# Supplemental materials for:

Khanassov V, Vedel I. Family physician-case manager collaboration and needs of patients with dementia and their caregivers: a systematic mixed studies review. *Ann Fam Med.* 2016;14(2):166-177.

## Supplemental Appendix 1.

Search strategy in PsycINFO

*Needs assessment of caregivers and/or patients with dementia*

Database: PsycINFO <1967 to September Week 3 2014>
Search Strategy:

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1 needs/ or health service needs/ or psychological needs/ or need satisfaction/ or needs assessment/ or special needs/
2 need? assessment?.mp.
3 ((need? or burden) adj (assessment? or estimat* or evaluat* or analys*)).ti,ab.
4 ((need? or burden) adj1 (instrument? or scal* or survey* or measur* or inventor* or questionnaire? or interview*)).ti,ab.
5 ((caregiver* adj1 need?) or (patient? adj1 need*)).ti,ab.
6 1 or 2 or 3 or 4 or 5

7 dementia/ or aids dementia complex/ or dementia with lewy bodies/ or presenile dementia/ or semantic dementia/ or senile dementia/ or vascular dementia/ or alzheimer's disease/ or cognitive impairment/ or corticobasal degeneration/ or creutzfeldt jakob syndrome/ or melas/ or neurodegenerative diseases/ or neurofibrillary tangles/ or parkinson's disease/ or picks disease/ or pseudodementia/ or senile plaques/
8 exp Cognitive Impairment/
9 ((cognit* adj1 disorder?) or (cognit* adj1 impairment?)).mp.
10 (dementia? or alzheimer*).mp.
11 7 or 8 or 9 or 10

12 6 and 11
13 limit 12 to (english or french or russian)

*Case management of dementia in Primary care*

Database: PsycINFO <1967 to September Week 3 2014>
Search Strategy:

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1. dementia/ or aids dementia complex/ or dementia with lewy bodies/ or presenile dementia/ or semantic dementia/ or senile dementia/ or vascular dementia/ or alzheimer's disease/ or cognitive impairment/ or corticobasal degeneration/ or creutzfeldt jakob syndrome/ or melas/ or neurodegenerative diseases/ or neurofibrillary tangles/ or parkinson's disease/ or picks disease/ or pseudodementia/ or senile plaques/
2. exp Cognitive Impairment/
3. ((cognit* adj1 disorder?) or (cognit* adj1 impairment?)).mp.
4. (dementia? or alzheimer*).mp.
5. 1 or 2 or 3 or 4

6. exp Disease Management/
7. exp Case Management/
8. treatment planning/
9. ((care adj coordinat*) or (care adj manag*) or (case adj manag*) or (critical adj pathway?) or (clinical adj pathway?)).mp.
10. (patient? adj1 (planning or management)).mp.
11. 6 or 7 or 8 or 9 or 10

12. exp Primary Health Care/
13. family physicians/ or family medicine/ or general practitioners/
14. ((family adj1 practi*) or (general adj1 practi*)).mp.
15. ((family adj1 physic*) or (general adj1 physic*)).mp.
16. (family nurs* or communit* nurs*).mp.
17. exp Home Care/
18. communit*.mp.
19. (primary adj1 care).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
20. 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19
22. 5 and 20 and 21
23. limit 22 to (english or french or russian)

## Supplemental Appendix 2.

### Table 1.1. Characteristics of Included Non-Randomized Studies on the Needs of Patients With Dementia and Their Caregivers

