EMPLOYMENT INTERVENTIONS FOR CONSUMERS WITH HIV/AIDS

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A systematic review of studies pertaining to employment interventions for consumers with HIV/AIDS was conducted in order to ascertain what programs and services have resulted in employment for people in this population. Research shows that programs specifically designed for individuals with HIV/AIDS have been beneficial for this population in regards to obtaining employment. This study discusses four employment interventions for people with HIV/AIDS including participation rates and employment outcome for program participants. A review of literature pertaining to employment interventions for individuals with HIV/AIDS is presented. Additionally, the systematic review methodology and results are presented. Finally, I discuss the results, limitations in regards to conducting the study, current research and recommendations for future research.
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Employment Interventions for Consumers with HIV/AIDS

Regardless of legislation passed and programs provided for individuals with disabilities, obstacles still exist for PWD. These issues affect their personal well-being, quality of life and success in maintaining and obtaining gainful employment. There are many supports and services available for PWD; however, such supports and services may be underutilized by consumers or unavailable to specific populations. In particular, individuals with HIV/AIDS are a population that may have limited or no access to certain supports or services. Of particular concern are the services and supports available to this population with regards to employment.

HIV/AIDS

The human immunodeficiency virus (HIV) is a chronic disease that inhibits an individual's immune system from preventing disease and infection. HIV may lay dormant for years, but eventually evolves into acquired immune deficiency syndrome (AIDS). More specifically, HIV is a retrovirus that involves reverse transcription (Falvo, 2005). The process entails an enzyme, named reverse transcriptase, which integrates its genetic material into the genetic makeup of other cells, thus allowing the HIV virus to take over other cells and produce additional infectious cells (Falvo).

HIV awareness and prevention education is prevalent in the United States. Safer sex practices, sterilization and needle exchange programs have helped pave the way for HIV safety and prevention. The 2010 Centers for Disease Control (CDC) report...
estimated that more than one million people are living with HIV in the United States and more than 18,000 people die from AIDS annually.

Stages of HIV

There are different stages of the HIV infection that an individual will experience over time once infected. The acute or early stage of HIV typically shows subtle or no symptoms of the infection and the helper T cell count remains above 500 (Falvo, 2005). Helper T cells or regulatory T cells assist with the coordination of the immune system by activating B cells, which are antibody producing cells that protect against antigens. Some individuals in the early stage of HIV infection may have flu-like symptoms that disappear early on, resulting in no sign of the infection. During the second stage of HIV, levels of the virus increase and the number of helper T cells begins to decline with counts ranging between 200 and 500. Symptoms that may occur during the second stage of HIV infection include drastic weight loss, loss of appetite, persistent fever, night sweats, severe fatigue, persistent diarrhea and swollen lymph nodes. The third or latter stage is when the official diagnosis of AIDS is given.

Physical/Mental Aspects

People with HIV infection and/or AIDS experience an array of negative physical and psychological impairments throughout the stages of their illness. Individuals diagnosed with HIV may remain asymptomatic for some time and then develop OIs. A common OI is pneumocystis carinii pneumonia which is a parasitic infection of the lung and candidiasis or yeast infection in the mouth and throat (Falvo, 2005). Another
Individuals with HIV may also experience aphasia which is the inability to communicate through speech, writing, or signs, due to brain dysfunction. Aphasia can also cause seizures, issues with balance, visual disturbances and incontinence. Individuals with HIV may also experience chronic pain. People in the latter stages of HIV infection may also experience AIDS dementia complex. This type of dementia may cause an individual to experience issues with their cognition such as poor concentration and loss of balance. AIDS dementia complex may also cause issues with behavior causing one to experience apathy or social withdrawal (Falvo). Individuals with HIV may experience psychological distress due to rejection by family members, partners and their community, fear of loss of home, and loss of employment (Remien & Mellins, 2007).

Some of the most common impairments of individuals with HIV/AIDS are fatigue, fear/worries, depression, and pain (Anandan, Braveman, Kielhofner, and Forsyth, 2006; Vogl et al., 1999). Amandan et al., also found abdominal discomfort, including weight gain, diarrhea, and gas/bloating to be common complaints. Fleishman and Crystal (1998) examined limitations in physical functioning of persons with HIV/AIDS. The authors found that limitations were most prevalent for vigorous activities and other activities such as walking uphill or climbing stairs and less common for activities of daily living such as bathing or dressing. Physical and mental impairments associated with HIV/AIDS may pose as significant barriers to individuals living with HIV/AIDS.

Psychosocial Issues

With HIV/AIDS tend to face various challenges that impact all areas of their life such as
leisure, self-care and productive activities in society (Salz, 2001). Individuals with HIV/AIDS encounter periods of physical disability, potential loss of employment, possible rejection by family and/or friends and economic stress (Falvo, 2005). Psychological stress may deteriorate one's quality of life due to prevalence of symptoms (Vogl et al., 1999). In situations where HIV infection is the result of an individual’s past behavior or lifestyle they may experience guilt and self-incrimination. Individuals living with HIV/AIDS may also experience feelings of guilt, self-blame, fear of abandonment, and fear of an imminent painful death. Additionally, limitations may occur, involving social activities, interactions at school or work due to social prejudice. Lack of social support and societal stigma may be overwhelming for persons with HIV/AIDS, potentially leading a person with HIV/AIDS towards self-destructive behaviors, even suicide (Falvo).

Individuals infected with HIV, from the onset of illness, have been feared and condemned by others (Siegel & Lekas, 2003). Nurses and doctors have shown resistance in treating and caring for individuals who have HIV (Preston, Forti, Kassab, & Koch, 2000). The majorities of individuals with HIV often internalize and thusly accept society’s negative attitudes toward them. This leads individuals to experience feelings of self-loathing and a sense of having a less valuable life (Siegel & Lekas).

Societal Barriers

Individuals with HIV/AIDS are heavily stigmatized and often feared and condemned by others, even medical professionals, often resulting in inadequate health care (Siegel & Lekas, 2003; Preston et al., 2000). Issues such as poverty, sexism and racism may create additional stigma for individuals with HIV/AIDS (Mahajan et al.,
Persons in the early stages of HIV infection and those displaying no physical signs of HIV may not be subjected to stigma and discrimination; however, people in latter stages of HIV or AIDS that display symptoms, such as wasting syndrome, may be more susceptible to discrimination due to changes in physical appearance (Mahajan et al.).

Stigma and discrimination against individuals with HIV/AIDS may be due to the go lelu'qtlkpal association with homosexuality and drug usage (Herek & Gunt, 1988; Vetter & Donnelly, 2006). Quality of life for individuals with HIV/AIDS may increase through obtaining and/or maintaining employment. Although many individuals with HIV/AIDS have a desire to work and are able to do so, they may experience functional limitations due to physical and psychosocial impediments (Salz, 2001).

**Vocational Issues**

Work is a significant factor in any person's life. Having or acquiring a disability may negatively impact an individual's role and productivity in the workplace (Szymanski & Parker, 2010). Benefits of work bring about significant structure and purpose in one's life. Individuals with HIV/AIDS have reported in prior research that maintaining employment is crucial to their emotional well-being and motivation to remain active within society (Timmons & Fesko, 2004). The concepts of return to work, rejoining society and being a functional member at work are important for people with HIV/AIDS (Rabkin, McElhiney, Ferrando, Van Gorp, & Lin, 2004). Persons with HIV/AIDS may encounter issues with continued work and returning to work depending on the progression of the illness and issues within the workplace.
Falvo (2005) discusses issues people with HIV encounter concerning employment and the workplace such as difficulty functioning at the workplace due to fear, discrimination and prejudice from employers and co-workers. Even though individuals with HIV may not be impaired physically or mentally and are still able to perform required duties of a job, they still fear loss of job based on their diagnosis.

