

## Augmented individual placement and support for people with serious mental illness: the results of a pilot study in Belgium

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### Abstract

People with severe mental illness, especially those with a poor job history and somatic comorbidity, experience different psychosocial and physical barriers to employment. The aim of the present study was to examine the effectiveness of an augmented Individual Placement and Support (IPS) program, which consists of IPS and mental and psychomotor training among people with severe mental illness.

During the period from May 2010 until December 2017, 176 clients participated in the study. Over 10 week period, people with severe mental illness receive IPS augmented with three group sessions per week of mental and psychomotor training (the I Care program). This program was based on a bio-psycho-social perspective, containing a combination of work-related psychological, educational and physical rehabilitation methods. The group consisted of people with mood, anxiety and adjustment disorders, autism spectrum syndrome, personality and psychotic disorders. Ninety (51.14%) participants had chronic medical diseases as well, mainly musculoskeletal diseases and/or chronic pain. The program resulted in a total employment 53.41% at 12 months. After three months competitive employment 97.85% of the clients was still at work. The results were compared with those reported in a Cochrane review.

The integration of mental and psychomotor training in IPS (i.e. augmented IPS) would mitigate the psychosocial and physical barriers to employment such as, poorly controlled symptoms of mental and physical illness, low self-esteem and poor cognitive functioning and increases the employment rate.

Keywords: return to work, augmented individual placement and support

## Introduction:

In recent decades, sick leave due to mental health problems such as depression, anxiety, adjustment disorders and stress-related disorders has increased considerably worldwide. Mental health problems are currently the number-one cause of absenteeism (40%), work disability and disability pension in many high-income countries. In Belgium, mental illnesses are the leading cause of work absenteeism, namely in 34,83% of cases. The percentages of unemployed disabled as consequence of musculoskeletal disorders (28.75%) and cardiovascular disease (6.67%) follow in the second and third place (Rijksinstituut voor ziekte- en invaliditeitsverzekering, 2017).

Work contributes to financial stability and offers a structure to everyday life, possibilities for personal development and social interaction; all factors that are found to promote good mental health and well-being. Common mental disorders pose a specific threat to work participation by restricting individuals' employability, reducing mental and physical work load, and thereby also negatively affecting self-esteem and mental health. Mental disorders are long-lasting predictors of onset, duration and recurrence of sickness absence, reduced productivity, work disability, and early retirement.

Despite the detrimental influence of mental illness on the employment, professional activity can play a key role in the stabilization of the mental state, it can also help in disease recovery. For people with mental illness employment is both a source of income and independence and a major contributor to social inclusion and self-determination. Most importantly, work offers hope and self-efficacy, which are vital to recovery from mental illness. However, to find and retain employment is for them not an easy task (Milfort, Bond, McGurk, & Drake, 2015).

For the society, the impact of unemployment is the risk of an almost permanently stigmatized, socially excluded group of people, and high costs. Increasing employment would bring economic benefit to individuals affected by mental illness and to society as a whole.

## 2. Main findings of a recent meta-analysis

Individual Placement and Support (IPS) is a model of supported employment for people with serious mental illness (e.g., schizophrenia spectrum disorder, bipolar, depression, anxiety and personality disorders). IPS has emerged as an effective way to help many people with severe mental illness obtain competitive employment and could potentially contribute to social and economic inclusion. Although variations of supported employment exist, IPS refers to the evidence-based practice of supported employment.

Recently, there has been a growing interest in combining IPS with psychiatric interventions (i.e. augmented IPS). A recent Cochrane network meta-analysis included 48 randomized controlled trials and cluster-randomized controlled trials evaluating the effect of interventions on obtaining competitive employment for people with mental illness (Suijkerbuijk et al., 2017). The research group only included trials with competitive employment outcomes. The authors concluded that IPS augmented with symptom-related skills and work-related problem-solving skills training was the most effective intervention. Augmented IPS was more effective than IPS only (RR 1.94), prevocational training (RR 5.42) and psychiatric care only (RR 3.81) in obtaining competitive employment.