| Author, Year, Country | Characteristics of Study | | Characteristics of Sample | | | | Quality Appraisal |
|---|---|---|---|---|---|---|---|
| | Setting of Recruitment | Method of Data Collection | Number of Participants | Age of Participants | Sex of Participants[a] | Diagnosis and Severity of Dementia | |
| Johnston, 2011, USA[1] | List of individuals participated in a demographic study | Assessment by clinicians after in-home visit | P: 29<br>C: 18 | P: 85.4±5.2<br>C: No data | P: 47<br>C: No data | Dementia and MCI, mild | 3 |
| Cammissaris, 1995, Netherlands[2] | Memory clinic, mental health institute | Structured questionnaire | P: 26<br>C: 26 | P: 70<br>C: 68 | P: 34.6<br>C: 69.2 | AD,<br>VD | 2 |
| Mirando – Castillo, 2010, UK[3,4] | Health and social services, voluntary organizations | Semi-structured interview using questionnaire | P: 152<br>C: 128 | P: 81.7±5.9<br>C: 54.3±7.5 | P: 76<br>C: 86.7 | Dementia, moderate | 3 |
| Der Roest, 2009, Netherlands[5] | Alzheimer's café, memory clinic, support center, daycare | Semi-structured interview using questionnaire | P: 236<br>C: 322 | P: 79.8±7.6<br>C: 65.4±14.1 | P: 54.8<br>C: 68.6 | AD – 51.4%,<br>VD – 17.7%,<br>Mixed dementia – 17.7%; mild-moderate – 53.8%. | 4 |
| Rosa, 2010, Italy[6] | Memory clinic | Structured questionnaire | P: 112<br>C: 112 | P: 80±8<br>C: 55±10 | P:<br>C: 69 | Dementia, moderate-severe | 4 |
| Hirakawa, 2011, Japan[7] | Health care centers | Structured questionnaire | P: 475<br>C: 475 | P: 81.2±8.7<br>C: 64.9±12.2 | P: 53.5<br>C: 77.1 | Dementia, mild | 3 |
| Philp, 1995, UK[8] | Primary health care, psychiatric services | Unstructured questionnaire | P: 113<br>C: 113 | P: 80.7<br>C: 59.2 | P: 86<br>C: 64 | Dementia | 3 |
| Meaney, 2005, Ireland[9] | Community psychiatric outpatient clinic | Structured questionnaire | P: 82 | P: 76±7.8 | P: 67 | Dementia, moderate | 2 |
| Black, 2013, USA[10] | Community services, mailed letters, via media | Assessment by clinicians after in-home visit | P: 254<br>C: 246 | P: 83.6±5.9<br>C: 66.1±13.3 | P: 65<br>C: 74.8 | Dementia and MCI, moderate | 4 |
| Wolfs, 2010, Netherlands[11] | Memory clinic, outpatient facility, community mental health service | Semi-structured telephone interview | P: 252<br>C: 252 | P: 78.6±8.0<br>C: 61.9±12.9 | P: 58.7<br>C: 62.7 | AD – 57.6%,<br>VD – 9.6%,<br>Other – 24.3% | 3 |

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|---|---|---|---|---|---|---|---|
| | | | | | | MCI – 38.7%; mild. | |
| Li, 2011, USA[12] | Research centers, outpatient clinics, caregiver support groups | Telephone interview questionnaire | P: No data<br>C: 109 | P: 78.4±7.7<br>C: 66.6±13.6 | P: 48.6<br>C: 78.9 | AD | 2 |
| Leggett, 2010, USA[13] | From previously conducted web-based survey | Web-based questionnaire | P:<br>C: 611 | P: 75.1±8.5<br>C: 56.3±11.8 | P: 38<br>C: 87 | Lewy Body dementia | 3 |

AD = Alzheimer's disease; C = caregiver; EOD = early onset of dementia; FTD = frontotemporal dementia; MCI = mild cognitive impairment; P = patient; VD = vascular dementia.

[a] Percentage of female.

## Table 1.2. Characteristics of Included Quantitative Descriptive Studies (Surveys) On the Needs of Patients With Dementia and Their Caregivers