Previous research shows that individuals with HIV/AIDS experience high rates of discontinued work or unemployment due to the progressive nature of the infection. Yelin, Greenblatt, Hollander, and McMaster (1991) conducted a study to determine the estimated duration of time between onset of HIV-related symptoms and work loss among a sample of individuals with HIV. The authors found that the total number of hours worked by those who were employed decreased by 59 due to onset of HIV-related symptoms.

Kass, Munoz, Chen, Zucconi, Bing, and Hennessy (1994) documented changes in employment, income and insurance coverage over time with HIV negative, HIV positive and AIDS-diagnosed persons participating in an AIDS cohort study. The authors found that persons with AIDS were more likely to lose full-time employment than the other participants (Kass et al.). The authors also found that progression of the HIV disease increased the likelihood of losing full-time work.

Blalock, McDaniel, and Farber (2002) administered questionnaires to individuals living with HIV/AIDS in order to assess their medical and vocational history, quality of life and psychological functioning. The authors found that 40% of the participants were currently employed. Participants reported fluctuation in employment due to progression of illness and/or health status. Twenty-one percent of the participants
remained employed throughout the course of illness and 31’ reported they had working and remained unemployed.

In a qualitative review by Timmons and Fesko (2004), the authors found that persons with HIV/AIDS who were unemployed had a desire to work or to return to work. In regards to concerns with returning to work, these individuals were most concerned with searching for jobs, availability of jobs and finding a job that could meet their needs. These studies clearly reveal that individuals with HIV/AIDS have a desire to work and have many concerns with return to work.

Onset of HIV-related symptoms and work environment stigma can cause an individual with HIV/AIDS to become and remain unemployed. Individuals with HIV/AIDS who desire employment, may be devastated by the progression of symptoms and lack of employment strategies from agencies and employers. Symptoms of HIV/AIDS are just one of many barriers faced by this population in regards to returning to the workplace.

Barriers to Employment

There are significant barriers for people with HIV/AIDS in obtaining and/or maintaining future or current employment. Glenn, Ford, Moore, and Hollar (2003) conducted a study in order to answer questions regarding employment aspirations of individuals with HIV/AIDS and factors affecting their efforts in obtaining employment. Participants claimed that discrimination, issues with disclosure to an employer, stigma, depression, stress and anxiety were all significant barriers related to employment. The authors further assert that employers fear that employees with HIV/AIDS, as they get sicker, will become less productive, thus interfering with their work productivity and the
business of the employer. Also, employers may fear losing customers and other employees that refuse to work with persons with HIV/AIDS. Another concern of employers and an additional barrier for employees with HIV/AIDS is an increase in health-care costs provided by the employer.

Martin, Brooks, Ortiz, and Veniegas (2003) sought to identify classes of workforce-entry concerns among individuals with HIV/AIDS. In their study the authors compared the levels of those concerns in categories of HIV acuity levels (asymptomatic, symptomatic, AIDS) and related the levels of concern into categories. Categories consisted of six major concerns or themes: 1) employment barriers, 2) loss of benefits, 3) health issues, 4) job skills, 5) discrimination and, 6) workplace accommodations. The authors found that as the level of acuity increased, level of concern in each category increased as well. Additionally, individuals with HIV/AIDS who ceased working due to their diagnosis displayed greater concern over potential loss of benefits, work-related health, discrimination, personal health-care and workplace accommodations. In regards to the study participants, work-related health concerns were found to be a significant negative predictor in their potential return to work.

Brooks, Martin, Ortiz, and Veniegas (2004) examined factors associated with people with HIV/AIDS contemplating returning to work. Individuals who participated in the study expressed the following concerns: loss of disability benefits, loss of publicly-funded health insurance and discrimination at the workplace. Perceived barriers to employment included public benefits and health insurance, personal health and physical ability, health concerns in regards to working and work environment and job skills and job readiness. With the results and analysis of the study, the authors identified the
following as specific barriers for persons with HIV/AIDS contemplating returning to work: ability to take medications at work, time off for doctor visits, concerns with changes in health status, meeting the physical demands of work, concerns about job skills, fear of unavailability of adequate health insurance from the employer, stress from work affecting health status, the improvement of health status if working and lacking the skills needed to find work.

Conyers (2004a) explored employment-related issues among individuals with HIV/AIDS. The key areas of the study focused on the impact of people with HIV/AIDS’ motivation to work and barriers to employment. Specific sub-categories derived from the study included financial need, vocational identity, mental health, family and threat of losing needed services. The author found that the majority of individuals who identified barriers to employment to include low social expectations, issues with adjusting to HIV/AIDS, issues with co morbid disorders, such as substance use, lack of social support, poor mental health, loss of benefits, unstable health, medical appointments and concerns with employability.

Disease-imposed barriers to employment. HIV infection and AIDS may cause severe physiological complications for individuals and can have a negative impact on their employment status. Individuals with HIV/AIDS endure many physical challenges in maintaining and obtaining employment (Salz, 2001). Individuals with HIV/AIDS may experience fatigue, muscle weakness, decreased sensitization, and incontinence, diminished range of motion, poor coordination, cardiac problems, vision loss and limited
endurance (Salz). These symptoms may greatly inhibit a person from continuing or returning to work. In the study by Glenn et al. (2003), participants of the study identified several specific disease-imposed issues in regards to maintaining current employment or obtaining employment. Disease-imposed issues included, “fatigue, health concerns, standing restrictions, lifting restrictions, use of legs, and the side effects of medication” (p.32).

Employment is a crucial factor in the lives of people diagnosed with HIV/AIDS. For this population, employment may be a source of well-being and dignity and work, in and of itself, may present individuals with HIV/AIDS with better economic stability, increased self-esteem and needed social supports (Timmons, 2002). In order to better ensure employment opportunities for individuals with HIV/AIDS, certain interventions must take place. Employment interventions for this population may consist of various types of employment services and programs that have been specifically designated for this population in regards to employment needs.

Interventions

In regards to employment, individuals with HIV/AIDS may require extensive assistance with maintaining their current job or obtaining new employment. There are different types of services and programs available to persons with HIV/AIDS. The literature demonstrates that this population may experience more difficulty in obtaining and maintaining employment compared to individuals with other disabilities. Effective employment interventions for this population may be accomplished by implementing programs that have been specifically designed to assist individuals with HIV/AIDS find work or return to work. Services, including those provided by AIDS service
organizations and vocational rehabilitation agencies assist this population with employment services.

Programs

The employment options (EO) program, which is based upon concepts from the model of human occupation (MOHO), was designed to "support participants moving through a continuum of development, habituation, and performance capacity" (Kielhofner et al., 2004, p. 65). Each stage of the program has differing implications for the type of environments in which individuals were currently receiving services and the kinds of environmental resources, supports and opportunities being provided to the individuals. The EO has four phases to the program. Phase 1 aims to provide opportunities for self-assessment and refinement of vocational choice, development of job relevant skills and habits, gathering of critical information about returning to work, and experiencing a community of emotional support for return to work. Phase 1, participants attended weekly group sessions that focused on coping in the workplace, economic implications of return to work, health and disability benefits, the Americans with Disabilities Act (ADA) and other issues related to the workplace. Individuals could also receive individual counseling and peer mentoring and participate in work task experiences.

