BARRIERS TO PHYSICAL ACTIVITY IN OLDER ADULTS

WITH IMPLICATIONS FOR PRACTICE

By

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Abstract

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Many older adults are at risk for low levels of physical activity. The rising number of older adults and the burden of inactivity-related health problems on individuals and on society, mandate that healthcare providers address low physical activity levels in this population. This paper synthesizes the literature to identify common barriers to physical activity encountered by older adults including health related issues, safety or access to appropriate locations and cultural or generational obstacles. An intervention to improve older adults’ engagement in physical activity, Motivational Interviewing, is outlined and suggested as an approach to promoting physical activity among community-dwelling older adults.

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Introduction

Physical activity (PA) is well documented to improve the health and fitness in people of all ages including older adults. Cigarette smoking, poor dietary intake, and inadequate PA are the leading modifiable risk factors in health promotion and chronic disease prevention or management across the lifespan (Fierro, 2006). These modifiable factors were the root cause of nearly 35% of all deaths in the United States in 2000. Regular physical activity alone can prevent weight gain, promote weight loss, elevate mood and improve brain function, cardio-respiratory fitness and muscular strength. PA can also prevent falls or reduce falls, improve overall health, and lead to better management of chronic diseases (Centers for Disease Control and Prevention and The Merck Company Foundation, 2007). Of adults over age 60, 80% live with at least one chronic condition every day and another 50% live with two chronic conditions (Centers for Disease Control and Prevention and The Merck Company Foundation, 2007; U.S Department of Health and Human Services [USDHHS], 2008.

Starting as early as the 1950’s, the benefits of PA were suggested to the public (U.S. Department of Health and Human Services [USDHHS] 2007) Research progressed and by the 1970’s there was sufficient evidence for many national organizations to recommend PA for all people. Expansion of knowledge on the health benefits of PA continued and in 1995 the U.S. Government recommended 30 minutes or more of moderate intensity PA most days of the week (CDC, 1999). Current PA guidelines combine both aerobic and muscle strengthening activities to improve and maintain health. The recommendations for older adults are a cumulative amount of at least 150 minutes of moderate intensity aerobic activity spread throughout the week combined with muscle strengthening activities 2 or more days a week (USDHHS, 2008).
Current statistics, however, indicate that PA participation among all age groups is relatively modest. In 1998, 65.6% of adults over age 65 were inactive with only 7.0% of this age group having met the national objectives of combined aerobic and muscle-strengthening activities. By 2009, the percent of older adults who were inactive had only decreased to 54.6%, and those who meet the current PA guidelines rose to 12.8% (Centers for Disease Control [CDC], 2010).

The increasing age of the U.S. population exponentially multiplies the significance of PA participation. By 2029, the numbers of persons over the age of 65 will reach an estimated 69 million persons or 20% of the population. Life expectancy is predicted to increase from 79.5 years during 2010 to 82.0 years by 2050 (U.S. Census Bureau, 2010). As the numbers of octogenarians increase, it is likely that their number of co-morbid health problems will also increase. These changing demographics may further burden the already overwhelmed U.S. health care system. As a population, older adults have the most to gain from increasing their PA levels. Even modest increases in PA can lead to an improvement in overall health and better management of chronic health conditions such as diabetes or hypertension (U.S. Department of Health and Human Services, 2002). Though never too late to adopt a healthy lifestyle, the ideal situation is a population that embraces healthy lifestyle habits, including regular participation in PA, and continues those habits throughout life.

The purpose of this paper is to synthesize barriers to PA identified in the literature. The paper discusses the use of a therapeutic technique, Motivational Interviewing, as a strategy that may help older adult clients improve the PA status.
Literature Review

A comprehensive search using Pub Med and CINAHL databases was completed for this paper. Key search words used were \textit{physical activity}, \textit{exercise}, \textit{elderly}, \textit{older adults}, and \textit{barriers}. Articles were scanned by title, then abstract. Forty two articles were considered for use including four review articles. An ancestry search was also completed from articles published on this topic. Articles were then limited to those that included participants over the age of 60, living in the community, and those studies that specifically addressed barriers to PA as a goal of the study. Ultimately eighteen articles were chosen for this literature review.

