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### FALL PREVENTION FOR AN ELDERLY PERSON LIVING AT HOME

*Elderly persons have a bigger risk to fall. There are different factors on the basis of a fall. As caregiver must we work preventative, must make the patient and family aware that the risk of a fall can reduce when they change their habit, life style and make some changes in their home. The Flemish center of expertise of fall made guidelines for assist preventative working. From the Cochrane review shows that the numbers of a fall are reduced by using the guidelines.*

**Keywords:** Elderly at home/ fall risk, Flemish center of expertise of fall, guidelines for caregivers

#### **Сабіна Ванхольбеке. Профілактика падіння осіб похилого віку, що проживають у сім'ях.**

*Літні люди мають більший ризик виникнення падіння. Існують різні чинники падіння. Доглядачі повинні здійснювати профілактичні заходи, формувати у пацієнта і його родини усвідомлення того, що ризик виникнення падіння може бути зменшений за умови зміни звичок, способу життя, внесення певних модифікацій вдома. Фламандським центром експертизи розроблені спеціальні директиви з профілактики. Звіт Кохрана (Cochrane) доводить, що за умови дотримання зазначених рекомендацій ризик виникнення падіння зменшується.*

**Ключові слова:** особи похилого віку вдома / ризик падіння, Фламандський центр експертизи падіння, рекомендації для доглядатів.

**Introduction.** One in three persons older than 65 years old undergo a fall at least once a year. A fall can have a lot of effects. Not just the physical consequences but also mental and financial consequences. The most common minor injuries are tissue damage and sprain. Worse effects are head trauma and fractures, especially hip fractures. The elderly get scared, their children become worried and they prefer that their parents stay at home and sit still. They have a decline in self – confidence and less social interactions with less quality of life. The financial consequences are bigger than you expect. After a fall is it unavoidable to visit a doctor and even perhaps a stay at the hospital. (Valpreventie, 2019; Beteroud, 2019)

**Etiology.** A fall can be the consequence from different factors. There are the organic, behavior, area and socio – economic factors. The organic factors are the age of a person, the more elderly, the more there is a risk. A person with a chronic disease has also a bigger risk to fall. The physical and mental decline is also an extra change to fall. The behavior factors include few physical exercise, being inactive, having low power and wearing inappropriate shoes. Area factors are example a wet floor, insufficient lighting. Also important are the socio – economic factors as low education, low social contacts. (Valpreventie, 2019; Who.int, 2019)

**Goals.** The elderly and their family are not consciously that a fall is a problem and prevention is possible. As Caregiver it is very necessary to make the elderly and their family consciously that a fall often happens and that a fall has a negative effect. As caregiver it is important to motivate the elderly and family to start as soon as possible with prevention.

**The Flemish guidelines fall prevention.** The center of expertise fall and fracture prevention made some guidelines and recommendations for the caregiver and his patient to help reduce a fall of elderly persons.

The guidelines are based on 8 clinical and fall related questions. A workgroup made the question and a systematical search looked for evidence based answers.

The guideline contains fall prevention for elderly living at home, who are older than 65. Professionals primary care is also a focus. An efficient screening followed by a multi factorial evaluation based on the factors of fall risks and effective interventions can reduce a fall. As caregiver it is an interesting guide in the therapy with your client. (Valpreventie, 2019)

**The 8 clinical and fall related questions.** The center of expertise fall and fracture prevention work together with people from the workgroup development first line care and they created 8 clinical and fall related questions. Those questions will help to

make a guideline and reduce the numbers of fall. Every question is followed by several answers for helping a therapy plan, not just for occupational therapist but also for different professions in help care even for the family and patient self.

*The first question: What are the most important risk factors for a fall?*

They made an inventory of the most important risk factors for a fall by elderly persons living at home. There were different problems detected. Problems with the balance or mobility are predictors from fall incidents. It's important to give some exercise for training the balance. You can go for a walk on several different floors, a wet floor, stable floor, a floor with bumps. Persons with mental problems because they have dementia, depression or a delirium have also a bigger change to fall. They have less control in their step pattern. You can give them extra guiding and given some clues in their pattern of walking.



(Valpreventie,2019)

Elderly with less view have also a negative effect on their way of walking because they have problems to assess the environment. They don't see enough to avoid obstacles or they misjudge the way where they walk. Make the habit of wearing glasses when they going for a walk. Perhaps you can arrange an appointment with the eye doctor.

