



# Integrative Review of Nurse-delivered Community-Based Physical Activity Promotion



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## ABSTRACT

**Purpose:** The purpose of this integrative review is to 1) describe intervention attributes, 2) describe the role of nurses in community PA promotion, and 3) describe the efficacy of the interventions in terms of PA behavior change.

**Methods:** Computerized database and ancestry search strategies located distinct intervention trials between 1990 and 2015.

**Results:** Thirteen national and international studies with 2,353 participants were reviewed. Multi-dose, face-to-face, group-based interventions with or without individual-based contacts for 6 months or less were the most common intervention delivery modes. Only 40% ( $n = 5$ ) of the studies integrated health behavior theory into intervention design. Less than half of the studies demonstrated efficacy in increasing PA.

**Conclusions:** Results suggest that group-based community interventions, such as exercise classes, group walking and group education/counseling, may be more effective in increasing PA compared to individual-based education. Additional rigorously designed studies are warranted to explore the indicators for successful community-based PA promotion.

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## 1. Background

Increasing population physical activity (PA) to an adequate level is a public health priority as it is a key primary and secondary prevention strategy for chronic diseases and some cancers and is ranked as a leading national health indicator by Healthy People 2020 (USDHHS, 2010). Despite this, fewer than 5% of US adults are sufficiently active to support health (Troiano et al., 2008). Reviews of PA counseling by healthcare providers show a decline in the percentage of PA counseling delivered solely by physicians (Tulloch, Fortier, & Hogg, 2006). This decline may be due to time constraints and lack of reimbursement for PA counseling efforts (Tulloch et al., 2006).

The Task Force on Community Preventive Services (2002) strongly recommends community-based PA interventions, especially interventions that focus on social support or individually-adapted health behavior change programs. In addition, community-based PA interventions have been found to be more cost-effective than supervised exercise sessions (Garrett et al., 2011). Furthermore, a broad review of community-based PA interventions concluded that these interventions are most effective when some form of personal contact for intervention delivery is included (Bock, Jarczok, & Litaker, 2014). Tailoring intervention content was also important in the success of interventions (Bock et al., 2014).

Given the importance of personal contact and tailoring of interventions to intervention success, nurses are well suited to deliver PA

interventions in these community settings. Community-based nurses see patients in their natural environment and can involve families and support systems in the intervention. These nurses often have long-term contact with patients and often see patients with existing chronic conditions that would benefit from increased PA. However, the specific role of nurses in community-based PA promotion is understudied. Increased research on the effectiveness of PA interventions will assist with identifying practical aspects of interventions that can be efficiently integrated into diverse clinical and community settings. Therefore, a comprehensive review of the existing literature is warranted. For the purpose of this review, community-based PA interventions are defined as structured interventions with the main purpose of increasing PA and occur in one of a variety of community settings (i.e. church, community center). Interventions conducted solely in clinical, occupational, or home settings were not included because they comprise a separate body of literature. The purpose of this integrative review is to 1) describe intervention attributes, 2) describe the role of nurses in community PA promotion, and 3) describe the efficacy of the interventions in terms of PA behavior change.

## 2. Methods

### 2.1. Design and Sample

An integrative review was conducted to synthesize the peer-reviewed literature to describe the role of nurses in PA interventions conducted in community settings and to determine intervention

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attributes which lead to positive changes in PA behavior. This review followed the methodology suggested by Whittemore & Knafl (2005), which allows data to be categorized and synthesized using five steps: data reduction, data display, data comparison, conclusion drawing, and verification. A systematic search of existing peer-reviewed, community-based PA intervention studies was conducted through the following online databases: CINAHL, PubMed, PsycINFO, SportDiscus, Cochrane, and Sigma Theta Tau Research Repository. The following keywords and search strategy were chosen: (physical activity OR exercise OR walking) AND (community OR public) AND nurse. Studies were included if they: (1) were published in English from 1990–2015, (2) involved adult participants, (3) had a registered nurse (RN) or nurse practitioner (NP) involved in intervention delivery, (4) conducted interventions in community settings, and (5) directly measured overall PA, exercise, or walking as an outcome. Intervention delivery was defined as the nurse having some direct interaction with the intervention recipient. For example, interventions which only involved mail-based modalities were not included.

