A structured mixed method process evaluation of a randomized controlled trial of Individual Placement and Support (IPS)

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Abstract

Background The effect of Individual Placement and Support (IPS) has been widely documented, but in many studies, the majority of participants remains unemployed. Structured process evaluations that use mixed methods are scarce, although they could identify components that may enhance the effect of IPS. The aim of the current study is to provide a description of a structured mixed methods process evaluation of IPS in Norway.

Methods The process evaluation was conducted alongside a randomized controlled trial including six IPS centers, comparing IPS with treatment as usual in a population of patients in treatment for moderate to severe mental illness. Mixed methods were used in the process evaluation, and outcome measures were reach, barriers and facilitators, and fidelity.

Results The intervention reached the intended target group. All centers reached fair to good fidelity within the project period. Certain fidelity items seemed to indicate implementation issues related to employer contact, community-based services, and integration with health services. Less than half of the participants regarded their illness as a barrier for participation in IPS. Participants were overall satisfied and found the intervention useful, emphasizing the availability of the employment specialist and their consistent job focus, as well as the freedom to disclose their illness or not.

Conclusions Certain fidelity items indicated implementation issues during the first year, namely providing community-based services, ensuring quality in employer contact, and integration with health treatment. The employment specialist clearly played an important role for participants. Most participants described this relationship as positive, empowering, and encouraging. Trial Registration The study was registered on clinicaltrials.gov prior to the inclusion period (reg.no: NCT01964092, registered 17/07/2013, https://clinicaltrials.gov/ct2/show/NCT01964092).

Contributions To The Literature

The study describes a structured process evaluation of IPS using concepts from theoretical literature, which is lacking in previous IPS studies.
The study uses mixed methods to gain a thorough understanding of barriers and facilitators to implementation.
The study indicates a need for weighting IPS fidelity items according to their association with employment outcomes.

Background

Mental disorders represent a significant barrier to employment [1]. The WHO's 'Mental Health Action Plan 2013-2020' advices the use of so-called multisectoral approaches to treatment, characterized by coordinated services to ensure not only basic health treatment, but also access to employment [2]. One

vidual Placement and Support (IPS). IPS is an

evidence-based approach helping individuals with severe mental illness to obtain ordinary employment [3]. It is based on a recovery approach to mental illness, emphasizing consumer-orientation, social support, and integration of services [4].

The IPS principles are operationalized in an implementation manual, and quantified in a validated fidelity scale to ensure adherence to the method across implementation in different contexts [5]. High fidelity to the model is positively correlated with employment outcomes [6, 7]. Through several experimental studies, the IPS method has proved more effective than traditional employment services, such as work training and sheltered employment, providing a robust empirical base for implementation across a wide variety of cultural contexts [8].

Although IPS has consistently demonstrated effectiveness over various control conditions, the majority of participants receiving the intervention do not obtain employment [9-14]. Perhaps more thorough evaluations of implementation aspects could shed light on specific barriers and facilitators to be targeted in order to achieve a higher success rate. The aim of process evaluations is to improve the external validity of the outcome evaluation [15], and should describe what components of a given intervention are effective, for whom, and under what conditions [16, 17]. However, structured process evaluations of IPS are scarce. A recent review on implementation studies of supported employment revealed that the investigation of implementation issues take widely different approaches, from reflections based on anecdotes to semi-structured interviews and surveys [18]. The lack of common approaches makes it difficult to get an overview of implementation challenges that are generic across contexts, or specific to certain contexts. This knowledge could provide useful information both for implementation efforts in new context, as well as for piloting IPS for new target groups, such as patients with chronic pain, marginalized young people, and refugees [19, 20]. The process measures in the current study were therefore selected based on recommendations in the Linnan and Steckler framework [16], which also incorporates recommendations made by Baranowski and Stables [21] and provides consistent definitions of the basic concepts most commonly used in process evaluations of health promotion interventions.

