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Topical Manuscript

COVID-19, Employment, and Quality of Life Among People Living With HIV

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The COVID-19 pandemic led to substantial changes in the work conditions related to employment status and health-related quality of life (HRQOL) of many people. The pandemic also magnified systemic inequities among marginalized groups, including people with disabilities and chronic illnesses, and people living with HIV (PLHIV). The purpose of this study is to (a) understand PLHIV's employment status, employment needs, and use of employment services during the COVID-19 pandemic; and (b) to examine the factors associated with HRQOL among both employed and unemployed PLHIV during the COVID-19 pandemic. This cross-sectional survey study was conducted from 2020 to 2021 as the COVID-19 pandemic emerged in the U.S. We used both online surveys and structured phone interviews for data collection. A total of 759 responses were used in the current analysis. Study findings show that 65.5% of the employed participants experienced changes in work conditions (i.e., layoffs, reduced work hours, furloughs) and 73% of the unemployed participants reported that the pandemic had an impact on their interest and/or ability to enter employment. Our results show that concern about contracting COVID-19 at work or commuting to work, and employment status have significant relationships with HRQOL. Implications for rehabilitation counseling practice and research are discussed.

COVID-19 and HIV Syndemic

In March 2020, COVID-19 (Coronavirus disease) was declared a global pandemic (Centers for Disease Control and Prevention, n.d.-a; World Health Organization, 2020). The Centers for Disease Control and Prevention (n.d.-b) listed people living with HIV (PLHIV) as one of the populations that may be at higher risk for severe COVID-related health complications, compared to the general population, creating a health syndemic. A *syndemic* is defined as "two or more epidemics interacting synergistically to produce an increased burden of disease in a population" (Singer, 2010, p. 10). Because HIV causes immunodeficiencies, PLHIV would be more likely to acquire COVID-19 and experience severe COVID-19 complications (Shiau et al., 2020). Mirzaei et al. (2021) conducted a systematic review of COVID-19-HIV co-infection studies published from March to June 2020 and found that PLHIV who were infected with COVID-19 experienced more symptoms, and in fact, had more multimorbidity (e.g., hypertension, diabetes, chronic obstructive pulmonary disease) and a higher proportion of death. Bertagnolio et al. (2022) analyzed data from a WHO platform containing approximately 339,000 individuals hospitalized from COVID-19 in 38 countries from 2020 to 2021. They found that PLHIV had a 38% increased mortality rate and 15% increased odds of severe COVID-19 complications, compared to those without HIV.

Consistent with these findings, the COVID-19 pandemic has magnified systemic and health inequities among marginalized groups (Gray et al., 2020). For example, the pandemic created barriers to HIV prevention, testing, and linkage to and retention-in-care due to quarantine and social distancing measures, as well as socioeconomic disparities. Access to medical providers and medications, adherence to antiretroviral therapy (ART) treatment, and interaction with non-medical providers were significantly interrupted during the pandemic (Shiau et al., 2020). Telehealth services were implemented during the pandemic including HIV care. However, the economic and digital divide has prevented many individuals from accessing telehealth services, especially older PLHIV (Marhefka et al., 2020). In Santos et al.'s (2021) international survey study (data was collected mainly in Brazil, Mexico, Taiwan, and Russia), 23% of gay men and other men who have sex with men (MSM) living with HIV experienced a lack of access to HIV treatment as a result of the pandemic and only 17% were receiving tele-

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health services. Among those who were taking ART, 18% reported difficulties in refilling medications, and participants who did not have health insurance were more likely to lose access to HIV care leading to poorer treatment outcomes and lower quality of life.

