

Outcome on Integrated Community Care Interventions for Frail Elderly through Literature Review

JAPAN



Background

Aging and super-aging populations have become global concerns. The possibility of requiring care increases with age, and frail elderly people aged ≥ 75 years who have complex acute and chronic medical problems, as well as functional disabilities, comprise a particularly vulnerable group. Integrated community care innovations for elderly people will be expected. In Japan, it is suggested that an integrated community care system is constructed in each community by 2025.

This study aimed to summarize the outcomes of effective integrated community care for frail elderly people through a literature review.

Methods

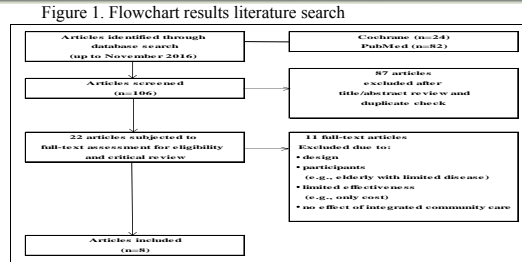
A literature search was conducted in using the Cochrane Library and PubMed with for articles published up to November 2016. The search employed the following terms: integrated community care, primary care, community, frail elderly, and effectiveness.

Results

A total of 106 articles were identified by the electronic search, of which 22 were selected on the basis of title and abstract. Among these eight articles met the inclusion criteria after a critical review on the full text (Figure 1). Roughly 62% of identified research papers was published in 2016. Except for one study conducted in Canada, studies were conducted in the Netherlands. Four studies used a randomized controlled trial (RCT) design, one used a non-RCT design, and three used a quasi-experimental design. In general,



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interventions were described through enough to allow for judgement as to whether they could be characterized as ‘integrated community care’ or not. On the other hand, descriptions of the control group (often referred to as ‘usual care’) generally lacked details, and differences between ‘integrated community care’ and ‘other care’ were unclear. The length of follow-up from baseline in these studies ranged from 3 to 36 months. The number of participants in each study ranged from 151 to 3,092. Data extracted from the eight studies was summarized (Table 1).

All outcome measures were classified into the following three categories: functional abilities, quality of life (QOL), and health. Functional abilities included physical function and social function. Health included both physical and mental elements. Physical function was used as an outcome measure in all studies and the effects were in four studies (Tourigny 2004, Melis 2008, Bleijenberg 2016, Hoogendijk 2016). In one study (Melis 2008), integrated community care had significant effects on physical function, mental health and dementia QOL.