The aim of the current study is to describe the results of the process evaluation conducted alongside the randomized controlled trial of Individual Placement and Support in Norway [22, 23]. The measures included were reach, barriers and facilitators, and fidelity. The function of the process evaluation was to complement the findings of the published outcome evaluation [22], by seeking to answer the following questions:

- What characterizes the study population for whom the intervention proved more effective than treatment as usual?
- What are barriers and facilitators to implementation as indicated by fidelity evaluations and interviews with service providers?
- What are barriers and facilitators for participation as indicated by follow-up surveys and interviews with participants?

About the IPS Trial

The IPS trial included an outcome evaluation, a process evaluation, and a cost/benefit analysis [23]. Participants were randomized to an intervention group receiving IPS in addition to treatment as usual (TAU), or to a control group receiving only treatment as usual. Participants were randomized from a computer-generated randomization list stratified by pilot center. Results from the outcome evaluation showed that IPS was more effective than ordinary employment services, and also showed improvements in the intervention group on the secondary outcomes of self-reported health and depressive symptoms, quality of life, and subjective health complaints [22]. The cost-benefit analysis showed that the intervention is not financially sustainable in the short term, but is likely to achieve this within a few years if the employment rate is sustained (ibid).

Methods

The process evaluation used mixed methods in the effort to identify barriers and facilitators of implementing IPS, and the interplay between intervention components [24, 25]. According to the taxonomy generated by a review of designs in implementation research [26], its methodological structure is QUAN + qual, meaning that quantitative and qualitative data was collected simultaneously, but the starting point for the analyses was the quantitative data.

Selection of Process Measures

The process evaluation was designed as a summative, and not a formative, evaluation, meaning that its purpose was to generate knowledge about the implementation process of a standardized intervention, as opposed to providing feedback during the development of a new intervention [24]. An overview of the process measures is provided in table 1.

Table 1. Data sources of the selected process measures at participant and service provider level.

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Reach describes whether the study population corresponded to the pre-defined target population for the

ems as well as helpful factors in the

implementation of the intervention, as reported by service providers and intervention participants. This is closely linked to *implementation fidelity* in the current study, which measures adherence to the method, or component delivery as specified by the intervention protocol.

Study Population

Data was collected from two populations: Participants in the intervention group of the outcome evaluation, and service providers. 227 participants were randomized to the intervention group at inclusion, and 96 of these returned the 6-month follow-up questionnaire. 12 participants agreed to participate in individual interviews. Data from service providers was collected through fidelity reports and six focus group interviews with employment specialists and team leaders (n=26). Inclusion criteria for participants in the main trial were that they were in treatment for moderate to severe mental illness, that they had a desire to work, and that they understood Norwegian well enough to respond to questionnaires. Mean age in the intervention group was 35 years (SD 10.9), and 50% of participants were female. There were no significant differences between the intervention and control groups at baseline [22].

Data Collection

As can be seen in table 1, the measures investigating *reach* included baseline survey data as well as M.I.N.I Psychiatric Interviews conducted at inclusion. Barriers and facilitators included data from interviews with IPS teams, as well as with intervention participants. Barriers and facilitators were also examined through items in the 6 month follow-up questionnaire to participants, and included a list of *barriers and facilitators* of participation (yes/no); *satisfaction with employment specialist*, measured through the item 'How satisfied are you with your employment specialist?', with response categories ranging from 1 = Very dissatisfied to 5 = Very satisfied; and *perceived usefulness*, measured through the question 'How useful has it been for you to participate in IPS?' with response categories ranging from 1 = Not useful at all to 5= Very useful. Data on *fidelity* was collected from evaluations of the pilot centers conducted one year into the study period, using the 25-item IPS Fidelity Scale [7]. The scrutiny of the IPS Fidelity scale enables a more fine-grained examination of possible implementation issues than more general scales of program adherence. Fidelity measurements are therefore included as indicators of barriers and facilitators at the service provider level, complemented by interview data.