## 3. Co-occurrence of mental and chronic medical diseases

There is a bidirectional relationship between mental and chronic medical disorders (De Hert et al., 2011). Co-occurrence of mental and chronic medical diseases is associated with increased medical and mental symptom burden, functional impairment, poor adherence to self-care regimens and increased risk of morbidity and mortality. Depression and anxiety may worsen the course of medical disorders because of its effect on proinflammatory factors, hypothalamic-pituitary axis and autonomic nervous system. In addition, unhealthy lifestyles such as poor diet, lack of physical activity, smoking and alcohol and drug

use mediate the association between mental and chronic physical diseases. Co-existing mental and physical illnesses can diminish quality of life and lead to longer illness duration and unemployment.

The reciprocal interactions between mental and physical health and social factors have important consequences at all levels of the health, employment and social care system. Integrated collaborative health care would tackle the determinants of poor physical and mental health with interventions capable of improving mental and physical health together. These might include: promotion of physical activity, prevention of hazardous alcohol use, interventions that enhance social interaction, facilitate social cohesion and combat isolation.

In people with mental illness, poor physical health and fitness, in interaction with other barriers to participation in physical activity, such as low physical self-efficacy, medically unexplained symptoms and kinesiophobia (fear of movement), lack of energy, and general fatigue may lead to a vicious cycle of loss of self-confidence, an increased avoidance of physical activity and diminished mental and physical health (Knapen, Vancampfort, Moriën, & Marchal, 2015; Shor, & Shalev, 2016). For that reason, the integration of exercise therapy into comprehensive return to work (RTW) programs is recommended.

#### 4. Factors related to return to work

People with mental illness often experience difficulties in meeting work demands with respect to mental performance (e.g., concentrating, memory), physical performance (e.g., fatigue, chronic physical diseases, decreased physical work load), interpersonal tasks (e.g., handling emotions) or handling work pressure (e.g., keeping up work pace or quality, energy regulation, setting one's personal boundaries).

In order to develop effective interventions it is important to know what factors predict return to work (RTW). Empirical evidence underlines the multifaceted nature of RTW and has demonstrated the impact of disorder-related factors (e.g., self-efficacy, severity of depressive and other symptoms, physical health), demographic factors and other individual characteristics (e.g., work history, education level, age), and environmental factors (e.g., supervisor behavior, labor market problems, stigma, issues with the social security agency) on RTW. In this article we only present the predictors of RTW in relation to the disorder characteristics and other individual characteristics.

##### 4.1. Disorder-related factors

A recent meta-analysis examined the factors influencing RTW after depression-related absence (Ervasti et al., 2017). Eleven published studies were included, representing 22.358 person-observations from five different countries. With the additional unpublished data from the 14.101 person-observations from the Finnish Public Sector study, the total number of person-observations was 36.459. Older age, somatic comorbidity, psychiatric comorbidity and more severe depression were associated with a lower rate of RTW, and personality trait conscientiousness with higher RTW. In addition, compared with other common mental disorders (CMD), employees with a major depression have lower chances for successful RTW. Especially those with a long duration of the depressive episode, co-morbid physical disorders, a history of previous sick leave and more work disability (Lagerveld et al., 2010).

A recent review presents an overview of the existing evidence on prognostic factors of (recurrent) sickness absence and RTW among workers with CMD (de Vries et al., 2018). The authors included seventy one studies. They concluded that previous episodes of mental disorder, higher symptom severity, previous absenteeism, co-morbidity, high job demands, low job control, high job strain, female gender, lower educational level, smoking behavior, and low perceived physical health are predictors of sickness absence in people with a mental disease. Earlier return to work RTW is consistently predicted by lower symptom severity, having no previous absenteeism, younger age, and positive expectations concerning sick-leave duration or RTW.

