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Coming to grips with challenging behaviour: A cluster randomised controlled trial on the effects of a new care programme for challenging behaviour on burnout, job satisfaction and job demands of care staff on dementia special care units

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ABSTRACT

Background: Caring for people with dementia in dementia special care units is a demanding job. Challenging behaviour is one of the factors influencing the job satisfaction and burnout of care staff. A care programme for the challenging behaviour of nursing home residents with dementia might, next to diminishing the challenging behaviour of residents, improve job satisfaction and reduce the care staff's feelings of burnout.
Objectives: To determine the effects of a care programme for the challenging behaviour of nursing home residents with dementia on the burnout, job satisfaction and job demands of care staff.
Design: The care programme was implemented according to a stepped wedge design in which care units were randomly divided over five groups with different time points of starting with implementation.
Setting: 17 Dutch dementia special care units.
Participants: Care staff members of the 17 units.
Intervention: The care programme consists of an education package and of various structured assessment tools that guide professionals through the multidisciplinary detection, analysis, treatment and evaluation of treatment of challenging behaviour.
Methods: Burnout, job satisfaction and job demands were measured before implementation, halfway through the implementation process and after all the care units had

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implemented the care programme. Burnout was measured with the Dutch version of the Maslach burnout inventory (UBOS-C, three subscales); job satisfaction and job demands were measured with subscales of the Leiden Quality of Work Questionnaire. Mixed model analyses were used to determine effects. Care staff could not be blinded for the intervention.

Results: Of the 1441 questionnaires, 645 were returned (response 45%, 318 control measurements, 327 intervention measurements) by 380 unique care staff members. Significant effects were found on job satisfaction (0.93, 95% CI 0.48–1.38). On the other outcomes, no significant changes in the scores were found.

Conclusion: Positive effects of using the Grip on Challenging behaviour care programme were found on job satisfaction, without an increase in job demands.

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What is already known about the topic?

- Caring for people with dementia is a demanding job.
- Job satisfaction of care staff is, amongst other things, influenced by challenging behaviour of residents.

What this paper adds

- The introduction of a care programme that provides the multidisciplinary team with education and tools to structure the process of detecting, analysing, treatment and evaluation of treatment of challenging behaviour.
- By using the care programme, job satisfaction of care staff can be improved without increasing job demands.

1. Background

Working in long-term care facilities for people with dementia is a demanding job due to work environment related factors such as caring climate, understaffing and time pressure (Lapane and Hughes, 2007; Edvardsson et al., 2009), but also because of resident related factors such as challenging behaviour (Schmidt et al., 2012; Isaksson, 2013).

To support care workers in their daily tasks, several guidelines and protocols have been developed on various topics. In case of challenging behaviour in dementia, multiple guidelines are available, for example from the National Institute for Health and Care Excellence (NICE, 2006), the International Psychogeriatric Association (IPA, 2012) and the American Medical Directors Association (AMDA, 2012). Yet, the use of and adherence to the guidelines in actual practice seems to be low (Dorland et al., 2007), and the prevalence rates of challenging behaviour and the use of psychoactive medication are still high (Chen et al., 2010; Wetzels et al., 2011; Bergh et al., 2012; Gellad et al., 2012).

The complexity of the guidelines is often a barrier to implementation. Especially with multidisciplinary guidelines, it is important to develop recommendations that are understandable and usable for health care professionals with different educational backgrounds. Involving the end-users of the guidelines in the development, using different implementation strategies and attuning implementation to the local organisational structure could facilitate the implementation process (Ploeg et al., 2007; Francke et al., 2008).

The Grip on Challenging Behaviour care programme (GRIP) is a newly developed care programme that is based on the current evidence-based guidelines and integrates the use of guidelines within the organisational structure and processes of daily nursing home care (Zwijsen et al., 2014). In developing GRIP, representatives of all involved disciplines (care staff, psychologists, physicians) were consulted. GRIP contains education, multidisciplinary consultation and guidance by means of several structured forms, each of which are adapted to the education levels of the different users. The education sessions are aimed at improving staff knowledge and the use of the structured forms enlarges the insight into the actions undertaken by each discipline, which can improve support amongst different disciplines. In addition, the clear description of the procedures and the availability of various tools to structure the process of managing challenging behaviour can improve feelings of control over the situation.