Phase 2 of the EO program provided opportunities for the participants to actively participate in volunteer positions, internships or temporary work. During this phase, participants received assessment and job performance feedback. During the third phase of the EO program, individuals were placed in paid jobs or given assistance in applying for and securing employment. Job analysis and on-site job coaching was also provided.
if needed. Phase 4 of the EO program aimed to sustain participant employment and consisted of long-term follow-ups and supports. Additionally, due to the nature of AIDS and progression of symptoms, staff was available to provide support when necessary (Kielhofner et al., 2004).

The study was designed to answer the following questions in regards to the EO program's outcomes: 1) What is the rate of employment completion? 2) What is the rate of successful outcomes for clients who completed the program? 3) What initial participant characteristics are the best predictors of program completion and successful program outcomes? (Kielhofner et al., 2004). The results of the study showed that 67% of participants who completed the program had achieved employment, chose to return to school or chose to participate in an internship or volunteer position. The authors found that the only characteristic that differentiated the participants was having a history of mental illness, which increased the likelihood of successful program outcome. The authors found that no single factor accounted for unsuccessful completion by participants without a history of mental illness; however some factors may have likely contributed to the difference in outcomes (Kielhofner et al.). For instance, the authors found that twice as many participants without a mental illness had not completed high school and therefore may have been at a disadvantage for completing the program.

Paul-Ward, Braveman, Kielhofner, and Levin (2005) discussed the development of the enabling self-determination for persons living with AIDS (ESD) program. The ESD program is composed of two frameworks that are relevant to factors impacting self-determination among individuals with AIDS. The ESD program examined how individuals with HIV/AIDS were limited in self-determination with the goal of
implementing interventions specifically designed for this population. Additionally, the ESD program worked to initiate capacity building with supportive living facilities. Ultimately, the ESD program aimed to expand knowledge about HIV/AIDS to supportive living facilities and reduce barriers. The primary goals of the ESD program were as follows: 1) refine and implement the program itself based on lessons and limitations from the EO program, 2) build five supportive living facilities to maintain the program, 3) study the impact of the program and its sustainability with the implementation of a three-group comparison study in combination with participatory research, and 4) publicize the program and provide information about its effectiveness.

Kielhofner, Braveman, Fogg, and Levin (2008) tested the effectiveness of the ESD program. The authors hypothesized that individuals who participated in the ESD program would exhibit higher rates of productivity in employment, education or training, or volunteering compared to those who received a standard care program. Results of the study indicated that 72% of individuals who participated in the ESD program had productive outcomes with 52% resulting in employment. Almost half of the individuals who participated in the ESD program were engaged in two or more productive roles by the end of the program.

Conyers (2004b) conducted a study to gain awareness of how participants of a vocational rehabilitation program called multitasking systems (MTS), perceived the impact of services and subsequent employment. The founders of MTS, two physicians, noticed that their patients with HIV who were employed often displayed better overall physical and mental health. Services provided by MTS included: individual and group counseling, individualized and personal job skills training, case management and job
placement services. In addition to the various services provided by MTS, this program
work assignments for clients who are not ready for more long-term employment or need
Conyers explored the following: 1) How do vocational services impact the return
to work process? 2) What vocational services are needed for individuals with HIV/AIDS?
3) What are the initial visions, hopes and expectations of individuals with HIV/AIDS as they plan return to work? 4) How does employment impact the lifestyle and the quality of life of individuals with HIV/AIDS? The study found the following benefits: increased confidence, motivation, facilitated adjustment, increased skills and self-respect, availability of peer support, a more individualized approach to services provided, temporary work, increased independence, improved health and stress management and being with other individuals with HIV/AIDS.

Escovitz and Donegan (2005) reviewed the Kirk Employment Empowerment Project (KEEP). KEEP was a special demonstration project conducted by the Matrix Research Institute in Philadelphia that identifies and tests service strategies for individuals with HIV/AIDS. KEEP conducted focus groups with individuals with HIV/AIDS and used the information obtained to design employment services and provide unemployed individuals with HIV/AIDS employment support services. KEEP counselors provided individualized services to each individual who participated in the program based on participant vocational need and aspirations. Throughout KEEP, individuals were provided assistance in obtaining and maintaining employment, including vocational skill development. Results from the KEEP program were
successful. Of the 148 individuals who participated in the program, 77 were employed at some point in time during the project with 63% employed for 90 days or longer. Approximately 54% of the acquired jobs were part-time and approximately 46% were full-time, all in competitive employment. (Escovitz & Donegan).

Services

There are different types of agencies that assist individuals with HIV/AIDS to obtain and/or maintain employment. Services provided by such agencies are crucial in adequately serving individuals with HIV/AIDS. Two prevalent service providers that assist individuals with HIV/AIDS in employment are AIDS service organizations (ASOs) and vocational rehabilitation (VR). ASOs provide services specifically for individuals with HIV/AIDS including case management and assistance with medications (Katz et al., 2001). Unfortunately, ASOs lack experience in providing much needed employment services (Timmons & Fesko, 2002).

Timmons and Fesko (2002) explored the type of supports provided and gaps in these supports. The authors found that 63% of ASOs reported that people being served by their organization expressed concern over employment-related needs. They also found that only 56% of the 63% of ASOs were able to provide employment support. Additionally, it was found that only 44% of all ASO agencies reported providing employment-related support to their clients and that half of participating ASOs were unable to provide needed employment services.

The authors also surveyed VR services for this population. VR provides services to people with disabilities, including individuals with HIV/AIDS, to obtain employment. VR services serve as an employment intervention for consumers with HIV/AIDS.
Although the specific goal of VR is to assist individuals with employment concerns, barriers within the system exist and inhibit the progress of individuals with HIV/AIDS. They found that ASOs did not regularly refer their clients to VR and that 71% of VR counselors and administrators who participated in the study indicated that they have seen no change in regards to outreach efforts of individuals with HIV/AIDS. Furthermore, 65% of the VR counselors that participated in the study reported having no consumers with HIV/AIDS and those who did report having consumers with HIV/AIDS on their caseload, only had a few. Not surprisingly, 96% of the VR counselors reported that they had never provided technical assistance or education about consumers with HIV/AIDS to employers.

Participants of the study, both counselors and administrators, agreed that more training and education about HIV/AIDS would increase professionals' ability in assisting consumers within this population. Hergenrather and Rhodes (2008) administered the Rehabilitation Professional Survey-HIV/AIDS to 156 rehabilitation placement professionals. The authors aimed to identify the influences upon rehabilitation professionals to place consumers with HIV/AIDS. Of those who participated in the study, 55.1% reported working with a total of 1,591 consumers with HIV/AIDS. Only 26.8% of those consumers were reported as being placed. ASOs and VR agencies indeed assist individuals with HIV/AIDS and aim to provide adequate services to this population. However, there are some criticisms and suggestions in how these agencies can provide substantial services to their clients, especially in obtaining and maintaining employment. The study by Timmons and Fesko (2002) shows that ASOs and VR may have limited ability in adequately providing employment supports and services for
consumers with HIV/AIDS. A later study by Timmons and Fesko (2004) reported that individuals with HIV/AIDS who were unemployed felt that ASOs could not provide adequate assistance with employment related needs and that VR was helpful with job training, but lacking in job placement needs of this population.