Quality of Life

The COVID-19 pandemic affected PLHIV's experiences of community participation, employment, and quality of life (Brown et al., 2020). Quality of life refers to an individual's perception of their position in life in the context of the culture and value systems in which they live and work (World Health Organization, n.d.). Health-related quality of life (HRQOL) is a multidimensional concept that includes perceived physical and mental health role functioning, activities, pain management, and overall life satisfaction (Lee et al., 2008). Researchers and practitioners have identified the relationships between HRQOL and social determinants of health (SDH), which are "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life" (Commission on Social Determinants of Health, 2008, p. 1). Chiu et al. (2021) reported that many SDHs are significantly associated with HRQOL among PLHIV including psychosocial factors (i.e., use of non-clinical HIV support services, HIV self-management skills, participation in an HIV support group), medical factors (i.e., engagement in HIV medical care, undetectable viral load, no reported mental health comorbidity), demographics (i.e., ethnicity, education), financial factors (i.e., difficulty paying for housing expenses), and vocational factors (i.e., perceived ability to work).

Researchers also have begun to explore the intersection between SDH, COVID-19, and HRQOL. For example, Nguyen et al. (2020) assessed HRQOL among COVID-19 patients and found that individuals who had higher education levels, higher levels of social class, had the ability to pay for medication, or who identify as male had significantly higher levels of HRQOL. In a prospective cohort study that follows patients who were hospitalized due to COVID-19, researchers found that those who reported persistent symptoms after discharge had lower physical health, mental health, active social role, and quality of life (Jacobs et al., 2020). Chen et al. (2020) examined HRQOL among COVID-19 patients in China after one month of discharge and found that those who had been infected with COVID-19 had lower physical and mental health functioning, social functioning, and role functioning, compared with the general Chinese population. Researchers state that some COVID-19-related symptoms last for more than one month and affect individuals' daily life. In addition, due to the quarantine and social distance measures, individuals might have experienced isolation, which affects their mental health and social life (Chen et al., 2020). Individuals may also experience fear, discrimination, and depression (Zhao et al., 2020). Ma et al. (2020) examined the mental health status of 770 clinically stable COVID-19 patients during the early stage of the pandemic in China and found that 43% experienced depression symptoms. Therefore, individuals infected with COVID-19 experienced not only physical symptoms but also psychosocial issues, which are associated with HRQOL.

Employment and Economic Impact

The COVID-19 pandemic not only posed a threat to people's health conditions, but also to economic stability, work conditions, and employment status (Sheppard-Jones et al., 2021; Thimbriel et al., 2022). The economic impact of the pandemic increased existing disparities in the work conditions of PLHIV. The combination of the interruption in HIV treatment, employment, and income also led to subsequent changes in quality of life. Employment status and work conditions have been identified as key factors associated with quality of life. Employment not only provides financial resources, but also enhances self-esteem, access to social support, and a sense of belonging in the community. Researchers have found that employed PLHIV reported higher levels of quality of life, compared to their unemployed counterparts. Chapin and Holbert (2010) found that vocational rehabilitation service recipients who achieved employment goals had significantly higher levels of quality of life compared to those who did not. Rueda et al. (2011) suggested that employment has an influence on quality of life, conversely, good quality of life is related to work. Unemployment and underemployment are associated with mental health concerns (e.g., depression, anxiety, psychiatric symptoms), poor health status, health risk behaviors, and lower HRQOL (Olesen et al., 2013; Rueda et al., 2012).

There are limited studies on the impact of COVID-19 on employment and HRQOL among PLHIV. As such, it is essential that we gain a better understanding of the impact of these changes on health, engagement in care, and the well-being of PLHIV. The purpose of this study is to (a) understand PLHIV's employment status and employment services needs amidst the COVID-19 pandemic, and (b) to examine the relationships between COVID-19 diagnosis on HRQOL and employment status. Our research questions are:

1. What was the employment status of PLHIV during the COVID-19 pandemic and what were the changes in employment status due to the pandemic?
2. What are the factors associated with mental health and physical health quality of life among PLHIV?

