. The two groups did not differ regarding mean age (training group, 80.1 ± 7.8; control group, 81.6 ± 9.3; t = 0.81, P = .42) or sex (χ^2=1.22, P = .14). The olfactory function of all participants was assessed twice at an interval of 3 months, during which the training group performed the olfactory training, using the 16-item odor identification test and the PEA threshold test from the Sniffin' Sticks battery.[8]

RESULTS

The control group did not differ from the training group in terms of olfactory function (mean olfactory threshold scores: control 3.71 ± 2.60, training group 4.20 ± 3.32; t = 0.70, P = .48; mean odor identification score: control 8.0 ± 2.8, training group 8.5 ± 3.9, t = 0.68, P = .50). A trend toward significance was observed between the two groups in odor threshold score at the second testing after 3 months (t = 1.69, P = .09). Although the olfactory function of the training group increased slightly, no significant change was seen for the odor threshold (t = 1.44, P = .16) or identification score (t = 0.41, P = .68). Olfactory function in the control group decreased slightly but not significantly. Fifty-two percent of the training group reported having followed the olfactory training protocol as instructed. This subgroup did not differ from the control group before the training in olfactory function (odor threshold score: t = 1.51, P = 0.14; odor identification score: t = 1.79, P = 0.083). After olfactory training, these two groups differed significantly in odor threshold performance (t = 2.32, P = .02) and odor identification scores (t = 2.19, P = .03) (Figure 1). No significant change was observed within the training group. Age and sex did not affect any of the comparisons mentioned above.

DISCUSSION

The effect of olfactory training was observed over a 3-month period in older people. No significant increase in olfactory function was observed in the training group. Nonetheless, the olfactory training group had significantly higher olfactory test scores after the training than the control group. Olfactory training has been shown to improve olfactory function in individuals with hyposmia.[6,7] A benefit of olfactory training for older people has been suggested,[2] but no study has previously addressed this topic. There are several possible reasons for the lack of olfactory improvement in the current study. With increasing age, the regenerative ability of the olfactory mucosa decreases, the number of mature olfactory receptor neurons decrease,[9,10] and cell turnover in the olfactory epithelium is slower.[9] Taking all this into account, the olfactory system of older people does not seem to be as plastic as that of younger people, so a longer training interval might improve the benefit of olfactory training in older people.

CONCLUSION

Although no significant improvement in olfactory function was observed, olfactory training seems to prevent olfactory deterioration that occurs with age.

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A PILOT STUDY TO EXAMINE COLORECTAL CANCER SCREENING IN TWO ASSISTED LIVING COMMUNITIES

To the Editor: Colorectal cancer (CRC) is a leading cause of cancer death.[1] Current guidelines for CRC screening recommend universal screening for adults aged 50 to 75.[1] From age 76 to 85, screening decisions should be based on health status and personal values. After age 85, screening is not recommended given lack of benefit.[1,2] Studies of adults living independently and in nursing homes have shown inappropriate CRC screening (over- and underuse) in all age ranges.[3–5] Whether CRC screening rates for individuals in assisted living (AL) communities—who are less impaired than those in nursing homes—are inappropriate is unknown. To explore CRC screening in AL, interviews and chart review of a cross-sectional sample were conducted in two AL communities in central North Carolina.

METHODS

This study included residents aged 50 to 90 recruited during summer 2012 who had no history of colon cancer or irritable bowel disease. Consent was obtained from residents or, for those with dementia, their family members. The study consisted of an interview with the resident or a family member and a review of the resident's AL site and primary care provider (PCP) chart. Subjects provided basic demographic and health information. Residents were placed into one of three health status categories using the Charlson Comorbidity Index (CCI) modified for age, as used in prior work examining the appropriateness of CRC screening.[6] Additional information included the resident's CRC screening history and the most-recent results of any colonoscopy, fecal occult blood test (FOBT), or sigmoidoscopy. CRC screening rates were compared between health status categories using the Cochran-Armitage chi-square test for trend using SAS version 9.2 (SAS Institute, Inc., Cary, NC) and Stata/SE, version 10.0 (StataCorp, College Station, TX).

RESULTS

Of 153 eligible residents, 93 (61%) participated (62% by family proxy). Based on modified CCI, 24 (26%) residents were in good health, 13 (14%) in intermediate health, and 56 (60%) in poor health. The mean age of the residents and family members was 79.2 and 58.2, respectively. Most residents were female (69%) and racially and educationally diverse (45% black, 39% some college).

Colorectal Cancer Screening History and Likelihood of Benefit

As shown in Figure 1A, 30 residents (32%) had never undergone CRC screening. There was no association between health status and having ever been screened (P = .63). Sixteen residents (17%) had had a colonoscopy, 17(18%) a FOBT, 20 (22%) both, and 10 (11%) another combination. Twenty-eight (30%) were up to date with CRC screening (Figure 1B), with those in good health significantly more likely to be up to date (P = .01), although 21% of those in poor health were up to date with screening. Most who were up to date had had a colonoscopy in the past 10 years (15/27). The two AL communities did not differ significantly in the number of residents who had ever been screened (64% vs 71%, P = .66) but differed in the number of residents up to date with screening (19% vs 39%, P = .04) and health status (74% vs 37% in poor health, P = .002).

DISCUSSION

In this pilot study, approximately half of the AL residents were no longer receiving CRC screening, and only 29% were up to date with screening, suggesting opportunities for improvement. Screening rates for the healthiest older adults (50%) were similar to rates in non-AL community-dwelling adults reported elsewhere,[3] providing evidence of underscreening. Contrary to research in other populations,[7,8] significant differences were found in screening according to health, such that healthier individuals were more likely to be up to date with screening, although 20% of those unlikely to benefit and in poor health continued to be screened, providing evidence of overscreening.

Its small sample size limited this study, and its findings are not generalizable, although sites with diverse populations were purposefully chosen to increase variability, and problems with appropriate screening were found at both sites. Other than possible regional variability, it seems likely that inappropriate rates of being up to date with screening are typical of this population. Further work