Importance of the Study

There are various services and programs that assist people with HIV/AIDS with employment issues. Although employment programs for this population have been shown to be effective in assisting consumers with gaining and maintaining employment, service providers such as ASOs and VR have not shown similar rates of success with their consumers. Studies have shown the percentages of persons with HIV/AIDS who participate in programs such as EO and ESD experience higher rates of success compared to consumers who receive services from ASOs and VR. Review and comprehensive assessment of the main services and programs will help determine which services and programs are more relevant and useful for persons with HIV/AIDS.

There is lack of literature and scientific studies that involve persons with HIV/AIDS and employment. Systematically reviewing relative studies about consumers with HIV/AIDS and programs and services they utilize for employment needs will allow for a concise examination into what programs and services are available, what researchers have discovered about said programs or services and what programs and services may or may not be beneficial for this population. Furthermore, assessing the services and programs will allow for further research into employment services for consumers with HIV/AIDS.
Summary

A thorough review of studies pertaining to employment interventions for consumers with HIV/AIDS should be conducted in order to ascertain what programs and services have resulted in employment for people in this population. Research shows that programs specifically designed for individuals with HIV/AIDS have been beneficial for this population in regards to obtaining employment. On the other hand, services such as ASOs and VR may not be properly assisting consumers with HIV/AIDS due to lack of counselor education about the needs of persons with HIV/AIDS. A review of programs and services for individuals with HIV/AIDS will allow for awareness of such programs and services and may provoke further research in this area.
METHODS

This chapter delineates the purpose of this study, describes relative questions to be explored in regards to employment interventions for consumers with HIV/AIDS, and provides associated operational terms. The background, relevance, process and limitations of systematic reviews are discussed. Lastly, I describe how the research was conducted and lists the key terms and appropriate databases pertaining to the literature review.

Research Questions

The purpose of this study, through a systematic review, was to identify and investigate programs and services that have been used with consumers with HIV/AIDS in establishing or maintaining employment. I aimed to answer the following questions:

What programs and services have been utilized as employment interventions for consumers with HIV/AIDS?

What are the employment rates for participants in identified programs and services?

Definition of Terms

For the purpose of this study, consumers with HIV/AIDS refers to individuals living with HIV or AIDS who actively participate in employment programs or services in order to obtain or maintain employment.
For the purpose of this study, employment interventions refers to programs or services specifically designed to assist and meet the needs of a specific population in regards to obtaining and/or maintaining employment.

**Systematic Review**

Systematic reviews involve performing a comprehensive and extensive search for studies related to the primary research which is being conducted (Pai et al., 2004). This method of review involves applying strategies that limit bias in the gathering and synthesis of all relevant studies on a specific topic (Petticrew & Roberts, 2006; Togerson, 2003). Systematic reviews represent a scientific method of appraising, summarizing and reconciling evidence in order to inform or influence particular fields of practice (Gough & Elbourne, 2002 as cited in Petticrew & Roberts, 2006). Additionally, systematic reviews are used in clarifying large amounts of information in order to answer questions about what works or what does not work in a specific area of practice (Petticrew & Roberts).

**Background**

The concept of research synthesis emerged during the twentieth century with a review of evidence on the effects of vaccine by Pearson (1904) and with some early reviews researching education (Togerson, 2003). Petticrew and Roberts (2006) noted a paper written in 1972 by Metzler and colleagues in which they systematically identified and appraised the quality of existing literature reviews in the area of industrial psychology. Educational researchers were some of the first to use the systematic review method (Togerson, 2003). Chambers et al. (2002) described an extensive history
of the use of systematic reviews or research synthesis in an array of subjects and disciplines including: medicine, agriculture, astronomy, and psychology.

Relevance of Use

Systematic reviews may be used; 1) when there is uncertainty about the effectiveness of policies or services, 2) when there is a large amount of research on a particular subject but where key questions remain unanswered, 3) when an overall picture of previous research or evidence on a particular subject may be necessary to direct future research, or 4) to endorse development of new research methods (Petticrew & Roberts, 2006). Systematic reviews aim to address a specific question, locate and assemble the results of research in a systematic manner, reduce bias at all stages in the review, appraise the quality of research with regards to the research question, and synthesize the results of the review in a precise manner (Togerson, 2003). Additionally, this particular method makes the knowledge base more accessible, identifies gaps in the literature or research, and allows for new proposals in the context of existing research. Lastly, systematic reviews make propositions toward future research, make recommendations and present all stages of the review in its finality, allowing for constructive criticism and replication (Togerson).

Process of Review

Pai et al. (2004) provided steps for conducting a systematic review. The steps include a) formulation of a review question; b) a comprehensive, exhaustive search and inclusion of primary studies; c) quality assessment of included studies and data extraction; d) synthesis of study results; and d) interpretation of the results and writing of the report (p. 87). Formulation of the review question involves specifying the specific
population or subject being evaluated. The comprehensive search and selection of studies include searching within general or particular databases and locating studies or literature pertaining to the population or subject being evaluated. Two independent reviewers are often involved in the process of selecting studies. Quality assessment and data extraction occur simultaneously and quality assessment is ideally done by the two reviewers. Quality in regards to the systematic review process refers to validity of the studies used. Synthesis or analysis generally begins with a tabulation of study characteristics and results. During interpretation, the final stage in a systematic review, reviewers discuss issues such as clinical applicability, the writing of the manuscript and limitations of the primary studies that are included in the review.

Limitations

The methods involved in the systematic review process have been criticized (Togerson, 2003). Even when done scientifically, systematic reviews have long been viewed as having a lower status compared to primary experimental research (Petticrew & Roberts, 2006). Eysenck (1995) criticized the mechanical nature of the systematic review process as not having regard for the quality of interpretation of data (Togerson). It has been noted that some individuals view systematic reviews as ordinary reviews, only bigger or as a substitute for quality work (Pettigrew & Roberts).

Method

I conducted a systematic review. Various phases were involved during this process. The beginning phase of the review included an extensive search of articles pertaining to employment interventions for consumers with HIV/AIDS. Articles were located through various databases. If articles were not available, they were requested.
through the use of an inter-library loan or by directly contacting the author of the article. Articles not received within four months from the date of request were excluded from the research study due to time constraints. The articles were assessed for quality by the author. Any article that did not address the research questions was excluded from the study.

Ultimately, I made the final decision regarding which articles were to be included in the study. During the final phase of the review, articles that met inclusion criteria for the study were precisely reviewed and data were extracted and interpreted.

Search Parameters

Studies for consideration in the analysis were identified through a number of databases including: Academic Search Complete, ALT Health Watch, Business Source Complete, Education Research Complete, Environment Complete, ERIC, MasterFILE Premier, MEDLINE, Health Source: Nursing/Academic Edition, PsycARTICLES, PsycINFO, and Vocational and Career Collection. Only scholarly, peer-reviewed studies related to employment interventions or services for individuals with HIV/AIDS were incorporated. Additionally, only full-text studies available in English were used. Time parameters, by publication year, were set to 2000 through 2011 when searching the databases. All articles meeting the inclusion criteria were reviewed. Search terms that were used in conducting the search included: AIDS service organizations, consumers with HIV/AIDS, consumers with HIV/AIDS & AIDS service organizations, consumers with HIV/AIDS & employment, consumers with HIV/AIDS & interventions, consumers with HIV/AIDS & vocational rehabilitation, HIV/AIDS & AIDS service organizations, HIV/AIDS & employment strategies, HIV/AIDS & vocational rehabilitation.
Data

Data extracted from the studies, if reported, included: 1) the number of participants in the study; 2) percentage and/or number of consumers employed 3) percentage and/or number of those not employed; 4) research design; 5) significance level, power, and effect size and 6) program or service description. Ultimately, I was looking for what percentage and/or number of participants obtained employment or did not obtain employment after utilizing specific services or programs.