Methods

Procedures

The current project was a cross-sectional survey study that used both online surveys and structured phone interviews with PLHIV in New York. This study was funded by the New York State Department of Health AIDS Institute to conduct a state-wide employment needs survey study in 2020-2021. An IRB-approved recruitment email was sent to listservs of HIV service organizations and networks throughout New York State. Individuals who had some level of contact or affiliation with HIV service organizations, HIV support groups, and networks of PLHIV received the recruitment emails. To protect the privacy of individuals, the recruitment emails were sent directly to the individuals by

the coordinators of the listservs or HIV service organization directors. At the end of the informed consent, interested individuals were provided a link to either the online survey link or a phone number to complete the survey over the phone. Participants who completed the survey were offered an opportunity to receive a $15 e-gift card for their participation. All responses were anonymous and confidential. The online survey and phone interview responses are stored on Qualtrics, a password-protected software, and email addresses were collected separately to maintain anonymity.

Participants

Participants were (a) diagnosed with HIV/AIDS, (b) aged 18 and above, (c) U.S. citizens or permanent residents, and (d) current residents of New York State. Since many states or federally funded vocational services are only available for U.S. citizens and permanent residents, we only included adults who are citizens or permanent residents. By the end of data collection, we received 1,483 responses, including 71 completed by phone interviews and 1,412 completed using the online survey link. During the data cleaning process, the researchers removed those who completed the survey in less than 15 minutes (to remove respondents who sped through the responses), those who had duplicate email addresses, and those who did not complete the survey beyond the demographic section. The dataset was cleaned to eliminate responses that had inconsistent responses to validity checks or did not meet the eligibility criteria. The final number of survey responses used in this analysis is 759.

Instruments and Analysis

The study used the Vocational Development and Employment Needs Survey (VDENS), which was developed by the researchers, for both online surveys and phone interviews. The VDENS includes items in the health domain (e.g., HRQOL, CD4 count, viral load, medication adherence, COVID-19 status), vocational domain (e.g., employment status, use of employment services, knowledge of employment services), financial domain (e.g., use of benefits, health insurance), and psychosocial domain (e.g., trauma event, support systems). Within the medical domain, we asked participants whether they have ever tested positive for COVID-19, ever experienced COVID-19-related symptoms, and whether they had received medical treatment for COVID-19.

The Short Form-12 Health Survey (SF-12; Ware et al., 1996) was used to assess participants' HRQOL. The SF-12 is a shorter version of the SF-36 and covers the same eight domains as the SF-36. The reliability of SF-12 ranged from 0.43 to 0.93 (median = 0.67). Relative validity estimates ranged from 0.6 to .07 (median = 0.97; Ware et al., 1996). SF-12 have been widely used in numerous studies on different populations, including individuals with mental illness and different chronic illnesses in various countries (Gandek et al., 1998; Luo et al., 2003; Resnick & Nahm, 2001). The SF-12 consists of a mental health subscore (i.e., limitations on work or social activities due to emotional problems, energy level, feelings of calmness, being "downhearted" or "blue") and a physical health subscore (i.e., general health, moderate activities such as pushing a vacuum cleaner, climbing several flights of stairs, physical limitations on work or activities, bodily pain).

Statistical analyses were conducted in SAS version 9.4 software (*SAS Version 9.4 Software*, n.d.). Analysis of covariance was used to examine the impact of COVID-19-related predictors (employment at the start of the pandemic, experiencing COVID-19 symptoms, testing positive for COVID-19, worrying about getting COVID-19 while commuting to work or at work) on HRQOL. Descriptive statistics are provided to understand the employment needs of PLHIV during the COVID-19 pandemic.

Results

Participants

The sample consisted of 759 survey respondents. Of the sample, 52.5% identify as male, 43.1% identify as female, and 4.4% identify as gender nonconforming. A total of 58.5% of the sample reported as heterosexual, 25.4% as gay or lesbian, 13.5% as bisexual, and 2.3% classified as queer. Nearly 10% of the sample (n = 68) identify as transgender and nearly 24% reported being Latino/a/e/x. The majority of the sample was from New York City (73.6%), with the remaining living outside of NYC in urban areas (16.5%), suburban areas (7.8%), and rural areas (2.1%). Approximately 4% of the sample did not complete high school, nearly 15% had a high school diploma or equivalent, 42% had some college but no degree or had a workplace or industry credential, and the remaining 39% had an associate degree or higher degree.