A systematic review and meta-analysis examined the prognostic factors for RTW of employees with CMD (Yeshambel et al., 2017). Eighteen cohort studies were included in the analysis (n= 24.570). Significant prognostic factors for RTW were work-related self-efficacy, age, contact with medical specialists, and work ability. Work-related self-efficacy was the most important factor in the enhancement of RTW. Self-efficacy, defined as “the belief in ones’ abilities to organize and execute the courses of action required to produce given attainments” is central to initiation and perseverance of behavior. RTW-expectations are closely related to RTW self-efficacy. Expecting a RTW, as well as perceived physical health strongly predicted actual RTW.

In order to improve RTW interventions for workers with CMD, Lagerveld tested the predictive value of self-efficacy change for RTW in addition to preintervention levels of self-efficacy (Lagerveld et al., 2017). RTW self-efficacy was measured 5 times within 9 months among 168 clients of a mental healthcare organization who were on sick leave due to CMD. The results showed that both high baseline self-efficacy and self-efficacy increase until RTW were predictive of a shorter duration until RTW. Both self-efficacy parameters remained significant predictors of RTW when controlled for several relevant covariates. This study demonstrated the prognostic value of self-efficacy improvement for RTW among employees with CMD. RTW self-efficacy was associated with general self-efficacy, locus of control, coping, physical work load and mental health problems.

In the Netherlands Volker and colleagues investigated the predictive value of RTW self-efficacy in employees on long-term sickness absence (Volker et al., 2015). Data were collected from 493 sick-listed employees. RTW self-efficacy was a significant predictor of RTW. In a multivariate model, low RTW self-efficacy, the thought of not being able to work while having symptoms (illness behavior) and having chronic medical conditions were predictors of a longer duration until RTW. Self-efficacy seems to be the most important predictor of RTW for employees with mental health problems.

A longitudinal study over a period of 12 months examined the relative value of RTW self-efficacy and RTW expectation in predicting RTW in 179 workers with CMD (Nieuwenhuijsen et al., 2014). Compared to RTW expectation, differences in RTW self-efficacy were more predictive of actual RTW. At baseline, lower fatigue, depressive symptoms, and work pace- and load were associated with higher RTW self-efficacy. Decreasing levels of fatigue and depressive symptoms over time were associated with parallel improvements in RTW self-efficacy.

A cross-sectional study investigated the relationship between RTW potential, according to the Worker Role Interview assessment, and clinical characteristics and level of empowerment and occupational engagement among 120 persons with severe mental illness who express their own interest in working (Bejerholm & Areberg, 2014). RTW potential was significantly associated with having fewer symptoms, rehabilitation support or productive activities, and higher levels of engagement and empowerment. Depressive symptoms and occupational engagement explained 42% of the variance. Milfort and colleagues examined barriers to employment among 430 Social Security Disability Insurance beneficiaries with mental disorders who received evidence-based vocational and mental health services for two years but worked less than one month or not at all (Milfort et al., 2015). Comprehensive care teams made consensus judgments for each participant, identifying the top three barriers to employment from a checklist of 14 common barriers. The most frequently identified three barriers to employment were poorly controlled symptoms of mental illness (55%), nonengagement in supported employment (44%), and poorly controlled general medical problems (33%).

Russinova and colleagues conducted a 5-year prospective, longitudinal study using a geographically broad sample of individuals with serious mental illness who met established criteria for sustained competitive employment (n = 529). Despite stable employment at study entry, more than half of the participants experienced work interruptions during the 5-year follow-up period. Predictors of sustained employment included the absence of a trauma diagnosis, Social Security disability income, psychiatric

hospitalizations, and difficulties with daily functioning. The presence of a higher quality of life, workplace supports, and a flexible job were also predictive (Russonova et al., 2018).

#### 4.2. Demographic factors and other individual characteristics

Several demographic factors and other individual characteristics explain RTW chances, such as work history, engagement in RTW programs, low social functioning, recovery expectations, high level of empowerment, higher age, lower educational level, low job control, high job strain, female gender, and marital status (widowed, divorced or single) (Lagerveld et al., 2010).

#### 4.3. Conclusion

Moderate to strong evidence was found for the associations between disorder-related factors and other individual characteristics and RTW.