Summary

A systematic review was conducted in order to locate relevant information pertaining to employment interventions for consumers with HIV/AIDS. Findings from the literature are presented in the study. Results from this study will inform people of programs and services that have been used by persons with HIV/AIDS. Additionally, this study describes the employment rates of identified programs and services. Information included in this study allows for further research into employment interventions for individuals with HIV/AIDS.
RESULTS

The search for articles was separated by key terms and combination of key terms. Descriptors and the number of articles retrieved are presented in Table 1.

Table 1

*Results of Literature Search Using Key Terms*

<table>
<thead>
<tr>
<th>Descriptors</th>
<th>Number of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS Service Organizations</td>
<td>133</td>
</tr>
<tr>
<td>Consumers with HIV/AIDS</td>
<td>20</td>
</tr>
<tr>
<td>Consumers with HIV/AIDS &amp; AIDS Service Organizations</td>
<td>0</td>
</tr>
<tr>
<td>Consumers with HIV/AIDS &amp; Employment</td>
<td>3</td>
</tr>
<tr>
<td>Consumers with HIV/AIDS &amp; Employment Strategies</td>
<td>0</td>
</tr>
<tr>
<td>Consumers with HIV/AIDS &amp; Interventions</td>
<td>3</td>
</tr>
<tr>
<td>Consumers with HIV/AIDS &amp; Vocational Rehabilitation</td>
<td>2</td>
</tr>
<tr>
<td>HIV/AIDS &amp; AIDS Service Organizations</td>
<td>72</td>
</tr>
<tr>
<td>HIV/AIDS &amp; Employment</td>
<td>412</td>
</tr>
<tr>
<td>HIV/AIDS &amp; Employment Strategies</td>
<td>3</td>
</tr>
<tr>
<td>HIV/AIDS &amp; Vocational Rehabilitation</td>
<td>69</td>
</tr>
</tbody>
</table>

Seven hundred seventeen articles were identified during the initial review phase using the keywords or combination of keywords when searching the databases (\(N = \)
I read the abstracts and discussion sections of the retrieved articles to determine whether or not the articles discussed individuals with HIV/AIDS and employment. Fifty-four of those 717 articles specifically discussed employment and persons with HIV/AIDS and were included in a full text review \( (n_0 = 54) \). Six hundred sixty three articles were excluded from the final analysis because they did not address employment or employment interventions for people with HIV/AIDS \( (n_e = 663) \). Four articles/studies were included in the final review. These studies specifically addressed employment interventions for consumers with HIV/AIDS and contained all information necessary for inclusion in the study \( (n_i = 4) \). Any article that did not specifically address the research questions was excluded from further review and excluded from the study. Additionally, any article that did not present the criteria for inclusion was excluded. Furthermore, any article that did not provide the majority of information needed to be included in the study was excluded from further review. For instance, if an article reported the total number of participants of a program but did not report percentage employed or unemployed, the article was not included in the study.

Findings

During the literature search, I found a variety of articles about employment and persons with HIV/AIDS. Based on my inclusion criteria, four studies provided the pertinent information needed to be included in the study. The following studies related to programs or services for consumers with HIV/AIDS are discussed.
Table 2

Location of Studies Included in Systematic Review of HIV-Related Employment Programs

<table>
<thead>
<tr>
<th>Study</th>
<th>Title</th>
<th>Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escovitz &amp; Donegan (2005)</td>
<td>Providing effective employment supports for persons living with HIV: The KEEP project.</td>
<td>Education Research Complete</td>
</tr>
</tbody>
</table>

Employment Options Program (EO)

The employment options (EO) program was developed and evaluated by Kielhofner and colleagues in 2004. This program was based on the concepts of the model of human occupation (MOHO). The researchers utilized this model to conceptualize the desire, training, performance capacity and environmental challenges that persons with AIDS may face (Kielhofner et al., 2004). The researchers based their conceptualization on the following: a) survey of clients conducted by the community study of the program. Additionally, the researchers identified services that would
address the challenges faced by the consumers. Lastly, the researchers organized the EO into four program phases.

Phase 1 of the EO program lasted 8 weeks and provided self-assessment, refinement of vocational choice, development of job skills, gathering of information about returning to work and the experience of communal emotional support for return to work (Kielhofner et al., 2004). Participants were screened prior to entering the program. Upon entry into the program, all participants were administered the Occupational Performance History Interview (OPHI-II), the Worker Role Interview (WRI) and the Occupational Self Assessment (OSA). Another requirement of participants in Phase 1 was to attend weekly group sessions. The group sessions included various topics such as vocational planning, job search, job skill development and self-assessment. The groups also covered discussion about coping in the workplace, economic implications of return to work, health and disability benefits and the Americans with Disabilities Act (ADA). In addition to group sessions, participants were given the opportunity to receive individual counseling sessions and peer mentoring.

Phase 2 of the EO program aimed to provide opportunities for the participants to regain productive roles through temporary work experiences, internships and volunteer positions (Kielhofner et al., 2004). Specifically, Phase 2 was designed to assist participants of the program with coping with challenges associated with working and in developing confidence in managing a work routine. During this phase, participants received feedback and assessment related to job performance and, when needed,
program staff would collaborate with work or volunteer supervisors and offer supports. Additionally, participants received support via job coaching during Phase 2.

Phase 3 aimed to support successful employment of the participants (Kielhofner et al., 2004). Individuals in Phase 3 were either placed in paid jobs or assisted in applying for and securing employment. Job coaching, job adaptation, job analysis, and employer education were provided as needed during this phase.

The primary aim of the fourth phase of the EO program was to sustain participant employment (Kielhofner et al., 2004). This phase consisted of on-going and follow-up support. During this phase, participants were offered continuous contact or support with group meetings and program staff if needed.

EO research design

The authors examined the outcomes of the EO program using a participatory action research. The researchers gathered and analyzed information throughout the course of the EO program to gain insight on the effectiveness of the program and to see if participant needs were being met. The researchers employed a single group design in order to examine the outcomes of services (Kielhofner et al., 2004).

For this study, the researchers recruited participants from a community health center, public and private community agencies, residential facilities and outpatient programs that served individuals who had AIDS (Kielhofner et al., 2004). Throughout the four program phases, two occupational therapists provided individual and group services. A vocational placement specialist was in charge of the workplace training or services.
Kielhofner and colleagues aimed to address the following questions: 1) What is the rate of program completion?, 2) What is the rate of successful outcomes for clients who completed the program?, and 3) What initial participant characteristics are the best predictors of program completion and successful program outcomes?

The researchers collected data at baseline, six, twelve, eighteen, and twenty-four months after enrollment. The researchers used the OPHI-II for the initial interviews. All interviews after baseline were open-ended and focused on personal progress in the program, their occupational status at the time and factors that influenced participant outcome (Kielhofner et al., 2004). The two occupational therapists were responsible for data collection and administration and scoring of the OPHI-II. The occupational therapists also created narrative slopes for each participant.

