

**Project Title: Reducing Occupational Stress in
Employment**

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Product

Appendix 7 A Report on Work
Package 04 - Designing the Person
Directed Intervention Programme

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Introduction

This is an interim progress report on the Reducing Occupational Stress in Employment Project (ROSE). This report will provide a detailed account of the progress and outcomes of work package 04- Designing the person directed intervention programme. Section 1.1 will outline the aims and objectives of work package 04. Section 1.2 will provide a review of the literature on the person-directed stress management intervention (SMI) and on stress assessment tools which are culturally sensitive. A description of the content of the person directed stress management programme (SMI) will be incorporated into the review. Section 1.3 will present guidelines for supporting the individualised SMI.

1.1 Aims and Objectives of Work package 04

The aim of this package is to develop an individualised SMI to support worker in vocational rehabilitation programmes. The person-directed SMI will enable employees to reflect on workplace stress and provide them with the guidance on how to manage personal stressors and stress symptoms, based around CBT and affective interventions. Specific objectives include:

- To review relevant literature
- To establish stress assessment tools that are culturally sensitive in order to facilitate trans-cultural and multilateral SMI person packages
- To develop programme content
- To engage in preliminary web page design
- To ensure that all activities are completed comprehensively to specification and in a timely manner

1.2 A Review of the Person-Directed Stress Management Intervention Literature

To inform the development of the person directed stress management intervention part of the website (workpackage 04) a review was carried out on literature relating to stress management interventions (deliverable 11), particularly focusing on Cognitive Behavioural Therapy (CBT) techniques and on the healthcare provider population.

Previous reviews have suggested that the studies investigating stress management interventions for healthcare providers have not included enough participants, or have not had adequate experimental control to provide strong evidence for any type of intervention (Marine, Ruotsalainen, Serra, & Verbeek, 2006; Mimura & Griffiths, 2003).

The current review was conducted by examining the reviews in the area already (Edwards & Burnard, 2003; Edwards, Hannigan, Fothergill, & Burnard, 2002; Marine, et al., 2006; Mimura & Griffiths, 2003), checking the articles they had reviewed for more detail where necessary, completing literature searches from the Ovid PsycINFO database, (using search terms such as “Stress Management interventions”, “Mental healthcare”, “CBT”) and using cited reference searches from relevant articles.

1.2.1 Stress and Lifestyle

In many of the studies using CBT interventions for the management of stress, one of the first steps of the intervention was to give participants an introduction to stress, explaining stressors, psychological appraisal and physiological arousal (Kunkler & Whittick, 1991; von Baeyer & Krause, 1983; Zetterqvist, Maanmies, Strom, & Andersson, 2003).

The ROSE project website will include an introduction to stress, a description of how to recognise when you are stressed (including an assessment tool), a description of the physiological effects and the physical symptoms of stress. This will keep the ROSE intervention in-line with other previous interventions, and these informational guidelines will provide the foundation for the CBT intervention. Also, information on stress was requested at the focus group meetings so including it on the site will help keep the site-design in accordance with the user group expectations.

The ROSE website will also include information on taking exercise, having a healthy diet and improving your quality of sleep as ways to strengthen your defences against stress. This information will consist of tips and guidelines, as well as some relevant case study stories to make the content more engaging. Information on exercise, diet and sleep has

been incorporated into previous successful CBT interventions for stress management (Zetterqvist, et al., 2003).

1.2.2 Stress Assessment Tools

The *Maslach Burnout Inventory* (Maslach & Jackson, 1981) was evaluated for potential use in the ROSE project. It has been shown to have cross-cultural validity when translated into different languages (Hwang, Scherer, & Ainina, 2003) and is one of the most widely used and well-validated measures of burnout. It was originally developed for human-service providers (as they had been recognised as one of the most likely populations to suffer from Burnout) which made it relevant for the ROSE project user-group.

It was decided not to include this measure, partly because a licensing fee and a fee per questionnaire use would have to be paid, and also because Burnout is a specific psychological state resulting from prolonged emotional stress, which may not apply to all users of the website, thus having less relevance and interest for some of them.

The *Perceived Stress Scale - PSS* (10-item version) (Cohen, Kamarck, & Mermelstein, 1983) is another commonly used and well-validated stress measurement tool (Roberti, Harrington, & Storch, 2006). It has been shown to be usable in cross-cultural situations (Orücü & Demir, 2009), which is an important consideration for use in the ROSE project. This questionnaire has high reliability, with Cronbach's α frequently reported at above 0.78. (e.g. $\alpha = 0.79$ in a computerised version of the test (Wijndaele, et al., 2007) and $\alpha = 0.78$ (Cohen, 1988).