| Author, year, country | Characteristics of study | | Characteristics of sample | | | | Quality appraisal |
|---|---|---|---|---|---|---|---|
| | Setting of recruitment | Method of data collection | Number of participants | Age of participants (mean ± SD) | Sex of participants[a] | Diagnosis and severity of dementia | |
| Nurock, 2007, UK - Poland[14] | Consumer network | No data | C: 94 | C: 69 | C: 74 | Dementia | 0 |
| Li, 2012, USA[15] | Random-digit dial method | No data | C: 208 | C: 49.7±15.5 | C: 57.7 | Dementia | 3 |
| Rosness, 2012, Norway[16] | Community services | Mailed survey | C: 45 | No data | C: 68.9 | AD – 60%, FTD - 24%, VD – 7%, other dementias – 11% | 2 |
| Wackerbarth, 2002, USA[17] | Daycare | Mailed survey | P: 128<br>C: 128 | P: 78.5<br>C: 58.7 | P: 75.6<br>C: 74.6 | Dementia | 3 |
| Georges, 2008, Germany – UK – France – Poland – Spain - Luxembourg[18] | Mailing list | Mailed survey | C: 1181 | P: 87% over 66<br>C: 65% over 55 | C: 67 | AD – 74%, VD – 11%; mild-moderate – 46%, late-severe – 26% | 2 |
| Judge, 2011, USA[19] | Direct referral and electronic medical records | In-person | P: 93<br>C: 90 | P: 80<br>C: 69.2 | P: 5.4<br>C: 92.2 | Dementia | 3 |
| Lai, 2007, Hong Kong[20] | Community services | Mailed and in-person | C: 144 | C: 44% between 25 and 44 | C: 63 | Dementia | 3 |
| Armari, 2013, Australia[21] | Public symposium | In-person | P: 18<br>C: 39 | P: 59.13<br>C: 53.13 | P: 55.6<br>C: 61.5 | EOD: AD – 77.8%, FTD – 7.7%. | 2 |
| Chow, 2011, Canada[22] | Mailing list | Online survey | C: 79 | C: 58 (median) | C: 59 | FTD | 3 |
| Chung, 2007, Hong Kong[23] | List of patients from Alzheimer's Disease association, memory clinics, daycare centers | Semi-structured interview | P: 197 | P: 77 | P: 64 | Dementia: early stage – 36%, middle stage – 51%, late stage – 13%. | 3 |
| Hinton, 2006, USA[24] | Prospective cohort on dementia | In-person | P: 38<br>C: 38 | P: 74.9±7.7<br>C: 59.7±17.4 | P: 52.6<br>C: 71.1 | Dementia | 3 |

AD = Alzheimer’s disease; C = caregiver; EOD = early onset of dementia; FTD = frontotemporal dementia; MCI = mild cognitive impairment; P = patient; VD = vascular dementia.

[a] Percentage of female.

## Table 1.3. Characteristics of Included Qualitative Studies On the Needs of Patients With Dementia and Their Caregivers

| Author, year, country | Characteristics of study | | | Characteristics of sample | | | | Quality appraisal |
|---|---|---|---|---|---|---|---|---|
| | Study design | Setting of recruitment | Method of data collection | Number of participants | Age of participants | Sex of participants[a] | Diagnosis and severity of dementia | |
| Gorska, 2013, UK[25] | Qualitative descriptive<br>Thematic analysis | Health, social services, voluntary sector | Semi-structured individual interview | P: 20<br>C: 13 | P: 84<br>C: 65 | P: 92<br>C: 74 | AD – 50%, VD – 15%, mixed – 5%, other dementias – 30%; mild (40%) - moderate (25%). | 3 |
| Flynn, 2013, Ireland[26] | Qualitative descriptive<br>Thematic analysis | Alzheimer's society | Semi-structured individual interview | C: 7 | C: 71% between 56-65 | C: 29 | EOD | 3 |
| Bakker, 2010, Netherlands[27] | Single case study<br>Thematic analysis | Randomly from previously conducted study | Semi-structured individual interview | P: 1<br>C: 1 | P: 59<br>C: No data | P: 0<br>C: No data | EOD,<br>AD; severe | 3 |
| Mushi, 2014, Tanzania[28] | Qualitative descriptive<br>Thematic analysis | No data | Semi-structured paired and individual (with caregivers) interviews | P: 25<br>C: 16 | P: 84 (median)<br>C: No data | No data | Dementia | 3 |
| Nichols, 2013, USA - Canada[29] | Qualitative descriptive<br>Thematic analysis | Self-identification by caregivers | Focus group interview via skype/phone | C: 14 | C: 11-18 (range) | C: 71 | FTD | 3 |
| Qadir, 2013, Pakistan[30] | Qualitative descriptive<br>Thematic analysis | Psychiatric outpatient department | Semi-structured individual interview | P: 12<br>C: 12 | P: 55-90 (range)<br>C: 19-47 (range) | P: 33<br>C: 58 | AD – 75%, VD – 8%, other dementias – 17%. | 3 |
| Tasc, 2012, Turkey[31] | Qualitative descriptive<br>Thematic analysis | Outpatient neurology clinic | Focus group interview | C: 8 | C: 48.87±11.37 | C: No data | Dementia | 1 |