EO statistical analysis

The researchers used Rasch analysis to convert the original scores assigned on the scales of the OPHI-II scaled scores into interval measures (Kielhofner et al., 2004). This data was entered into Microsoft Excel and then imported into SPSS Version 10.0 by research assistants. Frequency distribution and univariate analyses were conducted on all of the variables after the initial data entry to identify outliers or illegal values. Errors were checked against raw data and corrected before analysis of the data. No variables had missing data greater than 3%. Frequency distributions and descriptive statistics were run on all of the baseline variables to identify characteristics of the participants. The researchers defined completion of their program as completing at least the first phase of the program. This definition was used for the purpose of analysis and because participation in the later phases, 2 through 4, depended on the characteristics
of the participants. It was noted that only Phase 1 was common to all the participants who remained in the program. Of the participants who completed the program, a successful outcome was defined as being in school, regularly volunteering, or employment during any of the follow-up points. Participants were considered to have an unsuccessful outcome if none of the previously mentioned outcomes were achieved at any follow-up point.

The researchers conducted a series of bivariate analyses such as chi-square and t-tests, to determine if baseline variables were associated with a successful versus an unsuccessful outcome. These variables included age, sex, other physical diagnosis besides HIV or AIDS, mental health history, substance abuse history, history of incarceration, OPHI-II scale scores and the OPHI-II narrative slope (Kielhofner et al., 2004). With the above mentioned analyses, the researchers aimed to reduce the number of variables that were later considered for entry into the logistic regression model that would address the question concerning successful versus non-successful outcomes of the participants in the program.

EO Results

Initially, 129 individuals enrolled in the EO program. Thirty-nine of the participants did not complete the program. Becoming ill, deciding that a vocational goal was unrealistic or not desired, relapse to substance abuse, and difficulty maintaining participation in the program were reasons for persons not to complete the program (Kielhofner et al., 2004). Of the 90 individuals who completed the program, 60 achieved a successful outcome. Regarding those who achieved a successful outcome, 50 gained employment, 2 returned to school, and 8 were in volunteer or internship positions. Thirty
participants had unsuccessful outcomes meaning they did not return to work or school or establish a volunteer or internship position.

EO Limitations

In regards to the study of the Employment Options (EO) program, Kielhofner and colleagues found one important limitation of their study to be that they had no control group in which to compare the outcomes of the program. Additionally, the authors had no reported effect sizes. Also, there were a number of participants that the authors were unable to contact that may have had positive outcomes.

The Kirk Employment Empowerment Project (KEEP)

The Kirk Employment Empowerment Project (KEEP) was a special demonstration project funded by the Rehabilitation Services Administration and established by the Matrix Research Institute (MRI) in Philadelphia, Pennsylvania in order to identify barriers in obtaining and maintaining employment for persons with HIV/AIDS (Escovitz & Donegan, 2005). In addition to identifying barriers to employment, KEEP was designed to develop service strategies to overcome said barriers. With KEEP, project staff conducted focus groups with individuals who had an HIV positive status. During the focus groups, participants identified perceived or experienced barriers to employment. Participants also had the opportunity to discuss what services and supports they felt would be beneficial to persons with HIV/AIDS in regards to seeking employment. With the information provided from the focus groups, MRI staff was able to design and provide employment support services to individuals with HIV/AIDS who were unemployed for two and a half years.
Services provided by KEEP were designed to implement vocational rehabilitation practices that have shown to be effective in assisting individuals with psychiatric disabilities in obtaining and maintaining employment (Escovitz & Donegan, 2005). KEEP used employment supports to implement vocational rehabilitation practices that have shown to be effective in assisting individuals with psychiatric disabilities in obtaining and maintaining employment (Escovitz & Donegan, 2005). KEEP used employment supports to implement vocational rehabilitation practices that have shown to be effective in assisting individuals with psychiatric disabilities in obtaining and maintaining employment (Escovitz & Donegan, 2005).

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Every six months throughout the duration of the project, follow-up interviews were conducted with the participants. The follow-up interviews collected information similar to the baseline interviews. In addition, the follow-up interviews focused on participants' experiences of job-related barriers, successes, and satisfaction with the services provided by the program (Escovitz & Donegan, 2005).

KEEP results

There were a total of 148 participants in the KEEP project. Of the 148, 114 were employed at some point in time during the project. Sixty-three percent of the participants maintained employment for 90 days or longer, which is the minimum standard for successful case closure applied by state vocational rehabilitation service agencies (Escovitz & Donegan, 2005).

KEEP limitations

Possible limitations mentioned by Escovitz & Donegan in regards to the employment empowerment project (KEEP) were that their findings were only applicable to individuals who were actively interested in employment. The authors failed to explore reasons for persons not interested in working and therefore did not have concrete data to contribute to the issue of motivating people in considering employment. Also, KEEP participants were self-selected and therefore may not be representative of the broader population of individuals with HIV/AIDS. Lastly, power and effective sizes were not reported in this study.

Multitasking Systems (MTS)

Bedell (2008) designed and evaluated a pilot intervention that was made to promote self-management skills and work transition for individuals with HIV/AIDS who
were participating in multi-tasking systems (MTS), a job skills training program in New York. Ultimately, the intervention was intended to integrate into the job skills training program at MTS. The intervention took place during the day and lasted six to seven weeks.

The intervention included 1.5 hour biweekly sessions. Sessions consisted of classroom based discussions and lectures and activities instructed by interdisciplinary professionals. The sessions focused on various topics such as balancing health, work and daily living.

MTS Methods

Pre-intervention information was collected via in-person interviews with participants two weeks prior to the intervention. Post-intervention data was collected after three months following program completion and was gathered via in-person interview or by telephone. During post-intervention data collection, employment and satisfaction with the intervention was measured. Employment was measured using a single item with the following response options: 'Not Working', 'Looking for Work', and 'Working' (Bedell, 2008, p. 137). Participant satisfaction of the intervention was measured by asking the individuals if they would recommend each session to a friend (Yes or No) and how important each session was in obtaining or maintaining a job (Not important, somewhat important, very important) (Bedell, 2008).

In order to examine change from pre to post intervention, the following measures were used: Perceived performance on self-identified goals, Revised Sign and Symptom Checklist for Persons with HIV disease (SSC-HIV rev), Management and Symptoms and Side Effects Scale, Management of Daily Life Scale, Health (HIV) Management at
Work Scale, Vocational Performance Measure, Patient Self Advocacy Scale, Medication Adherence Self-Efficacy Scale, and the Flanagan Quality of Life Scale (Bedell, 2008).

**MTS Data Analysis**

Sample characteristics, post intervention employment outcomes, and satisfaction with each intervention session were examined using descriptive statistics, specifically frequencies and percentages (Bedell, 2008). Change in scores on outcome variables from pre and post intervention were examined by conducting paired *t*-tests and by computing effect sizes.

**MTS results**

The intervention consisted of six groups with an average of 9 participants per each group. There were a total of 53 participants. Complete data was collected on 42 of the 53 participants. Eleven individuals were unable to be contacted. Of the 42 participants, 22 achieved either full time or part time employment. Seventeen of the participants were not working, but actively seeking employment and 3 were not working or actively looking for a job (Bedell, 2008).