Factors associated with a higher rate of RTW are: high work-related self-efficacy (i.e. the most important factor), positive expectations concerning sick-leave duration or RTW, lower symptom severity, work history, having no previous absenteeism, positive perceived physical health and fitness, lower fatigue, personality trait conscientiousness, younger age, a higher quality of life, workplace supports and a flexible job.

Factors associated with a lower rate of RTW are: low work-related self-efficacy, negative RTW expectations, higher age, somatic comorbidity, low perceived physical health, psychiatric comorbidity, a long duration of the depressive episode, severe depression, higher symptom severity, previous episodes of mental disorder and previous periods of sick leave due to a physical disease, more work disability, low job control and high job strain, trauma diagnosis, Social Security disability income, psychiatric hospitalizations and difficulties with daily functioning.

We can conclude that interventions with a focus on the most important predictive factors can enhance RTW.

### 5. Integration of psychomotor and mental training in a RTW program: the I Care concept

AZERTIE, a center for vocational rehabilitation in Belgium, has been guiding individuals with a work disability for over 30 years to various attendant functions such as general clerking, networking, administrating or programming.

The past 8 years AZERTIE noticed a strong increase in the number of individuals with a mental vulnerability. Initially the dropout of this target group was very high, over than 50% (20% for clients without mental vulnerability), and the employment rate very low, approximately 10%. In order to reduce the dropout and to increase the overall employment rate of this very vulnerable group, the AZERTIE team developed the I Care program. This group program is intended for job-seekers with mental illness, often associated with somatic diseases, that are after a long period of inactivity attempting to reintegrate into the formal labor circuit. From the start the I Care concept was based on the scientific evidence of psychomotor and mental training on the mental and somatic health of people with mental illness, under the maxim "doing what works" (Bandura, 2004; Cooney et al., 2013; Reme, Grasdal, Løvvik, Lie, & Øverland, 2015).

There is clear scientific evidence for the benefit of regular physical activity on both prevention and treatment of diabetes, cardiovascular disease, osteoporosis, depression, anxiety, schizophrenia, eating disorders and dementia (American College of Sports Medicine, 2017; Rahman et al., 2018). There is a clear correlation between physical activity and all-cause morbidity and mortality. Sedentary behavior increases the risk of cardiometabolic conditions that impede on and affect one's quality of life, physical

fitness and working abilities. The effects of physical exercise on morbidity and physical fitness are important reasons to increase physical activity among people suffering from mental and chronic physical diseases. Especially cardiovascular fitness has been established as an independent predictor of morbidity and mortality. Furthermore, chronic aerobic exercise appears to induce both neurogenesis and angiogenesis, which are important for improving cognitive function of people with mental disorders (Oertel-Knöchel et al., 2014). Therefore, the psychomotor training is focused on improving the cardiovascular fitness.

The integration of psychomotor and mental training in a RTW program for people with mental illness is an example of good clinical practice for a structural collaboration between the vocational rehabilitation and the mental health care in Belgium. The I Care concept could be considered as augmented supported employment with symptom-related skills and work-related problem-solving skills training and additional personalized exercise training (Knapen, & Vancampfort, 2014; Reme, Grasdal, Løvvik, Lie, & Øverland, 2015; Silveira et al., 2013).

### 5.1. Evidence-based approach with the focus on the success factors.

The evidence based I Care program strongly focuses on the most important personal success factors in RTW programs for people with mental illness namely, the work-related self-efficacy, positive expectations concerning RTW, severity of mental symptoms, symptom-related coping skills, illness perceptions, physical health and fitness, the work readiness, the work attitude and work-related problem-solving skills. The eclectic I Care concept integrates the basic principles of augmented IPS, the recovery-oriented care, the cognitive behavioral therapy, psychomotor therapy and solution-oriented therapy.

