

Novel Barriers to Exercise for Patients with Chronic Kidney Disease

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Disclosures

- Authors: Mary Hannan, MSN, APN, AGACNP-BC & Ulf G. Bronas, PhD, ATC, FSVM, FAHA
- Conflicts of Interest: none to report
- Institution: University of Illinois at Chicago, College of Nursing, Biobehavioral Health Science
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- **Objectives:**
 - ▣ **Describe the most commonly reported barriers that patients with chronic kidney disease report that prevent them from exercising**
 - ▣ **Determine the key components of a nursing assessment and education plan to evaluate and overcome barriers to regular exercise for patients with chronic kidney disease**





Background

- Chronic kidney disease (CKD) is a common chronic condition
- CKD leads to a myriad of debilitating consequences
- Exercise is known to promote health and possibly delay certain co-morbidities of CKD
- Despite these benefits, patients with CKD are not exercising
- Barriers to exercise for patients with CKD are not well defined

(Aramovic & Stefanovic, 2012; Avesani et al., 2012; Hill et al., 2016; Momeni, Nematolahi, & Nasr, 2014; Smart, McFarlane, & Cornelisse, 2013; World Health Organization, 2015)





Purpose

- The purpose of this integrative review is to investigate the barriers that adult patients with CKD throughout the world report that prevent them from exercising