Interviews

Intervention participants were contacted based on their agreement in the 6-month follow-up questionnaire, and selected from a computer-generated list of participants randomly selected from the categories "less satisfied" to "very satisfied" as indicated in the questionnaire. 12 participants agreed to be interviewed. The interviews followed a semi-structured interview guide and lasted up to 20 minutes. All participants in the study signed a written consent.

Employment specialists were asked to participate in group interviews as a team. Interviews were conducted at all six pilot centers. The interviews followed a semi-structured interview guide and lasted for approximately 1,5 hours. Both participant and service provider interviews were recorded on tape and transcribed before analyses. All participants were informed of the purpose of the interviews, that participation was voluntary, and of their right to withdraw at any time.

Data Analysis

Quantitative data were analyzed using SPSS 25 and Excel (2017). Descriptive analyses were conducted for all process measures. Qualitative data were analyzed by the use of thematic codes derived from the interview guide and the interview data itself. The transcribed interviews were studied repeatedly and codes and categories were adjusted accordingly. Data was categorized according to the coding form, and where one quote could fit in more than one category, its original categorization was re-assessed. To integrate the data sources, the quantitative findings were used as a starting point, and qualitative data were used to exemplify or elaborate on the themes derived from the quantitative data.

Results

Measures at the participant level: Reach, barriers and facilitators

Reach

The target group for the trial, as defined in the governmental commission of the study, were people in treatment for moderate to severe mental illness in secondary care. The diagnostic screening of most participants at inclusion showed that 51% of the participants suffered from severe mental illness (psychosis or bipolar disorder), and 49% fulfilled criteria for moderate mental illness (primarily affective disorders). This indicates that the study population corresponds to the pre-defined target group.
An overview of study population characteristics is provided in table 2.

Table 2. Characteristics of the intervention group at baseline.

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The study population was relatively young (x = 35, SD 10.7) and education level was low. Nearly half of the participants had experienced violence, and one third had been involuntarily committed to a psychiatric hospital. Mean of previous years worked in main occupation was 7 (SD 7). The mean rating of health-related quality of life, measured by the EQ-5D visual analogue scale, was 58 (SD 18.3).

Barriers and facilitators to participation

Table 3 shows results from the statements inquiring about barriers and facilitators to participation in the intervention. Open-ended response categories were provided, but few respondents used these, and they did not generate any additional barriers or facilitators.

Table 3. Percentage of respondents agreeing to the statements about facilitators and barriers.

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Two of the most frequently cited facilitators among participants regarded the employment specialist's role: 94% of respondents agreed with the statement 'Knowing that the employment specialist was available for me was helpful', while 81% agreed with the statement 'The regular follow-up from the employment specialist was helpful.'

Responding to a separate item regarding the employment specialist, 78% reported to be satisfied, while 13% reported to be dissatisfied. 9% reported to be neither dissatisfied nor satisfied (n=78; x = 4 SD 1.11).

All over, participants were very happy with the role of the employment specialist. Participant interviews gave further insight into the employment specialist's role, emphasizing their availability, support, and consistent job focus. When talking about availability, informants emphasized that the employment specialist was quick to respond and to express their availability:

"She is really good, really efficient. Supportive, calls and asks me to call back, to call on her spare time. If it's a good time it's a good time, if it's not a good time she calls me back up again. It's been really nice. "
Informant 2

"I think he's been really available, because even if he doesn't answer my call immediately, he calls me back up, he is always there for me if anything comes up. So yes…I feel I have received very, very good follow-up from him. So I am very happy."
Informant 8

There were a few exceptions to the positive descriptions of the employment specialist's role. Two of the informants who were less satisfied with the intervention, described the interaction with the employment specialist as challenging, and one of these got a new employment specialist as the first one quit.

