EU COMPASS FOR ACTION
ON MENTAL HEALTH AND WELL-BEING

PREVENTION OF DEPRESSION AND PROMOTION OF RESILIENCE

- Consensus Paper -

Pim Cuijpers, Laura Shields-Zeeman, Bethany Hipple Walters, Ionela Petrea

Funded by the European Union in the frame of the 3rd EU Health Programme (2014-2020)

This report was produced under the EU Health Programme (2014-2020) in the frame of a service contract with the Executive Agency (Chafea) acting under the mandate from the European Commission. The content of this report represents the views of the contractor and is its sole responsibility; it can in no way be taken to reflect the views of the European Commission and/or Chafea or any other body of the European Union. The European Commission and/or Chafea do not guarantee the accuracy of the data included in this report, nor do they accept responsibility for any use made by third parties thereof.

This paper represents the Deliverable 7a of the EU Compass Consortium under the service contract number 2014 71 03 on "Further development and implementation of the 'EU Compass for Action on Mental Health and Well-being' ". The EU Compass is a tender commissioned by the European Commission and Consumers, Health, Agriculture and Food Executive Agency and is implemented by a consortium led by the Trimbos Institute in the Netherlands, together with the NOVA University of Lisbon, the Finnish Association for Mental Health and EuroHealthNet under the supervision and in close cooperation with the "Group of Governmental Experts on Mental Health and Wellbeing".

CONTENT

Introduction

This paper provides scientific background information on the prevention of depression and promotion of resilience, while it also incorporates input from Member States and European stakeholders, in line with Deliverable 7 and task 3 of the EU Compass tender commissioned by Chafea/DG SANTE. The paper will support the work of the EU Group of Governmental Experts on Mental Health and Well-being (GoGE) on this theme and will constitute the foundation of a thematic position paper which will be shared for consultations with Member States and relevant non-governmental stakeholders. The paper will explain the issue at stake, provide a description of the situation and challenges, a brief summary of relevant activities and good practices at EU-level and in Member States and finally, propose principles and recommendations for action.

Prevention of depression and promotion of resilience: Magnitude of the problem

Mental ill health is an urgent public health and socioeconomic challenge in Europe; to illustrate, the economic burden of mental ill health in Europe in 2015 accounted for 2.2% to 4.4% of GDP in OECD Member States (OECD, 2015). In the 27 EU Member States at that time, this translated to an estimated cost of €610 billion every year, with the bulk of the financial impact borne by employers due to absenteeism and presenteeism amounting to € 270 billion, the economy in terms of lost output amounting to € 240 billion, healthcare systems due to treatment costs amount to € 60 billion, and social welfare systems due to disability benefit payments costing € 40 billion (EAHC, 2013). The burden of mental illness reaches beyond these economic challenges and places a substantial burden and pressure on carers, family members and society at large (Wykes et al., 2015).

For nearly 900 million people living in Europe, mental disorders constitute one of the most significant yet most neglected public health problem, based on prevalence, burden of disease and disability, even compared to other chronic conditions. Every year, mental disorders affect more than a third of the European population (WHO Europe, 2013). Major depression affects an estimated 30.3 million Europeans and psychotic disorders affect 5 million Europeans, based on 12-month prevalence rates (Wittchen et al., 2011). Mental disorders also rank first compared to other chronic diseases as contributing the most years lived with disability (YLD) (Whiteford, Ferrari, Degenhardt, Feigin, & Vos, 2015; WHO Europe, 2013; World Health Organisation, 2014). Depression is also associated with a lower quality of life in both individuals suffering from

depression as well as their relatives (Saarni et al., 2007; Üstün, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004).

While substantial efforts are dedicated to treatment options for depression, considerably less is done to prevent the influx of new cases of depression. Preventing depression is important as current treatment options can only reduce the disease burden by 34%, if all patients suffering from depression would receive an evidence-based treatment (Andrews, Issakidis, Sanderson, Corry, & Lapsley, 2004). Investing efforts in preventing depression, however, can reduce the incidence of new cases of depression by 21% (van Zoonen et al., 2014). Over the past decade, there has been a sizeable evidence base amassed about the effectiveness of preventive interventions for depression as well as which target groups can benefit from specific preventive measures.

Definition of mental health prevention and promotion

Preventive interventions can be defined as interventions that are conducted before meeting formal diagnostic criteria for a mental disorder (Mrazek & Haggerty, 1994; O'Connell, Boat, & Warner, 2009)[1]. Preventive interventions are designed for people who exhibit depressive symptoms but which are sub-threshold to warrant a formal diagnosis, or people with a high-risk of developing depression, for instance after exposure to stressful life event or traumatic event.

Preventive interventions can fall under three categories: universal prevention, selective prevention and indicated prevention (Mrazek et al., 1994; O'Connell et al., 2009). Interventions and/or prevention programs can be directed at an entire population (universal prevention), only those at high risk (selective prevention), or only those with emerging symptoms (indicated prevention) (Tan et al., 2014). A school-based intervention administered to all students or a mass-media campaign would be considered universal prevention programs, compared to selective prevention which would be high-risk groups such as an intervention designed to intervene for people who have recently experienced a traumatic event such as death of a loved one. Indicated prevention interventions are aimed at intervening among individuals displaying some symptoms of a mental disorder but do not meet full diagnostic criteria, such as a mood management training intervention for people with subthreshold depression. Promoting resilience differs from universal, selective and indicated prevention as it focuses on contributing to improving overall well-being rather than prevention of illness and disorder. That being said, mental health promotion efforts may also decrease symptoms related to a disorder or decrease the likelihood of developing a mental disorder

[1] Diagnosis as per the Diagnostic and Statistical Manual for Mental Disorders (DSM) or the International Classification of Diseases

(O'Connell et al., 2009). Although definitions of resilience in mental health have evolved over time, it is usually referring to positive adaptation or the ability to maintain or regain mental health despite experiencing adversity (Herrman et al., 2011). In other words, resilience can be defined as the ability of individuals to absorb life's challenges and to carry on and persevere in the face of adversity (Earvolino-Ramirez, 2007).

This paper presents the evidence base for universal, selective and indicated prevention of depression, as well as interventions and/or good practices focused on promoting resilience. The article will also describe good practices emerging from the research literature and subsequently outline principles and recommendations for actions as it ties to the objectives of the consencus papers.

Methodology

This paper synthesizes the state-of-the-art on prevention of depression and promotion of resilience from three sources: results from the survey among Member States from the EU Compass for Mental Health and Wellbeing, reviews of results from meta-analyses of randomized controlled trials of preventive interventions, and results from the thematic report of the Joint Action on Mental Health and Wellbeing on prevention of depression and suicide.

Related to the reviews of results from meta-analyses of randomized controlled trials of preventive interventions, it is important to note that the authors carried out a systematic search in scientific databases for meta-analysis which were published in 2005 or later to ensure that studies and data included in the meta-analyses were relevant and up to date. Meta-analysis provides a statistical mean effect of a particular intervention across numerous research studies, therefore providing a good overview of the estimated efficacy of a particular intervention. The effects of interventions are typically given in terms of the standardized mean differences (SMD). The SMD indicates the difference between an intervention and a control group in terms of standard deviations. SMDs of 0.2 are generally considered as small, 0.5 as moderate and 0.8 as large (Cohen, 1988).

Action to prevent depression and promote resilience in EU Member States

In recent years in Europe, there has been movement towards effectively and efficiently preventing and managing depression in the population. This movement can be seen in the development of policies promoting prevention and treatment at the

national level and in the development and implementation of programs for the prevention and treatment of depression.

The Joint Action report on *Mental Health and Well-being* on the prevention of depression and suicide reveals that of the nine European countries studied in depth (Bulgaria, Denmark, Estonia, Germany, Hungary, Ireland, Latvia, the Netherlands, and Sweden), preventing depression and promoting resilience has impacted national and regional policy in Belgium, Bulgaria, Croatia, Denmark, Finland, Germany, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Portugal, Spain, Turkey, and the United Kingdom. This priority setting ranges from including questions about depression and suicide on national surveys (Bulgaria), creating taskforces to investigate the mental health system in regards to depression (Denmark), and including the prevention of depression in national mental health plans (Portugal). Some countries have a dedicated national policy regarding prevention of depression (Hungary, and Netherlands is in the process of developing it).

