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IS NURSE-LED CARE EFFECTIVE IN RHEUMATOLOGY? A SYSTEMATIC REVIEW

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Background

The aim of this systematic review was to assess the effectiveness of nurse-led care (NLC) by comparing its outcomes with those of physician-led care or multidisciplinary care in rheumatology

Methods

MEDLINE, EMBASE, CINAHL and EBM reviews (Jan 1988 - Sept 2009) were searched using the terms: (nurse led OR nurse practitioner OR nurse specialist) and (effectiveness OR treatment outcome). The inclusion criteria were: 1) Primary studies with reported patient outcome data 2) RCTs with at least 2 concurrent intervention groups comparing nurse-led care and physician-led or multidisciplinary care. Economic evaluations were excluded. The titles and abstracts identified were screened independently by two reviewers (MN and KV) for relevance and design. Heterogeneity of outcome measures prevented a meta-analysis. Effectiveness of interventions was reported based on the patients' main outcome(s) at the end of study with corresponding effect sizes. The effect sizes were calculated and reported as standardized mean difference (SMD), relative risk (RR) and ratio of means (RoM) as appropriate.

Results

The search yielded 1907 articles, 56 of which met the inclusion criteria but only 8 were in rheumatology and were chosen for a detailed review (see Table). Five studies looked into NLC effectiveness in Rheumatoid arthritis (RA), two in osteoarthritis (OA) and one in fibromyalgia. NLC was compared with care by rheumatologist (RLC), junior hospital doctor (JHD), GP and with inpatient team care or day patient team care. All studies were from the UK and Netherlands and had varying quality with sample sizes ranging from 70 to 210. The primary outcomes were disease activity, functional status, coping with OA, health status for RA patients, patients' perception of their ability to control their RA, nurse-doctor diagnosis agreement and pain control. Although only 5/9 can be considered as nurse-sensitive outcomes, between group analyses of all outcomes demonstrated non-inferiority of NLC.

Conclusion

The data in the review support the effectiveness of NLC intervention for patients with RA and OA. More high quality studies are required to demonstrate or refute this observation.

Table 1: Included studies

Author year Country	Patients with	N	Interventions	Follow-up period	Primary Outcome (Measure)	Overall Results	Effect Measure & Effect size
Hill 1994 UK	RA	70	NLC Vs RLC	48 weeks	Disease activity (Ritchie's articular index)	Within groups improvement Between groups indifference	RoM = 1.5
Tijhuis 2002 Netherlands	RA	210	NLC Vs Inpatient team NLC Vs Day patient team	52 weeks	Functional status (HAQ & MACTAR)	Within group improvements Between groups indifference	SMD HAQ = -0.42 MACTAR = 5.39 HAQ = 3.88 MACTAR = -1.06
Hill 2003 UK	RA	71	NLC Vs JHD	48 weeks	Disease activity (DAS28 score)	Greater improvement in the NLC than JHD	RR of improvement = 1.7 RR of getting worse = 0.83
Tijhuis 2003 Netherlands	RA	210	NLC Vs Inpatient team NLC Vs Day patient team	104 weeks	Functional status (HAQ & MACTAR)	Within group improvements Between groups indifference	SMD HAQ = -0.13 MACTAR = 0.12 HAQ = -3.17 MACTAR = 0.41
Victor 2005 UK	OA	125	Nurse-led patient education programme Vs information with GP care	52 weeks	Coping with OA (Arthritis Helplessness Index)	Within group deterioration Between group indifference	SMD = 0.45
Ryan 2006	RA	71	NLC Vs Staff nurse + Standard rheumatologist care	12 months	Health status (AIMS) Helplessness (RAI)	Greater improvement for NLC than controls in AIMS and RAI	SMD (AIMS) = 3.7 SMD (RAI) = 3.79
Kroese 2008 Netherlands	Fibromyalgia	179	Nurse-led diagnosis Vs Rheumatologist diagnosis	24 months	Agreement on diagnosis (Kappa)	Excellent agreement maintained over 24 months	Kappa = 0.91
Hill 2009 UK	OA	100	NLC Vs JHD	48 weeks	Pain (VAS)	Greater improvement in NLC than JHD in pain	SMD = -0.2

RoM = Ratio of Means, RR = Relative Risk, SMD = Standardised mean difference. SMD's of 0.2, 0.5 & 0.8 = small, medium & large effect sizes.

Citation

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