The initial search resulted in a sample of 1,852 citations (see Fig. 1). Both authors independently reviewed the studies to assess fit with the inclusion criteria. After removing duplicates and screening titles and abstracts, 130 potentially relevant studies were identified for evaluation. After full-text readings, 119 studies were excluded primarily because of duplicates, studies were not conducted in community settings, a nurse was not involved in the intervention, or studies did not assess a specific outcome of PA. Ancestry searches on previously published review articles and all potential primary studies identified 2 additional studies. The final sample for this integrative review was comprised of 13 studies.

## 2.2. Measures

Once the studies were identified, determination of the qualities constituting a successful intervention was explored. In this review, the success of an intervention was defined as effectively producing the desired

result (Puddy & Wilkins, 2011). The definition of effectiveness is based on the Continuum of Evidence of Effectiveness diagram designed by Puddy & Wilkins (2011) that ranges from highly rigorous and effective at the highest level of the scale to highly rigorous, yet harmful at the lowest level. The determination of effectiveness gradually increases as the rigor of the research methods increase while achieving significant research outcomes. Accordingly, evidence of effectiveness is considered “Harmful” (VII), “Unsupported” (VI), “Undetermined” (V), “Emerging” (IV), “Promising Direction” (III), “Supported”, (II) and “Well Supported” (I) (Puddy & Wilkins, 2011) (see Table 1). In the highest level of effectiveness, a PA promotion strategy is considered effective when the reported findings of an experimental or quasi-experimental study design display evidence that the intended PA outcome occurred as a result of the research intervention (Puddy & Wilkins, 2011).

## 2.3. Data Abstraction and Synthesis

Identified studies were examined by selected variables (if available), using the following data collection categories: (1) design and sample: publication year, country, study design; (2) intervention characteristics: setting, content/delivery mode, duration, theoretical framework; (3) role of nurse; (4) sample characteristics; (5) PA measures and time points; and (6) key PA findings (see Table 1). The identified studies were not statistically combined (i.e. effect size) due to variation in study designs, samples, settings, and PA outcomes (Whittemore & Knafl, 2005).

## 3. Results

### 3.1. Intervention Attributes

Interventions were conducted in community centers, senior centers, churches, a community fitness center, and a community nursing service setting. Seven studies solely used face-to-face intervention delivery (Baldwin, 2015; Banks-Wallace & Conn, 2005; Choi & Rush, 2012; Harris

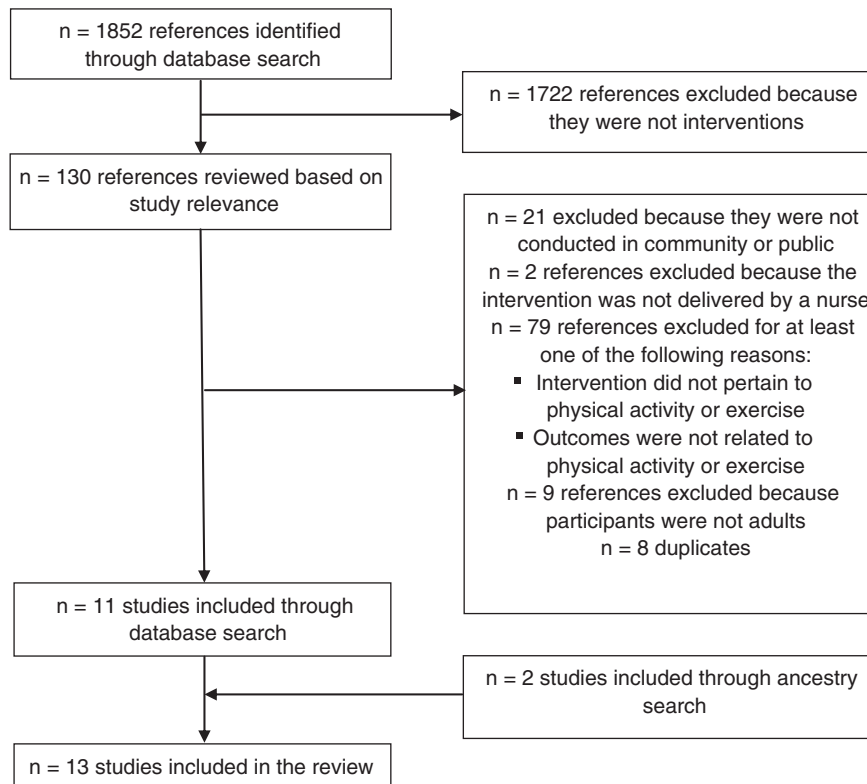


Fig. 1. Flowchart of selection of studies.

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