### 5.2. Interdisciplinary collaboration and method

The interdisciplinary I Care team consists of the director of AZERTIE (clinical psychologist), a company doctor who is responsible for the inclusion of the clients, the medical follow-up and contacts with the treating physicians, a psychomotor therapist/physical therapist and a clinical/neurological psychologist who are respectively responsible for the psychomotor and mental training. The I Care team members work closely with the job counsellors who accompany the clients during their training, internship and employment. The participants of the I Care program follow during their training and accompaniment three sessions per week mental (1 h 30) and psychomotor training (1 h 30) over a period of 10 weeks. Psychomotor training includes individually adapted fitness training, stretching, yoga exercises and breathing exercises, education around dealing with pain and fatigue complaints, desk gymnastics and ergonomic advice. Following the guidelines of the American College of Sports Medicine, the moderate exercise stimulus is adapted to the individual physical abilities, health and training status, patient's own expectation and goals, side effects of psychotropic and somatic medication, exercise tolerance and perceived exertion and pain of the particular participant (American College of Sports Medicine, 2017).

The mental training consists of various relaxation and stress management techniques, coping skills with crisis situations, symptoms-related skills, work-related problem-solving skills and relapse prevention (Reme, Grasdal, Løvvik, Lie, & Øverland, 2015; Suijkerbuijk et al., 2017). The content was tailored to facilitate the learning of skills specific to the workplace, such as recognizing and managing one's stressors at work, determining and modifying dysfunctional thoughts (e.g., not jumping to conclusions, finding alternatives, seeking facts), overcoming obstacles to return to work, improving work-related self-efficacy (recognizing strengths and qualities), dealing with criticism, using positive assertiveness and overcoming (self-)stigma.

The I Care concept is based on a bio-psycho-social perspective, containing a combination of psychological, educational and physical rehabilitation methods. Both mental and psychomotor training are focused on improving work-related self-efficacy. Self-efficacy is a component of social cognitive theory, believed to operate through motivation, actions and thoughts. The concept of self-efficacy was

initially outlined by Bandura and is described as being central to human behavior (Bandura, 2004). It can be thought of as belief in one's own ability to handle or perform a specific task or activity and is, thus, related to an individual's expectations of an outcome. Positive expectations can encourage an action while negative expectations can conversely act as an obstacle. Self-efficacy is influenced by an individual's self-evaluation and experiences. Bandura describes four sources of information from which individuals assess their self-efficacy, these are: (1) social persuasion; (2) physiological and affective states (i.e. judgment of one's own ability through the experience of the physical- and mental condition); (3) vicarious experiences; and (4) enactive mastery (i.e. evaluation based on earlier successes and failures, successes build a strong belief in one's own ability and reinforce the level of self-efficacy; in contrast, failures will instead weaken the level of self-efficacy). Self-efficacy affects the goals that individuals set for themselves and the higher self-efficacy an individual experiences, the greater goals they expect their actions to achieve. In general, people with CMD on long-term sick leave have lower levels of work-related self-efficacy (i.e. low belief in their ability to return to work). They will not expect their actions to achieve much and will give up faster if difficulties arise, instead of facing them. With time, they become more passive, less motivated and lose their daily routines. In return-to-work programs, they need professional support and guidance to overcome these obstacles and to increase their work-related self-efficacy and work readiness.

### 5.3. Research objective

The objective of the study was to investigate the effectiveness of the I Care program on the inflow and maintained employment of people with mental illness into the regular labor market.

The study procedure was approved by the Ethical Committee of AZERTIE/IGL in accordance with the ethical principles of the Declaration of Helsinki, and all participants gave the research co-ordinators their written informed consent.

### 5.4. Subjects

During the period from May 2010 until December 2017, 176 clients participated in the study. The group consisted of people with mood, anxiety disorders and adjustment disorders, autism spectrum syndrome, personality and psychotic disorders and psychosomatic disorders such as chronic fatigue. Ninety (51.14%) participants had chronic medical diseases as well, mainly musculoskeletal diseases and/or chronic pain. In a number of patients depression or anxiety disorder was secondary related to a severe somatic pathology such as cancer or cardiovascular disease.

### 5.5. Results

Data of drop-out and competitive employment were complete for all participants up to 3 months after employment. During the 10 weeks I Care program 26 of the 176 (14.77%) participants dropped out. The remaining 150 clients followed after the I Care program additional training at AZERTIE of which 93 (52.84%) were employed within the year and one has a perspective on work. Fifty-six participants (31.82%) ended the training without any perspective on paid work. After three months competitive employment 97.85% of the clients was still at work.

