Characteristics of Effective Vocational Rehabilitation Interventions for Persons With Substance Use Disorders: An Overview Protocol

Younes Doostian[1], Zahra Asgari[2], Azam Naghavi

[1] *Department of Counseling, University of Isfahan, Isfahan, Iran*

[2] *Assistant Research Professor at Laser Application in Medical Sciences Research Center, Shahid Behesthi University of Medical Scienses, Tehran, Iran*

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Abstract- Individuals with substance use disorders (SUDs) experience above-general-population levels of unemployment. Vocational rehabilitation (VR) is a central component of integrated SUD treatment, but the nature of effective interventions is not well synthesized. This overview tries to synthesize systematic review evidence regarding the nature of effective VR interventions in individuals with SUDs in all stages of recovery. We will conduct systematic searches in Web of Science, CINAHL, PsycINFO, EBSCOhost, Embase, Cochrane Library, Scopus, and PubMed for English-language peer-reviewed literature systematic reviews, meta-analyses, and literature reviews between 2018 and 2025. The timeframe was selected to identify the newest developments in combined VR and SUD treatment. Search strategy, created following PRESS guidelines, will be done using MeSH terms and keywords in SUDs and VR. Study selection will follow PRISMA, with screening and deduplication in Covidence and EndNote. Overlap between the primary studies will be established via citation matrices and the corrected covered area (CCA) approach. Methodology quality in the included reviews will be measured using AMSTAR-2 and certainty of the scoping evidence via PRISMA-ScR. The primary outcome will be the determination of the key characteristics (e.g., components, delivery modalities) of effective VR interventions. This review will synthesize and consolidate key effective practices in terms of intervention components (e.g., skill-building workshops, psychological support, and contingency management) and delivery formats (e.g., in-person, telehealth, integrated care models). By building this overall framework, the findings will guide practitioners directly as to how to develop evidence-based VR programs and instruct policymakers as to how to allocate funds to the most effective VR models. The summary will also highlight important evidence gaps and recommend areas of future research to improve employment outcomes and support long-term recovery for individuals with SUDs.

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Introduction

Substance use disorders (SUDs) are a major public health problem, seriously compromising health and creating important barriers to work and social inclusion (1,2). The most relevant problem is finding and maintaining steady work. Individuals with SUDs have been estimated to have unemployment rates that are three to five times higher than the general population, a difference that is the result of a complex interplay of factors (3). These are widespread stigma and discrimination by employers, with one study identifying that as many as 74% of employers were less likely to hire an individual in recovery (4); high rates of co-occurring mental illness that affect readiness for work (5); and socioeconomic instability, such as lower education levels and incarceration or homelessness histories that further restrict opportunity (6,7). The consequences of this employment crisis extend far beyond the individual, reaching families, communities, and society as a whole

Corresponding Author: Z. Asgari
Assistant Research Professor at Laser Application in Medical Sciences Research Center, Shahid Behesthi University of Medical Scienses, Tehran, Iran
Tel: +98 9128926384, E-mail address: za.asgari@edu.ui.ac.ir

via lost production and increased healthcare costs (8).

Against such obstructions, vocational rehabilitation (VR) is increasingly recognized as a fundamental component of a complete recovery model for individuals with SUDs (9). Employment is greater than just an economic success; it is an excellent indicator of long-term recovery. Recent meta-analytic studies confirm that work following treatment is highly associated with reduced substance use, fewer relapse rates, and improved treatment retention (10,11). Work instills a sense of meaning, structures time, provides healthy social networks, and encourages self-efficacy and identity—and these are all vital in breaking the cycle of addiction (12,13).

Despite the clearly evident connection, addiction treatment programs have historically lagged in adopting coordinated vocational services (14). Consequently, the majority of recovering individuals are typically referred to low-wage, unstable work that fails to promote long-term quality of life (15). Effective VR programs, hence, need to directly address these unique obstacles by prioritizing skills development, confidence building, and providing specific support for overcoming hurdles like criminal record expungement and employer education to counteract stigma (16).

While the importance of VR is solidified, evidence for effective components of the interventions is patchy. Numerous systematic reviews of VR and SUDs exist, but they are limited to specific intervention types (e.g., IPS), substances (e.g., opioids), or narrow populations (e.g., veterans) (17,18). This siloed approach has created a vast knowledge gap: a lack of synthesized, cross-cutting evidence on the general characteristics—such as important ingredients, optimal delivery channels, and important contextual factors—that drive effective VR interventions across formats and populations.

This systematic review overview aims to bridge this gap by critically synthesizing and aggregating evidence across reviews in all disciplines. Unlike previous endeavors, this overview will integrate conclusions across disciplinary and intervention lines to make inferences about the universal principles of effective VR for SUDs. The goal is to develop a shared, evidence-based framework to inform clinical practice, policy, and research priorities.