Many European countries have focused on the development and implementation of programs for the prevention and treatment of depression. As such, Bulgaria, Denmark, Estonia, Germany, Latvia, and the Netherlands support, through legislation, the recognition and treatment of populations at risk of suicide in specialised care. Other efforts consist of including mental health concerns in the Child Health Strategy (Austria), increasing workplace awareness of depression (the Netherlands), and implementing programs related to mental health concerns, including depression, in schools, neighbourhoods, and with those at risk of social exclusion (Spain).

The EU-Mental Health Compass Survey carried out in late 2015 and early 2016 by 21 Member States revealed several findings related to good practices for preventing depression and promoting resilience in Europe. First, the majority of the countries surveyed (13 of 21) have targeted actions or interventions to support high-risk vulnerable groups (e.g. unemployed, minority groups) with tools or programs to build resilience.

Related to preventing depression, 12 of 21 countries encourage recognition (including early recognition) of depression across levels of care (community, primary, secondary, tertiary care) and among different types of medical and health professionals (general practitioners, psychologists, nurses, medical specialists). That being said, only 10 MS use routine screening tools for depression among general practitioners and psychiatrists.

Related to awareness and advocacy raising for depression preventing, just under half (10) of MS have collaboration between the health, education and labour sectors for raising awareness of depression and for enabling better access to support. Eight MS have mobilized efforts to raise awareness about depression among service users and their carers.

Related to e-health and digital tools for preventing depression and promoting resilience, 8 MS implement evidence-based e-mental health tools that help with preventing depression or mitigating the onset of major depression through self-help and/or self-management approaches. Only 5 MS include e-mental health tools for preventing depression in academic or continuous medical education curricula and very few MS (4) tailor existing digital tools that have been effective in other MS to their own country context.

Current situation and challenges emerging from scientific research on preventing depression and promoting resilience

Preventing depression in schools

Implementing preventive interventions in schools is suitable for several reasons. First, depression in children and adolescents is an important problem from a public health perspective: the prevalence of depression is estimated at 2.5% in children and 8.3% in adolescents with high recurrent rates, often leads to poor psychosocial and academic outcomes, and is associated with an increased risk for other mental disorders (Birmaher et al., 1996). Furthermore, clinically relevant depressive symptoms (sub-threshold symptoms) that do not meet criteria for major depressive disorders are found in up to 30% of the adolescents (Ryan, 2005). Second, depression rates begin to rise in early adolescence (Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993) and by the age of 18, about one in every four adolescents has had at least one depressive episode (Clarke et al., 2001; Lewinsohn et al., 1993); many adults with recurrent depression have their initial depressive episodes as teenagers (Pine, Cohen, Gurley, Brook, & Ma, 1998). The age of onset for major depressive symptoms differs from the age of first diagnosis: to illustrate, 50% of those who have ever suffered from major depressive disorder (MDD) develop depression at 25.8 years, however the age when they receive their first diagnosis is 38.8 years (Mrazek et al., 1994). This means that many people who eventually develop a major depressive disorder have subthreshold symptoms of depression for several years. During these years (often during adolescence or young adulthood), preventive interventions may be able to reduce the risk of developing depressive disorders. Third, schools provide a relatively easy setting for implementing research as they provide a structured setting with easy access to intervention participants.

There is a substantial body of evidence for depression intervention in children and adolescents. The largest pooled body of evidence is the meta-analysis of 53 studies

(Merry et al., 2011) that found that the risk of having a depressive disorder after the preventive interventions was significantly reduced with 9% (Risk difference: -0.09; 95% CI -0.14~-0.05) compared with the control group. This was still significant at 3 to 9 months (RD=-0.11) and at 12 month follow-up (RD=-0.06). Both targeted (indicated and selective) prevention and universal prevention were significant in reducing depressive disorders. The majority of interventions included in this meta-analysis are based on cognitive behavioural principles in which students learn engaging in enjoyable activities can increase mood, how dysfunctional thinking can negatively impact mood, and how dysfunctional and unhelpful thoughts can be changed. This meta-analysis also showed that the effects of preventive interventions on reducing depressive symptoms among children and adolescents is significant, but small (SMD=0.20) when compared with no preventive intervention. To conclude, there is some evidence to suggest that depression prevention programmes (covering universal, selective and indicated prevention, which also include some components of cognitive behavior therapy) can prevent the onset of depressive disorders, when compared to no intervention at all. Greater study quality of the individual studies included in this meta-analysis would lead to increase confidence in this recommendation.

Several good practices related to preventing depression in schools have been implemented in Europe. One such initiative is the European Union co-financed SUPREME project (www.supreme-project.org); the project team carried out a randomized controlled trial among 2100 European students using an intervention website for mental health promotion and suicide prevention. It provided an overview of mental health issues, how to deal with them, and contact information customised per country involved in the SUPREME project. The intervention was able to reduce symptoms of depression at 2 and 4-month follow-up.

In addition, several research studies carried out in Germany, synthesized in a recent meta-analysis (Corrieri et al., 2014), have been effective in preventing depression among children and adolescents. These 3 universal preventive programs consisted of cognitive-behavioural therapy elements, information-giving on mental health and wellbeing, and social competence training. These programs were implemented by mental health professionals and consist of a series of sessions carried out in schools, by class.

Prevention of depression in the workplace

Preventing depression in the workplace is essential for several reasons. Depression disproportionally affects adults who are of working age thus having a substantial impact on businesses and governments (Harvey, Henderson, Lelliott, & Hotopf, 2009; Henderson, Harvey, Øverland, Mykletun, & Hotopf, 2011). Depression is one of the two leading causes of work years lost through disability and premature death and constitute

the leading cause for sick leave and productivity loss in most developed countries (Chisholm et al., 2016; Harvey et al., 2009; Henderson et al., 2011). There is a growing body of research examining possibilities to prevent depression in the workplace, in part due to organizations increasingly recognizing that they have a responsibility with regard to employee health (Corbière, Shen, Rouleau, & Dewa, 2009; National Institute for Clinical Excellence, 2008; Tan et al., 2014). Although most work-based interventions are aimed at treating existing disorders, a growing body of research is aimed at prevention of depression and mental health problems (Martin, Sanderson, & Cocker, 2009). Such preventive interventions may not only lead to the prevention of mental disorders, but may also reduce costs for workplaces (Hamberg-van Reenen, Proper, & van den Berg, 2012).

Previous scholars have stipulated that universal interventions may be the most appropriate prevention approaches for application in the workplace. Applying a universal intervention in the workplace allows implementers to reach individuals who may not usually want to seek treatment or disclose symptoms to their superiors or colleagues for fear of stigmatization and potential impact on their employment. This fear has been shown in research which found that prejudiced attitudes by employers towards individuals with depressive symptoms are common ("Joint Action on Mental Health and Well-being Situation analysis and recommendations for action," n.d.).

There is scientific evidence supporting implementation of universal prevention programs at the workplace (Tan et al., 2014). A meta-analysis which included nine trials examined the effects of interventions ranging from exercise, weight management, and health promotion, to psychological interventions such as stress management and workplace stress reduction. Overall, these programs were found to have small, but significant effects on reducing depressive symptoms (SMD=0.16; 95% CI: 0.07~0.24). Programs based on cognitive behaviour therapy also had small, significant effects on depression (SMD=0.12; 0.02~0.22). Two of these implemented studies were carried out in Europe (Finland).

Prevention of postpartum depression

Another important target group for preventive interventions is women with postpartum depression (PPD). PPD is a depressive disorder with the same characteristics as other depressive disorders, with the exception that it occurs within four weeks postpartum (Elliott et al., 2000). Approximately one in every seven new mothers is affected by PPD (Wisner, Chambers, & Sit, 2006), resulting in an overall prevalence rate of 10-15%, with substantial variation between populations (Grote et al., 2010). Postpartum mood disorders represent the most frequent form of maternal morbidity following delivery (Stocky & Lynch, 2000).