Although the interview didn't contain questions about empowerment, it emerged as a topic when discussing the role of the employment specialist. Some participants said that the employment specialist 'pushed' them to keep going with the job search, and some had been confronted with their lack of motivation. This resulted in taking a more active role in the job search:

"It wasn't a threat, but they said we can't help you if you're not interested. They deserved an honest answer to that. It was the best question I could have received, instead of them saying 'We're not wasting time on this...' I woke up."
Informant 10

"It has been positive for me to start working, yes. But I do feel there is a small pressure and that I have to push myself to say yes to working. I am supposed to start working and not sit at home. And I did get a job, so maybe it's good that they push a little."
Informant 2

One participant described how being listened to in the process was important:

"If he has come with a job suggestion and I have said that this is not for me, because I will not function well there, he has just put it away immediately, he is very accommodating like that."
Informant 4

Another facilitator for participation indicated by the list of barriers and facilitators was the freedom to disclose or not: 93% of respondents agreed that 'Being able to choose whether or not to be open about my illness' was helpful. The interviews indicated that for some participants, choosing to disclose expanded the possibilities for practical help in the job search:

"Yes, it's very nice because the employment specialist can call around for me, I have anxiety about talking on the phone sometimes. And she is with me in the conversations with employers so that I understand what is being said, and she can also inquire about salary."
Informant 2

One participant reflected on the positive aspects of disclosing to potential employers:

"It might be that some employers think that they want to support it because it is kind of a good cause to help people get a job that maybe have a history of illness or have had problems, and because of that they can get a job."

Informant 7

Most of the proposed barriers were not supported by participants. However, the most agreed-upon statement was 'My illness was a barrier' (46%, n=95). Considering the target group of the intervention, this number is not particularly high. One's illness was generally not a specific theme in the interviews, at least not as a barrier for participation in IPS. One in six participants agreed to the statement 'IPS was not what I expected' (17%, n=77). Interview data provided further insight into the role of expectations. While some participants described being positively surprised by the intervention due to low expectations, others described having high expectations, and then being disappointed as the intervention progressed.

"I was promised employment within 6 weeks, and now I have waited for 13-14 months (…). I had expectations about follow-up from employment specialist and close cooperation between my doctor, the District Psychiatric Center, and a permanent position with full salary. And none of it has happened."
Informant 6

One informant stated that the follow-up was simply different from what he had expected regarding his own involvement:

"Uuuhm, but the only expectation I did have that turned out not to be correct was that I kind of thought they had some sort of obligation to help me find a job so I didn't have to do such an effort myself. But that was totally wrong. (…) It's not like I can nag them and say 'Hey, find me a job', it's more like they come alongside and back me up on the things I manage to do."
Informant 5

Two items measuring satisfaction and perceived usefulness were included as another measure of barriers and facilitators from the participant perspective, as low scores on these measures could indicate poor quality in intervention delivery, and/or low engagement with the intervention among participants (table 4). However, participants were overall satisfied with the intervention (n=95; x=3.95 SD 0.97), and also found it useful (n=96; x=3.96 SD 1.06).

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The participant interviews provided further insight into the positive responses on satisfaction and usefulness. For example, informants reported that the IPS follow-up had made them aware of their own competence and their own preferences. Most informants reported that IPS had increased the frequency of sending applications, and that they had learned more about the job interview setting. The informants emphasized that the focus on employment had been central in the follow-up:

"I haven't got a job offer, but now I apply for jobs in a different way. I have been on many interviews, so that has improved as a result of this follow-up (…). I learned how to write an application, about motivation, qualities…"
Informant 11

The first thing we did was to go over what kind of jobs I wanted, then we got my CV sorted out, how to write an application, and have everything ready for sending the application. (…) And then we went out into the job market. We went step by step, one thing after another, in the right order.
Informant 10

Doing job-related activities in itself seemed to increase the motivation to obtain work:

"I do become happier and more positive in my everyday life when I have sent applications, and called about vacancies and stuff."
Informant 1

"I enjoy working. It's really nice that they have helped me to get started. Just having an appointment with them one day, having something to show up to, not sit there and do nothing, that helped me get started."
Informant 10

Service provider perspective: Barriers and facilitators

Implementation issues at the service provider level were examined by fidelity reports and interviews with IPS teams. Results from the fidelity evaluations are presented in table 5. These evaluations were carried out approximately one year into the project period. All six centers had reached fair or good fidelity at this point, with a range of 89-109 points (median 99.5), where 125 was the highest possible score, and 75 the

Table 5. Center scores on each item, mean scores of centers, mean of lowest and highest performing centres, total fidelity score and median for each centre.