Employment Needs of PLHIV

Of the 759 participants, 53.4% (n = 405) were employed and 46.6% (n = 354) were unemployed. For the type of employment, 45.2% had hourly waged jobs and 43.8% had salaried jobs. Nearly 89% were holding only one job and 71.25% were employed for more than one year. There were 35.2% who reported working in the HIV workforce (those who work in HIV clinical and support services) and among those individuals, there were 57 certified peer workers.

Nearly 95% of the unemployed respondents had worked at some point in the past and 31% had worked in the HIV workforce. Among the unemployed participants, 40% reported being able to work and 47% reported not being able to work. Unemployed respondents were asked about factors that frequently serve as barriers to employment. Gaps in employment history (46%) was the most common response, followed by a lack of job search skills (43%), not being able to find jobs with a livable wage (28%), and not having marketable skills (23%), respectively.

At the start of the COVID-19 pandemic, 57% of the respondents were employed; this dropped four percentage points by the time of the survey. Over 17% experienced COVID-19 symptoms and tested positive for the virus. Over half of the respondents worried about contracting

Table 1. Employment Status and COVID-19 Experience

Variables	*n*	Percent
Employed at the start of COVID-19		
Yes	435	57.3%
No	324	42.7%
Employed at the time of the survey		
Yes	405	53.4%
No	354	46.6%
Experienced COVID-19 symptoms at some point		
Yes	134	17.8%
No	618	82.2%
Tested positive for COVID-19 at some point		
Yes	131	17.4%
No	622	82.6%
Worried about contracting COVID-19 at work or while commuting to work		
Yes	409	53.9%
No	350	46.1%

COVID-19 at work or while commuting. Details are provided in Table 1.

With regard to the impact of the COVID-19 pandemic on work conditions and employment status, 59.1% of the employed participants (n = 257) reported one or more changes to their work conditions. The participants self-identified multiple changes to their employment due to the pandemic. Of the employed participants, 47.9% (n = 123) had transitioned to remote work, 34.2% (n = 88) experienced reduced work hours, 18.7% (n = 48) had their work earnings reduced, and 17.9% (n = 46) reported being furloughed or laid off. Of the 154 unemployed participants who had worked pre-COVID, 50.6% (n = 78) had been laid off, 33.1% (n = 51) had decided to stop working, and 22.7% (n = 35) had been furloughed. There is no evidence that the proportion of respondents who experienced COVID-19 symptoms or were diagnosed with COVID-19 differed based on employment status. However, 77% of employed respondents expressed concern about contracting the COVID-19 virus at work or commuting to work, whereas only 23% of the unemployed respondents expressed concern about contracting COVID-19.

Of the 405 employed respondents, 53.4% reported that the pandemic had impacted their interest and/or ability to change jobs, while 73% of the unemployed reported an impact on their interest and/or ability to enter employment. Half of the employed respondents and 67.9% of the unemployed respondents identified a need for employment assistance due to the pandemic. When asked about the types of employment-related services they needed (select all that apply), the employed participants reported needing benefits counseling (44%), job search assistance (31%), and career counseling (28%). The unemployed participants reported needing career counseling (49.9%), job search assistance (30.1%), and benefits counseling (28%).

Factors Associated With HRQOL

Health-Related Quality of Life

Among those employed at the start of the pandemic, those with concerns about contracting COVID-19 commuting to or while at work had a lower mean HRQOL than those without this concern (Tukey-Kramer adjusted p-value <0.0001). This group also had a lower mean HRQOL than those who were unemployed at the start of the pandemic and either shared the concern about contracting COVID-19 while commuting or at work (Tukey-Kramer adjusted p-value 0.0270) or did not share the concern about contracting COVID-19 at work-related activities (Tukey-Kramer adjusted p-value 0.0453). Those who had experienced COVID-19 symptoms reported a lower mean HRQOL (55.8) than those who did not experience symptoms (67.5, p-value <0.0001). Finally, those who were employed at the time of the survey reported a higher mean HRQOL (63.93) than those who were unemployed (59.72, p-value 0.0211).