There are several challenges in the prevention and treatment of PPD. First, there is substantial stigma associated with PPD, and many women with PPD have feelings of shame and loneliness that often lead women to hide their symptoms and feelings from their social surroundings (Murray & Cooper, 1997) and create reluctance to seek help. Untreated PPD often remits spontaneously after four to six months (O'Hara, 1997), but can in some cases easily last (much) longer, causing serious prolonged suffering (Cooper & Murray, 1998). Due to the fact that it causes considerable distress and disruption to the women and their families, prevention is generally considered a priority (Cooper, Murray, Wilson, & Romaniuk, 2003). At the same time, early detection and intervention is important, as children with affected parents can incur long-term emotional, cognitive and behavioural problems (Grote et al., 2010). For example, mothers with postpartum depression were less likely to have a healthy lifestyle and therefore less likely to have healthy feeding and sleep practices with their infant (George, Milani, Hanss-Nuss, & Freeland-Graves, 2005; Paulson, Dauber, & Leiferman, 2006). Despite the importance of early intervention, PPD screening tools are often not utilised in routine care.

Scientific reviews show that psychological interventions are most widely implemented and effective, reducing the development of postpartum depression by 22% compared to no intervention (RR=0.78; 95% CI: 0.66~0.93). These were the findings of the largest meta-analysis of psychological interventions to prevent postpartum depression included 28 trials with almost 17,000 women (Dennis & Dowswell, 2013; see also Sockol, Epperson, & Barber, 2013). The most promising interventions were found to be the provision of intensive, individualized postpartum home visits were provided by trained public health nurses or midwives, lay-based telephone support lines, or interpersonal psychotherapy treatment. The authors of this meta-analysis conclude that these interventions significantly reduce the number of women who develop postpartum depression. Other interventions to prevent postpartum depression exist, such as prescription of antidepressants, or using dietary supplements; however, there is not enough base of evidence to support their effectiveness as the number and quality of studies is too small to develop a sound recommendation (L. Howard, Hoffbrand, Henshaw, Boath, & Bradley, 2005; L. M. Howard, Boath, & Henshaw, 2006; Miller, Murray, Beckmann, Kent, & Macfarlane, 2013).

Several good practices related to preventing postpartum depression in Europe are in the United Kingdom both in terms of service delivery approaches as well as advocacy efforts.

Within primary health care services, health professionals were trained in the assessment and identification of depressive symptoms using a validated scale (Edinburgh Postnatal Depression Scale) and additional clinical assessment skills building therapeutic alliances with clients (Brugha, Morrell, Slade, & Walters, 2011). In addition, they were trained to deliver psychosocial approaches which incorporated elements of either cognitive-behavioural therapy and/or person-centred care (Brugha et al., 2011).

This approach resulted in an enduring preventive effect for postpartum depression (Brugha et al., 2011). At the advocacy level, the UK-based campaign Everyone's Business (run by the Maternal Mental Health Alliance, *http://everyonesbusiness.org.uk*) provides a comprehensive database for recommendations for decision-makers at the policy level develop specialised maternal health services, provides an overview of health providers and contact points for maternal depression, and has a substantial repertoire of information and research related to maternal depression.

Prevention of depressive disorders comorbid with somatic health problems

People with chronic diseases or health problems are often the most frequent users of health services in Europe (Naylor et al., 2012) and are often co-morbid with mental health problems, particularly depressive disorders (Cassem, 1995). There has been extensive research conducted on the link between depression and coronary heart disease (Baune, Adrian, Arolt, & Berger, 2006; Frasure-Smith & Lespérance, 2006), stroke (Brodaty et al., 2003; Robinson, 2003), chronic obstructive pulmonary disease (COPD) (National Institute for Clinical Excellence, 2008; Naylor et al., 2012), cancer (Massie, 2004), multiple sclerosis (Rickards, 2006; Wallin, Wilken, Turner, & Williams, 2006), diabetes (Ali, Stone, Peters, Davies, & Khunti, 2006; Roy & Lloyd, 2012), and rheumatoid arthritis (Dickens, McGowan, Clark-Carter, & Creed, 2002; Isik, Koca, Ozturk, & Mermi, 2007). People with long-term chronic conditions are three times more like to experience a common mental health disorder compared to healthy individuals (Naylor et al., 2012). These comorbidities typically mean more frequent health care utilisation and greater costs for health systems (Naylor et al., 2012), but also have serious implications for people with these comorbidities, such as poorer clinical outcomes, lower quality of life and reduced ability to manage symptoms (Naylor et al., 2012). For instance, people with cardiovascular disease and depression have 50% more acute exacerbations yearly and higher mortality rates compared to those without depression (Katon et al., 2003; Whooley et al., 2008). Furthermore, people with chronic heart failure are 8 times more likely to die within 30 months if they have depression (Jünger et al., 2005; Naylor et al., 2012). In the case of stroke, stroke-associated depression is associated with lower recovery rates, reduced survival rates and increased risks of recurrent vascular events (House, Knapp, Bamford, & Vail, 2001; Morris, Robinson, Andrzejewski, Samuels, & Price, 1993). Despite the high prevalence rates and impact of people with these comorbidities, depression remains under recognised and under-detected in health care settings; previous research has estimated that around 50% of cases remain undetected worldwide (Lecrubier, 2001).

The most effective interventions for preventing the development of depression among people with long-term somatic conditions including promoting wellbeing and healthy lifestyle advice in diverse settings, such as in primary care, the workplace and in

social and community settings (Naylor et al., 2012). Fostering self-management skills among people with comorbid depression and long-term conditions is essential. One good practice which has been implemented in several countries in Europe is to train health care professionals in primary care, such as nurses, in cognitive-behavioural or motivational approaches that have demonstrated beneficial in reducing symptoms depression among people with long-term conditions (Hackett, Anderson, House, & Halteh, 2008; National Institute for Clinical Excellence, 2008).

Prevention of depression among older adults

Major depression currently affects about 3.6 to 4.8% of persons of aged 60 or older, and many more report clinically relevant depressive symptoms (Beekman, Copeland, & Prince, 1999; Steffens et al., 2000). The prevalence of depressive disorders in older adults is projected to double from its present level by 2050 (Heo, Murphy, Fontaine, Bruce, & Alexopoulos, 2008). Suicide rates are highest among older adults and often there is a concomitant mental health diagnosis (typically of major depression), thus prevention of depression early before symptoms worsen is important. Despite the magnitude of the problem, evidence-based programs, particularly in Europe, are limited.

Research at the international level suggests that pharmacological interventions may not be recommended in older adults due to lack of evidence on efficacy in this age group as well as due to the side effects associated with antidepressant use among older people (Pim Cuijpers et al., 2015). Rather, research points to employing psychosocial interventions such as problem solving therapy, in which behavioural activation is an important component. Other psychosocial approaches found helpful and easy to implement include teaching older people coping skills, which can address the sense of loss of control which is at the core of depression (Pim Cuijpers et al., 2015). Teaching and coaching healthy lifestyle choices earlier in mid-life may also prevent depression in old age; such lifestyle changes include reducing blood pressure, smoking cessation and reducing cholesterol levels and encouraging healthy sleep hygiene. A specific treatment approach like brief behavioural treatment (BBTI) is helpful as it simultaneously tackles depressive symptoms as well as focuses on healthy sleep hygiene (Pim Cuijpers et al., 2015); such an intervention is safe, cheap and is possible to be delivered by both specialised and non-specialised health professionals. There is also a sizeable evidence base documented in a recent meta-analysis of 17 trials by Forsman and colleagues that interventions such as physical exercise, skills training, reminiscence, and multi-component interventions have a small but statistically significant effect on depressive symptoms (SMD = -0.17, 95% CI = -0.31 ~ -0.03) when compared to those receiving no intervention (Forsman, Schierenbeck, & Wahlbeck, 2011).

