A Comparison of Medication Management Between Older and Younger Adults Living With HIV

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The aims of this study were to examine differences in medication management between older and younger adults living with HIV and to examine the relationship between age and cognitive ability, depressive symptoms, and self-efficacy on medication management. This research utilized a descriptive-correlational, cross-sectional design to compare medication management between older and younger adults living with HIV and to describe differences in predictive factors of cognition, depressive symptoms, and self-efficacy on medication management. Results indicated that both older and younger adults had poor medication management skills and high rates of mild cognitive impairment. While older adults performed worse on the medication management test than younger adults, the results were not statistically significant. In both older and younger adults, cognitive ability and depressive symptoms were predictors of medication management, with cognitive ability being the strongest predictor for both groups. Cognitive ability was a stronger predictor for older adults than for younger adults.

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More than one million people in the United States are living with HIV, and each year another 50,000 new cases are diagnosed (Centers for Disease Control and Prevention [CDC], 2013). HIV attacks the immune system and people succumb to infections. A little more than a decade ago, an HIV infection was tantamount to a death sentence. More than 636,000 deaths in the United States have been attributed to HIV since it was first identified in 1981 (CDC, 2013). Despite tremendous progress in diagnosis and treatment, in 2011, the most recent year for which data are available, there were still more than 15,000 deaths attributed to HIV infections (CDC, 2013).

Today, with early diagnosis and effective antiretroviral therapy (ART), an HIV diagnosis is no longer considered a death sentence. When used properly, ART halts the progression of the disease and keeps HIV from progressing to AIDS. Medications for HIV work only if the medication regimen is strictly followed. Despite the importance of ART in effectively managing HIV, few studies have focused on

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medication management and its role in adherence, and within those few studies, the population of older adults living with HIV has not been a focus of the research. Previous studies have found that medication management is affected by cognitive ability, depression, and self-efficacy, and that people living with HIV (PLWH) report high rates of cognitive decline, depression, and low self-efficacy (Malaspina et al., 2011; Voss, Portillo, Holzemer, & Dodd, 2007). Results have been mixed as to whether older or younger adults suffer from higher rates of cognitive decline, more depressive symptoms, and lower self-efficacy, but some studies have found that older adults fared worse than younger adults in these areas (Ances et al., 2010; Justice et al., 2004).

Medication management has been defined as "the cognitive and functional ability to self-administer a medication regimen as it has been prescribed" (Madigan, Farris, Wiens, & Johnson, 2003, p. 333). The lack of research on aging and medication management is a significant omission given estimates that by 2015 more than half of all PLWH will be 50 years of age or older (Kirk & Goetz, 2009). In this study the role of age, cognitive ability, depressive symptoms, and self-efficacy, and how they affect medication management, are explored.

Cognitive decline is described as a decrease in memory, language, thinking, and judgment. Cognitive decline can decrease the ability to perform tasks associated with daily functioning (Valcour, Paul, Chiao, Wendelken, & Miller, 2011). In the general population, age has been an important predictor of cognitive decline (Bishop, Lu, & Yankner, 2010; Salthouse, 2009). According to Salthouse (2009), cognitive decline begins in early adulthood and accelerates for adults after age 60 years. Approximately 50% of adults older than 85 years are afflicted with cognitive decline and dementia (Bishop et al., 2010). In contrast, recent research on older PLWH has indicated that cognitive decline is more extensive and begins at an earlier age than in the general population. Ances et al. (2010) and Malaspina et al. (2011) found high rates of cognitive decline in adults with HIV as young as 45 years of age. The brain function of PLWH was found to be similar to that of persons 15 to 20 years older who did not have HIV. This cognitive decline was associated with an increase in depressive symptoms and decreased ability to manage medications. Given these findings, it is particularly important to consider how cognitive decline affects medication management in the aging population of adults living with HIV.

Methods

Sample and Setting

One hundred thirty-one participants were recruited from an Infectious Disease Clinic and an AIDS Clinical Trials Unit at a Midwestern University Medical Center during the fourth quarter of 2012. Participants were divided into two groups by age. The older group consisted of participants ages 50 years and older. The younger group consisted of participants ages 18 to 49 years. The age of 50 was used for the older group in keeping with the definition used by the CDC (1993), and it is the most frequently used age in HIV research when studying older adults.

The inclusion criteria for study participation included men and women living with HIV who were at least 18 years of age. HIV infection was determined by a licensed enzyme-linked immunosorbent assay and a confirmatory Western Blot documented in the medical record, or two documented detectable HIV viral loads at any time prior to entering the study. Participants must have been on an antiretroviral regimen for at least 16 consecutive weeks prior to entering the study. Sixteen weeks was chosen as the minimum time to be on ART because it may take 16 weeks to determine the effectiveness of the medication. Participants in this study were required to read and speak English. This requirement was established because the instruments used in this study were all in English, and their reliability has been determined using an English version of the instrument. Lastly, participants all provided written informed consent for their participation in this study.

Records were not kept on potential participants who declined to participate. In total, 131 eligible participants completed the study. Of the eligible participants, one case in the younger group was excluded from analysis due to incomplete HIV-related medical data, resulting in 65 participants in each group for a total of 130 evaluable participants. Data were analyzed using SPSS version 20.0 for Windows.