Mental Health Quality of Life

For individuals who were employed at the start of the pandemic, those who were concerned about contracting COVID-19 commuting to or during work had lower mean mental health quality of life scores (MHQOL, 55.23) without this concern (62.58, Tukey-Kramer adjusted p-value 0.0019). Individuals who had experienced COVID-19 symptoms reported a lower mean MHQOL (53.95) than those who had not experienced symptoms (64.83, p-value < 0.0001). Age had a positive effect on MHQOL (p-value 0.0002).

Physical Health Quality of Life

As with overall HRQOL and MHQOL, being employed at the start of the pandemic and having concerns about contracting COVID-19 commuting to or at work was associated with lower physical health quality of life scores (PHQOL). This group reported lower mean PHQOL scores than those unemployed at the start of the pandemic and having concerns about contracting COVID-19 (7.26 points lower, Tukey-Kramer adjusted p-values 0.0334), as well as those employed at the start of the pandemic yet without this concern about contracting COVID-19 (9.47 points lower, Tukey-Kramer adjusted p-value 0.0123).

Experiencing COVID-19 symptoms and considering whether one was concerned about contracting COVID-19 was associated with lower mean PHQOL scores. Among individuals who were not concerned about contracting COVID-19 while commuting or at work, those with COVID-19 symptoms reported a mean PHQOL score 18.1 points lower than those who did not experience COVID-19 symptoms (Tukey-Kramer adjusted p-value < 0.0001). Among those who were concerned with contracting COVID-19 while commuting to or at work, those who reported having COVID-19 symptoms reported a mean PHQOL score 8.52 points lower than those who did not experience symptoms (Tukey-Kramer adjusted p-value

0.0470). Finally, among those who did not experience COVID-19 symptoms, worrying about contracting COVID-19 commuting to or while at work was associated with a mean PHQOL score of 7.95 points lower than those without this concern (Tukey-Kramer adjusted p-value 0.0026).

Those with COVID-19 symptoms reported a lower mean PHQOL score of 57.44 compared to those without symptoms who reported a mean PHQOL score of 70.75 (p-value <0.0001). Overall, individuals who were employed at the time of the survey reported a higher mean PHQOL score (66.5) than those who were unemployed (61.72, p-value 0.0303).

Discussion

Given the significant impact of the COVID-19 pandemic on society, PLHIV experienced multiple challenges, including medical, financial, psychosocial, and employment issues (Marhefka et al., 2020; Shiau et al., 2020). We discuss the employment needs of PLHIV during the COVID-19 pandemic, and the associations between COVID-19 symptoms, employment status, and HRQOL. We conclude with the implications of the study findings for rehabilitation counseling practice and research.

The Impact of COVID-19 on Employment Status, Interest, and Ability to Work

Our study results suggest that the COVID-19 pandemic had a substantial impact on participants' employment status, work conditions, and interest/ability returning to work. Approximately 65% of the employed participants reported experiencing changes in work conditions (i.e., layoffs, reduced work hours, furloughs) and half indicated a desire to change their jobs. However, approximately half of the employed participants reported that the pandemic had impacted their interest and/or ability to actually change jobs. These findings may be due to the unstable work conditions during the pandemic, especially at the beginning of the pandemic when businesses were shut down. This finding is consistent with recent studies that found people with disabilities and chronic illness were more likely to be worried about job loss, compared to those without disabilities (Global Disability Inclusion, 2020; Umucu, 2021)

