Chapter 8

Valorisation

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Prevention of pressure ulcers in nursing homes. A big challenge
Valorisation

In this chapter, the findings of this thesis on the use and efficacy of pressure ulcer preventive measures in nursing home residents and their societal value are addressed. Consecutively, the analysis of used pressure ulcer preventive measures over the years, the effect of static air mattresses on the development of pressure ulcers, the effect of a newly developed simple 3-step PU preventive protocol and the PU preventive effect of a newly developed pressure/shear relieving and microclimate regulating system are described. This chapter ends with a short description of the dissemination of the results of this thesis.

Pressure ulcers (PUs) are often painful, sometimes smelling and causing great discomfort in nursing home residents. In addition, they may lead to loss of social participation and quality of life. Moreover, the treatment of PUs is associated with high costs. Therefore, optimal PU prevention is of utmost importance.

Currently, extensive and voluminous (inter)national guidelines are available to target adequate pressure ulcer prevention in different health care sectors, including the nursing home sector. However, the problem of these voluminous guidelines, containing a bulk of recommendations on skin care, PU risk assessment, pressure relieving measures and nutritional care, is that most of the recommendations lack sufficient evidence. Unknown, for instance, is the contribution of each specific PU preventive measure on the incidence of PUs. The same counts for what the optimal combination of PU preventive measures is. Moreover, in daily practice, these guidelines are often insufficiently implemented and difficult to understand and follow for health care professionals. The results of this thesis confirmed the incomplete use of PU preventive measures in nursing homes over the years, probably because of an insufficient implementation and lack of awareness.

An adequate strategy to improve daily PU care might be to provide professionals with a more feasible, easy to understand and user-friendly PU prevention protocol. In this thesis an easy to follow 3-step PU prevention protocol is introduced, that shows a clearly and sustainable PU reducing effect.
This 3 step protocol involves:
Step 1: The resident receives a standard visco-elastic mattress, without repositioning;
Step 2: The resident who develops signs of a possible category 1 PU (non-blanchable redness) receives a static air overlay (on top of the visco-elastic foam mattress), again without repositioning;
Step 3: The resident who still develops a PU is repositioned every 3 hours during the day and every 4 hours during the night.

Alongside the positive outcome of using this new 3 step PU prevention protocol, the results of the thesis also confirm the usefulness of additional static air mattresses on top of a regular mattress and the positive effect of using a more tailored approach regarding repositioning because these effects also may involve a positive effect on the well-being of the residents and a reduction of the costs. Therefore, the new 3 step protocol deserves broader dissemination and implementation. Subsequently a broader and more in-depth scientific evaluation of the added value of this protocol for the nursing home sector should be done. In the future, it can also be assessed, whether there is room for relevant additional steps, taking into account that this requires a thorough evidence base and that preservation of the feasibility and resident friendliness remains necessary. One might think about a step related to preserving tissue viability by adequate skin care and/or nutritional care, or by incorporating the use of even better PU preventive mattresses/materials. Referring to the last issue, the study in this thesis about the PU preventive effect of a newly developed pressure/shear relieving and microclimate regulating system offered no reason for incorporation.

Two studies in this thesis also show the benefits of the Dutch National Prevalence Measurement of Care problems (LPZ) as executed by Maastricht University. Participating in this measurement offers considerable advantages for the participating health care organisations, including nursing homes, because it offers them reliable benchmark information, it may increase awareness among professionals and it provides relevant data for research.

The quality of care for nursing home residents may profit from research done in this target group. Until recently, nursing home residents often were excluded from clinical studies because of their heterogeneous profile, characterized by multi-morbidity, considerable handicaps and polypharmacy. This is also reflected by many of the current guidelines, including the guidelines on PU care, which mostly incorporate recommendations derived from studies in other target groups
that cannot be extrapolated directly to the target group of nursing home residents. Therefore it is important that the studies of this thesis clearly show that research in nursing home residents is possible and this should be taken into account when developing future research programs in frail and disabled older persons. This will also enable the development of specific guidelines for the nursing home population.

In addition, future PU research should focus more on evaluating relevant guideline implementation strategies. Next to this, many of the current PU preventive measures need a more evidence base in both overall clinical practice and more specifically in the nursing home sector. This not only counts for specific PU preventive measures like repositioning and the use of a variety of mattresses and microclimate influencing materials but also for the target group related search for the adequate combination of PU preventive measures. The problem however is that this will require a large number of adequately conducted RCTs, which is very expensive and challenging... An interesting option might be the development of a continuous database about the use and efficacy of PU preventive measures in daily practice.

**Dissemination**

Next to their scientific value, the results of this thesis can be used to additionally raise the awareness for the problem of pressure ulcers in nursing homes. The outcomes of the studies were and will be presented on different congresses and symposia and will be used in the development of educational programs for the nursing staff and other nursing home professionals, including nursing home physicians, and paramedical staff.
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