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Some trends are worth pointing out. First, a look at particularly low fidelity scores across all centers more than one year into the project period may indicate implementation barriers. Items with low scores (range 1-5) were 'Community-based services' ($x = 1$) and '*Jobdevelo ± ent*– e*quency*' (x = 2). To receive a top score on 'Community-based services', the employment specialists must spend 65% or more of their time outside the office. This should be seen in relation to the item 'Job development – frequency', indicating frequency of contact with employers. The employment specialists reported in the interviews that it had taken quite some time to develop and understand their role, and that prioritizing tasks was demanding, as expressed in the following interview remarks:

"What we always have to challenge ourselves on is the use of time, considering time spent on internal meetings, participant meetings and employer contact. To obtain the optimal allocation of resources is pretty challenging."

"Being an employment specialist is a pretty complex and difficult role, where you are a seller on the one hand, selling the best manpower there is, next you're a facilitator, an employment specialist, and you can sometimes have a therapeutic approach at times when the therapist is not there. So, it is a very difficult role, and it takes time to be secure in it."

Looking at the two items measuring "integration with health services", which is an important IPS principle, their mean score across centers is 3. Although this is above the middle of the scale ranging from 1 to 5, it is worth pointing out that according to the quality thresholds defined by the program developers, these two items barely pass the "Fair fidelity" threshold [7].

On the positive side, all six centers received top scores on the items "Caseload size" and "Employer diversity", and nearly top score on "Disclosure of disability to employers". "Caseload size" means that the caseload for each employment specialist does not exceed 20 participants, in order to ensure close follow-up in all phases of the job search. "Employer diversity" refers to the diversity of workplaces where participants get jobs. It is used as an indicator of whether employment specialists are following participants' own preferences, and not only working within the limits of their existing employer network. The item on disclosure measures the degree to which employment specialists provide information to participants about pros and cons of disclosing about their illness to an employer.

When looking at the differences on employment outcomes between the centers, three of the six centers

port of the trial [27], though there were no

apparent reasons for this difference. Overall fidelity scores varied somewhat between the centers, but the top three centers differed from the rest on two particular fidelity items. The high performing centers had an average of 1.2 points above the average of the less performing centers on the item 'Integration of IPS with treatment team', which is considered a crucial intervention component [3]. The challenges related to this topic was addressed frequently in the interviews, and are illustrated by the following remark:

"I think that it is the greatest success and the greatest challenge, that integration process (…), how we feel that they [treatment team] talk and feel concerning work."

However, the most striking difference was found between scores on the item 'Job development – quality' (indicating quality of employer contact), where the top performing centers had an average score of 2.7 points higher than the average of the less performing centers. The issue of employer contact was addressed in the interviews, as exemplified in the following remarks:

"And then you meet those…that even if you talk about employment and paid employment and ordinary employment, and they nod their head, you find out at the end of the conversation that they still expect free labor. We do a lot of work to change attitudes."

"…the job development part, that's something that for most of us, and definitely

for me, has been new and different, going out and being assertive both on the phone and in person (…) After a while I realized it's been written in the manual the whole time, that we really need to have our main focus on job development. We've made some changes now this fall where we have set targets and try to reserve days and times to do that."

"We're selling in the close follow-up (…). But it is hard to compete [with other

work rehabilitation programs], that's a barrier. Some employers have a clear

policy that they only use work practice, there is no other way in."