Another common concern reported by our sample was the fear of contracting COVID-19. Although over 70% of the employed participants expressed concern about contracting COVID-19 at work or commuting to work, less than half transitioned to remote work, suggesting that many of the respondents did not have the flexibility to adjust their work environment or schedule during the pandemic. Therefore, they may have wanted to leave their employment due to fears related to COVID-19 or health concerns. Thimbriel et al. (2022) assessed perceived COVID-19 stress among people with disabilities and chronic illness and found that individuals who had higher levels of resilience reported lower levels of COVID-19 stress and were less likely to be worried about job loss. Therefore, rehabilitation and mental health counselors could explore possible ways to reduce health risks for clients who want to remain employed and work with these clients on increasing their levels of resilience through various strategies, such as staying socially connected, finding a purpose in life, and focusing on strengths. Rehabilitation counselors could also validate clients' stress and worry about job loss and fear of contracting COVID-19 and explore coping strategies to help clients maintain their employment or transition to a different job.

Among the unemployed participants, 73% reported that the pandemic had an impact on their interest and/or ability to enter employment. Prior to the pandemic, many unemployed PLHIV frequently contended with multiple life challenges, such as poverty, unstable housing, and lack of access to health insurance; therefore, the pandemic created an extra layer of barriers to employment. Short-term and long-term COVID-19-related symptoms may have also influenced participants' decisions to enter or reenter employment. In a community-based cohort study, Jacobs et al. (2020) found that 53% of the 183 individuals with COVID-19 discharged from a hospital in New Jersey were employed, but only about 30% returned to work after a month. The authors noted that physical symptoms might have prevented them from returning to work or they may have lost their jobs due to their illness.

Need for Vocational Rehabilitation Services

In our study, both the employed and unemployed participants reported needing employment-related services to enter or return to work, specifically benefits counseling, job search assistance, and career counseling. According to Leahy et al. (2019), employment counseling and job placement/job development have been identified as knowledge domains of certified rehabilitation counselors, along with benefits counseling, which is included in the community resources domain for credentialing. Benefits counseling is important in assisting individuals in understanding the associations of work earnings and benefits, such as work incentive benefits, housing benefits, Social Security Income (SSI), and Social Security Disability Benefits (SSDI). In a demonstration project of transition-age youth who received SSI, those who received work incentives benefits counseling achieved better employment and earnings outcomes (Schlegelmilch et al., 2019). Rehabilitation counselors may work with financial/benefits counselors to discuss the impact of work earnings on individuals' benefits and assist them to make an informed decision about entering or returning to work.

Global Disability Inclusion (2020) indicated that approximately 35% of people with disabilities reported a need to gain new skills to enter or return to work. Rehabilitation counselors can assist clients to gain work-related skills by aiding them to enroll in vocational training programs or internships. We recommend the expansion of access to employment-related information, services, and resources for PLHIV. The identification of the unmet employment-related needs in the current study underscores the importance of the strategic development of community-centered employment services programs designed with and for communities of PLHIV.

Due to the limited in-person services during the COVID-19 pandemic, non-emergent healthcare services, social services, and vocational rehabilitation/employment services went virtual or hybrid (Levine et al., 2022). Many service providers continue the remote/hybrid model post-pandemic. Barriers to accessing virtual or telehealth services result in the underutilization of vocational rehabilitation services among individuals with disabilities, including PLHIV. In response to the evolution of service needs and service delivery we identified in the current study, our recommendation is to ensure access to a wide range of virtual and in-person services, while maintaining attention to the diversity of needs across the HIV community. This includes taking into account the digital divide, which may limit effective service delivery to many low income and/or rural individuals with limited access to quality internet services. Without adequate supports and accommodations, this digital divide can lead to long-term detachment from the workplace for PLHIV. This only underscores the need for vocational development and supportive services that help PLHIV to remain engaged, such as skill-building, education and employment-focused information, services, and resources.