Health Related Problems

Chronic diseases are common in older adults and can limit participation in PA (Belza et al., 2004; Cohen-Mansfield et al., 2003; DeForche & DeBourdeaudhuij, 2000; Jones & Nies, 1996; Newson & Kemps, 2007). Respiratory or cardiovascular conditions were found to cause shortness of breath or fatigue and limited some older adults from participating in PA (Melillo et al., 1996). Neurological deficits caused mobility or gait disturbances that increased the risk of falling. Falling and fear of falling were real concerns for older adults, particularly in those who had previously fallen (Cooper, Bilbrow, Dubbert, Kerr, & Kirchner, 2001; Dergance, Calmbach, Dhanda, Miles, Hazunda, & Mouton, 2003; Lavizzo-Mourey et al., 2001; Newson & Kemps, 2007; Purath, Van Son & Corbett 2011; Whitehead, Wundke, & Crotty, 2006). Falling and fear of falling discouraged older adults from walking or participating in other PA (Cooper et al., 2001; Dergance et al., 2003; Newson & Kemps, 2007). Some participants also expressed fear of not being able to get back up if they fell (Lavizzo-Mourey et al., 2001).
Symptoms of chronic health problems

Chronic pain in hands, feet, arms, legs, and back from arthritis and other degenerative diseases limited mobility or function and created barriers to PA (Cooper et al., 2001). These musculoskeletal problems kept some people from doing desired activities such as dancing or gardening (Melillo et al., 1996), or completing a walking program (Hall & McAuley, 2010). Pain from arthritis symptoms in Slavic Immigrants limited their participation in PA (Purath, et. al., 2011). Muscular weakness (Cooper et al., 2001), or the feeling that PA was just too difficult (Jones & Nies, 1996; Purath et.al., 2011) was reported as a barrier for some. Neuropathy, a common complication in patients with diabetes, leads to insensitivity in the feet and lower extremities and served as a barrier. Persons with diabetes also reported symptoms such as dizziness, muscle sprains, falls, and hypoglycemic episodes and those symptoms were found to limit participation in PA due to concerns about injury (Bowman, 2008). Sensory deficits such as vision or hearing problems presented difficulty in going outside to walk for fear of not seeing or hearing moving vehicles (Cooper et al., 2001). Incontinence was also reported as a problem for PA participation because some older adults felt the need to stay close to the bathroom (Cooper et al., 2001). Many of these chronic health problems can lead the older adult into a “viscous cycle” in which symptoms of the chronic conditions such as pain that leads to inactivity, further exacerbates their health problems, leading to further inactivity (Cohen-Mansfield et al., 2003; Egan & Mentes, 2010).

Feelings of Interest, Pleasure, Motivation and Discipline

Lack of interest, motivation, and discipline were cited as barriers for PA among older adults (DeForche & DeBourdeaudhuij, 2000; Dergance et al., 2003; Melillo et al., 1996; Whitehead et al., 2006). Displeasure in PA deterred some older adults from participation (Cohen-
Mansfield et al, 2003; Dergance et al; Purath et. al., 2011). Some felt as though PA just was not necessary, that they were active enough or that they were just too old to exercise (Whitehead et al., 2006). Some older adults reported not wanting to exercise if they were told they have exercise rather than if it was something they wanted to do for themselves (Melillo et al., 1996).

**Knowledge**

Older adults often have special needs that influence or limit the types of PA participation. Lack of knowledge about their own needs may have detrimental effects such as increased vulnerability for injury when inappropriate activity is selected (Dergance et al., 2003; Newson & Kemps, 2007). As an example, persons with peripheral neuropathy from diabetes could sustain injury to their feet due to their insensitivity and be unaware of the injury potentiating further damage to their feet. One researcher suggested that a walking program may not be the most appropriate PA plan for older adults with diabetic peripheral neuropathy (Bowman, 2008).