Objective

This overview aims to synthesize the latest findings from systematic reviews to characterize the key features of effective vocational rehabilitation interventions among those with substance use disorders.

Review question

What are the key features (e.g., core components, delivery mechanisms, contextual factors) of effective VR interventions among those with substance use disorders?

Materials and Methods

Study design

The protocol for this overview has been registered in PROSPERO (CRD42018097153) and will follow the PRIOR (Preferred Reporting Items for Overviews of Reviews) checklist (19). We employed an overview of reviews methodology since it is the most suitable means of synthesizing high-level evidence from existing systematic reviews, charting general trends across a diverse literature base, and providing a broad context perspective for practitioners and policymakers (19). This method allows the condensed summarization of evidence while critically assessing the quality and potential biases of the constituent reviews.

Search strategies

The search strategy was designed to be exhaustive and reproducible. We will perform electronic searching on PubMed, Web of Science, CINAHL, PsycINFO, EBSCOhost, Embase, Cochrane Library, and Scopus. The search will be for English peer-reviewed systematic reviews, meta-analyses, and scoping reviews between 1 January 2018 and 7 April 2025. 2018-2025 was the duration used to ensure inclusion of new evidence and advancements in VR interventions for SUDs, such as the integration of telehealth with digital formats. The restriction to English-language studies is one recognized because of resource constraints for translation; this potential language bias shall be dealt with independently in the limitations section of the final overview. The search strategy will adhere to Peer Review of Electronic Search Strategies (PRESS) guidelines (20) and be peer-reviewed by a university librarian. Boolean operators (AND, OR), truncation (addict, rehab), and MeSH terms will be used and adapted to each database.

Example PubMed search string

("Substance-Related Disorders"[Mesh] OR "Substance Use Disorder" [tiab] OR "Drug Abuse" [tiab] OR addict [tiab] OR "drug dependence" [tiab]) AND ("Vocational Rehabilitation"[Mesh] OR "Rehabilitation, Vocational"[Mesh] OR "vocation rehab"[tiab] OR "job rehab"[tiab] OR "work rehab"[tiab] OR "occupational rehab"[tiab] OR "return to work"[tiab] OR "supported

employment"[tiab]) AND ("Systematic Review" [Publication Type] OR "Meta-Analysis" [Publication Type] OR "systematic review" [tiab] OR "meta-analysis" [tiab] OR "review literature as topic" [mesh] OR "narrative review"[tiab]).

Study screening

Identified references will be imported into Covidence software for title/abstract and full-text screening. EndNote V.21.5 will be used for deduplication. Titles and abstracts will be screened independently by two reviewers; full texts of potentially eligible studies will be retrieved for further assessment. Discrepancies will be resolved through discussion or by a third reviewer.

Selection process

Two independent reviewers will screen titles/abstracts and assess full-text eligibility using predefined criteria. A third reviewer will arbitrate unresolved disagreements. Inter-rater agreement will be measured using the kappa statistic at each screening stage.

Inclusion criteria

Studies will be included if they:

(a) Is a systematic review, meta-analysis, or scoping review.

(b) Evaluate vocational rehabilitation (VR) interventions (e.g., job-seeking skills training, supported employment, workplace accommodations) designed to improve employment outcomes. The intervention will be considered "effective" if the review authors conclude it has a positive impact on any predefined employment outcome.

(c) Target adults (aged 18-60) with a diagnosed or self-reported substance use disorder (SUD) who are facing employment barriers (e.g., unemployment, underemployment, and discrimination).

(d) Assess at least one employment outcome (e.g., job attainment, retention, wages, hours worked).

(e) Are published in English between 2018 and 2025 and are available in full-text.

Exclusion Criteria

Studies will be excluded if they:

(a) Are primary studies, case reports, editorials, or exclusively focus on gray literature.

(b) Lack a systematic search strategy or explicit eligibility criteria (applies to systematic reviews and meta-analyses).

(c) Fail to clearly define the population (e.g., SUD not specified) or the VR intervention.

(d) Focus on vocational rehabilitation for physical or intellectual disabilities, where outcomes for co-occurring SUD are not evaluated or are incidental to the study's aims.

Note on Scoping Reviews: Scoping reviews are included to capture the breadth of literature, but will be analyzed separately during synthesis due to their different methodological rigor and purpose.

Quality evaluation

The methodological quality of included systematic reviews will be evaluated using AMSTAR-2 (21). The methodological quality and reporting transparency of included scoping reviews will be evaluated using a tailored checklist based on PRISMA-ScR guidelines (22) to ensure transparency and rigor, though they will not be subject to AMSTAR-2 appraisal. Two reviewers will independently assess each review. Reviews rated as 'critically low' in confidence will be excluded from the primary synthesis but may be discussed in the context of limitations. The risk of bias/quality assessments of primary studies reported within the included reviews will be extracted and summarized.