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|---|---|---|---|---|---|---|---|---|
| Vaingankar, 2013, Singapore[32] | Qualitative descriptive Thematic analysis | Outpatient clinics, voluntary sector, social services | Semi-structured individual interview | C: 63 | P: 54-93 (range)<br>C: 52.9 | No data | Dementia | 3 |
| Bowes, 2003, UK[33] | Multiple case studies Thematic analysis | Health services working with ethnic minority | Semi-structured individual interview | P: 4<br>C: 4 | No data | No data | Dementia | 3 |
| Lin, 2004, USA[34] | Qualitative descriptive Thematic analysis | Home care agency | Semi-structured individual interview | P: 4<br>C: 4 | P: 80-90 (range)<br>C: 36-62 (range) | P: 100<br>C: 75 | AD | 3 |
| Kuhn, 1998, USA[35] | Qualitative descriptive Thematic analysis | No data | Semi-structured individual interview | P: 20<br>C: 20 | P: 70<br>C: 66 | P: 65<br>C: 55 | AD; mild. | 2 |
| Shaji, 2003, India[36] | Qualitative descriptive Thematic analysis | Rural community care services | Semi-structured individual interview | P: 33<br>C: 33 | No data | P: 76<br>C: 60 | AD | 3 |
| Samsi, 2014, UK[37] | Qualitative descriptive Thematic analysis | Outpatient memory services | Semi-structured individual interview | P: 27<br>C: 26 | P: 80±5<br>C: 80±1 | P: 52<br>C: 77 | 78% - dementia, 22% - MCI. | 4 |
| Singh, 2014, Australia[38] | Qualitative descriptive Thematic analysis | Health centers | Semi-structured individual interview | C: 17 | C: No data | C: 88 | Dementia | 3 |
| Smith, 2001, USA[39] | Ethnography Thematic analysis | Rural community services | Semi-structured individual interview | P: 45<br>C: 45 | P: over 75<br>C: 65-75 (range) | P: 49<br>C: 87 | AD, 22% - early stage, 47% - moderate stage, 24% - late stage. | 3 |
| Smith, 2011, Australia[40] | Qualitative descriptive Thematic analysis | Various health services | Semi-structured individual interview | C: 13 | No data | No data | Dementia | 3 |
| Chan, 2010, | Phenomenology | Community | Semi- | C: 27 | P: 78 (median) | P: No data | Dementia | 3 |

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|---|---|---|---|---|---|---|---|---|
| China[41] | Thematic analysis | rehabilitation network | structured focus interviews | | C: 52 (median) | C: 78 | | |
| Innes, 2005, UK[42] | Qualitative descriptive<br>Thematic analysis | Voluntary rural services | Semi-structured individual and focus interviews | P: 15<br>C: 16 | P: 78% between 70-89<br>C: 73% between 50-79 | P: 52<br>C: 73 | Dementia | 3 |
| Holst, 2003, Sweden[43] | Hermeneutic approach<br>Thematic analysis | Psychogeriatric outpatient clinic | Semi-structured individual interview | P: 11 | No data | No data | Dementia | 3 |
| Gilmore, 2005, New Zealand[44] | Qualitative descriptive<br>Thematic analysis | No data | Semi-structured individual interview | P: 9 | P: 56-79 (range) | P: 44 | AD<br>VD | 2 |
| Marzanski, 2000, UK[45] | Qualitative descriptive<br>Thematic analysis | Psychiatric outpatient clinic | No data/unclear | P: 30 | P: 81 | P: 67 | AD – 37%, VD – 30%, other dementias – 33%; moderate. | 1 |
| Wuest, 2010, USA[46] | Grounded theory<br>Continuous comparative analysis | Agency referral and snowball | Semi-structured individual interview | C: 15 | No data | C: 73.3 | Dementia | 3 |

AD = Alzheimer’s disease; C = caregiver; EOD = early onset of dementia; FTD = frontotemporal dementia; MCI = mild cognitive impairment; P = patient; VD = vascular dementia.

[a] Percentage of female.