Orthostatic hypotension is a big risk to fall, the impact of a drop in blood pressure lead to a bigger risk to fall. Your patient must be aware that he makes transfers/movements in a slow tempo. He may not make a sudden turn or transfer.



(Valpreventie,2019)

A lot of elderly who already felt are scared to fall again and that fear can lead again to more change to fall. They must overcome their fear and rebuild their self – confidence.

When the elderly have urinary incontinence are they in a rush to get to the toilet. In their hurry is there a risk to fall. Make an appointment with the urologist or recommend some incontinence material.

Elderly with a low concentration vitamin D have also a bigger risk of fall. These are the persons who eat unhealthy, perhaps malnourished or using a lot of alcohol. When they get shots vitamin D and a healthy meal can the risk less dangerous.

Some patients have a risk behavior, they are in a hurry, don't pay enough attention while they are walking. That is also a bigger risk to have a fall. The age of a person has also an influence. Because of the aging process the physical possibilities decline. Exercise for muscle power can be an answer and help to make the risk of a fall as little as possible. Taking medication increases the chance to fall. Some medication gives directly or indirectly effects on the patient. They can become dizzy, confused or be tired. As caregiver is it important to screen the necessity of all the medication. When there is the possibility to give something else or a different therapy should this be considered.

An unsafe environment is the basic for a good prevention. As occupational therapist or another caregiver can you give advice to change the environment. Is there enough lighting, is the floor safe, are there a lot of pits in the floor, is there a stair railing, are their pets who can suddenly jump, is the toilet outdoor and in the snow dangerous to achieve ...



(Zorganderst,2019)

Wearing inappropriate shoes are also a provoking factor. Give advice to your patient to wear shoes with a closed and flat heel. (2019, Valpreventie)



(Gezondheid, 2013)

*The second question: What is the effect of a multi factorial approach on the number of incidents of fall?*

The multi factorial approach contains one or two interventions adjusted on the individual profile from the elderly . You can use the list of risk to fall mention in the first question and making with the answers a profile of your patient. Basis of that profile can you make a therapy plan.

Example: Individual program with exercises for training mobility, muscle power that the patient must do every day. Home adjustments as take away the carpets, better lighting that the family must do. You can advise for using a walking aid. There are several types of walking aids. You can recommend a walking stick, a walker, a fixed walking frame depending what's the best for your patient and his living environment. If there is not enough space for walking with al walker is it better to recommend another walking aid. (2019, Janpalfijn, 2019 valpreventie)



(2019, Thuiszorgwinkel)

The third question: What is the effect on the injury of fall?As you can read in the intro you can have damage on the tissue and sprain. Worse effects are head trauma and fractures, especially hip fractures. The mortality risk at Belgium men and women are 5 until 8 times higher after hip fracture. So it is very important to educate your patient and give him psychological help that his independent come back (Valpreventie,2019).

The fourth question: What is the best way to determine a risk to fall?The best way to determine a risk to fall is doing an investigation by professionals how many falls the patient already did in the past. Every professional who is in contact with the patient can need to report a fall. Also is it important to screen the situation of the fall. In which circumstances happened the fall?

Possible but not recommended can you advise the use of demotic. (Valpreventie,2019)

The fifth Question: What evaluation is the most designated?

The most designated evaluation is the evaluation of the risks to fall and on the basis of that evaluation you can give your patient a personal therapy. It is a task for every professional, the doctor, occupational therapist, physical therapist, nurse.

The sixth question: Which interventions are the most designated?After the list is made with the problems or risks, question 1, can you do more tests to see how bad or difficult the situation is. The most used assessment for evaluation the mobility from a patient is the Tinetti, Time up and Go (TUG).

For testing the mental situation can you take the Mini Mental State Examination (MMSE), the Montreal Cognitive Assessment (MOCA) and the Geriatric Depression Scale (GDS).

The general practitioner recommends an appointment at the hospital for one day admission for undergo these tests. The occupational therapist takes the physical test, the nurse takes the blood pressure and the doctor investigates the patient. (Valpreventie, 2019).

The seventh question is: How can caregivers take care for faithful therapy?