**Time**

Being too busy or not having enough time was a common reason cited by older adults for decreased participation in PA (Cohen-Mansfield et al., 2003; DeForche & DeBourdeaudhuij, 2000; Lim & Taylor, 2005; Whitehead et al., 2006). Most of the older adults in one study said exercising itself was not a barrier but that scheduling conflicts and other priorities seemed to take precedence (Lavazzo-Mourey et al., 2001). In a study of culturally diverse older adults, social obligations interfered with exercise among Chinese participants. Filipino participants cited that family and work obligations were barriers to regular PA (Belza et al., 2004).
Safety Concerns

Fear of crime and personal safety were common barriers for many older adults when considering outdoor PA (Belza et al., 2004). Those living in large urban areas reported more safety concerns and crime than those who lived in suburban or rural areas (Jones & Nies, 1996; Lavizzo-Mourey et al., 2001). Dogs running loose on the streets imposed fear to older Slavic immigrants and limited their ability to get outside for exercise (Purath et al., 2011). Other reports of safety concerns that limited outdoor PA were poorly maintained sidewalks and streets (Lavizzo-Mourey et al., 2001), poor lighting (Purath et al., 2011) few walking paths close to their homes, poor street connectivity, and concerns about heavy traffic (Hall & McAuley, 2010).

Environment, Location, Transportation and Access limitations

Adverse weather conditions such as cold, heat or rain deterred some older adults from participating in PA (Cohen-Mansfield et al., 2003; Lim & Taylor, 2005; Newson & Kemps, 2007; Purath et al., 2011). Snowy conditions lead to increased fear of falling (Belza et al., 2004). These and other adverse conditions showed a need for some older adults to have an indoor place to participate in PA. However, many older adults reported that places designed for indoor PA were too far away; a lack of transportation inhibited access (Jones & Nies, 1996; Melillo et al., 1996; Newson & Kemps, 2007), or the transportation was unreliable or too costly (Belza et al., 2004). Some who would have participated in PA and had access to get to a facility described an inability to leave the house due to a need to care for an ailing spouse (Whitehead et al., 2006), an increasingly common experience as couples age.

Socialization

Older adults frequently preferred to exercise with others. Socializing with others while participating in PA enhanced their experience and increased motivation (Melillo et al., 1996;
Newson & Kemps, 2007). Engaging in PA as a group often meant using an exercise facility, which presented problems for some as mentioned previously. Some older adults preferred more spontaneous activities such as dancing, as opposed to those that are more fixed or preplanned. This influenced their decision to participate in PA at a facility (Melillo et al., 1996). Three different studies of older adults reported individuals who described themselves as antisocial (Dergance et al., 2003; Whitehead et al., 2006) or as a loner (Melillo et al., 1996) and not wanting to be with others, which limited participation in PA.

Cultural and Generational Considerations

Preference for or against physical activity can be attributed to cultural and generational norms. Belza and colleagues (2004) reported that a cultural history of oppression created a barrier of poor self-esteem and reduced motivation for self-care in American Indian and Alaskan Natives. These groups expressed strong cultural connectivity and the need to be with others like themselves when considering PA. This cultural connection of being with others of the same descent and age range was also important to Filipinos and Koreans (Belza et al., 2004). In a study of Korean women, sedentary lifestyle was preferred and participants lived in areas where health education was not the cultural norm (Sung, 2009). African Americans regarded social activities such as dancing as important (Lavizzo-Mourey et al., 2001), and did not feel the need to conform to activities planned out by others (Belza et al., 2004). Other ethnicities preferred walking, gardening, and forms of PA common in their culture such as tai chi chuan, and qigong, low cost activities and activities associated with church groups (Lian et al., 1999; Purath et al., 2011).