**Table 1.4.** Characteristics of Included Mixed Methods Study On the Needs of Patients With Dementia and Their Caregivers

| Author, year, country | Characteristics of study | | | Characteristics of sample | | | | Quality appraisal |
|---|---|---|---|---|---|---|---|---|
| | Study design | Setting of recruitment | Method of data collection | Number of participants | Age of participants | Sex of participants[a] | Diagnosis and severity of dementia | |
| Stirling, 2010, Australia[47] | Sequential explanatory design | Local Alzheimer's organizations | Structured questionnaires followed by focus groups interviews | P: 20<br>C: 20 | P: 73% over 75<br>C: 50% over 66 | P: 25<br>C: 90 | AD – 55%<br>VD – 15%<br>unknown – 20%<br>Parkinson's/FTD – 5%. | 5 |

AD = Alzheimer's disease; C = caregiver; EOD = early onset of dementia; FTD = frontotemporal dementia; MCI = mild cognitive impairment; P = patient; VD = vascular dementia.

[a] Percentage of female.

## Supplemental Appendix 2 References

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## Supplemental Appendix 3.

| Table 2. Characteristics of Included Studies On CM of Patients With Dementia and Their Caregivers | | | | | |
|---|---|---|---|---|---|
| **Author, year, country** | **Study design** | **Main characteristics of CM** | **Detailed description[a]** | **Involved health care professionals** | **Quality appraisal** |
| Callahan, 2006, USA[1] | RCT | - Development of individualized care plan for the patient-caregiver dyad;<br>- Regular assessment of patients' behavior and memory;<br>- Weekly review of care and adherence to guidelines by multidisciplinary team.<br>- Prescription of anticholinesterase inhibitors and memantine;<br>- Monitoring of health condition and communication of healthcare professionals via Web-based system. | - Education of caregivers on communication and coping skills, legal and financial advice;<br>- Support sessions focused on caregiver stress;<br>- Patient exercise guidelines (e.g., group chair-based exercises);<br>- Specific behavioral protocol of non-pharmacological interventions for personal care, repetitive behavior, mobility, sleep disturbances, depression, agitation, aggression, delusions or hallucinations; if this failed, drug therapy was initiated. | FP, geriatrician, geriatric psychiatrist, psychologist, geriatric nurse practitioner (case manager). | 3 |
| Vickrey, 2006, USA[2] | RCT | - Problem list development with further elaborated care plan including guidelines for caregiver;<br>- Regular reassessment of the patient's condition;<br>- Liaison of the patient to support services by case manager;<br>- Prescription of anticholinesterase inhibitors;<br>- Monitoring of health condition and communication of healthcare professionals via Web-based system. | - Interactive seminars for caregivers on relevant care issues included evaluation of acute behavior changes, depression management, determination of decision-making capacity;<br>- Use of dementia guideline recommendations on assessment, treatment, education, support, and safety;<br>- Involvement of caregivers in care plan development;<br>- Advice on implementation of predictable routine of daily activities;<br>- Non-pharmacological approaches for behavior problems;<br>- Recommendations on caregiver support group, dementia-related financial planning referral and respite care;<br>- Recommendations on caregiver resources, | FP, social worker (case manager). | 3 |