One good practice example is from the Netherlands (van't Veer-Tazelaar et al., 2009) which focused on preventing depression and anxiety among patients over the age of 75 attending primary care practices. A stepped care intervention was offered to the intervention group which consisted of 4 3-month steps: watchful waiting, cognitive behavioural therapy-based bibliotherapy, problem-solving therapy, and referral to primary care doctors if antidepressant medication was needed. At one-year follow-up the incidence of major depressive episodes was reduced by half, and 24% of patients who were assigned to usual care developed major depressive episodes compared with only 11% who received the stepped-care intervention. This stepped-care was also found to be cost-effective.

Developments for prevention of depression using technology

In recent years, advances in technology have extended to provision of support and treatment for mental health problems using digital tools. The scope for using digital tools as an enabler of more accessible mental health information and care is vast, and can range from digital screening tools to psychoeducation tools to e-therapies.

Many of these tools developed have been assessed through efficacy through randomised-controlled clinical trials, and a number of systematic reviews, meta-analyses, and literature reviews have purported the benefit and efficacy of e-mental health interventions in Europe (Alvarez-Jimenez et al., 2014; Andersson & Cuijpers, 2009; Andrews, Cuijpers, Craske, McEvoy, & Titov, 2010; P Cuijpers, Donker, van Straten, Li, & Andersson, 2010; Pim Cuijpers et al., 2009; Fiest et al., 2016; Karasouli & Adams, 2014; Richards & Richardson, 2012; Saddichha, Al-Desouki, Lamia, Linden, & Krausz, 2014; Spek et al., 2007; van der Krieke, Wunderink, Emerencia, de Jonge, & Sytema, 2014). Across meta-analyses and systematic reviews, these has been a moderate pooled effect size in favour of the internet-based or computer-based interventions, and such interventions are enhanced with support of a therapist or another health care professional (e.g. general practitioner or primary care nurse). Additional research is needed to look at factors such as compliance to complete modules provided by apps or programs and therapist-level factors in the case of blended care e-mental health interventions.

One example of a self-management tool for depression is IFightDepression (Europe-wide an initiative of the European Alliance against Depression. It consists of a self-administered test as well as an online guided- self-management programme (which required a referral letter for enrolment) that helps people with limed to moderate depression to self-manage symptoms. The intervention also provides information and e-resource on causes, signs and symptoms of depression as well as suicidal behaviour. These resources were developed and implemented by the PREDI-NU Consortium and

supported and funded by the EU CHAFEA. Implementation and evaluation of this self-management resource is currently underway.

Promotion of resilience

Resilience refers to a person's capacity to cope with changes and challenges and bounce back during difficult times or in the face of adversity. Resilience as a concept has multiple definitions however here it refers to the risk factors for developing mental health problems. Risk factors are circumstances or experiences which increase the possibility of a person developing a mental health problem or illness, such as having a parent with a mental illness, being bullied or abused, or experiencing a stressful life event. Resilience emerges out of the concept that despite a person having several risk factors, being resilience enabled them to adapt or response well to life stressors and not develop mental health problems. Understanding *what* protective factors contribute to this resilience against developing mental health problems and an *understanding* of how to cultivate or foster these protective factors may aid in developing targeted preventive mental health interventions.

One challenge is distinguishing the types of resilience promotion approaches as many scientific papers and projects use vastly different conceptual approaches related to resilience and have different target groups in mind.

Much of the previous research has focused on understanding resilience among young people, as resilience can be fostered at this age which is a protective factor against the development of mental disorders or behavioural problems later in life. Although many school-based programs have been conducted in Europe, few of them are evidence based. Ones that do show some evidence include empowerment of gatekeepers, professionals and peer groups to tackle crisis situation and take action on at-risk behaviour observed. These strategies have been assessed in research in the format of resiliency training programs for improving mental health and capacity in general adult populations as well as in persons with chronic diseases. One meta-analysis of 25 randomized controlled trials (primarily from the US, with some studies from Europe) found that across pooled research trials, there was a moderate effect of generalized stress-directed programs on enhancing resilience (SMD = 0.37; 95% CI 0.18~0.57), compared to usual care or attention control groups (Leppin et al., 2014). Resilience training also has significant effects on secondary outcomes such as improving stress levels (SMD=0.53) and depression (SMD=-0.51). The interventions included self-management interventions for coping and resilience skills (including e-health digital tool apps), individual coaching or training sessions and group courses guided by a trained health professional such as a psychologist (Leppin et al., 2014).

The synthesized evidence base for resilience training programs shows a modest but consistent effect in improving mental health outcomes in the short-term (i.e.

benefits of training are sustained up to 3 months later) (Leppin et al., 2014). The authors adopted a conservative approach to inclusion studies in this meta-analysis, meaning that they did not include studies which were not assessed to be of high methodological quality. This means that a larger body of research does exist but includes many trials or studies of poor methodological quality. Including lower-quality studies gives less confidence in the ability to generate a robust conclusion on the efficacy of resilience-focused programmes.

One good practice example in Europe on strengthening resilience and promoting wellbeing is Unilever's Lamplighter programme (*https://www.unilever.com/sustainable-living/the-sustainable-living-plan/enhancing-livelihoods/fairness-in-the-workplace/improving-employee-health-nutrition-and-well-being/)* which is a framework for addressing employee health and wellbeing. The Lamplighter programme has four pillars to address emotional needs of employees: leadership and management, communication and culture, scoping resilience and managing pressure, and support. This program had important short and long-term health and business benefits, which was demonstrated by externally- commissioned multi-year research in ongoing programmes in a variety of offices worldwide, among which the UK, Ireland, Russia, Greece and Turkey. The evaluation found that across their Lamplighter programme implemented internally, there was a return on investment of 4:1 (that is, 4 EURO return for every 1 EURO investment), and employee morale, wellbeing and productivity was higher.

Another good practice example in Europe to strengthen resilience, reduce stress and improve overall wellbeing is Psyfit, a Dutch e-health programme consisting of 7 unguided self-help modules (based on principles of cognitive behavioural therapy), a forum, and 12 self-tests. The intervention is developed by the Trimbos Institute and provided by Mental Share Direct. Previous research has found that at 2-month follow-up there is a higher level of wellbeing, vitality and perceived health status and reduction of symptoms of anxiety and depression. At 6 month follow-up there was a reduction in symptoms of depression and anxiety (Bolier et al., 2013).

Conclusions and recommendations

This paper reviewed the current activities in Member States at policy and practice level, and clarified the current base of scientific evidence for interventions to prevent depression and promote resilience. This paper clarified the weakness in this area of prevention research that many trials conducted in this field are sub-optimal in terms of methodological quality and thus results have to be considered with caution. That being said, effect sizes alone are not often the only metric that can be used to determine the efficacy of a preventive intervention or program. Additional metrics such

as reach of the intervention can complement effect sizes and give a more comprehensive picture as to the impact that a preventive intervention has on a population.

Building on the Framework for Action of the Joint Action with its recommendation for prevention of depression (Annex 1), this paper proposes a set of key evidence-based components recommended for each of the main target groups for prevention of depression and promotion of resilience, as follows.

Preventing depression among vulnerable groups

- For preventing depression among children and adolescents, school-based mental health awareness programs, such as those tested at European level like the SEYLE trial, can help in prevention depression and suicide among adolescents.
- For preventing depression in the workplace, universal programs can be effective when they incorporate healthy lifestyle behaviour change elements, psychological and motivational approaches to reduce and manage stress
- For women with post-partum depression, early screening for depressive symptoms during routine health care consultations in primary care and specialised settings is important. Interventions to prevent the onset of major post-partum depression include providing post-partum home visits provided by public health nurses or midwives who are trained in identifying symptoms and providing basic support. More intensive treatment options to prevent exacerbation of symptoms include interpersonal psychotherapy.
- For older people, consider a stepped-care prevention approach which includes therapeutic options for more complex needs such as problem solving therapy
- For people with comorbid depression and somatic health conditions, apply interventions such as behavioural activation or motivational approaches that encourage self-management and or healthy lifestyle approaches. In addition, implementation of integrated care programmes should be supported, which reduces fragmentation between different levels and cadres of services to promote recognition and treatment of depression across all levels of care.