COVID-19 Symptoms and Health-Related Quality of Life

Our results indicate that PLHIV who reported having COVID-19 symptoms had both significantly lower mental health and physical health quality of life. This is consistent with recent studies on COVID-19 and HRQOL among the general population. Ma et al. (2020) found that approximately half of the COVID-19 patients met the depression criteria, and their depression was associated with low levels of overall HRQOL. Similarly, Nguyen et al. (2020) assessed HRQOL among approximately 4,000 outpatient clients in Vietnam and found that individuals who had COVID-19-related symptoms had lower HRQOL and a higher likelihood of reporting depression. This may be because individuals who had COVID-19 may experience short-term and/or long-term physical symptoms and psychological distress (e.g., community stigma, financial/economic impacts, social isolation, worry about passing to family members) which might cause mental health concerns. Recent studies indicated that during the early stage of the COVID-19 pandemic in China, individuals who had COVID-19 were at higher risk for mental health concerns, compared with those who were not (Wang et al., 2020; Yao et al., 2020). Chen et al. (2020) also found similar results and suggested that fear and the uncertainty of illness progression and virus transmission, as well as social isolation, could cause psychological distress (i.e., anger, depression, insomnia, anxiety). These challenges are characteristic of psychosocial adaptation to emergent disability.

Other factors may also contribute to the interaction of COVID-19 and HRQOL. For example, individuals' health conditions prior to getting COVID-19 would also impact their post-infection HRQOL. Jacobs et al. (2020) found that individuals who had better baseline physical and mental health status achieved higher HRQOL after recovering from COVID-19. Similarly, HIV research literature has underscored the associations between HIV-related symptoms, comorbidity (e.g., hepatitis B, hepatitis C, mental health conditions, cancer), health conditions, and HRQOL (Langebeek et al., 2017; Rodriguez-Penney et al., 2013; Rueda et al., 2011). HIV stigma is also related to both mental health and physical health QOL, as it creates barriers to individuals' access to health care and mental health services, social life, and community integration (Roelen et al., 2020). Therefore, stigma may pose additional barriers to HIV treatment during the COVID-19 pandemic and impact PLHIV's medication adherence, health conditions, and HRQOL. In light of these findings, we recommend rehabilitation counselors assess for the psychosocial impact of COVID-19 on their clients' well-being and quality of life.

Given that many PLHIV may not experience physical symptoms that impede ability to work, some may not be aware of their legal rights. When working with PLHIV who had COVID, rehabilitation counselors will also need to evaluate if reasonable accommodations are needed to help facilitate workforce re-entry or help clients maintain employment. This is particularly relevant for clients living with HIV who may be more vulnerable to long COVID symptoms and have more substantial work limitations. Instead of returning to "normal" as it was known in pre-pandemic life, which may pose potential risks to individuals with disabilities, Saia, Nerlich, and Johnston (2021) proposed the creation of a "new flexible" approach, which allows accommodations and flexibility in the workplace, healthcare, and various societal systems. Levine et al. (2022) and Sheppard-Jones et al. (2021) also suggested that the field of rehabilitation counseling move towards a universal design framework in the post-pandemic era. This shift would include increased capacity to serve clients virtually based on their accommodation needs and individual preferences. To meet the needs of historically marginalized clients most impacted by HIV and COVID-19, rehabilitation counselor educators should infuse content related to the psychosocial needs of individuals with emergent disability, equity and inclusion, and universal design into rehabilitation counseling curriculum. Telehealth, virtual services, and the use of technology in rehabilitation counseling should also be addressed in clinical courses to prepare prospective counselors to be able to provide virtual as well as in person services.