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|---|---|---|---|---|---|
|  |  |  | Alzheimer's Association, meals and wheels, safe return program (for wandering);<br>- Advice on advance directives. |  |  |
| Schoenmakers, 2010, Belgium[3] | RCT | - Guidance of the caregiver in organizing home care;<br>- Exploring problematic home care situations;<br>- Monthly telephone call to the caregiver;<br>- Regular home follow-up;<br>- Permanent reach for advice. | - Assistance through day care;<br>- Safety – personal alarms;<br>- Extra in-home help. | FP, primary care professional with a bachelor degree (case manager). | 3 |
| Jansen, 2011, the Netherlands[4] | RCT | - In-home assessment;<br>- Elaborated care plan development for the patient-caregiver dyad;<br>- Liaison to support service;<br>- Regular communication of case manager with FP to inform about patient's health condition;<br>- Referral to specialists, if needed. | - Organization of family meetings aimed at educating relatives, improving social support, and relieving the primary caregiver;<br>- Assistance with home care;<br>- Dinner services;<br>- Support centers for caregivers;<br>- Provision of information by phone to caregivers. | FP, district nurse specialized in geriatric care (case manager). | 4 |
| Laurant, 2004, the Netherlands[5] | RCT | - Assessment of the patient's health and home situation;<br>- Education of patients;<br>- Coordination of the care and assistance with community health services and other health care professionals. | - Education of patient and the family to explain the disease, prognosis, rationale of treatment | FP, nurse (case manager). | 2 |
| Fortinsky, 2014, USA[6] | NRS | - Development of individualized care plan for the patient-caregiver dyad;<br>- Monthly in-home visits to assess patients' behavior, memory and health;<br>- Medication management;<br>- Electronic update sent to FPs. | - Non-pharmacological protocols that included stress management, exercises for physical health, communication techniques, legal and financial considerations, depression and anxiety prevention, repetitive questioning and agitation, mobility management, personal care concerns, paranoia, delusions, and hallucinations. | FP, nurse practitioner (case manager). | 3 |
| Stevenson, 2006, UK[7] | NRS | - Initial in-home assessment;<br>- Care plan development;<br>- Regular follow-up and readjustment;<br>- Case conferences to discuss the findings. | - Assistance with access to services (day care, respite care) | FP, psychogeriatrician, support workers, occupational therapist, social worker and F grade | 4 |

| | | | | | |
|---|---|---|---|---|---|
| | | | | registered mental health nurse (case managers). | |
| Jedenius, 2008, Sweden[8,9] | QD | - Gathering necessary information by nurses to enable FPs to establish a diagnosis;<br>- Medical treatment evaluation;<br>- Support of the patient-caregiver dyad;<br>- Care planning. | - Guidance and support of the patient and family according to the different aspects of dementia. | FP, registered dementia nurse (case manager). | 3 |

FP = family physician; NRS = non-randomized study; QD = quantitative descriptive study; RCT = randomized controlled trial.

[a] Detailed description is presented according to the needs expressed by patients and their caregivers.

Supplemental Appendix 3 References

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## Supplemental Appendix 4.

| **Table 3. Meta-Analysis of the Effects of CM On the Needs** | | | | | | |
|---|---|---|---|---|---|---|
| **Type of Needs** | **No. of Studies** | **No. of Participants Intervention/Control** | **SMD** | **95% CI** | ***P* value** | |
| ***Patient needs*** | | | | | | |
| Behavior disturbance[1,2] | 2 | 127/107 | - 0.27 | [-0.53; -0.01] | 0.0456 | |
| ***Caregiver needs*** | | | | | | |
| Depression of caregivers[1-3] | 3 | 151/128 | - 0.23 | [-0.46; 0.01] | 0.062 | |
| Burden of caregivers[2,3] | 2 | 67/60 | 0.17 | [-0.18; 0.52] | 0.3351 | |
| Confidence in caregiving[2,4] | 2 | 279/208 | 0.19 | [0.01; 0.37] | 0.0434 | 5 |
| SMD = standardized mean difference | | | | | | |