Promoting resilience

- Resilience-based programs should be nested in settings like schools, where young people can adapt healthy coping skills which will reduce the risk of developing future mental health problems and contribute to better academic outcomes at individual student level and school-wide level.
- Develop and implement training programs for teachers on promoting resilience through their classroom approaches and teaching methods

Finally an overall recommendation is to support the dissemination and local adaptation of evidence-based e-mental health tools that encourage self-management or behaviour change to prevent the onset of depression (e.g. guided computerised online cognitive behavioural therapy) and promote resilience.

Annex 1. Joint Action for Mental Health and Well-being (2013-2016)

RECOMMENDATIONS FOR ACTION FOR PREVENTION OF DEPRESSION

Taking evidence-based actions against depression

Policy and legislation

RECOMMENDATIONS AT THE POLICY AND LEGISLATION LEVEL

Depression is one of the most common mental health problems worldwide and poses a substantial burden to individuals, families, communities, and countries. As depression is associated with decreased productivity and increased absenteeism, it has a negative impact on the economy. It co-occurs with many other chronic conditions, impacting outcomes, and contributes to increased morbidity, mortality, and disability.

Public health priority, national strategies and action plans

- Engage policymakers to update health legislation to include depression as a **public health priority**
- Encourage stakeholders in Member States to develop a **national strategy** against depression and include clear targets and goals
- Encourage stakeholders in Member States to develop clear **action plans** to tackle depression, including clear targets and clear timeframes
- Incorporate clauses in health and social care legislation about **protecting people with depression** from being made redundant and supporting their return to work.
- Take measures **against economic exclusion; promote social participation** of individuals with mental health problems during times of economic crisis. Support protective social networks

Primary prevention: Reduce stress and building resilience

RECOMMENDATIONS FOR THE PRIMARY PREVENTION OF DEPRESSION: REDUCE STRESS AND BUILDING RESILIENCE

Prevention of depression relates to any activity which prevents depression from occurring. Primary prevention includes addressing adversity and problems in childhood, building emotional resilience, empowering people and promoting a healthy lifestyle.

Secondary prevention of depression concentrates on preventing depression at the population level (for instance, launching school-based programs or programs for high-risk groups).

Stimulate investment in programmes targeted at providing individuals with support to build resilience and reduce stress through:

- Programs for children and adolescents
- Workplace programs
- High-risk group program

- **Implement programs for children and adolescents**
  - Support early learning and the coping with difficulties in childhood and adolescence, in order to enhance resilience. Promote preventive programs in schools.
  - Promote workplace stress management programs focusing on the awareness of depression

- **Implement workplace programs**
  - Promote effective public health methods as Mental Health First Aid (MHFA) for changing attitudes, knowledge and helping behaviour among the public

- **Target high-risk groups**
  - Encourage programs targeting support to at-risk individuals and families through non-governmental organisation activities
  - Promote and support the empowerment of high-risk groups with specific support programs: life skills training, stress management training, problem solving training. Important high risk groups of depression and suicide are: unemployed people, migrants, lesbian, gay, bisexual, transgender and queer (LGBTQ)-groups, people with chronic progressive disorders (discussed elsewhere in the comorbidities section)
  - Encourage collaboration between non-governmental organisations, government and research institutions for supporting high-risk groups
  - Invocate for international collaborations and increase the participation of international programs for supporting families with multiple problems, through collaboration with the WHO, and with the EU support structures

Secondary prevention: Early recognition and access to treatment

RECOMMENDATIONS FOR SECONDARY PREVENTION: EARLY DIAGNOSIS/RECOGNITION AND ACCESS TO TREATMENT

Depression is not solely the problem of psychiatry, but has also become a general health concern. It is very frequent, increasing mortality and morbidity of other disorders, while decreasing the positive outcome of these. Therefore, it is a general duty of health care professionals in all areas of medicine to detect depression (as with detecting e.g. hypertension and high cholesterol), and help the patients receive appropriate treatment. This may also have the additional benefit of destigmatisation. Depression is under-recognized and undertreated throughout Europe.

- **Encourage the recognition of depression within the health and social sector**.
  - Encourage recognition of depression and referral/treatment of depression among all types of medical professionals (not only primary care physicians but other non-psychiatric health care professionals)
  - Work with different levels of health and social care services to integrate tools for a better recognition of depression

- **Encourage the recognition of depression outside the health and social sector**
  - Roll out school-based preventive programmes and education for teachers to support the recognition of depression and suicide risk as well as development of coping and problem-solving skills in students (pupils) in schools
  - Promote anonymous possibilities for seeking help due to psychological reasons in the workplace
  - Promote and implement programmes that lead to increased knowledge about depression, and decreased stigmatization of this and other mental health problems in the general public

RECOMMENDATIONS FOR IMPROVING ACCESS TO TREATMENT

Access to appropriate, affordable and effective care for depression still remains a problem in many health systems in Europe. The burden that depression places on health systems has not yet been reflected in depression care or management. Improving access to care can improve productivity, cut the overall cost of health services, and result in ameliorated outcomes for other chronic non-communicable diseases (e.g. diabetes, cardiovascular disease, HIV/AIDS and dementia)

- Promote the education of all health professionals (not only primary care physicians) in order to enable them to deliver first line treatment for depression (pharmacotherapy, mental health first aid, brief cognitive therapy techniques)
- Utilise the WHO's Mental Health Global Action Plan (MHGAP) materials
- Build the capacity of non-governmental organisation (particularly in Central Eastern European countries) to deliver help.
- Support local/regional evidence-based, effective multi-level approaches for combating depression and for optimizing the use of limited resources
- Support the implementation of evidence-based E-mental health tools for combating depression
- Increase the accessibility of evidence-based psychotherapies
- Increase the accessibility of psychiatric care, by increasing its capacity and volume.

RECOMMENDATIONS FOR INFORMATION, EDUCATION AND COMMUNICATION ACTIVITIES

Vital components of preventing depression is strengthening public response to mental health problems, shaping attitudes at the individual, professional and community level, and reducing stigma. Therefore public education and information activities remain important in preventing depression.

- Instate regional/local education concerning depression within the framework of an evidence-based approaches e.g. European Alliance Against Depression (EAAD), Youth Aware of Mental Health (YAM) in schools, primary care physicians trainings etc.
- Promote mental health first aid method (MHFA) is an effective public health intervention for changing attitude, improving knowledge and help behaviour among public and professionals as well
- Draw on successful media campaigns targeting stigma and mental health from other Member States, roll out information/communication strategies for depression and suicide
- Raise awareness of the availability of websites with psychoeducation for clients and carers; and assist other Member States to tailor existing websites to their context
- Implement local educational materials for patients and relatives in venues of health care
- Implement web-based resource which delivers appropriate information about depression
- Instate school-based educational programs about depression, and suicide

- Raise awareness of high-risk groups (unemployed, lesbian, gay, bisexual, transgender, queer groups (LGBTQ), migrants etc.) and market options for these groups.
- Education about the prevention of relapse (exercise, sleep hygiene, daily rhythm, diet, stress management) must be integrated into the treatment protocol of depression.
- Promote and implement programmes which lead to increased knowledge and decreased stigmatization about depression and other mental health problems in the general public.

RECOMMENDATIONS CONCERNING SELF-MANAGEMENT

Guided and unguided self-management tools could be effective in addressing mild and moderate depression as well as improving outcomes as an adjunct treatment for severe depression.

- Encourage the organisation of local self-help groups of patients and relatives
- Support the dissemination of evidence-based, e-mental health self-management tools (e.g. guided computerised online cognitive behaviour therapy, CCBT)
- Promote the construction of a guideline for costumers concerning orientation amongst appropriate and inappropriate E-tools aimed at managing depression

Tertiary prevention: Coping with long term consequences and comorbidities, protecting depressive peoples from social exclusion

RECOMMENDATIONS FOR RAISING AWARENESS OF CO-MORBIDITIES

Depression is highly co-morbid with other chronic conditions (the most significant conditions are type 2 diabetes mellitus, cardiovascular disorders, chronic pulmonary diseases, chronic bone and joint disorders). Depression leads to a poorer prognosis of these disorders and due to poor compliance increases the overall treatment cost of these disorders. Therefore the management of depression is crucial in the aspects of better outcome and reduce treatment cost of these disorders.