In the United States, many older women were raised in an era when vigorous PA was not the expectation. Rather, it was considered by some not to be ladylike and hard on the
reproductive organs and, as a result, many older women have never been physically active (Taunton, Rhodes, Wolski, Donnelly, & Elliot, 1997). Some older adults, both men and women, never received formal exercise training or participated in leisure time PA during any point of their lives. They have been sedentary throughout their many years and are often resistant to initiating PA as older adults (Newson & Kemps, 2007).

Awareness of PA barriers common to older adults and consideration of individual problems and concerns allows practitioners to focus on behavior changes that are more compatible with client goals and values (Rollnick, Miller, & Butler, 2008). A therapeutic technique called Motivational Interviewing (MI) is a strategy that practitioners may choose to use to facilitate increased PA among older adult clients.

**Motivational Interviewing: An Intervention Strategy**

When practitioners set out to assist clients with changing a health behavior such as PA, they usually begin by giving their clients advice using a direct communication approach. The expectation is that the client will make a favorable health related decision because the advice is sensible. Advice often has little or no impact on health behaviors because often times the information is too complex for the client, is of no concern to the client, or is too overwhelming in its amount or content and is, therefore, not heard (Rollnick, Miller, & Butler, 2008). A more effective approach to helping clients become more physically active might be a therapeutic technique called Motivational Interviewing (MI). Relatively new in the field of disease management, MI addresses the behavioral and psychological aspects of why people maintain current health habits (Cummings, Cooper, Cassie, 2008).

In using MI, Rollnick and colleagues (2008) suggest that practitioners not dispense advice or instructions on how a client should change a behavior. The authors noted that, in life,
there exists a natural human behavior to resist being told what to do. This resistance creates ambivalence about the change (Rollnick et al., 2008). Combining resistance with perceived barriers to PA only adds to the problem. The client envisions how one “should exercise”, imagines the difficulty in doing it, and eventually quits thinking about it all together (Rollnick et al., 2008). In MI, ambivalence to change is viewed as part of normal human behavior (Rollnick et al., 2008). Practitioners who understand this are better able to help their clients move through a process of change that is consistent with their goals and values. This is accomplished by employing empathy, one of the core principles in MI. As skills are learned, techniques are improved, and are applied in the clinical setting; the client eventually recognizes the individual role held in solving the problem of physical inactivity. The goal of MI is to attain an initiation and commitment for change that is collaborative, evocative, honoring of client autonomy and sought by both the client and the practitioner (Cummings et. al., 2009; Rollnick, et al., 2008). The objective is to have the client verbally express the reasons to change to a more physically active lifestyle and then in combination with hearing those reasons as they are said, the progress towards improved physically active behavior is strengthened (Bundy, 2004).

Learning this new approach may sound simple, but in reality there is some difficulty in mastering the skills for MI (Bundy, 2004; Rollnick et al., 2008). Additional practitioner training in use of this technique with ongoing coaching may be necessary (Folta & Nelson, 2010). In a systematic review on training in MI, the authors reviewed 27 different training programs that targeted various health care providers and lasted an average of 2 days, with variable results in the ability to effectively train the health care providers in using MI (Madson, Loignon, & Lane, 2009). Once learned well, MI can been used effectively in the short amount of time allotted for most office visits (Bundy, 2004; Cummings, et. al., 2009; Folta, 2010; Rollnick et. al., 2008).
However, even with a lack of training, practitioners who employ counseling techniques consistent with an expression of empathy can expect small increases in PA levels (Cox et al., 2011).

MI was originally developed for addictions management, particularly alcohol. It has since made its way into other areas of healthcare (Burke, Arkowitz, & Menchola, 2003; Folta & Nelson, 2010). Diabetes (Greaves, Middlebrooke, O’Loughlin, Holland, Piper, Steele, et. al., 2008), cardiovascular disease (Brodie, Inoue, Shaw, 2008; Folta & Nelson, 2010) and obesity (Befort, Nollan, Ellerback, Sullivan, Thomas, Ahluwalia, 2008; Carels, Darby, Cacciapaglia, Holly, Kondrad, Coit, et. al., 2007) are examples of conditions targeted for behavior management with MI. Studies using MI as an intervention to increase PA are more limited. A search of electronic literature databases failed to elicit any studies using MI to affect change in PA status in older adults for the purpose of general health promotion.

