Effects, barriers and facilitators in pre-discharge home assessments: An integrative review.

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**Background & Aims**
Pre-discharge home assessments (PDHA) are often performed by Occupational Therapists (OTs) to ensure safe discharge from hospital or rehabilitation to the discharge destination. There is insufficient evidence on the effectiveness of PDHA, and the factors that might influence the effectiveness of PDHA interventions from the viewpoint of the patients, families and healthcare providers are unknown.

Aims were:
- Determine the effects of PDHA on outcomes associated with a successful return to community living (e.g. Instrumental Activities of Daily Living or adverse events)

**Methods**
Systematic database search (Medline, EMBASE, CINAHL, five further databases) was conducted using the following inclusion criteria:
- Individual or cluster randomised (RCT / CRT) and controlled clinical trials
- Comparison of PDHA with usual care / other intervention
- Qualitative / mixed methods studies on PDHA
- Adults with any diagnose (for RCTs) / adults with any diagnose and all potential stakeholders involved in PDHA (for qualitative studies).

**Data Analysis:**
- Meta-analysis of effects of PDHA vs. usual care; GRADE approach was applied to rate the quality of evidence
- Thematic synthesis of qualitative studies and integrative synthesis of quantitative and qualitative data

**Results**

**Included studies**
Reviewed Inclusions:
- 7 RCTs (n=1072, range 10 to 400 per study) on patients with musculoskeletal, geriatric, hip-fracture, unspecified from acute care / rehabilitation
- 10 qualitative studies (n=245, range 4 to 60 per study) on patients (geniatric, stroke, mixed) and health care providers, recruited in acute care / rehabilitation / community

**Facilitators and Barriers**
Facilitators and barriers were inferred from and identified by people’s views found in the following analytical themes:
- Safety at home
- Patients’ and family carers’ conceptions regarding home modification and aids
- Patients’ and family carers’ ability to visualize home modifications and aids
- Patient information about the home assessment procedure
- Meaningful activities for functional self assessment
- Patient conditions (concerning impairment, skills, social factors)

**Implications for interventions**
From analytical themes, barriers and facilitators, seven implications for intervention development were derived (see Table 1).

**Effectiveness of PDHA vs. usual care**
Seven RCTs reported on 17 different outcomes with a wide range of outcome measures. Meta-analysis could be performed for 8 outcomes with moderate to very low quality of evidence. IADL was most often reported [6 studies]. There was no statistical significant effect in 7 outcomes but a benefit was found in a reduction in fear of falling, although the quality of evidence was very low.

**Integrative synthesis: implications addressed by RCTs**
Three implications were addressed. 3 out of 7 RCTs reported on 1 implication and 1 RCT reported on 3 implications.

<table>
<thead>
<tr>
<th>Implication</th>
<th>Low risk of bias studies* addressing implications</th>
<th>Other studies** addressing implications</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Provide education about environmental hazards in an appropriate manner.</td>
<td>Nikolaidis et al., 2003</td>
</tr>
<tr>
<td>2</td>
<td>Provide tailored adaptations based on explicit patient ideas / solutions and expectations in planning home modifications and adaptations of aids and provide the patient with advice on alternative solutions.</td>
<td>not identified</td>
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<tr>
<td>3</td>
<td>Consider needs of family members and friends in home modifications.</td>
<td>not identified</td>
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<td>4</td>
<td>Use 3D applications to visualize and discuss modifications (if this method is appropriate for patients).</td>
<td>Threapleton et al., 2018</td>
</tr>
<tr>
<td>5</td>
<td>Provide adequate verbal and written patient information about aim, process, assessment, results and consequences.</td>
<td>not identified</td>
</tr>
<tr>
<td>6</td>
<td>Involve meaningful for patients in PDHA to enhance patient's functional self assessment.</td>
<td>not identified</td>
</tr>
<tr>
<td>7</td>
<td>Include patients level and kind of impairments, diagnoses and availability of supportive network in decision making if and what kind of pre-discharge home assessment shall be performed.</td>
<td>not identified</td>
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*Studies were considered as being low risk, if there was no risk of selection bias and no high risk of bias in any other bias section
**Studies were considered as “other” if there was unclear / high risk of selection bias or high risk of bias in any other bias section

**Conclusions**
This systematic review shows a very low quality of evidence that PDHA reduces fear of falling and a moderate to very low evidence that PDHA might have no impact on risk of readmission to hospital, risk of falling, level of performance of Activities of Daily Living, mobility or Quality of Life. Implications for PDHA interventions were derived from views of patients, caregivers, and health care professionals. Only a few studies reported on few implications for interventions. Future PDHA interventions should be planned carefully on an MRC framework basis and should consider implications from the users’ views. Future studies should report sufficiently and provide sufficient statistical power to enrich quality of evidence in effectiveness.

**Study registered on PROSPERO (CRD42018100636).**