- Support the implementation of integrated care programmes, which reduces fragmentation between different levels and cadres of services to promote recognition and treatment of depression across all levels of care.
- Promote the collaboration between the mental health sector and all other health sectors

- Promote involvement of consultation-liaison psychiatry in the management of chronic disorders (for countries with low resources a "travelling consultant psychiatrist" could be feasible)
- Promote the use of e-mental health tools that have already been tailored to specific populations with comorbidities (e.g. diabetes and depression, multiple sclerosis and depression)

RECOMMENDATION FOR TACKLING ECONOMIC EXCLUSION AND PROMOTING SOCIAL PARTICIPATION

- Protecting people with depression from being made redundant and supporting their return to work.
- Support protective social networks. Take measures against economic exclusion; promote social participation of individuals with mental health problems.

Capacity building and intersectorial approach

RECOMMENDATIONS FOR BUILDING CAPACITY

Due to the fact detailed above the training of health professionals is crucial for combating depression.

- Promote the education of all health professionals (not only GPs) for increasing recognition and enabling them to deliver first line treatment of depression (pharmacotherapy and mental health first aid (MHFA) techniques).
- Support increased attention given to depression in medical education courses (professional training courses for physicians and other health care professionals) as well as in the academic curricula of health care professionals
- Support increased attention directed toward evidence-based E-mental health tools in medical education courses (professional training courses for physicians and other health care professionals), as well as in the academic curricula of health care professionals, in order to increase the implementation of cost-effective, novel approaches in mental health care
- Support or create centres for knowledge translation. These centres should continuously identify, evaluate and assimilate new research findings concerning mental health and suicide; "translate" these findings and make them available for mental health and other professionals
- Promote the transfer from research to practice: propose how to translate results into practice in research projects.

THE INTERSECTORIAL APPROACH: COLLABORATION WITH PARTNERS IN OTHER SECTORS

Given the aforementioned burden of depression on economies, communities, families, and individuals, action needs to be taken to combat depression. Depression does not only influence the health sector; but impacts the labour sector and employment (reduced productivity, absenteeism), as well as social benefits and social welfare, the economic sector (cost of care to the economy and proportion of GDP which depression accounts for), and the education sector also. To effectively tackle depression in Europe, collaboration among sectors is required.

- Promote intersectorial collaboration with important industrial/economic stakeholders for implementing tools that increase awareness of depression at the workplace and education about mental health, such as Mental Health First Aid
- Encourage collaboration with existing EU structures e.g. European Centre for Disease Prevention and Control (ECDC), European Social Network, etc.,(detailed in the following). A European Reference Network on Depression and Suicidality is proposed
- Encourage the Informational Technology (IT) sector and governmental actors to develop a sustainable business model to implement further evidence-based e-mental health tools
- Form research collaborations among sectors to assess the efficacy and cost-effectiveness of e-mental health tools, as well as depression and suicide prevention programmes
- Promote collaboration with the educational and labour sector for better public education and increasing awareness of depression
- Promote collaboration with the school and work sector for the implementation of school-based and workplace-based stress management programmes

References

Ali, S., Stone, M. A., Peters, J. L., Davies, M. J., & Khunti, K. (2006). The prevalence of co-morbid depression in adults with Type 2 diabetes: a systematic review and meta-analysis. *Diabetic Medicine*, *23*(11), 1165–1173.

Alvarez-Jimenez, M., Alcazar-Corcoles, M. A., González-Blanch, C., Bendall, S., McGorry, P. D., & Gleeson, J. F. (2014). Online, social media and mobile technologies for psychosis treatment: a systematic review on novel user-led interventions. *Schizophrenia Research*, *156*(1), 96–106. http://doi.org/10.1016/j.schres.2014.03.021

Andersson, G., & Cuijpers, P. (2009). Internet-based and other computerized psychological treatments for adult depression: a meta-analysis. *Cognitive Behaviour Therapy*, *38*(4), 196–205. http://doi.org/10.1080/16506070903318960

Andrews, G., Cuijpers, P., Craske, M. G., McEvoy, P., & Titov, N. (2010). Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: a meta-analysis. *PloS One*, *5*(10), e13196. http://doi.org/10.1371/journal.pone.0013196

Andrews, G., Issakidis, C., Sanderson, K., Corry, J., & Lapsley, H. (2004). Utilising survey data to inform public policy: comparison of the cost-effectiveness of treatment of ten mental disorders. *The British Journal of Psychiatry: The Journal of Mental Science*, *184*(6), 526–533. http://doi.org/10.1192/bjp.184.6.526

Baune, B. T., Adrian, I., Arolt, V., & Berger, K. (2006). Associations between major depression, bipolar disorders, dysthymia and cardiovascular diseases in the general adult population. *Psychotherapy and Psychosomatics*, *75*(5), 319–326.

Beekman, A. T., Copeland, J. R., & Prince, M. J. (1999). Review of community prevalence of depression in later life. *The British Journal of Psychiatry*, *174*(4), 307–311.

Birmaher, B., Ryan, N. D., Williamson, D. E., Brent, D. A., Kaufman, J., Dahl, R. E., … Nelson, B. (1996). Childhood and adolescent depression: a review of the past 10 years. Part I. *Journal of the American Academy of Child & Adolescent Psychiatry*, *35*(11), 1427–1439.

Bolier, L., Haverman, M., Kramer, J., Westerhof, G. J., Riper, H., Walburg, J. A., … Bohlmeijer, E. (2013). An Internet-based intervention to promote mental fitness for mildly depressed adults: randomized controlled trial. *Journal of Medical Internet Research*, *15*(9), e200. http://doi.org/10.2196/jmir.2603

Brodaty, H., Draper, B. M., Millar, J., Low, L. F., Lie, D., Sharah, S., & Paton, H. (2003). Randomized controlled trial of different models of care for nursing home residents with dementia complicated by depression or psychosis. *Journal of Clinical Psychiatry*, *64*, 63–72.

Brugha, T. S., Morrell, C. J., Slade, P., & Walters, S. J. (2011). Universal prevention of depression in women postnatally: cluster randomized trial evidence in primary care. *Psychological Medicine*, *41*(4), 739–48. http://doi.org/10.1017/S0033291710001467

Cassem, E. H. (1995). Depressive disorders in the medically ill: an overview. *Psychosomatics*, *36*(2), S2–S10.

Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., & Saxena, S. (2016). Scaling-up treatment of depression and anxiety: a global return

on investment analysis. *The Lancet Psychiatry*, *366*(16), 1–10. http://doi.org/10.1016/S2215-0366(16)30024-4

Clarke, G. N., Hornbrook, M., Lynch, F., Polen, M., Gale, J., Beardslee, W., … Seeley, J. (2001). A randomized trial of a group cognitive intervention for preventing depression in adolescent offspring of depressed parents. *Archives of General Psychiatry*, *58*(12), 1127–1134.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*. Hillsdale, NJ: Erlbaum.

Cooper, P. J., & Murray, L. (1998). Fortnightly review: Postnatal depression. *British Medical Journal*, *316*(7148), 1884.

Cooper, P. J., Murray, L., Wilson, A., & Romaniuk, H. (2003). Controlled trial of the short-and long-term effect of psychological treatment of post-partum depression. *The British Journal of Psychiatry*, *182*(5), 412–419.

Corbière, M., Shen, J., Rouleau, M., & Dewa, C. S. (2009). A systematic review of preventive interventions regarding mental health issues in organizations. *Work*, *33*(1), 81–116.