Discussion

The aim of the study was to report on relevant process evaluation measures of the implementation of IPS in Norway. The measures are based on recommendations in the literature, and included reach, barriers and facilitators, and fidelity.

Reach

The investigation of reach showed that the target group corresponds to the specification in the governmental commission, however, the original IPS target group is people with severe mental illness. Differences in employment outcomes between people with moderate vs severe mental illness were investigated in the outcome study, and no differences were found [12]. This may indicate that IPS is effective also for an extended target group. Some interesting points can be drawn from the characteristics of the study population. First, although all participants are in treatment for moderate to severe mental illness, mean level of health-reported quality of life is on the upper half of the scale. This shows the importance of subjective measures of health and well-being for this target group. It is also worth noticing that education level is relatively low, and the frequency of adverse events in the past (violence, having been involuntarily committed) is high. In spite of these characteristics, the intervention proved effective on employment outcomes.

Barriers and facilitators from participants' perspectives

The role of the employment specialist was perhaps the clearest facilitating factor emerging from both survey and interview data. Participants emphasized the availability of the employment specialist, the employment specialist's attentiveness to participant preferences, and participants feeling empowered to take steps out of the comfort zone. Participants also emphasized that the consistent employment focus in the follow-up was important for their motivation and learning. This is in line with one study seeking to identify the effective ingredients in supported employment from the participant perspective, which identified the themes emotional support, practical assistance and a client-centered approach [28]. An ethnographic study of employment specialist skills identified efficiency, good collaboration with partners, and developing egalitarian relationships with participants as skills differentiating successful specialists from less successful ones [29]. The findings in the current study aligns well with these results, but particularly highlights the consumer-oriented, empowering approach of the employment specialists.

Another important facilitator, found in participant data as well as in fidelity reports, was the freedom to disclose about one's mental illness or not to potential employers. The participants seem to have been given adequate support and information regarding this topic, and perceived it as valuable. A previous study has found this item to correlate positively with employment outcomes [30].

The facilitating factors discussed above align well with the values of recovery ideology, which has inspired the development of IPS [4]. Central ideals, such as empowerment and functioning in valued roles are reflected in participants' reports, as well as being evident in the principles guiding the intervention.

This may partly explain why so many participants were very satisfied with the intervention and found it useful, despite the fact that at 18 months the majority of participants (63%) had not obtained employment [22]. Results from the outcome evaluation did find that intervention participants reported

omatic symptoms, and increased levels of

functioning, quality of life, and well-being (ibid). Moreover, satisfaction and usefulness may reflect changes in participants' orientation towards ordinary employment, and that they have gained useful knowledge and self-esteem in the job search process, though it has not yet resulted in a position.

Few participants agreed to the barriers presented, however, almost half of the respondents agreed that their illness was a barrier. As the inclusion criteria was to be in treatment, this number could be expected to be even higher.

Barriers and facilitators at the service provider level

The barriers to implementation as indicated by fidelity reports and interview data (community-based services, job development, and integrated services) all represent untraditional approaches to providing vocational services, and are all related to the role of the employment specialist. Community-based services is an item that has been reported as a challenge in other IPS studies [31-33], as well as a facilitator for employment outcomes [34], and thus seems to be an important, but challenging component that may take some time to develop.

Succeeding with job development were also indicated by fidelity data as a challenging, but important component. Job development is a far more assertive approach than those used in traditional employment services [35], which is characterized by using subsidized employment, sheltered employment and work practice. The quality of job development efforts may indicate a make-or-break point for success [36, 37].

As for integration with health services, this is a core principle in IPS, and indicated in the literature as crucial for successful implementation [3]. Barriers to integration seem to be rooted in structural barriers, cultural differences in institutions, and attitudes [35, 38, 39].