Using GRIP could potentially lead to a reduction of burnout, because staff knowledge, feelings of control and feelings of support are important factors in developing burnout (Johnson and Hall, 1988; Edvardsson et al., 2009; Willemse et al., 2012a). Burnout can be predicted by the combination of feelings of personal accomplishment, emotional exhaustion and depersonalisation regarding residents (Maslach et al., 1996). The content of GRIP might influence these predictors by increasing feelings of personal accomplishment (because of the increased knowledge and feelings of control) decreasing emotional exhaustion (because of increased responsibilities) and decreasing depersonalisation (because analysing behaviour requires more involvement in the lives of residents). Next to this, while the implementation of GRIP could (temporarily) increase job demands, the feelings of control and support could improve job satisfaction (Choi et al., 2012).

As a result of the rapidly ageing society and the increasing complexity of care, the appeal on care staff will probably increase immensely during the next decades. It is, therefore, of the utmost importance to develop ways in which job satisfaction can be improved and burnout can be minimised. As described above, it is possible that GRIP increases job demands, but it might also have a positive

effect on feelings of burnout and job satisfaction. Therefore, this study is focused on the effects of GRIP on the burnout, job satisfaction and job demands of care staff.

2. Methods

2.1. Setting

This study took place in the Netherlands in 17 dementia special care units (DSCU) that were part of larger care organisations. Psychologists and "elderly care physicians" (Koopmans et al., 2010) are usually employed by the care organisation and they are part of the care team on the DSCU. The participating units were located throughout the country. Nine of the participating units were located in the densely populated Randstad area of the Netherlands and the other eight were located in less densely populated areas (Noord-Brabant, Gelderland and Friesland).

2.2. Care programme

The details of GRIP are described elsewhere (Zwijsen et al., 2014). In the training sessions that are part of GRIP, the use of structured forms was explained and care staff was educated on how to detect and reflect on signs of challenging behaviour. GRIP consists of four steps; detection, analysis, treatment and evaluation. In addition to the day-to-day observations of resident behaviour by care staff, a detection tool was introduced which is to be filled in half-annually for every resident. When challenging behaviour is detected, care staff initiates the analysis by filling in an analysis form for care staff with one or more co-workers. This form consists of questions to reflect on the behaviour and on the situation and environment in which the behaviour took place. After filling in the form, either the physician or the psychologist is consulted. Both disciplines have their own analysis form which consists of various diagnostic options, such as a checklist to determine or rule out the physical causes of the behaviour (analysis form physician) and a section in which a functional analysis of the behaviour can be made (analysis form psychologist). The analysis ends with a conclusion on the possible causes of the behaviour. Next, in a multidisciplinary meeting, the conclusion of the analysis is discussed and a treatment plan is made. On the treatment form, a clear goal should be described, the severity of the current situation should be scored on a 10-point scale and an evaluation date should be planned. Finally, on the prearranged date, the evaluation takes place, guided by a flow chart of possible treatment outcomes and interventions on the evaluation form.

2.3. Design

GRIP was implemented on the 17 DSCUs according to a stepped wedge design (Table 1). According to this design, the 17 participating units were randomly divided over five groups using random allocation software (Saghaei, 2006). Every four months a new group of DSCUs received training and started to use GRIP. The implementation began in February 2011 and was completed in June 2012.

Table 1
The stepped wedge design of implementing GRIP.

Group	T0	T1	T2	T3	T4	T5
1 (3 units)	0	1	1	1	1	1
2 (4 units)	0	0	1	1	1	1
3 (4 units)	0	0	0	1	1	1
4 (3 units)	0	0	0	0	1	1
5 (3 units)	0	0	0	0	0	1

Time periods are four months apart. The assessment of job satisfaction and job strain took place on T0, T3 and T5.

2.4. Data collection

Assessment was conducted at three time points, before the start of the implementation (T0, February 2011), midway through the implementation process (T3, February 2012, 6 control units, 11 intervention units) and after the implementation process (T5, October 2012). A questionnaire was distributed amongst all the care staff employed on the unit. Care staff could fill in the questionnaire and return it by means of a stamped addressed envelope.

2.5. Sampling

The amount of participating DSCUs needed was determined with regard to the resident related outcomes of the research project, which resulted in 17 participating units (sample size calculation and full trial protocol are published elsewhere (Zwijsen et al., 2011)). The unit leader of a DSCU would provide a list of all the care staff currently working on the unit. No selection was made with regard to education, working experience or working hours. All care staff working on the DSCUs received the questionnaire at the three time points described hereinabove.

