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A novel strategy to reduce dizziness

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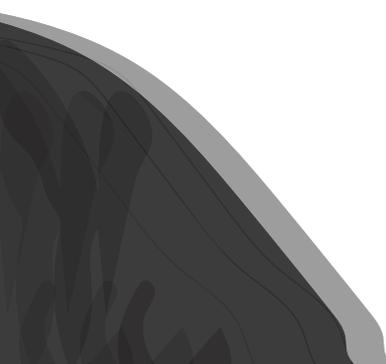
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Summary



SUMMARY

Dizziness is a common health problem in older people. Up to 30% of community dwelling people above 65 years of age experience some form of dizziness. Dizziness strongly affects daily functioning in older adults, and is associated with depression, a lower self-rated health, and reduced social activity. Older people with dizziness also have an increased risk of falling.

Most guidelines on dizziness promote a diagnosis-oriented approach, starting with a search for its cause followed by treatment once the underlying illness has been diagnosed. However, dizziness in older people is often a diagnostic challenge because it can refer to a variety of sensations and there are many potential causes. In up to 40% of older patients with dizziness physicians have difficulties in establishing a diagnosis, which might be due to the potential multifactorial origin and the broad etiologic spectrum of dizziness. Besides, if an accurate diagnosis of dizziness has been established, appropriate treatment may be lacking as is sometimes the case with polyneuropathy or orthostatic hypotension. Considering the high rate of older patients with an unknown cause of dizziness or inability to treat the cause of dizziness, a prognosis-oriented approach might add to the diagnosis-oriented approach. A prognosis-oriented approach implies that after estimating the prognosis in a specific patient, potentially modifiable risk factors for an unfavourable outcome are targeted. By doing so, older patients with dizziness can be treated without knowing the precise cause of their dizziness.

The topic of interest of this thesis is treatment of dizziness in older people in primary care. We aimed to get more insight into current management of dizziness in general practice. Furthermore, we aimed to investigate whether treatment using a prognosis-oriented approach is effective in reducing dizziness-related impairment. To be able to answer the latter question we started the Reduction Of Dizziness in older pEOple (RODEO) study, a combined cohort study and cluster randomised controlled trial.

Chapter 2 provides a qualitative analysis of older patients' experiences of living with dizziness and their wishes and expectations regarding general practitioner care for dizziness. The study revealed that older dizzy patients may not present dizziness as main reason for encounter to their general practitioner. Presenting dizziness as a secondary complaint may give general practitioners the - wrong - impression that the dizziness-related impairment

is only mild. Furthermore, knowing the cause of dizziness seemed to be important for the participants.

A retrospective database study was performed, described in chapter 3, in order to investigate the prevalence, diagnosis and current management of dizziness in general practice. Anonymised data from the database of the Academic Network of General Practice of VU University Medical Center (ANH-VUmc) were used. We found a wide variety of management strategies for dizziness in older adults and the referral rate for dizziness to specialised care was higher than reported in previous studies. Also, many older dizzy patients used at least one Fall Risk Increasing Drug (FRID) but FRID evaluation and adjustment was scarce.

In chapter 4 a risk score for identification of patients at high risk of an unfavourable course of dizziness is constructed and validated. For the construction and internal validation of the risk score we used data from the RODEO study. For the external validation we used data from an earlier study, the Dizziness In Elderly Patients (DIEP) study. The developed prediction model and accompanying risk score consisted of four predictors: the score on the screening version of the Dizziness Handicap Inventory (dizziness-related impairment), age, history of arrhythmia and looking up as provoking factor for dizziness.

In chapter 5 we investigated long-term (7 and 10 years) predictors of regular dizziness among community-dwelling older adults. Data from the Longitudinal Aging Study Amsterdam (LASA) were used for this chapter. Living alone, history of dizziness, history of osteoarthritis or rheumatoid arthritis, history of cancer, use of nitrates, presence of anxiety or depression, impaired vision, and impaired function of lower extremities predicted regular dizziness at 7-year follow-up. Ten-year predictors for regular dizziness were living alone, history of dizziness, history of cancer, use of anxiolytics, and impaired function of lower extremities.

Chapter 6 is an education article on multifactorial treatment of dizziness in older people. Chronic dizziness in older people can lead to serious impairment in daily functioning. A structured history, followed by physical examination and additional tests if necessary, can provide clues to one or more treatable contributory factors. Since chronic dizziness in the aged is often difficult to cure, the main goal of (multifactorial) therapy is to reduce dizziness and dizziness related impairment.

In chapter 7 we introduced the prognosis-oriented approach. We plea for a simultaneous diagnosis- and prognosis-oriented approach because a diagnosis-oriented approach alone may be insufficient for older patients with dizziness.

Chapter 8 describes the design of the RODEO study, a combined cohort study and a cluster randomised controlled trial (RCT). Data of the cohort study were used for the construction of the prediction model as presented in chapter 4. Data of the RCT were used to investigate the effectiveness of a prognosis-oriented approach with a multifactorial risk factor guided intervention for dizziness in older people. We included patients aged 65 years and older who consulted their general practitioner for dizziness and experienced significant dizziness-related impairment. Patients were recruited between January 2015 and July 2016 from 45 primary care practices in the Netherlands.

In chapter 9 we investigated the effectiveness of a prognosis-oriented approach for dizziness in older people. Participants were randomly assigned to the intervention group or control group. The intervention consisted of: medication adjustment in case of ≥ 3 prescribed FRIDs and/or stepped mental health care in case of anxiety disorder and/or depression and/or exercise therapy in case of impaired functional mobility. When more than one intervention was applicable, these were started simultaneously. There was a 1-year follow-up. The primary outcome was dizziness-related impairment and secondary outcome measures were quality of life, dizziness frequency, fall frequency, anxiety and depression, and use of FRIDs. Analyses showed no significant intervention effect on dizziness-related impairment and most of the secondary outcome measures. The intervention proved effective in significantly reducing the number of prescribed FRIDs. The uptake of and adherence to the interventions was significantly lower in patients eligible for ≥ 2 interventions compared to patients eligible for one intervention. Furthermore, refusal and withdrawal were significantly higher for stepped mental health care and exercise therapy, as compared to FRID adjustment.

In the general discussion (chapter 10) we reflected on the main findings of this thesis and discussed the methodological strengths and weaknesses. Furthermore, implications for future research and clinical practice were discussed.

In conclusion, this thesis contributed to the body of evidence on dizziness in older patients in primary care, including prevalence, diagnosis and current management of dizziness, predictors of dizziness, and a prognosis-oriented approach for dizziness. We also investigated the effectiveness of a multifactorial risk factor guided intervention for dizziness. We did not find any significant effects of the multifactorial intervention on the primary outcome, dizziness-related impairment, and most of the secondary outcomes. Future research should assess whether our findings can be replicated but should also focus on alternative strategies to target potential contributing factors to dizziness.