After the 10 week program the participants improved on the variables self-efficacy, self-esteem, cardio-respiratory fitness, and fatigue and pain perception. These results will be published elsewhere.

### 5.6. Conclusion and discussion

The aim of the present study was to investigate the effectiveness of a RTW program for people with mental illness in a societal context characterized by high social security, a moderate unemployment and a comprehensive welfare system. The integration of psychomotor and mental training in a RTW program for people with mental illness resulted in a total employment 53.41% at 12 months. After three months

competitive employment 97.85% of the clients was still at work. The integration of psychomotor and mental training in a RTW program could be considered as augmented supported employment (IPS with symptom-related skills, work-related problem-solving skills training and personalized exercise training) which is the most effective intervention (Suijkerbuijk et al., 2017). Evidence-based augmented IPS helps people with serious mental illness, especially those with a long duration of illness, a low work-related self-efficacy, poor job histories and physical comorbidity, to obtain competitive employment.

The first limitation of the study is the lack of a no-treatment control group. Therefore the results should be interpreted with caution. Nevertheless, when we compare the total employment rate (53.41%) with the rate of the period before the start-up of the I Care program in 2010 (10%), we can conclude that the I Care program increased the employment of this vulnerable group five-fold. Our employment rate (53.41% at 12 months) is higher than those reported in a Cochrane review. This systematic review, including 18 randomized controlled trials, found that at 18 months 34% of people with mental illness who only received IPS were employed (Suijkerbuijk et al., 2017). A recent Norwegian study (n = 410) evaluated the effectiveness of IPS for people struggling with work participation due to mental illness. At 12-months follow-up, 36.6% of participants in the IPS group and 27.1% of participants in the control group (high-quality usual care) were in competitive employment, while the difference was slightly higher (37.4% versus 27.1%) at 18-months follow-up (Reme et al., 2018).

Our higher competitive employment compared to earlier investigations could be explained by the focus on the work-related self-efficacy, an important factor of RTW, and the integration of personalized exercise training in the comprehensive RTW program. Mental disorders such as depression, bipolar and anxiety disorders, and schizophrenia are associated with declined cognitive functioning (i.e. slower information processing, psychomotor retardation, poor memory and concentration functioning and reduced task tension) (Lipskaya-Velikovsky et al., 2018). Experimental and clinical evidence suggests that aerobic exercise improves cognitive performance in people with severe mental illness (Oertel-Knöchel et al., 2014). In this target group exercise training not only improves mental and physical health, but also produces 'positive side effects' on cognitive functioning. Exercise therapy would mitigate the negative effects of poor cognitive functioning, somatic comorbidity and low (perceived) physical health.

The dropout rate (14.77%) is significantly lower than before the start-up of the I Care program (> 50%). The dropout is comparable with those reported in a recent meta-analysis (15%) (Suijkerbuijk et al., 2017).

The second limitation of the study is the lack a long-term follow-up after three months employment. We plan a follow-up duration after 6, 12 and 18 months competitive employment and also an analysis of the reasons of job lost.

The main strength of the study is the no-exclusion of individuals who also suffer from chronic medical diseases. Ninety (51.14%) participants had chronic somatic health problems as well, mainly musculoskeletal diseases and/or chronic pain. These patients experience both psychological and physical barriers to competitive employment.

## 5.7. Implications for the future

The I Care concept integrates IPS, mental training and personalized exercise training and incorporates a focus on both RTW and mental and physical health (i.e. integrated collaborative care). The benefits of integrated collaborative care for both persons with mental illness and the society should inspire further investigations on the effectiveness and cost-effectiveness. Collaboration between academic researchers, psychiatrists and other physicians, centers for vocational rehabilitation and policymakers is in Belgium a novel policy issue and could lead to important clinical guidelines. Such collaborations can help bridge the gap between scientific research and clinical practice.



**The authors report no conflicts of interest.**

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