2.6. Outcome measurements

Burnout was measured using the Dutch version of the Maslach Burnout Inventory (MBI) (Maslach et al., 1996), the Utrechtse Burnout Scale – C. The original MBI consisted of 22 items divided over three subscales, but a confirmatory factor analysis showed that although the original factor structure could be retained, two items should be omitted from the UBOS-C. The adapted version proved to be valid and reliable in determining burnout (Schaufeli and van Dierendonk, 2000). The UBOS-C consists of 20 items, divided over three dimensions: emotional exhaustion (being emotionally worn out, 8 items, range 0–48), depersonalisation (feeling emotionally distant towards residents, 5 items, range 0–30) and personal accomplishment (feelings of professional failure, 7 items, range 0–42). All items can be scored from never (0 points) to every day (6 points) and are summed into a total score per subscale. For interpretation, some items are recoded so that a higher score on each subscale means a higher risk for burnout.

Job satisfaction and job demands were measured using two subscales ("Job Satisfaction" and "Work and Time Pressure") of the Leiden Quality of Work Questionnaire for nurses (Maes et al., 1999), an adaptation of the Leiden

Quality of Work Questionnaire. This questionnaire has proved reliable and valid in measuring several separate job characteristics (van der Doef and Maes, 1999) and it has been used in several other studies in this population (te Boekhorst et al., 2008; Willemse et al., 2012a). Following this earlier research, the Job Satisfaction scale containing six items (range 6–24; Cronbachs $\alpha = 0.73$) and the Work and Time Pressure scale containing five items (range 5–20; Cronbachs $\alpha = 0.83$) were used. The scores on the items are summed into a total score for both scales, each reaching from totally disagree (1 point) to totally agree (4 points).

2.7. Other measurements

Because job satisfaction and burnout can be influenced by various variables such as age, working experience and attitude (Brodaty et al., 2003), these variables were measured and included in the analyses. The questionnaire, therefore, contained questions about age, sex, years of working experience, occupation and education level of care staff. In addition, the Approaches to Dementia Questionnaire (ADQ) (Lintern, 2001) was used to measure the attitude of care staff. The ADQ is a questionnaire on the attitude of care staff with regards to dementia and dementia care. The questionnaire contains various statements about dementia care on which respondents can rate their agreement (from totally agree to totally disagree). The ADQ measures the attitude towards dementia on two scales, hopefulness (8 items Cronbachs $\alpha = 0.73$ in our sample) and person-centeredness (11 items, Cronbachs $\alpha = 0.65$ in our sample). The questionnaire was used in earlier research amongst long-term care staff (Macdonald and Woods, 2005; Kokkonen et al., 2013) and it was validated against observed staff behaviour (Lintern, 2001) and against the Dementia Care Styles Questionnaire (Brooker et al., 1998).

2.8. Analysis

SPSS 20.0 was used for the descriptive analyses. For all other analyses, MLwin, version 2.28 was used (Rasbash et al., 2013). Mixed models were used to adjust for dependency of the repeated measures over time within the individual care staff members and for dependency of the care staff within the DSCU. No missing data were imputed. Because the distribution of the scores on the UBOS depersonalisation scale was not normal and could not be transformed into a normal distribution, the scores were dichotomised into low (<2) and high (>2). Hence, for the analyses of the UBOS depersonalisation scores, binomial logistic mixed models with a second order PQL estimation procedure were used.

Next to the initial analyses, adjusted analyses were performed, correcting for sex, age, years of working experience and the influence of job demands. In addition, the interaction of the intervention with the education level of care staff (these analyses were only performed in the subgroup of certified care staff), with occupation (nurses and nurse assistants, recreational therapists, uncertified nursing assistants, other), with years of working experience and with attitude was analysed.

For all analyses, a cut off score of $p < 0.05$ was used for statistical significance.

3. Results

In total, 1441 questionnaires were distributed amongst the care staff, of which 645 questionnaires were returned (response rate 45%; 318 control measurements, 327 intervention measurements) by 380 unique care staff members. Of the responding care staff members, 368 (97%) were female and the mean age was 42 years (SD 12). The mean time of working experience was 16 years (SD 12). Furthermore, 77% of the respondents were certified care staff, 5% were recreational therapists, 12% were uncertified nurse assistants and 6% had another profession (such as team leader, spiritual counsellor) (Table 2).