Facilitators identified in service provider data to some degree complement the findings in participant data, especially the importance of disclosure and the role of the employment specialist. Both diverge clearly from traditional follow-up in the welfare administration. First, in traditional services, the vocational service provider usually makes the initial contact with an employer, directly or indirectly revealing the participant's health issues. Putting the participant in charge of the decision about disclosure is likely to enhance participants' sense of autonomy.

Second, as for facilitators related to the employment specialist, s/he has the capacity to provide close and individualized follow-up (indicated by caseload size), and acts as a mediating link between the job seeker and the employer, not only through job matching, but by increasing access to a variety of jobs for their participants (employer diversity).

Strengths of the study are its structured and mixed methods approach, and that it uses defined process evaluation measures based on existing literature. This has enabled a thorough and multi-faceted evaluation of the intervention, and enabled an integration of quantitative and qualitative findings. Compared to most other IPS evaluations, it provides richer data material from which to draw conclusions and identify areas for future research.

One limitation pertains to the validity of the fidelity reviews. It is recommended that reviewers are independent [40], which they were not in this study. However, this does not seem to be uncommon [10, 41-43]. Moreover, some employment specialists questioned the training of the evaluators in the initial phase. Another limitation lies in the participant interviews, as far more satisfied participants than dissatisfied ones agreed to be contacted, leading to selection bias.

Conclusions

Various facilitators and barriers to implementation were identified in the current study. As data on the effect of IPS increases, measures should be undertaken to enable a weighting of the different fidelity items [44], identifying crucial components of the intervention. This can facilitate more effective implementation of the intervention across contexts, and possibly enhance its effect on employment outcomes.

The most important implementation barriers identified in the current study was providing community-based services, employer contact and providing integrated services, while the most important facilitators seemed to be the role of the employment specialist, freedom of disclosure, and caseload size for employment specialists. Job development also seemed to be an important, but challenging component. These components clearly differ from traditional approaches to vocational rehabilitation, which may explain why they are challenging to implement, while clearly meeting a need among clients.

Declarations

Ethics approval and consent to participate

The study complied with the Helsinki declaration. The process evaluation was part of an outcome evaluation, described in a published protocol [23], which was approved by the Norwegian Social Science Data Services (project no. 34989, approved on 4 October 2013). Written informed consent was obtained from all patients included in the study. Service providers received written information and verbal consent was given (verbal consent was sufficient at the time as no personal or identifying information was collected).

Consent for Publication

Not applicable.

Availability of Data and Material

The datasets generated in the study are not publicly available due to restrictions imposed on data sharing by the Norwegian Social Science Data Services.

Competing Interests

The authors declare that they have no competing interests.

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Authors' Contributions

All authors edited all manuscript drafts. TF drafted and conducted the quantitative data collection and drafted the manuscript, and contributed in interview analyses. KL conducted and analyzed interviews. SE was the PI and played a crucial role in the design of the study and data collection. FS contributed with expertise on supported employment and process evaluations. All authors read and approved the final manuscript.

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Abbreviations

IPS
Individual Placement and Support
TAU
Treatment as usual
WHO
World Health Organization

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Tables

Table 1. Data sources of the selected process measures at participant and service provider level.

Process measure	Data source
Participant level	
Reach/population characteristics	Baseline survey and M.I.N.I. Interviews
Barriers and faciliators	6-month follow-up survey, interviews
Service provider level	
Barriers and faciliators	Fidelity evaluations and interviews
Fidelity	Fidelity evaluations (measured by the IPS-25 scale)

Table 2. Characteristics of the intervention group at baseline.

Variable	%	n	Mean	SD
Age		185	35	10.7
Gender (female)	51	185		
Higher education	24	182		
Reading/writing disabilities	15	182		
Years of employment experience		154	7.4	7
Health-related quality of life (EQ-VAS; 0-100)		172	58	18.3
Functioning (WHODAS; 0-48)		179	22	14
Previously experienced violence	48	180		
Previously involuntarily commited	31	173		
Years with mental health complaints		141	10.8	9.2
Psychiatric diagnoses (M.I.N.I. Interviews)				
Recurrent depression	49	140		
Psychosis	41	142		
Anxiety	60	141		
Substance addiction	15	165		
Severe mental illness	51.4	146		
Moderate mental illness	48.6	146		

Table 3. Percentage of respondents agreeing to the statements about facilitators and barriers.