The *PSS* has the added benefit of being about perceived stress which according to the Transactional Model of Stress (Lazarus, 1966) should be more relevant for measuring stress than simply measuring the occurrence of stressors. The Transactional Model of Stress suggests that people's perceptions and appraisals of an event (as well as the coping mechanisms available to them) determine how stressful they will find it. The *PSS* is also a shorter questionnaire than the *MBI-HSS*, having only 10 items compared to 22. And the

PSS is available for use without a licensing fee. It will be presented in an online form (via a link to an optional stress assessment) on the ROSE website, where it can be scored instantly. The user can then view their scores on a graph, on which will be highlighted safe levels of stress and dangerous levels of stress. The user will be allowed to re-take the questionnaire at each visit to the site and each result will be added to the graph with a time-stamp.

1.2.3 Relaxation techniques

It has been suggested that relaxation (and particularly meditation) can help an individual to re-appraise a stressful event as less stressful, or to view it in a positive rather than a negative way, thus reducing the individual's stress response (Tsai & Crockett, 1993). health status in nurse managers (Yung, Fung, Chan, & Lau, 2004).

The ROSE website will include information on Progressive Muscle Relaxation (Jacobson, 1938) as well as instructions for relaxation breathing (Segal, Saisan, Smith, Jaffe-Gill, & Segal, 2008) and some Mindfulness-type meditation (Kabat-Zinn, 1990). These smaller component parts should add variety to the relaxation options available as part of the intervention, in comparison with previous studies which often use only one or two of these techniques. This will cater to the different needs and tastes of different users of the site.

1.2.3.1 Progressive Muscle Relaxation

Relaxation training has been used in online CBT programmes to reduce stress (Zetterqvist, et al., 2003). Zetterqvist et al. (2003) used "Applied Relaxation" as developed by (Ost, 1987) in one part of their online stress management intervention. This is a technique that begins with progressive muscle relaxation, and has five sequential stages of learning until the effects of progressive muscle relaxation can be achieved first in a shorter period of time, and then in the face of anxiety-inducing events. This intervention was found to significantly reduce perceived stress and anxiety and depression in participants.

For the ROSE website, it was decided not to go into as much detail as the Ost “Applied Relaxation” programme, as this is time-consuming to learn and requires a lot of dedication. The ROSE website will include a similar progressive muscle relaxation technique (Jacobson, 1938) which is shorter and easier to learn and should be more accessible to someone who may not have the time or motivation to learn something as detailed as “Applied Relaxation”.

1.2.3.2 Mindfulness training

A significant change was found in the emotional exhaustion and personal achievement scales of the *Maslach Burnout Inventory (MBI)* comparing a group of nurses who had received Mindfulness training, and a control group who had not (Cohen-Katz, Wiley, Capuano, Baker, & Shapiro, 2005).

Another study found that an intervention based on Mindfulness training and cognitive theory (Socratic inquiry and developing an empathic relationship with oneself) reduced stress in primary care workers (Schenstrom, Ronnberg, & Bodlund, 2006).

A section on Mindfulness training will be included in the ROSE website. Partly because the literature indicates this can be successful in reducing stress, and also because at the project group meetings, Mindfulness training was proposed as an alternative stress management technique for people find the CBT approach to stress management too regimented. This section of the website will be based on Mindfulness techniques described by Kabat-Zinn (1990), including descriptions of how to clear your mind, and how to incorporate meditation into your daily tasks.

1.2.3.3 Relaxation Breathing

Most relaxation techniques begin with relaxation breathing (e.g. Meditation (Kabat-Zinn, 1990), Progressive Muscle Relaxation (Jacobson, 1938)). Becoming aware of when your breathing is not relaxed is also important as part of the CBT intervention as quick or shallow breathing can be a sign of anxiety, alerting people to the fact that they are beginning to get emotional about something.

For the ROSE website, relaxation breathing will be introduced through a series of guidelines as well as an explanation of the physical effects of hyperventilating.

1.2.4 Cognitive and behavioural restructuring

Cognitive and behavioural restructuring has been shown to reduce burnout in healthcare providers (Rowe, 1999). In Rowe's study, lower levels of burnout (Emotional Exhaustion and Lack of Personal Accomplishment) were observed in the experimental group after cognitive behavioural restructuring training (the training involved using problem focused strategies when there is a solution available, and using emotion-focused strategies in situations where there is no available solution, and was delivered in face-to-face sessions). These effects continued (measured again at intervals up to 2 years later) if the experimental group had a refresher training course, but the effects wore off when there was no refresher training course (Rowe, 1999).

An effect has been reported where stress management training for nurses in a burn unit was more successful for inexperienced rather than experienced nurses (von Baeyer & Krause, 1983). It should be noted however that a small population (N=14) was used in this study so it may not be possible to generalise these findings.