As caregiver is it important that you explain the issue of the therapy and that you explain the consequents of a fall. You can create a plan together who contains the priority of interventions. You can give information and advise how they can change their way of life to reduce risk of a fall.

When the elderly and their family are on motivate is it very difficult to work with and became some results.

Don't give your patient an unfeasible therapy, it is better to work in little changes at time. (Valpreventie, 2019).

The eighth question: Witch caregivers are most important for the approach to prevention?

A team from doctors, nurse, occupational therapists, physical therapist, psychologist can became the best results. One of

them can be the coordinator who organized everything. In several cases can the pharmacist, the eye doctor, podiatrist also a member of the team (Valpreventie, 2019).

**Results.** A fall is a health problem that happens a lot. The effects are big in psychical, mental, social and financial terms. Everything together leads to a low quality of life. Both personal as environmental factors play a role in the risk of a fall. Searching together for a plan that can be realized to change the way of living is necessary to reduce the numbers of a fall.

Plan in time a follow up make an evaluation and work as a team with your patient in the center.

From the Cochrane review van Gillespie shows that the number of falls are reduced. (Gillespie, 2012)

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УДК: 57.017.22: (796.0113:016.0712)- 053.5-056263(045)

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#### **ФАКТОРНА СТРУКТУРА ФІЗИЧНОГО РОЗВИТКУ, СТАТИЧНОЇ РІВНОВАГИ ТІЛА, СТАНУ БІОГЕОМЕТРИЧНОГО ПРОФІЛЮ ПОСТАВИ ТА ОПОРНО-РЕСОРНИХ ВЛАСТИВОСТЕЙ СТОПИ ДІТЕЙ 7 – 10 РОКІВ З ВАДАМИ СЛУХУ**

Представлено порівняльний аналіз факторної структури фізичного розвитку, статичної рівноваги тіла, стану біогеометричного профілю постави, опорно-ресорних властивостей стопи дітей 7 – 10 років з вадами слуху. У всіх учасників дослідження генеральний фактор вміщує показники стану біогеометричного профілю їх постави, а також оцінку його стану та інтегральну його оцінку. Фактори II «Фізичний розвиток, вертикальна стійкість тіла та параметри стопи», III «Опорно-ресорні властивості стопи» і IV «Ресорні властивості стопи» мають окремі відмінності. В залежності від віку дітей, у факторі II сконцентровано показники фізичного розвитку – у дітей 7 і 10 років або показники стану опорно-ресорної властивості стопи – у дітей 8 і 9 років. У факторі III дітей 7 і 10 років розташовано показники стану опорно-ресорної функції стопи, а у дітей 8 і 9 років – показники фізичного стану. Натомість, показники стану опорно-ресорної функції стопи відокремилися у факторі IV у дітей 8, 9 і 10 років, а у дітей 7 років – показники фізичного розвитку.

**Ключові слова:** школярі, вади слуху, адаптивне фізичне виховання, морфологічні особливості, факторний аналіз.

**Афанасьев С.Н., Родименко И.Н., Бурдаев К.В., Факторная структура показателей физического развития, статического равновесия тела, состояния биометрического профиля осанки и опорно-рессорных свойств стопы детей 7 - 10 лет с нарушением слуха.** Представлен сравнительный анализ факторной структуры физического развития, статического равновесия тела, состояния биометрического профиля осанки, опорно-рессорных свойств стопы детей 7 - 10 лет с нарушением слуха. У всех участников исследования генеральный фактор вмещает показатели состояния биометрического профиля их осанки, а также оценку его состояния и интегральную его оценку. Факторы II «Физическое развитие, вертикальная стойкость тела и параметры стопы», III «Опорно-рессорные свойства стопы» и IV «Рессорные свойства стопы» имеют отдельные отличия. В зависимости от возраста детей, в факторе II сконцентрированы показатели физического развития - у детей 7 и 10 лет или показатели состояния опорно-рессорного свойства стопы - у детей 8 и 9 лет. В факторе III детей 7 и 10 лет расположены показатели состояния опорно-рессорной функции стопы, а у детей 8 и 9 лет - показатели физического состояния. Зато, показатели состояния опорно-рессорной функции стопы отделились в факторе IV у детей 8,9 и 10 лет, а у детей 7 лет - показатели физического развития.

**Ключевые слова:** школьники, нарушение слуха, адаптивное физическое воспитание, морфологические особенности, факторный анализ.