Physical activity, prevention of functional decline and support of mobility in older hospitalized patients

A Literature Review

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Background

- The number of old aged patients in acute hospital care is constantly increasing
- Older hospitalized patients are prone to
  - decline of physical activity
  - incremental decrease of functional status
  - loss of independence
- Risk of
  - nursing home admission
  - hospital readmission

(German parliament 2010, German census bureau 2010, 2011, 2012)
Purpose of the systematic review

- Reviewing the body of knowledge on
  - prevention of functional decline
  - sustaining mobility
  in older patients

- Nurses’ knowledge regarding
  - assessment of risk of functional decline
  - preservation of functional status
  in older patients
Search Strategy

Medline via PubMed, CINAHL and Cochrane

MeSH-terms and keywords, English and German, all study designs, publication period of last 35 years

Hand search in three German nursing journals and citation tracking

AWMF, DNQP, NICE, AHRQ guidelines

German Network for Quality Development in Nursing (DNQP)
Records identified through database searching (n = 128)

Additional records identified through other sources (n = 26)

Records after duplicates removed (n = 187)

Abstracts screened (n = 88)

Records excluded (n = 52)

Full-text articles assessed for eligibility (n = 36)

Full-text articles excluded (n = 15)

Studies included (n = 21)

Reasons for exclusion:
- Prevention of fall / pressure ulcer
- Rehabilitation, Home Care

Results

21 papers were included

Countries of origin:
Germany (n=6) The Netherlands (n=1)
Great Britain (n=1) United States of America (n=10)
Sweden (n=2) Australia (n=1)

Data extraction

<table>
<thead>
<tr>
<th>Reference / Year</th>
<th>Country</th>
<th>Design</th>
<th>Setting</th>
<th>Participants</th>
<th>Intervention</th>
<th>Nurse Knowledge</th>
<th>Risk-Assessment</th>
<th>Prevention of functional decline</th>
<th>Sustaining of mobility</th>
<th>Care dependency</th>
<th>Comments</th>
</tr>
</thead>
</table>
Results

Reviews n=2

Included 9 RCTs comparing exercise in older hospitalized patients to alternate or no treatment in functional ability. Exercises within multidisciplinary interventions increase mobility level in older hospitalized patients (DeMorton 2007)

Included 22 RCTs comparing comprehensive geriatric assessment (CGA) with standard care in hospital. More patients return home and fewer suffer death in CGA vs. standard care (Ellis 2011)
Results

RCT n=1

Evaluate a multifaceted transitional care intervention comparing individual training program and follow up care with home visits and telephone after discharge vs. standard care

Significant benefits in improved functional ability, independence and in walking ability

(Courtney 2012)
Results

Observational studies n=11

Measure of steps and gait speed shows 2000 steps/24h and 80 minutes/24h activity. Strong association between gait speed and length of stay (Ostir 2012, 2013)

Measure of activity presents 83% of hospital stay lying in bed and 43 minutes standing and walking per day (Brown 2009)

Shadowing Nurses and patients appear low mobility duration limited to standing, transferring and walking to/from bathroom often initiated by patients (Doherty-King 2014)
Results

Observational studies n=11 (cont.)

Older Patient on risk of functional decline can be identified with a four questions Scorecard “Identification of Seniors at Risk-Hospitalized patients” ISAR-HP (Hoogerduijn 2012) or with an assessment addressing seven risk factors (Mehta 2011)

Low mobility is a risk factor for adverse outcomes like care dependence, mostly in mobility, dressing and self care (Brown 2004, Mertens 2002)

Staff behavior may influences mobility in a positive or negative way and might be changed with special program to support more mobility (Barton 1980, Baltes 1992, 1994)
Results

Qualitative studies n=7

Multiple factors influence nurses decision for mobilization, purpose for mobilizing influence patients decision (Doherty-King 2011). Environment factors also can be seen as barriers (Brown 2007). Patient as expert of her/his skills is often unused in the patient-nurse-interaction (Hoben 2011, Zündel 2011).

Lost of mobility and care dependence is a process in five steps (Zegelin 2005). For patients and nurses care dependence is a burden and a dilemma in the decision to support to less or to much (Erikson 2008, Strandberg 2002).
Conclusion

Nurses have knowledge about
– consequences of decreased mobility
– interventions to prevent
– evaluation of risk factors

Special activity programs have
– potential for improvement to enhance mobility
– potential to preserve older patients’ mobility
Conclusion

Mobilization is affected by
− nurse’s decision process and the barriers
− mobility offers
− supportive staff behavior
− activity duration
− different performance levels

Not much is known how patients and nurses in acute setting perceive the phenomenon physical activity in the daily interaction.
Goal:
- to generate a better theoretical understanding of physical activity in acute hospital
- to explore the need for intervention development

Research question:
*How do older patients and nurses experience physical activity during nursing situations in acute hospitals?*
Research in Progress

Method:

– Phenomenological-hermeneutic Approach

– Observation of nurse/patient interaction in acute Hospital and Focus-orientated Interviews (Merton, Fiske & Kendall 1990)

– Interpretative Phenomenological Analysis (Smith, Flowers & Larkin 2012)
Thank you for your attention!