One study used a telephone-only MI intervention to evaluate the effectiveness of MI in improving the participation of PA in rural adults. In the study all the intervention participants had a significant statistical improvement for self efficacy for exercise but little improvement for increase in activity itself. One possible reason for the equivocal result was the short, 6-month duration of this trial, which was not long enough to create significant change (Bennett, Young, Nail, Winters-Stone, & Hanson, 2008). In a similar study that lasted for 1 year and combined a MI telephone intervention with culturally sensitive educational materials in an African-American socioeconomically diverse community, significant changes in diet and activity in both intervention groups were shown. The group that received the MI intervention demonstrated a clear benefit in increasing PA. The authors suggested continued research of culturally-targeted interventions with telephone interviewing, particularly using MI. (Resnicow, Jackson, Blissett,
Bennett & colleagues, (2008) point out the potential benefit of adding MI to other interventional modalities such as video or print (Bennett, Young, Nail, Winters-Stone, & Hanson, 2008).

Folta (2010) suggested that the ideal situation might be the use of MI in clinical practice while at the same time referring individuals to community-based programs that would work together for a greater effect. Folta and Nelson recommended one such program for individuals at risk for cardiovascular disease called ‘Healthy Hearts’. This program targets midlife, older, sedentary, overweight women and focused on several aspects of weight management, including PA (Folta & Nelson, 2010).

Conversely, a third study that used MI as part of a weight reduction program with African American women did not show any improvement diet or PA over 6 months. The authors suggested a possible cultural factor that influenced the effectiveness of the MI intervention (Befort, Nollen, Ellerback, Sullivan, Thomas, & Ahluwalia, 2008). A cultural influence may be further supported in another study using an MI intervention for smoking cessation among predominantly low income African-American females. Participants showed no significant improvement in smoking cessation using MI at the end of the six month trial (Okuyemi, James, Mauo, Nolan, Catley, Choi, & Ahluwalia, 2007).

MI is showing promise in changing PA behaviors and for disease management in people of various ages and cultures, however studies are limited. Some studies have shown favorable results and few studies have shown equivocal results or negative results and long-term results are not known. Future research is recommended to determine if there is a minimum amount and length of MI interventions needed that should be delivered to produce consistent long term results (Cummings, et. al., 2009). MI should also be studied in various cultures to address its
usefulness across all cultural groups (Befort et al., 2008). In addition, MI should be studied in specific age groups, particularly the older adults who have needs specific to their generation.

**Using Motivational Interviewing: Implications for Practice**

Many of the studies used in the literature review provided recommendations to overcome identified barriers. While this is helpful, there is still a human tendency to resist being told what to do (Melillo et al., 1996; Rollnick et al., 2008). Resistances to directions, coupled with perceived barriers, are strong forces that clients and healthcare providers may view as insurmountable. But behavioral change can happen, and the initial decision to do so is the fundamental element to beginning the process of MI.

When using MI, the practitioner and the client need to agree on the goal of increasing PA at the beginning of the consultation because if the client is not willing to be an active participant, time is wasted in the continued pursuit (Rollnick et al., 2008). The key communication skills of MI include listening, asking, and informing. Practitioners need to be understood these skills well before using MI and incorporate them in a guiding style that evokes the client’s own motivation for change.

The skill of *listening* may be the easiest to master as many practitioners believe they do this already. *Listening* is more than just repeating the words said. Rather, it is a summary that conveys understanding of both intellectual and emotional meanings of the words, spoken back to the client. Effective use of this skill conveys feelings that the practitioner believes the client is interesting, important, and potentiates the principle of empathy that creates hope and optimism. *Listening* communicates genuine understanding of the client’s predicament that is contributing to ambivalence towards PA (Bundy, 2004). For example, the practitioner might hear the client describe how exercise has always caused shortness of breath, and how it is getting worse even
with simple activity. The client expresses belief in initially just working too hard, but later the client expresses uncertainty. The practitioner could respond by affirming that the client is not sure of what is going on and that things seem to have changed and that it is scary. Rephrasing with a tone that conveys interest in the client and what is being said is vital and will be more productive in a very short amount of time than merely periodically nodding (Rollnick et al., 2008).

