

EXAMINATION AND TREATMENT OF OLDER PEOPLE AFTER A FALL

– a health technology assessment
Summary

2012

Examination and treatment of older people after a fall – a health technology assessment; Summary
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URL: <http://www.dacehta.dk>

Key words: technology, patient, organisation, economy, health services research, health technology assessment, HTA, accidental fall, prevention, multifactorial, elderly

Language: English summary of the full report in Danish

Format: pdf

Version: 1.0

Version date: June 29 2012

Issued by: National Board of Health, Denmark, August 2012

Category: Advisory

Design of report template: National Board of Health and 1508 A/S

Layout of the report: Rosendahls-Schultz Grafisk A/S

Design and layout of front page: Wright Grafics

Electronic ISSN: 1601-586X

This report should be cited as follows:

Vind AB, Andersen HE, Damgaard K, Olsen J, Sætterstrøm B, Jørgensen T, Schwarz P

Examination and treatment of older people after a fall – a health technology assessment

Copenhagen: National Board of Health, Danish Centre of Health Technology Assessment (DACEHTA), 2012

Health Technology Assessment – funded projects 2012; 12(2)

Health Technology Assessment – funded projects: Health Technology Assessment – funded projects
Series editorial board: Mogens Hørdér, Stig Ejdrup Andersen, Diana Reerman, Line Holt

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The English summary can be downloaded at www.dacehta.dk

What is Health Technology Assessment?

Health Technology Assessment (HTA) contributes to decision making in the health care sector. A HTA collects and assess existing knowledge about a given health technology. A health technology is defined broadly as procedures and methods for prevention, diagnostics, treatment, care and rehabilitation including devices and medicine. An example could be a new method to treat patients. Focus is on healthcare, patient, organisational and economical aspects. New research can be conducted if the number of sufficient studies is limited to elucidate one or more of these aspects.

The HTA results in a report that can contribute to better planning, quality enhancement and prioritizing in the health care sector. The target group is decision-makers in the health political field. The primary users are therefore administrations and politicians and other decision-makers in the health political field. The HTA contributes to decisions within administration as well as political management as to which services should be offered in the health care sector and how they should be organized.

Health technology assessment is defined as:

HTA is a comprehensive systematic assessment of the prerequisites and consequences of applying a health technology

HTA is a research-based, application-oriented assessment of relevant existing knowledge about problem areas applying a technology within the field of health and illness.

The project is funded by a HTA-fund that was terminated in 2007. The purpose of the fund was to spread out knowledge and use of HTA locally. The funded HTA-reports are prepared in collaboration with an external interdisciplinary project group. The project group systematically reviews the existing literature, contributes with data collection and produces the chapters and conclusions of the report. The project management is placed at the National Board of Health who is also responsible for the editing of the final report. The report has been submitted to an external reference group and is also externally peer-reviewed.

Find more information about HTA at www.sst.dk/mtv under HTA toolbox:
“Handbook of Methods for Health Technology Assessment”
“Health Technology Assessment – Why? What? When? How?”

Summary

Introduction

Accidental falls are common among older people. Among home-dwelling older people one in three fall at least once a year, and the incidence of falls increases with increasing age. Approximately every second fall will result in some sort of injury, and 5 % of falls result in fractures. Falls can lead to loss of function, fear of falling, institutionalization and death. Falls can be simple trips, but often several risk factors can be identified among older people. The risk factors can solely or in combination be the cause of falls.

Different interventions to prevent accidental falls and injuries have been tested. Knowing that several risk factors for falls are often present in older people, a theory of multifactorial fall prevention emerged. An individualized intervention aimed at identifying and reducing all the risk factors present in the individual in order to reduce falls. This type of intervention involves different types of health professionals, and is time consuming, both for the individual and for the health care system.

It is important to clarify the evidence for this type of intervention. This includes the evidence for the effectiveness on fall prevention, but also on other outcomes like function, health related quality of life, cost-effectiveness. Such a clarification can form the basis when decisions on allocation of resources in the health care system are made.

Aim

The aim of this report is to describe the effect and cost of a systematic, hospitalbased multifactorial fall prevention intervention aimed at older people who are admitted to hospital or emergency room due to an accidental fall. This will be described through results of a randomized clinical trial and a literature review. The report aims to answer the following questions:

Technology:	Does identification of risk factors for falls, and targeted intervention reduce the occurrence of new falls, and maintenance of functional level among older Danes who are treated at the hospital after an accidental fall?
Patient:	What is the patient experience?
Organization:	Does organization influence effectiveness and patient experience
Economy:	What is the cost of systematic multifactorial fall prevention, and is the effort cost-effective?