**RctVek cpwIy rgtgkkgf** "cdlk( "q"y qtm'y cu"y g"qpr"uvvucm'ul'plkcepy) improvement from pre to post intervention (Bedell, 2008). A moderate to large effect u'g"c'?)204+y cu'cuvqekcgf 'y kj' y kj"xctldrgr0T cpi gu"qfluk plkecepg"rnxguru"cpf " effect sizes are reported in Table 40RctVek cpwIy rgtgkkgf "cdlk( "q"dcpeg') gcnj ." work and daily life, perceived impact of severity of HIV signs and symptoms, medication self-efficacy, patient self-advocacy, and health management at work had small to o qf gtvkg"gltgev'uk' gu"c'?2025\"q'203+f"Dgf gm'422: :0'
MTS Limitations

Bedell (2008) noted several limitations to the study regarding the Multitasking Systems (MTS) program intervention. The author explained that due to the lack of randomization and controls there was uncertainty about what caused the selected outcomes evaluated in the study. For instance, participants of the intervention were asked to identify their degree of satisfaction with each of the sessions, with the majority reporting they were satisfied with the sessions; the results only depict general patterns of change and do not indicate changes that may be attributed to specific components of the intervention, or personal environmental factors. The author also noted that there was missing data on a number of the measured variables. This was due to participants being lost to post-intervention follow-up and inconsistent data collection of individualized goal sheets. Bedell also explained that there were a number of changes in the administration and staffing at MTS during the time of the intervention and that these changes may have contributed to the inconsistent data collection. Another limitation to the study was a number of measures that were specifically designed for the research study did not go through rigorous psychometric testing that is usually involved in measurement development. Additionally, delayed timing of post intervention measures may have masked immediate effects of the intervention since there was more opportunity for non intervention factors to affect outcomes. Bedell noted that the observed participant performance at the job skills training program.
Jung, Schaller, and Bellini (2010) investigated the effects of demographic, medical, and service variables on employment outcomes for consumers of state-federal vocational rehabilitation (VR) services with HIV/AIDS. The authors aimed to address the following questions: 1) To what extent do demographic, medical, and service variables together predict employment at closure for consumers living with HIV/AIDS? and 2) Which specific variables among these three variable sets predict employment at closure for these VR consumers?

RSA 911 Method

Data was extracted from the rehabilitation services administration (RSA) 911 database. Information was pulled from the fiscal year 2006 report. The researchers obtained the appropriate samples for analysis by conducting data cleaning of the file. It was found that 2,271 individuals had a primary diagnosis of HIV/AIDS. The researchers deleted the number of people who had exited the VR program prior to receiving services from the total sample size. Additionally, consumers identified as American Indians or Alaska Natives, Asians, Native Hawaiians or Other Pacific Islanders, multiracial, and non-Hispanic individuals were excluded from the study due to small numbers (Jung et al., 2010). The final sample size included for analysis consisted of 1,178 consumers.

Participants were divided into two groups of 589 prior to data screening. The sample size was divided into two groups for the purpose of cross-validation. Cross-validation was used in order to address the consistency of results. Two-hundred and seventy nine consumers had a reported employment outcome at closure in Group 1 while, 310 consumers did not have an employment outcome at closure. Participants
with an employment outcome at case closure in Group 2 totaled 270 and 319 consumers in this group were reported to have no employment outcome at case closure (Jung et al., 2010).

RSA 911 Data Analysis

The researchers screened data separately for the two groups to check for missing data, outliers, normality and linearity (Jung et al., 2010). All dichotomous variables were dummy coded and entered into the regression models. Analyses were conducted using SPSS software and a logistic regression model was used to estimate the contribution of each predictor variable while at the same time taking other predictor variables into account (Jung et al., 2010). The logistic regression model was tested across the two groups of participants to assess the general ability of the model.

RSA 911 Results

For Group 1, the Nagelkerke $R^2 = .332$, $p < .05$. Similarly, for Group 2, a significant Nagelkerke model was found, $R^2 = .443$, $p < .01$. The researchers found the following four variables to be significantly and consistently predictive across both Group 1 and Group 2: 1) job placement assistance ($\beta = 1.120; \beta = 0.981$), 2) on-the-job supports ($\beta = 1.034; \beta = 1.380$), 3) months in the VR program - 12 to 23 months ($\beta = -0.538; \beta = -0.756$); 24 to 35 months ($\beta = -1.254; \beta = -0.855$); 36 to 162 months ($\beta = -1.257; \beta = -1.649$), and 4) service expenditures - $2,001 to $4,500 ($\beta = 0.563; \beta = 1.345$); $4,501 to $65,000 ($\beta = 1.425; \beta = 2.116$) (Jung et al., 2010). On-the-job supports were shown to be one of the most important variables that contributed to a successful employment outcome. The researchers found that VR consumers who received on-the-job supports were three times more likely to gain successful
employment compared to those who did not receive on-the-job supports in Group 1 and
four times more likely in Group 2. For both groups, it was found that consumers who
received job placement assistance were three times more likely to achieve a successful
employment outcome compared to consumers who did not receive job placement
assistance. The researchers found that case service expenditures were significantly
related to successful employment at case closure for both groups. It was found that the
higher the range of case service expenditures, the more likely a successful outcome at
case closure. The only variable that negatively contributed to predicting employment at
case closure was length of time in rehabilitation. It was found that the longer a
consumer received services, the chances of successful case closure decreased.

RSA 911 Study Limitations

Jung and colleagues discussed the limitations of their study. Specifically, the
correlational design of the study did not permit implications of cause and effect.
Additionally, the outcomes measure, employed or unemployed at closure, does not take
into account other dimensions such as wages and fit between the employment outcome
and the career goal. Thirdly, the authors noted that predictor variables in the study were
limited to individual characteristics and VR services in regards to employment
outcomes. Also, the authors explained that the service variables in the RSA-911
study are coded as either "received" or "not received" therefore the authors were
unable to assess the quality or quantity of the services. Lastly, the authors felt that not
including American Indians or Alaska Natives, Asians, Native Hawaiians or Pacific
Islanders, and multiracial individuals was a limitation to the study and that the results of
this study may not be generalized to these populations.
Table 3

Reported Number of Participants, Percentage Employed and Unemployed

<table>
<thead>
<tr>
<th>Program</th>
<th>Total Number of Participants</th>
<th>Percentage Employed</th>
<th>Percentage Unemployed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Options Program (EO) Kielhofner et al. (2004)</td>
<td>^aN = 129</td>
<td>b66.6%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Kirk Employment Empowerment Project (KEEP) Escovitz &amp; Donegan (2005)</td>
<td>N = 148</td>
<td>c77%</td>
<td>23%</td>
</tr>
<tr>
<td>Multitasking Systems (MTS) Bedell (2008)</td>
<td>N = 53</td>
<td>52%</td>
<td>d41%</td>
</tr>
<tr>
<td>RSA 911 Database Jung, Schaller, &amp; Bellini (2010)</td>
<td>N = 1,178</td>
<td></td>
<td>e7%</td>
</tr>
<tr>
<td></td>
<td>Group 1 (589)</td>
<td>47.4%</td>
<td>52.6%</td>
</tr>
<tr>
<td></td>
<td>Group 2 (589)</td>
<td>45.8%</td>
<td>54.2%</td>
</tr>
</tbody>
</table>

Note. ^a39 (30%) did not complete the program due to the following reasons: health status, deciding a vocational goal was not realistic or desired, relapse to substance abuse, difficulty maintaining routine to participate in the program; 90 participants completed the program. ^b 55.5% returned to work; 2.2% returned to school; 8.8% started volunteering or interning. ^c 63% of the participants were employed for 90 days (minimum standard applied by state VR for successful case closure) or longer during the project. ^d 17 of the participants were not working but actively looking for work. ^e 3 of the participants were not working or looking for work.
Table 4