Supplemental Appendix 4 References

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**Appendix 5.**

**Table 4.** MMAT Quality Appraisal for Studies With Diverse Designs

| Study reference | Quality appraisal | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | **Randomization** | **Blinding** | **Outcome data** | **Drop-out rate** | **Overall score** |
| **Randomized controlled trials** | | | | | |
| Callahan, 2006[1] | 1 | 1 | 0 | 1 | 3 |
| Vickrey, 2006[2] | 1 | 1 | 1 | 0 | 3 |
| Schoenmakers, 2010[3] | 1 | 1 | 0 | 1 | 3 |
| Jansen, 2011[4] | 1 | 1 | 1 | 1 | 4 |
| Laurant, 2004[5] | 1 | 0 | 0 | 1 | 2 |
| | **Selection bias** | **Appropriate measurements** | **Compared groups** | **Outcome data** | **Overall score** |
| **Non-randomized studies** | | | | | |
| Fortinsky, 2014[6] | 1 | 1 | 1 | 0 | 3 |
| Stevenson, 2006[7] | 1 | 1 | 1 | 1 | 4 |
| Johnston, 2011[8] | 1 | 1 | 1 | 0 | 3 |
| Cammissaris, 1995[9] | 0 | 0 | 1 | 1 | 2 |
| Li, 2011[10] | 1 | 0 | 1 | 0 | 2 |
| Mirando – Castillo, 2010[11,12] | 1 | 1 | 1 | 0 | 3 |
| Der Roest, 2009[13] | 1 | 1 | 1 | 1 | 4 |
| Rosa, 2010[14] | 1 | 1 | 1 | 1 | 4 |
| Leggett, 2010[15] | 1 | 1 | 1 | 0 | 3 |
| Hirakawa, 2011[16] | 1 | 1 | 1 | 0 | 3 |
| Philp, 1995[17] | 1 | 0 | 1 | 1 | 3 |
| Meaney, 2005[18] | 1 | 1 | 0 | 0 | 2 |
| Black, 2013[19] | 1 | 1 | 1 | 1 | 4 |
| Wolfs, 2010[20] | 1 | 0 | 1 | 1 | 3 |
| | **Sampling strategy** | **Sample representativeness** | **Appropriate measurements** | **Response rate** | **Overall score** |
| **Quantitative descriptive studies** | | | | | |
| Nurock, 2007[21] | 0 | 0 | 0 | 0 | 0 |
| Armari, 2013[22] | 1 | 1 | 0 | 0 | 2 |
| Chow, 2011[23] | 1 | 1 | 0 | 1 | 3 |
| Chung, 2007[24] | 1 | 1 | 1 | 0 | 3 |
| Li, 2012[25] | 1 | 1 | 1 | 0 | 3 |
| Rosness, 2012[26] | 1 | 1 | 0 | 0 | 2 |
| Wackerbarth, 2002[27] | 1 | 1 | 1 | 0 | 3 |
| Georges, 2008[28] | 1 | 1 | 0 | 0 | 2 |
| Hinton, 2006[29] | 1 | 1 | 0 | 1 | 3 |
| Judge, 2011[30] | 1 | 1 | 0 | 1 | 3 |
| Lai, 2007[31] | 1 | 1 | 1 | 0 | 3 |
| Jedenius, 2008[32, 33] | 1 | 1 | 1 | 0 | 3 |
| | **Source of data** | **Methods of analysis** | **Context** | **Reflexivity** | **Overall score** |
| **Qualitative studies** | | | | | |
| Gorska, 2013[34] | 1 | 1 | 1 | 0 | 3 |

|  |  |  |  |  |  |
|---|---|---|---|---|---|
| Flynn, 2013[35] | 1 | 1 | 0 | 1 | 3 |
| Bakker, 2010[36] | 1 | 1 | 1 | 0 | 3 |
| Mushi, 2014[37] | 1 | 1 | 1 | 0 | 3 |
| Nichols, 2013[38] | 1 | 1 | 0 | 1 | 3 |
| Qadir, 2013[39] | 1 | 1 | 1 | 0 | 3 |
| Tasc, 2012[40] | 1 | 0 | 0 | 0 | 1 |
| Vaingankar, 2013[41] | 1 | 1 | 1 | 0 | 3 |
| Bowes, 2003[42] | 1 | 1 | 1 | 0 | 3 |
| Lin, 2004[43] | 1 | 1 | 1 | 0 | 3 |
| Kuhn, 1998[44] | 1 | 0 | 1 | 0 | 2 |
| Shaji, 2003[45] | 1 | 1 | 1 | 0 | 3 |
| Samsi, 2014[46] | 1 | 1 | 1 | 1 | 4 |
| Singh, 2014[47] | 1 | 1 | 1 | 0 | 3 |
| Smith, 2001[48] | 1 | 1 | 0 | 1 | 3 |
| Smith, 2011[49] | 1 | 1 | 1 | 0 | 3 |
| Chan, 2010[50] | 1 | 1 | 1 | 0 | 3 |
| Innes, 2005[51] | 1 | 1 | 1 | 0 | 3 |
| Holst, 2003[52] | 1 | 1 | 0 | 1 | 3 |
| Gilmore, 2005[53] | 1 | 1 | 0 | 0 | 2 |
| Marzanski, 2000[54] | 1 | 0 | 0 | 0 | 1 |
| Wuest, 2010[55] | 1 | 1 | 1 | 0 | 3 |
| 1 = met criterion; 0 = unmet criterion. |  |  |  |  |  |

## Supplemental Appendix 5 References

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