Assessment of primary study overlap

Overlap of primary studies across the included reviews will be quantified using citation matrices and the corrected covered area (CCA) (23) method to gauge the degree of repetition in the evidence base.

Data extraction

Two reviewers will independently extract data using a piloted, electronic data extraction form. The extracted information will include: review characteristics (author, year, type, objectives, and number of included primary studies), participant characteristics (SUD type, recovery stage), intervention characteristics (type, components, duration, intensity, and delivery format), comparator, outcomes, main findings, author conclusions, and methodological quality (AMSTAR-2 rating).

Strategy for data analysis

Given anticipated heterogeneity in interventions, populations, and effects, we will use a narrative synthesis approach (24) guided by a six-step reflective thematic analysis (25). This will allow us to organize our findings around broad themes related to the theoretical frameworks of interventions, types of digital media, support systems, and demographic variation. The narrative synthesis approach offers an overall picture of evidence gathered using various methodologies by means of integration and description of study findings instead of

depending on statistical summaries only. Subgroup analyses will explore heterogeneity by intervention type (e.g., individual vs. group VR). Sensitivity analyses will exclude reviews with high overlap or very low AMSTAR-2 scores.

- Familiarization: Repeated reading of the included reviews.
- Generating Initial Codes: Identifying key features of VR interventions (e.g., "job coaching," "contingency management," "telehealth delivery").
- Searching for Themes: Collating codes into potential themes and sub-themes regarding effective characteristics.
- Reviewing Themes: Checking themes against the data to ensure coherence and distinctness.
- Defining and Naming Themes: Refining the essence of each theme.
- Producing the Report: Weaving the thematic analysis into a coherent narrative.

Thematic analysis will be conducted using MAXQDA software. Results will be structured around the identified key features (e.g., intervention elements, delivery models, participant characteristics). Heterogeneity will be explored by subgroup analysis (e.g., by type of intervention, SUD severity, recovery phase) and described narratively. Sensitivity analysis will be conducted by excluding reviews with critically low AMSTAR-2 scores to test the robustness of the results. The PRIOR checklist will be applied for results reporting.

Results

The results section will present the significant features of successful (VR) interventions, grouped into overarching themes derived from the reflexive thematic analysis. We anticipate that the presentation of results will be structured around key characteristics, which may include necessary intervention components (e.g., the training of contingency management, job coaching, and psychological support), comparisons of delivery formats (such as telehealth, in-person, and hybrid models), and important contextual determinants of effectiveness (e.g., integration with substance use treatment, provider training, and employer stigma management approaches).

The findings will summarize the evidence supporting specific VR models, such as Individual Placement and Support (IPS), and will integrate common elements of success found across different interventions. To explore heterogeneity, we will report subgroup and sensitivity analyses based on factors such as type of substance, phase of recovery, and study methodological quality. These results will be presented in summary tables and a narrative synthesis to provide a comprehensive overview of the evidence-based characteristics.

Discussion

This protocol outlines the plan for an overview of reviews that will synthesize evidence regarding the characteristics of successful VR interventions for SUDs. It is our hope that this overview can guide the development of more effective VR programs by determining the active ingredients and the need for standardized measures to allow future meta-analyses.

One of the key methodology challenges we anticipate is heterogeneity in review quality, as assessed by AMSTAR-2, and potential high overlap of primary studies across reviews. We will address it by excluding critically low-quality reviews from primary synthesis and using the CCA method to estimate and transparently report overlap. Besides, heterogeneity of definitions and VR intervention and outcome measures across reviews could render synthesis problematic; our thematic analysis approach can accommodate such diversity. Interim results of the overview will be translated into recommendations for action by important actors. For practitioners (i.e., clinicians, rehabilitation specialists), the synthesized framework will guide what VR components to prioritize and integrate into SUD treatment programs. To policymakers, the summary will present evidence to guide funding decisions for some proven applications of VR and make the case for the incorporation of VR services into public health policy for SUD.

This review will further outline key evidence gaps to be addressed by future studies. These may include studying VR interventions with some of the hard-to-reach groups (e.g., women, rural dwellers, and polysubstance users), piloting novel delivery platforms such as digital and telehealth platforms with high-level evidence, conducting high-level primary research and reviews using standardized core outcome sets to evaluate employment outcomes in SUD populations.

We also acknowledge that inclusion of scoping reviews introduces methodological heterogeneity; we shall mitigate that by looking at their findings thematically with explicit reference to their source to prevent conflation with those of more restrictive systematic reviews.

By using high-level evidence integration, this review aims to establish an overarching model of effective VR practices among those with SUDs. The findings can potentially add significantly to evidence-based practice and policy, ultimately towards improved employment

outcomes and to the long-term recovery of this client group. Research gap identification will aid in informing future research and further developing the discipline of vocational rehabilitation in substance use disorders.

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