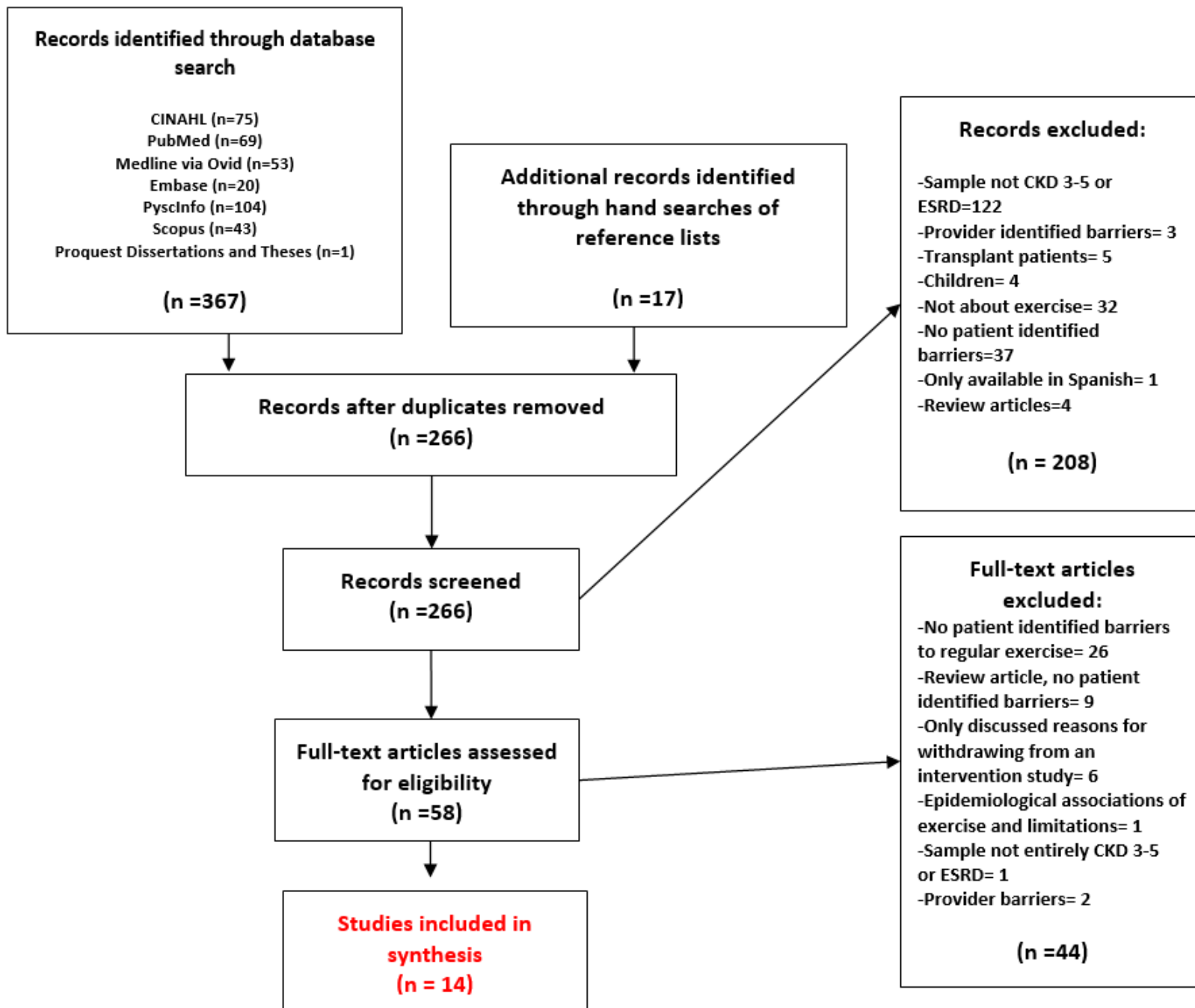
Methods

- Seven electronic databases searched
- Key words searched:
 - ▣ Exercise OR physical activity OR motor activity
 - ▣ End stage renal disease OR kidney disease OR chronic renal failure OR hemodialysis OR ESRD OR dialysis
 - ▣ Chronic kidney disease OR chronic renal insufficiency OR CKD
 - ▣ Barriers OR contraindications OR hurdles OR compliance OR patient compliance OR adherence OR concordance OR guideline adherence OR self perception OR self concept OR treatment refusal OR motivation OR health knowledge, attitudes, practice



Methods

- Inclusion criteria
 - ▣ Patients >18y.o.
 - ▣ CKD Stage 3-5 or End Stage Renal Disease (ESRD)
 - ▣ Patient reported barriers to exercise
 - ▣ Available in English
- Exclusion criteria
 - ▣ Only provided associations of exercise limitations and frequency
 - ▣ Only provided reasons for non-participation in exercise intervention studies
 - ▣ Post kidney transplant





Results

- 14 included articles
- Article date range: 2001-2015
- Eight different countries
- Design
 - ▣ Descriptive quantitative: 8 studies
 - ▣ Qualitative: 4 studies
 - ▣ Mixed method: 2 studies

Most Commonly Reported Barriers

Reported Barrier	Number of Times Found in the Literature
Fatigue and Low Energy	12
Co-morbid Health Conditions	8
Lack of Time or Access	7
Fear of Falling	6
Pain	5
Depression	3
Lack of Motivation	3
Being Incapable of Exercise	2
Environmental Limitations (weather, air quality, etc.)	2
"Renal disease" (CKD or ESRD)	2
"Being out of shape"	1
Concern of Complications	1
Dislike of Exercise	1
Employment	1
Exercise Is Tiring	1
Healthcare Provider Guidance	1
Lack of Company	1
Lack of Interest	1
Lack of Money	1
Lack of Understanding	1
Shortness of Breath	1
Stress	1
Vascular Access	1
Weakness	1





Continued Results

- Barriers reported are complex and diverse
- The most commonly reported barrier was fatigue and low energy, followed by co-morbid health conditions



Discussion

- **Fatigue and low energy** was the most frequently reported barrier to exercise. This is not consistent with:
 - ▣ Barriers reported by healthy individuals
 - ▣ Barriers identified by healthcare providers of patients with CKD
 - ▣ Barriers being addressed in research focused on increasing exercise in patients with CKD
- **International differences in barriers**



Nursing Implications

- Assessment of barriers
- Care planning related to barriers
- Patient education

(Davies, 2011; Young et al., 2015)





Questions?

- This integrative review is in press in the Journal of Nephrology: Hannan, M. & Bronas, U. (2017). Barriers to exercise for patients with renal disease: An integrative review. *Journal of Nephrology*



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