The next skill, **asking**, uses open-ended questions that require responses greater than single words or phrases and elicits information on the perspective of the client’s problem with physical inactivity. Asking continues the process of the relationship-building between the client and practitioner and potentiates problem solving. Answers to two of the most important questions practitioners should seek to identify are “how important is it for the client to change their PA behavior?” and “how competent is the client to increase PA?” (Rollnick et al., 2008).

The last skill, **informing**, provides the client with information. The practitioner needs to consider the delivery method as an exchange of information that takes into account individual concerns and uses strategies to improve understanding. Practitioners should provide information at a slow pace and listen for the silent moments or simple verbal remarks that indicate the client is listening and understands the message. Practitioners should consider the amount of information they wish to convey and deliver it in a way the client will understand or find most useful. Using a positive tone will increase receptiveness. Statements such as “you may find your blood sugars easier to control if you get regular daily exercise” may be more beneficial than the statement “if you don’t exercise every day your diabetes is only going to get worse” (Rollnick et al., 2008).
During consultations, practitioners need to listen for key words of change or “change talk” (Rollnick et al. 2008). “Change talk” is expressed in themes such as desire, reasons, necessity, and ability to change. “Change talk” themes indicate the client is contemplating change but is not quite ready, as these phrases are followed by words that support the barrier. For example, “I wish I could exercise” would be followed by the words such as “but I just don’t have time”, or “I probably could exercise” followed by “if I just didn’t hurt so badly”.

Practitioners can use additional MI strategies to help clients improve their physical activity status. One strategy is to ask the client to list the pros and cons to their current PA status and how life might be different if it included daily PA. This process allows the client to hear words, spoken aloud, about their issues for and against increasing PA. Another technique in MI is the “elicit-provide-elicit” exchange of information where the practitioner asks what the client already knows about PA, followed by information being provided about PA that the client needs, and then eliciting another response to the new information (Rollnick et al., 2008). Practitioners should also avoid their natural tendency to want to correct the client’s wrong thoughts or beliefs. Arguing with the client is counterproductive and hinders progress (Bundy, 2004). Aptly named the “Righting Reflex” these efforts to convince a client of the error in thinking creates more defensiveness and further reinforces the erroneous belief (Rollnick et al., 2008). Lastly, it is important to review with the client the change goals, as well as the plans for the next step in proceeding with that change. It may be necessary for the practitioner to return to the beginning again and review goal setting together and then agree upon what the next step to becoming physically active would be and how it can be implemented (Rollnick et al., 2008).
Summary

Physical activity is an important part of disease prevention and health promotion that lacks widespread participation among older adults (Centers for Disease Control [CDC], 2010). It is a problem that holds nationwide significance. Older adults have the most chronic disease of any age group and have the most to gain by increased PA (U.S. Department of Health and Human Services, 2002). MI is a therapeutic technique originally developed for treatment of addictions that has demonstrated good success, and shows some promise of effectiveness in other health areas, including promoting PA in older adults (Burke et al., 2003). MI uses skills that express empathy as well as considering and honoring the goals and values of the client during communication. MI is not advice giving and nor directive, both of which exacerbate ambivalence. In MI, ambivalence is viewed as a normal part of human behavior (Rollnick et al., 2008). Barriers to PA such as health problems, time constraints, safety, and cultural restrictions contribute to client ambivalence. Practitioners who use MI to address these barriers, and thus clients’ ambivalence to changing PA may be better able to move the client forward.

There is paucity of research about the use of MI to promote PA in older adults. Though much of the research that has been done in other areas has demonstrated positive results, some findings have been variable. Further research is needed to validate the use of this therapeutic technique for improvement of PA in older adults.
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