The mean scores on the subscales of the UBOS-C questionnaire for burnout were relatively low (25 out of the possible 120 points) before the start of the intervention, which indicates the responders were not at high risk for burnout. The mean scores on the subscale for job demands were in the middle of the scale (12, scale range 5–20) and the mean scores on job satisfaction were above the middle of the scale (18, scale range 6–24). (Table 3). Significant positive effects were found on job satisfaction (0.93, 95% CI 0.48–1.38; a relative change of 5%). No significant changes in scores for emotional exhaustion, personal accomplishment, depersonalisation or job demands were found (Table 3).

No interaction effects were found for attitude measured with the ADQ. For the education level of care staff, an interaction effect was found for two subscales of the UBOS. Care staff with a higher education level scored higher on emotional exhaustion but lower on depersonalisation when using GRIP, whilst no effects were found for the lower education levels. In other words, higher educated care staff felt more exhausted but less detached from residents when GRIP was used. An interaction effect was also found for occupation. Recreational therapists scored lower on the depersonalisation scale of the UBOS when using GRIP.

4. Discussion

The aim of this paper was to describe the effects of using the Grip on Challenging Behaviour care programme (GRIP) on burnout, job satisfaction and job demands of care staff.

Table 2
Characteristics of responders.

Unique respondents	380
Sex (% female)	97%
Mean age (years)	42 (SD 12)
Working experience (years)	16 (SD 12)
Occupation: Care staff	80%
<3 years training	15%
3 years training	72%
>3 years training	14%
Recreational therapist	4%
Uncertified nurse assistant	11%
Other/missing	4%

Table 3
Effects of the GRIP on burnout and Job satisfaction. For each scale, the range of the scale and the mean score of the study population before intervention are given. B adjusted = analysis corrected for age, sex and working experience (analysis on job demands were corrected for age, sex and working experience).

	Mean (range)	B (95% CI)	B adjusted (95% CI)
Emotional exhaustion	11 (0–48)	1.37 (0.00 to 2.74)	0.507 (−0.20 to 1.21)
Depersonalisation	3 (0–30)	OR 1.42 (0.96 to 2.11)	OR 1.28 (0.83 to 1.96)
Personal accomplishment	11 (0–42)	0.57 (−0.10 to 1.25)	0.65 (−0.05 to 1.35)
Job demands	12 (5–20)	−0.22 (−0.45 to 0.09)	−0.20 (−0.52 to 0.12)
Job satisfaction	18 (6–24)	0.89 (0.44 to 1.34)*	0.93 (0.48 to 1.38)*

* $p < 0.05$.

Burnout was measured on three dimensions; feelings of personal accomplishment, feelings of emotional exhaustion and depersonalisation.

The scores on the burnout dimensions were low, indicating that the care staff members were not at high risk for burnout, which is in line with earlier studies (de Rooij et al., 2012; te Boekhorst et al., 2008). Before implementation, the job satisfaction of the care staff was above average and job demands were reported as average, which is also comparable to earlier studies in Dutch nursing homes (te Boekhorst et al., 2008; Willemse et al., 2012a). Job satisfaction was significantly higher when GRIP was used, while the measured job demands did not change. This is an important finding, for extra workload and time pressure (higher job demands) are often proposed as a barrier to the implementation of interventions (Willumsen et al., 2012; Caprio et al., 2012). It might be that the improvements in decision authority and the (multidisciplinary) support in managing challenging behaviour that are offered by GRIP have buffered for the effects that job demands can have on care staff, resulting in heightened job satisfaction while the job demands did not change. Indeed, in the job demand–control–support model (Johnson and Hall, 1988), it is assumed that these variables are interconnected. It is also known that staff knowledge and the opportunity to reflect on difficulties at work influence job satisfaction (Edvardsson et al., 2009). It is likely that GRIP has increased staff knowledge through the training sessions and has supported decision making and reflection with co-workers by the structure and the forms it offers.

No effects were found on the burnout subscales in the total group of responders. However, an interaction effect was found between occupation and using GRIP on the depersonalisation subscale. When GRIP was used, an effect on depersonalisation was found only for recreational therapists. The fact that recreational therapists had fewer feelings of depersonalisation when GRIP was used could be inherent to their job; making contact and being aware of the personal preferences of residents are a specific goal in recreational therapy and GRIP might have helped them to attune to the preferences of the residents even more. Another explanation might be that recreational therapists do not spend as much time with the residents as the rest of the care staff. Since they only interact with the residents during activities, it might be easier to fully engage and sympathise with the residents.