A study of a CBT web-based intervention for managing stress and mood disorders in a technology company found a significant reduction in stress in people who had used the intervention compared to people in the control group who were on a waiting list to use it (Billings, Cook, Hendrickson, & Dove, 2008). This intervention used cognitive and behavioural restructuring in the form of identifying and testing negative thoughts (as well as training on goal setting, problem-solving, relaxation, and time management). In much of the previous research on CBT techniques for stress management in healthcare workers, the CBT training has been carried out face-to-face between therapists and groups. The Billings et al. study provides evidence that the techniques which were previously successful when delivered in-person to our population of interest, will also work when delivered via an online intervention.

Cognitive and behavioural restructuring will be included on the ROSE website in the form of identifying and challenging negative thoughts, and replacing them with positive thoughts. The site will also cover overcoming procrastination and challenging perfectionism. Challenging perfectionism should help to reduce stress by teaching people not to impose impossibly high standards on themselves and others, and also to help improve communication, so people are not reluctant to admit when they need help.

These sections will be based around previous self-help CBT texts for depression (Burns, 1999; Greenberger & Padesky, 1995) and chronic fatigue syndrome (Burgess & Chalder, 2005).

1.2.5 Time Management

Training in time management (based on Cartwright & Cooper's (1997) guide to managing workplace stress) was part of a successful web-based stress management intervention by Zetterqvist, et al. (2003) and one by Billings, et al. (2008). Cartwright & Cooper's (1997) tips for time management are categorised by the different kinds of issues people face with time management (e.g. procrastinators, poor delegators, disorganised people, people who aren't clear about their roles). Training in time management skills was also found to improve the coping-with-stress skills of student nurses as part of a multi-component CBT intervention (Jones & Johnston, 2000).

Time management will be included on the ROSE website in the form of an interactive activity map to illustrate where time is being over-spent, and some tips and guidelines to improve time management. Time management has been part of many successful stress management interventions (Billings, et al., 2008; Zetterqvist, et al., 2003), and is a relevant solution to some of the issues raised in the focus groups, e.g. dealing with unexpected events.

1.2.6 Problem-Solving

Problem-solving training (delivered face-to-face) has been shown to reduce levels of self-rated burnout in healthcare providers (Rowe, 1999). Problem-solving training has also been effective as part of a multi-component web-based stress management intervention (Billings, et al., 2008; Zetterqvist, et al., 2003).

Mental health benefits (as defined by the *SF-36 Health Survey*) have been found for hospital nurses who used problem-focused coping instead of emotion-focused coping (Chang, et al., 2007). Training in problem-solving should improve problem-focused coping.

Bunce & West (1996) noted that a traditional stress management intervention, including a problem-solving module, had the effect of decreasing participant's levels of psychological strain and increasing their job satisfaction.

Problem-solving will be presented on the ROSE website in the form of tips and guidelines for good problem-solving, and an online-form with a structured CBT style problem-solving approach. This form will also be available for download.

1.2.7 Social support-based programmes

Little research-based evidence has been found that social support-based programmes work (Carson, Butterworth, & Booth, 1998; Carson, et al., 1999). In some cases this is caused by low participation in the intervention, and it has also been suggested that social support is only one of a number of potential moderators for stress and that for an intervention to be effective, it needs to address more than one stress-moderator (Carson, et al., 1998).

The information from the focus groups suggested the healthcare workers would like to have a social support platform to contact each other for support and guidance so it is suggested that one should be included as part of the person-directed intervention of the

ROSE project. As the ROSE project will address multiple stress-moderators, social support may contribute to a reduction in stress in this case.

The proposed social support platform for ROSE will be a message board accessible to users of the website. The identification tags will be generic usernames, to avoid user identification, and people will be able to communicate with others from different centres. The platform will also include a library of frequently asked questions, which can be used as a knowledge store for those accessing the site. The emphasis of the message board will be more to do with working style or emotional support type questions, rather than a technical forum for technical questions.

A search for research concerning using internet-based message boards as a means of delivering social support for the reduction of workplace stress did not reveal any studies. This is a relatively new area. It is suggested that this type of social support may work better than the more indirect social support interventions used in other studies. These tend to involve workshops about what social support means and having participants draw their social network as a web, which is different to gaining actual social interaction with others.

The internet has been suggested as a good way of providing social support when people are shy or intimidated (Amichai-Hamburger & Furnham, 2007). This may be especially relevant in workplace contexts, where people may not like to admit they are stressed and therefore may find the message board a useful tool enabling them to communicate with people who understand their particular work situation and demands, but with anonymity taking the pressure off the interaction.

1.2.8 Communication skills

It has been found that the stronger a nurse rated their interpersonal skills, the less likely they were to suffer from aspects of burnout (Depersonalisation and Decreased Personal Accomplishment) (Taormina & Law, 2000). Llewelyn & Fielding (1987) emphasise the

importance of communication in a nurse's role and that the demand for effective and less costly communication training for nurses.