Corrieri, S., Heider, D., Conrad, I., Blume, A., Konig, H.-H., & Riedel-Heller, S. G. (2014). School-based prevention programs for depression and anxiety in adolescence: a systematic review. *Health Promotion International*, *29*(3), 427–441. http://doi.org/10.1093/heapro/dat001

Cuijpers, P., Donker, T., van Straten, a, Li, J., & Andersson, G. (2010). Is guided self-help as effective as face-to-face psychotherapy for depression and anxiety disorders? A systematic review and meta-analysis of comparative outcome studies. *Psychological Medicine*, *40*(12), 1943–57. http://doi.org/10.1017/S0033291710000772

Cuijpers, P., Marks, I. M., van Straten, A., Cavanagh, K., Gega, L., & Andersson, G. (2009). Computer-aided psychotherapy for anxiety disorders: a meta-analytic review. *Cognitive Behaviour Therapy*, *38*(2), 66–82. http://doi.org/10.1080/16506070802694776

Cuijpers, P., Smit, F., Patel, V., Dias, A., Li, J., & Reynolds, C. F. (2015). Prevention of depressive disorders in older adults: An overview. *PsyCh Journal*, *4*(1), 3–10. http://doi.org/10.1002/pchj.86

Dennis, C.-L., & Dowswell, T. (2013). Psychosocial and psychological interventions for preventing postpartum depression. *Cochrane Database of Systematic Reviews*, (2). http://doi.org/10.1002/14651858.CD001134.pub3

Dickens, C., McGowan, L., Clark-Carter, D., & Creed, F. (2002). Depression in rheumatoid arthritis: a systematic review of the literature with meta-analysis. *Psychosomatic Medicine*, *64*(1), 52–60.

EAHC. (2013). *Economic analysis of workplace mental health promotion and mental disorder prevention programmes and of their potential contribution to EU health, social and economic policy objectives*.

Earvolino-Ramirez, M. (2007). Resilience: A concept analysis. In *Nursing forum* (Vol. 42, pp. 73–82). Wiley Online Library.

Elliott, S. A., Leverton, T. J., Sanjack, M., Turner, H., Cowmeadow, P., Hopkins, J., & Bushnell, D. (2000). Promoting mental health after childbirth: a controlled trial of primary prevention of postnatal depression. *British Journal of Clinical Psychology*, *39*(3), 223–241.

Fiest, K. M., Walker, J. R., Bernstein, C. N., Graff, L. A., Zarychanski, R., Abou-Setta,

A. M., … Marrie, R. A. (2016). Systematic review and meta-analysis of interventions for depression and anxiety in persons with multiple sclerosis. *Multiple Sclerosis and Related Disorders*, *5*, 12–26. http://doi.org/10.1016/j.msard.2015.10.004

Forsman, A. K., Schierenbeck, I., & Wahlbeck, K. (2011). Psychosocial interventions for the prevention of depression in older adults: systematic review and meta-analysis. *Journal of Aging and Health*, *23*(3), 387–416. http://doi.org/10.1177/0898264310378041

Frasure-Smith, N., & Lespérance, F. (2006). Recent evidence linking coronary heart disease and depression. *The Canadian Journal of Psychiatry*, *51*(12), 730–737.

George, G. C., Milani, T. J., Hanss-Nuss, H., & Freeland-Graves, J. H. (2005). Compliance with dietary guidelines and relationship to psychosocial factors in low-income women in late postpartum. *Journal of the American Dietetic Association*, *105*(6), 916–26. http://doi.org/10.1016/j.jada.2005.03.009

Grote, V., Vik, T., von Kries, R., Luque, V., Socha, J., Verduci, E., … Monteiro, L. (2010). Maternal postnatal depression and child growth: a European cohort study. *BMC Pediatrics*, *10*(1), 14. http://doi.org/10.1186/1471-2431-10-14

Hackett, M. L., Anderson, C. S., House, A., & Halteh, C. (2008). Interventions for preventing depression after stroke. *The Cochrane Database of Systematic Reviews*.

Hamberg-van Reenen, H. H., Proper, K. I., & van den Berg, M. (2012). Worksite mental health interventions: a systematic review of economic evaluations. *Occupational and Environmental Medicine*, oemed–2012.

Harvey, S. B., Henderson, M., Lelliott, P., & Hotopf, M. (2009). Mental health and employment: much work still to be done. *The British Journal of Psychiatry*, *194*(3), 201–203.

Henderson, M., Harvey, S. B., Øverland, S., Mykletun, A., & Hotopf, M. (2011). Work and common psychiatric disorders. *Journal of the Royal Society of Medicine*, *104*(5), 198–207.

Heo, M., Murphy, C. F., Fontaine, K. R., Bruce, M. L., & Alexopoulos, G. S. (2008). Population projection of US adults with lifetime experience of depressive disorder by age and sex from year 2005 to 2050. *International Journal of Geriatric Psychiatry*, *23*(12), 1266–1270.

Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? *The Canadian Journal of Psychiatry*, *56*(5), 258–265.

House, A., Knapp, P., Bamford, J., & Vail, A. (2001). Mortality at 12 and 24 months after stroke may be associated with depressive symptoms at 1 month. *Stroke*, *32*(3), 696–701.

Howard, L., Hoffbrand, S. E., Henshaw, C., Boath, L., & Bradley, E. (2005). Antidepressant prevention of postnatal depression. *The Cochrane Database of Systematic Reviews*, (2). http://doi.org/10.1002/14651858.CD004363.pub2

Howard, L. M., Boath, E., & Henshaw, C. (2006). Antidepressant prevention of postnatal depression. *PLoS Med*, *3*(10), e389.

Isik, A., Koca, S. S., Ozturk, A., & Mermi, O. (2007). Anxiety and depression in patients with rheumatoid arthritis. *Clinical Rheumatology*, *26*(6), 872–878.

Joint Action on Mental Health and Well-being Situation analysis and recommendations for action. (n.d.).

Jünger, J., Schellberg, D., Müller-Tasch, T., Raupp, G., Zugck, C., Haunstetter, A., … Haass, M. (2005). Depression increasingly predicts mortality in the course of

congestive heart failure. *European Journal of Heart Failure*, *7*(2), 261–267.
Karasouli, E., & Adams, A. (2014). Assessing the Evidence for e-Resources for Mental Health Self-Management : A Systematic Literature Review, *1*. http://doi.org/10.2196/mental.3708
Katon, W., Von Korff, M., Lin, E., Simon, G., Ludman, E., Bush, T., … Rutter, C. (2003). Improving primary care treatment of depression among patients with diabetes mellitus: the design of the pathways study. *General Hospital Psychiatry*, *25*(3), 158–168.
Lecrubier, Y. (2001). The burden of depression and anxiety in general medicine. *Journal of Clinical Psychiatry*, *62*(Suppl8), 4–9.
Leppin, A. L., Bora, P. R., Tilburt, J. C., Gionfriddo, M. R., Zeballos-Palacios, C., Dulohery, M. M., … Montori, V. M. (2014). The efficacy of resiliency training programs: a systematic review and meta-analysis of randomized trials. *PloS One*, *9*(10), e111420. http://doi.org/10.1371/journal.pone.0111420
Lewinsohn, P. M., Hops, H., Roberts, R. E., Seeley, J. R., & Andrews, J. A. (1993). Adolescent psychopathology: I. Prevalence and incidence of depression and other DSM-III—R disorders in high school students. *Journal of Abnormal Psychology*, *102*(1), 133.
Martin, A., Sanderson, K., & Cocker, F. (2009). Meta-analysis of the effects of health promotion intervention in the workplace on depression and anxiety symptoms. *Scandinavian Journal of Work, Environment & Health*, 7–18.
Massie, M. J. (2004). Prevalence of Depression in Patients With Cancer. *JNCI Monographs*, *2004*(32), 57–71. http://doi.org/10.1093/jncimonographs/lgh014
Merry, S. N., Hetrick, S. E., Cox, G. R., Brudevold-Iversen, T., Bir, J. J., & McDowell, H. (2011). Psychological and educational interventions for preventing depression in children and adolescents. *The Cochrane Database of Systematic Reviews*, (12), CD003380. http://doi.org/10.1002/14651858.CD003380.pub3
Miller, B. J., Murray, L., Beckmann, M. M., Kent, T., & Macfarlane, B. (2013). Dietary supplements for preventing postnatal depression. *Cochrane Database of Systematic Reviews*, (10).
Morris, P. L., Robinson, R. G., Andrzejewski, P., Samuels, J., & Price, T. R. (1993). Association of depression with 10-year poststroke mortality. *American Journal of Psychiatry*, *150*, 124–124.
Mrazek, P. J., & Haggerty, R. J. (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Washington, D.C.: National Academies Press.
Murray, L., & Cooper, P. J. (1997). Editorial: Postpartum depression and child development. *Psychological Medicine*, *27*(2), 253–260.
National Institute for Clinical Excellence. (2008). *Workplace health promotion: how to encourage employees to be physically active*. London, UK: National Institute for Clinical Excellence.
Naylor, C., Parsonage, M., Mcdaid, D., Knapp, M., Fossey, M., & Galea, A. (2012). Long-term conditions and mental health The cost of co-morbidities.
O'Connell, M. E., Boat, T., & Warner, K. E. (2009). *Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults: Research Advances and Promising Interventions*.
O'Hara, M. W. (1997). The nature of postpartum depressive disorders. In L. Murray & P. J. Cooper (Eds.), *Postpartum Depression and Child Development* (pp. 3–31).