Facilitators for participation	Yes	n	Barriers for participation	Yes	n
Progress was quicker than other vocational services	65 %	77	Progress was made too quickly	13 %	76
Knowing the employment specialist was available	92 %	77	It was too time-consuming	9 %	77
The action steps along the way were specific	79 %	76	I had challenges with my employment specialist	8 %	76
Freedom of disclosure	92 %	76	My illness was a barrier	43 %	77
The regular follow-up from the empl. specialist in the job search	79 %	72	IPS was not what I expected	17 %	77
			Getting to the different places (to meet employers or empl.specialist)	9 %	76

Table 4. Participants' satisfaction and perceived usefulness of the intervention.

General satisfaction (n=78)	Percentage	n
Dissatisfied	1 %	1
Not very satisfied	9 %	7
A little satisfied	18 %	14
Pretty satisfied	37 %	29
Very satisfied	35 %	27
Usefulness (n=78)	**Percentage**	**n**
Not useful at all	4 %	3
Not very useful	4 %	3
A little useful	24 %	19
Pretty useful	30 %	23
Very useful	39 %	30

Table 5. Center scores on each item, mean scores of centers, mean of lowest and highest performing centres, total fidelity score and median for each centre.

	Mean all centers	Less performing centers				High-performing centers			
		Center 1	Center 2	Center 4	Mean	Center 3	Center 5	Center 6	Mean
Case load size	5.0	5	5	5	5.0	5	5	5	5.0
Exclusively vocational services	4.4	5	5	2	4.0	5	5	5	5.0
Vocational generalists	4.7	4	5	5	4.7	5	4	5	4.7
Integration of IPS with treatment team	3.6	5	2	2	3.0	4	5	4	4.3
IPS team contact with treatment team	2.5	2	3	3	2.7	3	1	3	2.3
State vocational rehabilitation agency is actively involved	4.3	3	5	5	4.3	5	4	4	4.3
IPS team forms a vocational unit	4.8	5	5	4	4.7	5	5	5	5.0
Supervisory role of IPS team leader	3.6	4	3	3	3.3	5	3	4	4.0
Zero exclusion of clients	3.3	3	4	3	3.3	3	3	4	3.3
Agency focus on work	2.7	2	3	3	2.7	3	2	3	2.7
Agency leadership support	3.6	5	4	3	4.0	3	2	4	3.0
Benefits counseling	4.8	4	5	5	4.7	5	5	5	5.0
Disclosure of disability to employers	4.9	5	5	5	5.0	5	4	5	4.7
Individualized assessment	4.7	5	5	5	5.0	4	4	5	4.3
Rapid search	3.7	3	5	3	3.7	3	3	5	3.7
Individualized job search	4.9	5	5	5	5.0	5	4	5	4.7
Job development, frequency	1.8	1	2	1	1.3	3	1	3	2.3
Job development, quality	3.5	2	1	4	2.3	5	5	5	5.0
Occupational diversity	4.7	5	5	5	5.0	4	4	5	4.3
Employer diversity	5.0	5	5	5	5.0	5	5	5	5.0
Competitive jobs	3.6	4	5	1	3.3	5	3	4	4.0
Individualized supports	4.5	4	5	5	4.7	3	5	5	4.3
Time-unlimited supports	4.2	5	5	4	4.7	4	3	4	3.7
Community-based services	1.1	1	1	1	1.0	1	1	2	1.3
Assertive outreach to clients	4.0	5	5	2	4.0	4	3	5	4.0
Total fidelity score		97	103	89		102	89	109	
Median		4	5	4		4	4	5	

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- ConsortChecklist.doc