At the focus group meetings, communication problems were mentioned as a stressor, and they have also been cited as a stressor in the literature in the area (Garrosa, Moreno-Jiménez, Liang, & González, 2008; Hare, Pratt, & Andrews, 1988; McVicar, 2003). These problems can stem from both communication with other nurses or working relationship difficulties, and communication with patients and their families.

To address communication problems and improve interpersonal skills, in the ROSE website there will be a section on communication skills, including listening skills, receiving and providing feedback, being assertive and dealing with aggressive people.

1.2.8.1 Assertiveness training

A face-to-face assertiveness training program was found to reduce levels of work-related stress in nurses in Taiwan (Lee & Crockett, 1994). This worked in two ways, by helping unassertive people learn to assert their rights and opinions, and by helping aggressive people learn to relate to others in a less offensive and more effective way, both of which reduced stress by improving working relations and self-efficacy.

Another study, using web-based assertion training on hospital nurses in Japan found that the training programme increased assertiveness, and for those that had been unassertive in particular, it reduced their "mental workload" (a facet of stress measured by the authors in their questionnaire which relates to having to concentrate very hard on work) (Yamagishi, et al., 2007). The assertiveness training section of the ROSE website will help the website users to overcome some communication issues.

1.2.8.2 Dealing with aggressive people

In a study by Sjostrom et al. (2001), it was found that non-directed aggression (speaking in a loud and angry voice) and directed aggression (being insulting towards others) were both predictors of physical violence. As workplace violence has been identified as a

common issue for mental healthcare workers (Merecz, Rymaszewska, Moscicka, Kiejna, & Jarosz-Nowak, 2006), it was decided to include some training on the ROSE website on how to deal with aggressive behaviour.

This training will also address dealing with verbal aggression which has no threat of physical violence, supporting the assertiveness training. It has been reported that the majority of verbal abuse that nurses have to deal with comes from other nurses (Rowe & Sherlock, 2005). This training may also help with the poor communication issue mentioned at the focus groups.

1.3 A Set of Guidelines for Supporting the Individualised Stress Management Intervention

The first part of getting employees to use the ROSE website involves communicating to them what it is about. The ROSE website aims to reduce workplace stress, but by a variety of methods including;

- Lifestyle changes (such as sleep, exercise and diet),
- Changing work behaviours (such as time management and problem solving),
- Changing how we react to things (analysing thoughts and how they affect us),
- Teaching interpersonal skills (Being assertive, providing and receiving feedback),
- Teaching relaxation (meditation, and other methods),
- Social interaction via the website.

Some employees may find that not every one of the modules suits them, but the site is designed so that the user can pick which module they would like to do, rather than being forced to do any module in particular. For example, if one of the employees is having difficulty with time management, it may be useful to direct them towards that part of the website.

- One aspect of the design of the ROSE website to make it more appealing to users is that use of it is anonymous and all data is confidential. This should be mentioned when promoting the use of the site.

- Make time to tackle stress properly. If possible, allow the employees to access the ROSE website at work if they don't have a home computer, or are having difficulty getting time to themselves at home.
- Show a positive attitude to stress and mental health issues to reduce the stigma associated with them. It may help to have a team meeting to launch the website. Acknowledge that everyone feels stress occasionally and that this website is a tool which could be useful to everyone.
- Be willing to engage and communicate with your staff about work-related stress and any issues that they may have. They may find that they feel they need some changes to their work situation, or may need some support while they are trying to address their levels of stress. Be clear about what you can and cannot do for them and try to reach a satisfactory compromise.
- Establish systems which encourage employees to report stress in themselves and seek support to alleviate it.
- Establish systems which encourage two-way communication with staff.

Conclusion

The ROSE website will incorporate many features from previous research on reducing stress in healthcare providers including; information on what stress is and the causes of stress; changing your lifestyle as a means to reduce stress; CBT techniques for cognitive behaviour restructuring; problem solving and time management techniques; communication skills training; and a platform to facilitate social support. These features all address various issues raised by the user-group at the focus meetings. The exact content and format of each of these features has been tailored by examining evidence from previous research in the area to ensure best practice.

The features of the ROSE website person-directed intervention have not previously been combined in such a way (web-based with self-selection of participants) for this population (healthcare workers). By investigating evidence for online delivery of CBT and online delivery of stress management interventions, the style of delivery of the ROSE project has been developed. The style of the web-based intervention has benefits

including a wide array of different modules for website users to try to make it easier for them to find something that is personally useful for reducing their levels of stress. It also allows people to use the stress management interventions in their own time, using the website as often or as little as is necessary for them. The set of guidelines for supporting individualized SMI provides direction for vocational centres on the implementation of the person-directed intervention programme.

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