Target

This report is aimed at decision makers in the health care system. Knowledge is clarified, and the report also casts light on aspects of fall prevention that requires more research. This knowledge can be used in planning of further research, by health care professionals working in the field.

Limits

This report is on systematic hospital based multifactorial prevention aimed at older people who are treated at the hospital after an accidental fall. Thus, focus is not on sin-

gle interventions like exercise, and not on interventions aimed at the whole population regardless of risk. No community based interventions are included.

Method

The literature regarding all four questions has been reviewed. A randomized clinical trial was performed, to answer questions on technology and economy, and a small questionnaire-based study was performed to get responses on patient experience.

Technology

In a randomized clinical trial, among older people with at least one accidental fall with injury, the effectiveness of multifactorial fall prevention was examined. A total of 392 older people, 65 years or older, were included. A total of 196 were randomized to intervention, which included a systematic examination by doctor, nurse and physical therapist in a falls clinic in a geriatric outpatient department and individualized intervention. There was no effect of the intervention on either falls (RR 1.06 (95 % CI 0.75-1.51), functional level, fear of falling, health related quality of life og psychological well-being. Several meta-analyses of the literature have been performed, showing effect of multifactorial fall prevention. Substantial heterogeneity is present; this regards population of study, setting for intervention and type of intervention. Participation rates of studies are not very high, and this RCT documents problems with representativity, and thereby external validity.

Patient

Patients were very satisfied with the intervention in spite of the lack of effect. In the literature facilitators and barriers for participation in fall prevention are described. Important barriers are reluctance towards participation in activities aimed at old and frail people and a fear that activities would not be adjusted to fit the individual. Facilitators are a social aspect of participation, focus on activity and function more than deficiencies, and making participation easy, through accessibility and transport.

Organization

The organization of the present project is described. The literature is reviewed for national and international experiences with fall prevention and process-evaluations from fall prevention trials. The literature is sparse. A review of the literature focusing on possible connections between organization and effect in fall prevention show no clear patterns. There is a tendency toward higher participation rates, and thus more external validity, in trials recruiting through general practice and assessment in the participants own home.

Economy

This study shows that the intervention is associated with higher costs, primarily the intervention costs of 10.600 DKR. As there was no effect on the occurrence of falls, the intervention was not cost-effective. Results of other trials are contradictory.

Synthesis

This report describes the results of a randomized clinical trial of a systematic hospital based multifactorial fall prevention aimed at older people experiencing at least one injurious fall. The intervention was not effective. The literature of multifactorial fall prevention includes metaanalyses showing effect of multifactorial fall prevention on fall rates.

Common risk factors for falls identified in the study population, as in other studies, were concerned with vision, medication and physical factors like strength and balance. As it appears that single-interventions may be as effective as multifactorial interventions for some groups of older people, it could be reasonable to focus interventions on common, and few risk factors. Multifactorial fall prevention is very time-consuming, both for the individual and for the health care system. It is important that this type of intervention is thus reserved for those most in need, for instance older people with repeated falls or syncope.

Based on the results of the present trial, and a critical review of the literature, systematic hospital based multifactorial fall prevention should not be offered to all older people with injurious falls requiring contact to the hospital.

It is our opinion that certain aspects of the evidence of multifactorial fall prevention in Denmark still need to be clarified:

Who benefits from hospital based multifactorial fall prevention, and who should be managed by primary care, and by single interventions?

We need to focus on external validity. In the planning of the trial the aim was to design an intervention that if effective, could easily be implemented in everyday care of older people. In reality the external validity was poor. First, half of all presenters to the hospital were not invited to participate due to exclusion criteria. Second, more than half of those invited did not participate, and participants and non-participants differed. So the intervention was far from daily practice. Problems with external validity are common in randomized trials, so other methods of recruiting to trials must be considered, cluster randomization could be one.

Not only research would be able to deliver more knowledge. Almost all geriatric departments in Denmark have fall clinics now. Here fragile patients with loss of function and/or repeat falls are treated. Knowledge of patients of the clinics, lack of compliance, interventions could be collected systematically, for instance through a clinical database. Audit could also be used to evaluate fall prevention activities.

Evaluation is necessary and costly. In future allocation of resources for research it must be assured that parts of the resources are spent on valid evaluation.

Disease management programs are being introduced in Denmark for a number of chronic diseases. It could be considered to make a disease management program for fall prevention, and in this process focus explicitly on where patients should be treated (primary/secondary care), and how responsibility should be shared. In line with this, criteria for stratification of patients to the various sectors should be detailed.

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