Employment and Health-Related Quality of Life

Consistent with the literature (Reis et al., 2012; Rueda et al., 2011), our study demonstrated a significant relationship between employment status and HRQOL. Individuals who were employed and had COVID-19 during the pandemic had significantly higher levels of HRQOL, while unemployed individuals who reported COVID-19 symptoms had a significantly lower mean physical health QOL. For those who were unemployed at the beginning of the pandemic, becoming employed had a positive effect on their HRQOL. This underscores the impact of employment as a social determinant of health for PLHIV (Conyers et al., 2021). Research exploring the relationship between employment and qual-

ity of life of PLHIV indicates that transitions into employment help increase PLHIV's HRQOL due to greater financial independence and less social isolation. Chiu et al. (2021) also found that PLHIV who reported being able to work had higher HRQOL compared to those who were either not able to work or unsure if they could work. Chapin and Holbert (2010) also found that individuals who achieved employment goals had significantly higher HRQOL, compared to those who were unemployed after received vocational rehabilitation services. Employment not only provides financial resources, but also increases social interaction, a sense of belonging in the community, and self-esteem (Conyers et al., 2021).

Fear and anxiety about contracting COVID-19 also have an impact on HRQOL. Those who were employed at the start of the pandemic and who worry about contracting COVID-19 while commuting or at work reported a lower mean of HRQOL. The concerns might have impacted their mental health status as they worried about getting sick. The unemployed participants who worry about contracting COVID-19 while commuting or while working also reported a lower mean HRQOL. The concerns might result in their deciding not to enter the workforce and directly impact their economic status and quality of life. Rueda et al. (2012) found that employment interventions have a positive impact on PLHIV's health outcomes and HRQOL. However, our study did not find a direct association between the use of employment services and HRQOL. Our recommendation is for interdisciplinary, cross-sector taskforces to be established, spotlighting the importance of cultivating partnerships and cross-training among HIV service organizations, mental health service organizations, workforce development, vocational rehabilitation, education, benefits counseling, and legal services providers, to address the broad range of needs and goals of PLHIV. There are still limited studies looking at the intersection of HIV, COVID-19, employment, and HRQOL. As mentioned earlier, applying a systematic approach to conceptualizing the impact of COVID-19 on PLHIV helps us understand the complex needs and challenges. Longitudinal studies that follow those who contracted COVID-19, their transition into and out of employment, as well as changes in HRQOL are needed.

Limitations

This study has several limitations. For one, a volunteer sample was used. Those who choose to volunteer may not reflect all PLHIV in New York. Second, the data was self-reported, and the vast majority of the participants completed the survey online. These methods can also impact findings, as those who do not have access to online surveys would not be included and we are not able to verify respondents' responses. Our findings suggest that more research is needed in this area to identify vocational development and employment needs at local levels within clinical settings. This would help to better identify service needs and establish a network of partners to meet the multilevel needs. More research is also needed to evaluate the impact of employment-related interventions on reducing race and gender-related economic and health disparities and on improving quality of life and health outcomes. It would also be helpful to evaluate new and existing vocational development and employment programs and learn more about barriers and facilitators to transitioning to work among those who are employed. Since 49% of the participants who were employed reported an insecure work status, we also need to learn more about the employment needs and associated health outcomes of PLHIV who are working.

Conclusion

People with disabilities and chronic illnesses experienced tremendous changes in employment status and work conditions during the COVID-19 pandemic, including PLHIV. Our sample identified significant changes in employment status and work conditions during the pandemic and in their employment service needs. Our study findings also revealed significant associations among COVID-19 symptoms, employment status, and HRQOL. HRQOL has been recognized as an important rehabilitation service outcome measure, along with health and vocational outcomes. Rehabilitation counselors and researchers may also assess the impact of the pandemic on individuals' rehabilitation outcomes (e.g., health status, employment outcomes, independent living, quality of life) and explore factors related to their decisions of entering or returning to work. As advancements have improved medical care and treatment for people living with HIV, it is increasingly understood as an emerging disability and chronic health condition. The focus of HIV research has expanded from the evaluation of effective clinical care and treatment to long-term retention in medical care as well as individual well-being. Rehabilitation counselors may work with HIV service providers to address these complex needs of PLHIV and effectively focus services and support to amplify the abilities of PLHIV for the achievement of their employment goals and improved quality of life.

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