Letter to the Editor

Self-management: One size does not fit all

ABSTRACT

Self-management for people with chronic diseases is now widely recognized as an essential part of treatment. Despite the high expectations and the growing body of evidence in terms of its effectiveness, a wide application of self-management programs is inhibited due to several challenges. Worldwide, a variety of complex and multifactorial interventions have been evaluated in very heterogeneous patient populations leaving healthcare professionals in doubt about what works best and what works in whom. In this letter to the editor the authors systematically reflect on the current evidence of patient-specific determinants of success of self-management and argument the urge for increased scientific efforts to establish tailored self-management in patients with chronic disease.

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Chronic diseases are the leading causes of mortality, accounting for 60% of all deaths worldwide. Driven by an aging population, other demographic trends, future life-style patterns and improved diagnostic facilities, future projections indicate that the burden of chronic disease will substantially increase over the next decades [1,2]. The challenge to address the needs of the growing number of patients will fall upon already over-stretched health care services [3]. As a result, there has been a shift away from traditional professional driven models of health care that place the patient in the role of passive recipient toward a more consumer driven model in which the patient is an active partner in health and disease management [4]. A promising approach to improving outcomes and reducing healthcare costs associated with chronic conditions is "self-management," in which patients are informed and supported by healthcare professionals to increase their responsibility in decisions affecting their healthcare [5,6]. Self-management is one of the four major components of the Chronic Care Model and puts the patient in a central position in the healthcare process, thereby involving both the community and the healthcare system [7]. It presupposes that when "informed activated clients" interact with a "prepared, proactive practice team," functional and clinical outcomes will improve [3]. Furthermore, self-management is also part of the recently adopted definition of health [8]. Self-management support aims to learn patients to actively participate in the management of their chronic condition [9] and is the systematic provision of supportive interventions by healthcare staff to increase patients' skills and confidence in managing their health problems, including regular assessment of progress and problems, goal setting, and problem-solving support [10]. As such, self-management support encompasses more than merely a didactic, instructional program which mainly focuses on transfer of knowledge: even though self-management interventions often contain didactic strategies, the pivotal objective is to change behavior, which is essential to boot a sequence of effects [11]. The objectives and content of self-management interventions might differ across conditions (and within conditions), yet the key feature of these interventions is the aim of increasing patients' ability to deal with day-to-day consequences of their disease to maintain a satisfactory quality of life [4]. Targeted core self-management behavioral skills are problem solving, decision making, effective resource utilization, forming of a patient/health care provider partnership, and taking action [5].

1. Self-management: is it effective?

Over the past decade many self-management programs were developed and their efficacy studied. Several meta-analyses have been conducted in different chronic conditions, indicating large variance in both quantity and methodological quality of included self-management trials. Table 1 illustrates the pooled evidence indicating that self-management in patients with asthma [12], chronic heart failure [13], COPD [14], diabetes mellitus type-2 (DM-II) [15], hypertension [17], musculoskeletal pain [18] and patients on oral anticoagulation [19] is effective on a variety of outcomes such as clinical outcomes, quality of life, self-management behavior, and reduced healthcare costs. Given these encouraging results one might conclude that nothing should prevent policy makers and healthcare professionals from quick and robust implementation of self-management in routine care. However, long-term follow-up of initially successful interventions has shown attenuation of treatment effects in some [20,21], but not all trials [22]. Emerging safety issues obstruct this large-scale implementation too. Improving patients' self-management skills apparently seems meaningful and harmless, in 2012 alone three large trials (one mainly focusing at tele-monitoring) reported no [23] or even adverse outcomes including unexplained higher mortality rates [24,25]. Although these trials can be criticized and the negative results can be partly explained, this might indicate that self-management programs are not necessarily harmless. Should this temper our enthusiasm for

Table 1
Evidence for effectiveness of self-management based on meta-analysis in several chronic conditions.

Chronic disease	Meta-analysis	Comparison	# Included RCT's/patients	Key significant findings					
				Disease specific outcomes		Patient Reported Outcomes		Healthcare utilization	
				Parameter	Pooled result	Parameter	Pooled result	Parameter	Pooled result
Arthritis/Chronic musculo-skeletal pain	Du et al. [18]	Self-management education vs. usual care	19/unknown	Arthritis-related pain 4 months 6 months 12 months	SMD: −0.23 [−0.36, −0.10] SMD: −0.29 [−0.41, −0.17] SMD: −0.14 [−0.23, −0.04]	Arthritis-related disability 12 months	SMD: −0.17 [−0.27, −0.07]		
Asthma	Gibson et al. [12]	Self-management education ± regular review vs usual care	36/4593	Nocturnal asthma Peak flow (L/min)	RR: 0.67 [0.56, 0.79] WMD: 0.18 [0.07, 0.29]	HRQoL miscellaneous	WMD: 0.29 [0.11, 0.47]	Hospitalization ER visits Days off work	RR: 0.64 [0.50–0.82] RR: 0.82 [0.73, 0.94] WMD: −0.18 [−0.28, −0.09]
CHF	Jovicic et al. [13]	Self-management education vs. usual care	6/857					1-year readmission – all cause – CHF-related	OR: 0.59 [0.44, 0.88] OR: 0.44 [0.27, 0.71]
COPD	Effing et al. [14]	Self-management education vs. usual care	15/2239	Dyspnea Borg scale	WMD: −0.53 [−0.96, −0.10]	HRQoL SGRQ total	SMD: −2.58 [−5.14, −0.02]	≥1 respiratory-related hospital admission/year	OR: 0.64 [0.47, 0.89]
DMII	Deakin et al. [15]	Group based self-management vs. usual care	11/1532	HbA1c (%) 4–6 months 12–14 months 2 years FB glucose (mmol/L) 12–14 months Weight (kg) 12–14 months SBP (mmHg) 4–6 months	WMD: −1.35 [−1.93, −0.78] WMD: −0.82 [−0.99, −0.65] WMD: −0.97 [−1.40, −0.54] WMD: −1.17 [−1.63, −0.72] WMD: −1.61 [−2.97, −0.25] WMD: −5.37 [−9.53, −1.21]	Diabetes knowledge	WMD: 1.0 [0.7, 1.2]	Diabetes medication	OR: 11.8 [5.2, 26.9]
DMII – not using insulin	Malanda et al. [16]	Self-monitoring of blood glucose vs. usual care	12/3259	HbA1c (%) 6 months	WMD: −0.26 [−0.39, −0.13]				
Hypertension	Chodosh et al. [17]	Self-management education vs usual care	13/?	SBP (mmHg) DBP (mmHg)	PES: −0.39 [−0.51, −0.28] PES: −0.51 [−0.73, −0.30]				
Patients on long-term oral anticoagulation	Garcia-Alamino et al. [19]	Self-monitoring ± self-management education vs regular care	18/4723	Thromboembolic events All-cause mortality	RR: 0.50 [0.36, 0.69] RR: 0.64 [0.46, 0.89]				

SMD = standardized mean difference; CHF = chronic heart failure; COPD = chronic obstructive pulmonary disease; WMD = weighted mean difference; HRQoL = health-related quality of life; SGRQ = Saint George respiratory disease questionnaire (lower scores represent better quality of life); DMII = diabetes mellitus type 2; HbA1c = glycatedhaemoglobin; FB = fasting blood; RR = risk ratio; ER = emergency room; DBP = diastolic blood pressure; PES = pooled effect size.