*Reported Research Design, Significance, Power and Effect Size*

<table>
<thead>
<tr>
<th>Program</th>
<th>Research Design</th>
<th>Significance</th>
<th>Power</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Options Program (EO)</td>
<td>Participatory action research</td>
<td>$p = 0.03$ to $0.507$</td>
<td>$\beta = -1.484$ to $1.145$</td>
<td>--</td>
</tr>
<tr>
<td><em>Kielhofner et al.</em> (2004)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kirk Employment Empowerment Project (KEEP)</td>
<td>Participatory action research</td>
<td>$p = 0.001$ to $0.03$</td>
<td>--</td>
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</tr>
<tr>
<td><em>Escovitz &amp; Donegan</em> (2005)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multitasking Systems (MTS)</td>
<td>Group experimental</td>
<td>$p = -4.87$ to $1.70$</td>
<td>--</td>
<td>$\beta$</td>
</tr>
<tr>
<td><em>Bedell</em> (2008)</td>
<td></td>
<td></td>
<td></td>
<td>$2094$</td>
</tr>
<tr>
<td>Vocational Rehabilitation</td>
<td>Database research</td>
<td>$p = .000$ to $.963$</td>
<td>$\beta = -1.257$ to $1.425$</td>
<td>--</td>
</tr>
<tr>
<td><em>Jung, Schaller, &amp; Bellini</em> (2010)</td>
<td>Group 1</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group 2</td>
<td>$p = .000$ to $.997$</td>
<td>$\beta = -1.649$ to $2.116$</td>
<td>--</td>
</tr>
</tbody>
</table>

*Note.* -- indicates missing data from the study.
DISCUSSION

Throughout the process of collecting data and the writing of this study, I noted multiple limitations to this study. The limitations of this study are addressed. Secondly, I discuss further research in the area of employment and employment interventions for individuals with HIV/AIDS. Lastly, I provide my concluding thoughts.

Limitations

I experienced various limitations throughout this study. Firstly, the lack of studies and articles about employment interventions for consumers with HIV/AIDS posed the greatest limitation. Secondly, I searched for the studies and conducted the review process without using independent reviewers, thus I was the only individual to conduct the literature search and ultimately determine articles to be included and excluded from the final study. In a systematic review, two independent reviewers are typically used in the review process in order to eliminate bias. Additionally, I allowed four months for retrieval of articles that were not immediately available for viewing and had to be requested through inter library loan or by contacting the author of the article. Allowing four months for retrieval of said articles resulted in less time for data collection and the writing of the study. Lastly, I excluded some relevant articles that may have been beneficial to report in this study. Those articles were excluded from the study because they did not meet the required criteria for inclusion.

Recommendations for Research

Conducting further research regarding employment interventions for people with HIV/AIDS would be beneficial in better understanding what employment strategies have
found to be and what interventions could be beneficial to individuals among this population. More specifically research and data provided from researching employment interventions and people with HIV/AIDS could allow those in the field of vocational rehabilitation with information that could potentially help them with assisting their consumers who have HIV/AIDS. The study by Jung and colleagues (2010) presented data from the RSA 911 database fiscal year 2006. I recommend that data from the RSA 911 database be utilized by researchers and rehabilitation professionals, especially vocational rehabilitation professionals. Having knowledge of the specific variables such as on-the-job supports and length of time in rehabilitation that have shown to have an impact with the outcome of successful employment with consumers with HIV/AIDS could potentially allow for future successful closures from individuals in this population.

I also recommend that more studies take place in agencies that specifically work rate in said studies would allow for researchers to collect and analyze more data and potentially address the importance or relationships between specific variables. Therefore, higher participant numbers and variables would allow for a more thorough study between the effectiveness of employment interventions and strategies and individuals with HIV/AIDS. It would also be a benefit to consumers with HIV/AIDS and further research efforts if there was collaboration among agencies specifically VR agencies and ASOs. Through conducting the literature search I found minimal articles that discussed ASOs and employment for the population they serve.

In regards to the RSA 911 database study conducted by Jung and colleagues (2010), their data shows that over 72’ of participants included in the study did pqv
obtain employment. This study also shows what vocational rehabilitation professionals need to take into consideration when working with consumers with HIV/AIDS specific areas such as job placement assistance, on-the-job supports, length of time in rehabilitation, and service expenditures.

Programs such as multitasking systems, project KEEP, and the employment options program showed to be effective in regards to the number of participants employed during or after completion of each program. Although, over half of the participants in each program gained employment, having a higher number of participants involved in the study would have been more beneficial to the study. Ultimately, more research and higher participation rates in studies pertaining to employment interventions with persons with HIV/AIDS should be conducted and presented.

With the EO program, having four separate phases allowed for more organization throughout the program. All four phases focused on employment. The weekly group sessions during Phase 1 allowed participants to learn about avenues specifically related to employment and it also allowed for rapport development between participants and staff members. Even after completion of the program, participants were provided ongoing and follow-up support from staff while employed. In my opinion, it may have benefited participant participation as a whole if the EO developers and staff had

In regards to the KEEP project, the authors used a rapid placement approach and the project design was based on effective vocational rehabilitation practices utilized with consumers with psychiatric disabilities. In my opinion, the developers of the KEEP
project may have benefited more from researching specifically what vocational rehabilitation practices had shown to be effective with consumers with HIV/AIDS. However, the concept of rapid attachment or place then train may be beneficial for consumers with HIV/AIDS based on progression of illness.

Multitasking systems was not individualized based on individual consumer need. Additionally, MTS only provided biweekly sessions for participants. Also, the participant rate for this study was low. In my opinion, it may have been more beneficial for the participants to meet weekly instead of biweekly. Secondly, the sessions focused on health, work and daily living and possibly needed to focus more on employment and employment supports. Lastly, since the participant rate was low staff could have possibly increased success rate of the participants by administering more individualized assessments and/or creating individualized employment plans for each participant.

Conclusion

This study shows that there have been efforts in regards to persons with HIV/AIDS in gaining and maintaining employment. Although, this study has presented programs that may be beneficial for individuals with HIV/AIDS with employment, it is still apparent that there are a considerable percentage of people with HIV/AIDS that do not complete said programs for various reasons, progression of illness being the most noticed factor in not completing participation. With regards to the RSA 911 database study, the authors pointed out the specific variables that were considered to be the most beneficial to consumers with HIV/AIDS seeking employment assistance from vocational rehabilitation. Rehabilitation professionals should be mindful of this data when working with consumers with HIV/AIDS.
The EO program, MTS, project KEEP and VR have been utilized as employment interventions for consumers with HIV/AIDS. The employment rates of participants who completed the programs identified in this study, EO, MTS, and KEEP were over fifty percent during participation or after completion of said programs. However, the employment rates, specifically successful case closures, for both groups 1 and 2 in the RSA 911 database study were below fifty percent. From this it could be determined that EO, MTS, and KEEP have served as more successful employment interventions compared to vocational rehabilitation services; however the number of participants in EO, MTS, and KEEP were substantially lower than the participant number in the RSA 911 study. Ultimately, all four employment interventions have shown to be effective in regards to which particular methods or services could be successfully utilized by consumers with HIV/AIDS in obtaining or maintaining employment.
REFERENCES


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