Table 1. Overview of data extracted from the included studies

Reference	Study Design	Participants	Aim	Study Location	Intervention and Control	Outcomes
Tourigny A, et al., 2004	Quasi-experimental study (quasi-experimental design: intervention [I] and every 12 months [E], 2.1. Other intervention for a 3-year period)	482 frail elderly people aged ≥ 75 years and their caregivers from 2 community committees (272 elderly people and 155 caregivers in the experimental group; 210 and 129 in the control group)	To determine the impact of the integrated service. Primary (PB) focused on frail elderly people and their caregivers, and on the utilization of health and social services	Isle-Of-Quebec region in the Province of Quebec, Canada	ISP implementation of a study area versus non-ISP control area	<ul style="list-style-type: none"> Outcomes in frail elderly people *Positive effects on decline in institutionalization in the first two years (CI: 1.1, p<0.05; T1-T2: p<0.001) *Positive effects on elderly people with mobility problems at T1 (p<0.001) and T2 (p<0.001) Costumes in caregivers *Positive effects on caregiver burden at T1 (p<0.05) and T2 (p<0.04)
Melis H, et al., 2008	Parallel randomized controlled trial (RCT) (assessed differences between intervention and RCT) groups in changes from baseline in GAD-7 and SF-36 HRQ at 3-month follow-up (CI: 95%)	151 vulnerable (problem-based) elderly people aged ≥ 70 years (85 participants in the RCT group and 66 in the usual care group)	To describe the effects of the Dutch Geriatric Intervention Program (GPIP) compared to usual care in improving health-related quality of life and preventing unnecessary use of health care services	Nijmegen, The Netherlands	GPIP implementation of group and usual care group	<ul style="list-style-type: none"> Primary outcomes *Functional performance improved after 3 months of follow-up (baseline: 95% CI: -0.2 to 0.6, p=0.04) *SAI score improved after 3 months of follow-up from baseline (95% CI: 2.1 to 4.4, p=0.03) *SAI score improved after 6 months of follow-up from baseline (95% CI: 2.1 to 4.4, p=0.03) Costly outcomes *No effect on direct medical costs (DMCs) improved at 3 months (95% CI: -0.37 to 0.05)
Meertens N, et al., 2013	Cluster RCT (assessed differences at baseline and at 6-, 12-, and 24-month follow-up)	346 frail elderly people (LivingAge Frailty Index score ≥ 3) aged 70 years to 12 general practices (193 in the intervention group [6 practices] and 153 in the control group)	To investigate the effectiveness of the Prevention of Care (PvC) approach in various patient-level outcomes compared with usual care	Nijmegen, The Netherlands	PvC implementation of group and usual care group	<ul style="list-style-type: none"> Primary outcomes *No significant group by time interaction effects for the Geriatric Activity Restriction Scale scores or the activities of daily living and instrumental activities of daily living subscale scores Costly outcomes *No significant effects on depressive symptomatology, social support interaction, or of falling, and social participation
Bleijenberg F, et al., 2016	Two-arm cluster non-RCT (assessed differences at baseline and at 12-month follow-up)	536 community-dwelling frail elderly people aged ≥ 70 years (287 in the intervention group and 249 in the control group)	To evaluate the effectiveness of a general practitioners-led extensive, multidimensional program (Care-Well) in preventing care, care, and living for the prevention of functional decline	Nijmegen, The Netherlands	Care-Well Primary Care implementation of group and usual care group	<ul style="list-style-type: none"> Primary outcomes *No significant differences between groups in health care use in preventing during activities of daily living Costly outcomes *No significant differences between groups in quality of life, institutionalization, hospitalization, and mortality
Bleijenberg N, et al., 2016	Single-blind, three-arm, cluster RCT (assessed differences at baseline and at 6- and 12-month follow-up)	3,092 community-dwelling frail elderly people aged ≥ 70 years (790 participants in the screening arm, 1,466 in the screening + care arm, and 836 in the usual care arm)	To evaluate the effectiveness of the Frailty Prevention (FP) approach (FP) in preventing daily functioning in frail elderly people in primary care	Utrecht, The Netherlands	Intervention arm 1: Frailty screening followed by usual care from a general practitioner; Intervention arm 2: Frailty screening followed by primary care; Control arm: Usual care	<ul style="list-style-type: none"> Primary outcomes *No significant differences in mean Katz-13 scores among the three groups after 6 months *1 Care-Well in the daily functioning in both intervention groups compared to the control group (95% CI: 1.77 to 1.97, p=0.03) *Significantly better preservation of daily functioning in more highly dependent participants in the screening and care-led care group compared to all participants in the screening and control group (95% CI: 1.09 to 1.26, p=0.03) Costly outcomes *No significant differences among the three groups with respect to number of life satisfaction with care at 6- or 12-month follow-up *No significant differences in the number of hospital admissions, number of emergency department visits, or mortality
Hoogendijk H, et al., 2016	24-month stepped wedge design RCT (assessed differences between intervention and control groups at baseline and every six months)	1,147 community-dwelling older adults aged ≥ 65 years (166 in the intervention group 1, 226 in group 2, and 256 in group 3)	To evaluate the impact of the Geriatric Care Model (GCM) on quality of life and overall or other patient outcomes	Amsterdam and West-Brabant, The Netherlands	Group 1: 6 months after initiation of GCM intervention and usual care (baseline); Group 2: 12 months after initiation of GCM intervention and usual care (baseline and 6 months); Group 3: 18 months after initiation of GCM intervention and usual care (baseline, 6 and 12 months); Group 4: 24 months after initiation of GCM intervention and usual care (baseline, 6 months, 12 months and 18 months)	<ul style="list-style-type: none"> Primary outcomes *No significant differences between the GCM and usual care groups in SF-36 Costly outcomes *Significantly lower costs in the GCM intervention in patients who received the intervention for 18 months (0: -0.26, 95% CI: -0.49 to -0.03, p=0.001). However, this effect was not significant after controlling for multiple comparisons *No significant differences in the number of hospital admissions, number of hospitalizations, and social functioning and quality of life (baseline, 6 months, 12 months and 18 months)
Leunens W, et al., 2016	Quasi-experimental study (assessed differences at baseline and at 3- and 12-month follow-up)	893 frail older participants aged ≥ 75 years (224 in the experimental group and 249 in the control group)	To explore the effectiveness of the Web-based Integrated Care Model (WICM) by comparing the health and social outcomes (e.g., physical health, mental health, social functioning, functional ability, and quality of life) of frail elderly people (aged ≥ 75 years) with those of non-frail elderly people	Rotterdam, The Netherlands	WICM implementation of group and usual care group	<ul style="list-style-type: none"> *Moderate significant effect on quality of life after 12 months (baseline: 95% CI: 0.1 to 0.6, p=0.04) *No effects on health-related quality of life, or well-being *Impact on well-being, including the ability to receive care and the ability to live independently (95% CI: 0.14 to 0.36, p=0.001) *No significant differences between the groups in terms of experienced health, mental health, and social functioning
Dijk H, et al., 2016	Matched quasi-experimental study (assessed differences at baseline and at 6- and 12-month follow-up)	392 community-dwelling frail elderly people aged ≥ 70 years (196 in the intervention group and 196 in the control group)	To evaluate the effects of Integrated Neighborhood Care (INC) on health-related quality of life and well-being in frail elderly people	Rotterdam, The Netherlands	INC implementation of group and "usual" care and support group	<ul style="list-style-type: none"> *No significant differences in well-being or health-related quality of life between the intervention and control groups at 1 year

Discussions

Although among the three categories, integrated community care was shown to be most effective in improving functional abilities of frail people, particularly positive effects on physical function, the evidence seemed to be lacking with regard to the effectiveness of integrated community care. It is suggested that critical evaluation of the available evidence is difficult due to the heterogeneity of so-called “community intervention models”. Yet, in considering how effective integrated community care for the frail elderly people and their caregivers should be constructed, evaluation items and outcomes of such care need to be clarified, and related findings be accumulated. More studies will need to be conducted.