An interaction effect was also found for education level; care staff with higher education levels had more feelings of emotional exhaustion but fewer feelings of depersonalisation when using GRIP. These two dimensions are probably interconnected; less depersonalised feelings might lead to getting more emotionally exhausted (after all, less depersonalisation means being more emotionally involved), and this might also coincide with more job satisfaction (Brodaty et al., 2003). Thorough analysis of the behaviour of the residents means interpreting their behaviour, getting to know their feelings, past experiences and personal preferences. Hence, it can be expected that the staff gets less depersonalised from residents when GRIP, which emphasises thorough analysis, is used. It is, however, interesting to see that GRIP did not cause the same effect in the care staff with lower education. In this group, the use of GRIP did not lead to more emotional exhaustion nor did they become less depersonalised from their work. The absence of changes in emotional exhaustion and depersonalisation in the lower educated care staff members may mean that lower educated staff did not always use GRIP to its full extent. The feelings of emotional exhaustion in the higher educated group of care staff might also be a result of the responsibilities they have in the implementation process and the quality of care. Possibly as a result of the decreasing number of team managers available (Willemse et al., 2012b; de Lange et al., 2011), the higher educated care staff often function as a senior care giver (Hingstman et al., 2012), which means they have the main responsibility for maintaining or improving good quality of care and implementing innovations on the unit.

The results on burnout and job satisfaction are not conclusive. This could be explained by the fact that job satisfaction and burnout depend upon many factors other than challenging behaviour. The effects could, however, also be muted by the implementation rate of GRIP, which was suboptimal. Although care staff members almost unanimously stated that there was a need for a structured care programme for challenging behaviour prior to the implementation period, and GRIP itself was rated as feasible and applicable, the actual implementation proved to be a challenge. It seemed that, although GRIP offered a clear structure, it was hard to adapt the structure to the mostly unstructured daily work routines. When there was no clear authority figure that encouraged and supervised the use of GRIP, implementation was very difficult, which is in line with other research on implementation in

long-term care (Ploeg et al., 2007; de Lange et al., 2011). These findings might be interpreted as a need for a more structured approach and more support in the organisation of long-term care as a whole rather than just on the topic of challenging behaviour. Making changes to improve the quality of care requires changes in the whole organisational culture. Indeed, various researchers have already emphasised the importance of commitment and investment of care organisations when implementing changes in care practice (Stuijt et al., 2013; Celik et al., 2012; Ouslander et al., 2014).

Although more and more interventions to diminish challenging behaviour of nursing home are being developed, the evaluation of such interventions on care staff outcomes is not very customary. One other study found significant improvement on job satisfaction after the introduction of Snoezelen in 24-h dementia care (van Weert et al., 2005), whereas a study about a creative expression intervention did not yield any significant changes in staff outcomes (Fritsch et al., 2009). However, a comparison between these studies and GRIP is difficult, for GRIP focuses on improving a process rather than providing a new treatment. In light of the future growth of the dementia population and the diminishing working population, evaluating such a complex intervention on care staff outcomes seems very prudent and it would be sound for future research on complex interventions to incorporate such analyses.

There are some limitations in this study that should be taken into consideration. Feelings of burnout, job satisfaction and job demands are influenced by many things other than the management of challenging behaviour alone. The sample size of this study may have been too small to determine the subtle effects of using GRIP on a multicomponent concept such as job satisfaction. The use of a questionnaire specifically aimed at these variables in relation to challenging behaviour might have been more suitable for our research aim. To the best of our knowledge, no such questionnaire is available. Furthermore, the mean years of working experience in the respondent group was relatively high, which might have led to a respondent group that is more conscientious and less prone to experience burnout than the whole population. Lastly, the care staff members were not blinded for the intervention. Although this is inherent to this type of research (improving burnout, job satisfaction and job demands by an intervention implies involving people in both the intervention and the measurements), this could have influenced the results.

Despite these limitations, the positive effects that were found in the absence of increases in job demands are promising. The effects of GRIP were measured repeatedly over a prolonged period of time, which increases the validity of our results. In conclusion, the Grip on Challenging Behaviour care programme could be a step forward in making care for people with dementia less challenging for care staff and thus could be a contribution to the preservation of care staff in dementia long-term care.

Conflict of interest

None declared.

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Ethical approval

The study protocol was approved by the Medical Ethics Review Committee of the VU University Medical Centre.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.ijnurstu.2014.10.003.

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