New York: Guilford Press.
OECD. (2015). *Fit Mind, Fit Job: From Evidence to Practice in Mental Health and Work*. Paris: OECD Publishing. http://doi.org/http://dx.doi.org/10.1787/9789264228283-en
Paulson, J. F., Dauber, S., & Leiferman, J. A. (2006). Individual and combined effects of postpartum depression in mothers and fathers on parenting behavior. *Pediatrics*, *118*(2), 659–68. http://doi.org/10.1542/peds.2005-2948
Pine, D. S., Cohen, P., Gurley, D., Brook, J., & Ma, Y. (1998). The risk for early-adulthood anxiety and depressive disorders in adolescents with anxiety and depressive disorders. *Archives of General Psychiatry*, *55*(1), 56–64.
Richards, D., & Richardson, T. (2012). Computer-based psychological treatments for depression: a systematic review and meta-analysis. *Clinical Psychology Review*, *32*(4), 329–42. http://doi.org/10.1016/j.cpr.2012.02.004
Rickards, H. (2006). Depression in neurological disorders: an update. *Current Opinion in Psychiatry*, *19*(3), 294–298.
Robinson, R. G. (2003). Poststroke depression: prevalence, diagnosis, treatment, and disease progression. *Biological Psychiatry*, *54*(3), 376–387.
Roy, T., & Lloyd, C. E. (2012). Epidemiology of depression and diabetes: A systematic review. *Journal of Affective Disorders*, *142*, S8–S21. http://doi.org/10.1016/S0165-0327(12)70004-6
Ryan, N. D. (2005). Treatment of depression in children and adolescents. *The Lancet*, *366*(9489), 933–940.
Saarni, S. I., Suvisaari, J., Sintonen, H., Pirkola, S., Koskinen, S., Aromaa, A., & LÖNNQVIST, J. (2007). Impact of psychiatric disorders on health-related quality of life: general population survey. *The British Journal of Psychiatry*, *190*(4), 326–332.
Saddichha, S., Al-Desouki, M., Lamia, A., Linden, I. A., & Krausz, M. (2014). Online interventions for depression and anxiety - a systematic review. *Health Psychology and Behavioral Medicine*, *2*(1), 841–881. http://doi.org/10.1080/21642850.2014.945934
Sockol, L. E., Epperson, C. N., & Barber, J. P. (2013). Preventing postpartum depression: a meta-analytic review. *Clinical Psychology Review*, *33*(8), 1205–1217.
Spek, V., Nyklícek, I., Smits, N., Cuijpers, P., Riper, H., Keyzer, J., & Pop, V. (2007). Internet-based cognitive behavioural therapy for subthreshold depression in people over 50 years old: a randomized controlled clinical trial. *Psychological Medicine*, *37*(12), 1797–806. http://doi.org/10.1017/S0033291707000542
Steffens, D. C., Skoog, I., Norton, M. C., Hart, A. D., Tschanz, J. T., Plassman, B. L., … Breitner, J. C. (2000). Prevalence of depression and its treatment in an elderly population: the Cache County study. *Archives of General Psychiatry*, *57*(6), 601–607.
Stocky, A., & Lynch, J. (2000). Acute psychiatric disturbance in pregnancy and the puerperium. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *14*(1), 73–87.
Tan, L., Wang, M.-J., Modini, M., Joyce, S., Mykletun, A., Christensen, H., … Christensen, H. (2014). Preventing the development of depression at work: a systematic review and meta-analysis of universal interventions in the workplace. *BMC Medicine*, *12*(1), 74. http://doi.org/10.1186/1741-7015-12-74

Üstün, T. B., Ayuso-Mateos, J. L., Chatterji, S., Mathers, C., & Murray, C. J. (2004). Global burden of depressive disorders in the year 2000. *The British Journal of Psychiatry*, *184*(5), 386–392.

van't Veer-Tazelaar, P. J., van Marwijk, H. W. J., van Oppen, P., van Hout, H. P. J., van der Horst, H. E., Cuijpers, P., … Beekman, A. T. F. (2009). Stepped-care prevention of anxiety and depression in late life: a randomized controlled trial. *Archives of General Psychiatry*, *66*(3), 297–304. http://doi.org/10.1001/archgenpsychiatry.2008.555

van der Krieke, L., Wunderink, L., Emerencia, A. C., de Jonge, P., & Sytema, S. (2014). E-mental health self-management for psychotic disorders: state of the art and future perspectives. *Psychiatric Services (Washington, D.C.)*, *65*(1), 33–49. http://doi.org/10.1176/appi.ps.201300050

van Zoonen, K., Buntrock, C., Ebert, D. D., Smit, F., Reynolds, C. F., Beekman, A. T. F., & Cuijpers, P. (2014). Preventing the onset of major depressive disorder: a meta-analytic review of psychological interventions. *International Journal of Epidemiology*, *43*(2), 318–29. http://doi.org/10.1093/ije/dyt175

Wallin, M. T., Wilken, J. A., Turner, A. P., & Williams, R. M. (2006). Depression and multiple sclerosis: Review of a lethal combination. *Journal of Rehabilitation Research and Development*, *43*(1), 45.

Whiteford, H. A., Ferrari, A. J., Degenhardt, L., Feigin, V., & Vos, T. (2015). The global burden of mental, neurological and substance use disorders: an analysis from the Global Burden of Disease Study 2010. *PloS One*, *10*(2), e0116820. Retrieved from http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0116820

WHO Europe. (2013). The European Mental Health Action Plan. *Regional Committee for Europe Sixty-Third Session*, (September), 1–25.

Whooley, M. A., de Jonge, P., Vittinghoff, E., Otte, C., Moos, R., … Carney, R. M. (2008). Depressive symptoms, health behaviors, and risk of cardiovascular events in patients with coronary heart disease. *Jama*, *300*(20), 2379–2388.

Wisner, K. L., Chambers, C., & Sit, D. K. (2006). Postpartum depression: a major public health problem. *Jama*, *296*(21), 2616–2618.

Wittchen, H. U., Jacobi, F., Rehm, J., Gustavsson, A., Svensson, M., Jönsson, B., … Steinhausen, H.-C. (2011). The size and burden of mental disorders and other disorders of the brain in Europe 2010. *European Neuropsychopharmacology : The Journal of the European College of Neuropsychopharmacology*, *21*(9), 655–79. http://doi.org/10.1016/j.euroneuro.2011.07.018

World Health Organisation. (2014). Global Health Estimates 2014 Summary Tables YLD by cause, age and sex, by WHO Region, 2000-2012. Retrieved from http://www.who.int/healthinfo/global_burden_disease/estimates/en/index2.html

Wykes, T., Haro, J. M., Belli, S. R., Obradors-Tarragó, C., Arango, C., Ayuso-Mateos, J. L., … Wittchen, H. U. (2015). Mental health research priorities for Europe. *The Lancet Psychiatry*. http://doi.org/10.1016/S2215-0366(15)00332-6