Mindfulness Based Stress Reduction (MBSR) in Hospital Setting

[1]Dr. André Fringer, MScN; [2]Dr. Iris Müller-Käser; [3]Paul Grossman, PhD; [2]Prof. Dr. Thomas Cerny; [2&4]Dr. Marc Schlaeppi

[1]Institut für Angewandte Pflegewissenschaft IPW-FHS, FHS St.Gallen, Hochschule für Angewandte Wissenschaften; [2]Medizinische Onkologie, Kantonsspital St.Gallen (KSSG)
[3]Psychosomatik, Universitätsspital Basel; [4]Zentrum für Integrative Medizin Kantonsspital St. Gallen

Background:

Burnout in physicians, nurses and psychologists is widespread and a rising concern in clinical settings which may lead to high staff costs for health care institutions. Mindfulness Based Stress Reduction (MBSR) as an intervention and burnout prevention seems to reduce stress and improve quality of life of the staff and also lead to better health care at all levels.[1,2,3,4,5,6]

Based on these findings, the Centre for Integrative Medicine, Kantonsspital St.Gallen, has planned a mindfulness training program as an intervention to strengthen the quality of life and to prevent employee burnout.

Aim:

In this context, a feasibility study was carried out in 2012. The aim of the study was to explore the effects of MBRS intervention in regard to quality of life and to assess key variables in order to lay ground for a larger study.

Methods:

An MBSR program using an observational, pre- and post-intervention design was conducted with employees of the Cantonal Hospital of St.Gallen and evaluated using standardized questionnaires. The study was conducted from August to November 2012. The convenience sample consisted of n=9 participants and consists of colleagues (n=5 woman; n=4 men) from the Centre for Integrative Medicine at the KSSG (Medicine=4; Nurses=2; Physiotherapy=1; Education=1; Music=1). On average, participants were 50 years old (41 to 60 years). Before the intervention started, the participants were asked about their personal goals as well as their quality of life. The intervention consisted of a course (that lasted three months) with mindfulness training, conducted outside working hours. Seven days after completion of the intervention, participants were asked to provide information about their quality of life as well as to evaluate the MBSR course regarding achievement of the personal goals with the course.

Data Collection:

Four instruments were used for data collection:
I) Questionnaire for the collection of personal goals (see Table 1) before the course, as well as socio-demographic characteristics.
II+II) Aims and perceived attainment of personal goals after the course (see Table 2: „-5 not at all" to „+5 extremely better than expected"; midpoint, goal achieved to level originally expected).
IV) Measuring quality of life with the Instrument "The Quality of Life Profile for the Chronically Ill" (PLC) before and after the course which consists of six dimensions: 1) Functional status; 2) Enjoyment; 3) Positive affect; 4) Negative affect; 5) Social contact; 6) Sense of belonging.

Final evaluation based on four qualitative questions: 1) mental functioning; 2) assessment of training; 3) personal adjustment; 4) positive and negative aspects of the course.

Data Analysis:

The personal goal attainment and the PLC were analysed with the statistical software package SPSS. To test the effectiveness of the course in regard to the quality of life aspects (PLC) the differences were tested with Wilcoxon und T-test for paired samples (1-sided). The evaluation of the course objectives and experiences were analysed inductively using the qualitative data analysis software MAXqda2013.

Central themes		Degree of target achievemt:
1. Increase in its own mindfulness		„-5 not at all" to „+5 extremely better than expected"
Better pay attention to me and my needs	3	much better than expected
Be alert and mindful	3	much better than expected
Have more mindful encounters	3	much better than expected
2. Desire for relaxation and balance		
Desire to be efficient concentration	2	moderately better than expected
To relaxing with MBSR	3	much better than expected
Better to hear the inner voice	midpoint	As expected
Better to withdraw me (family commitments)	3	much better than expected
To develop conscious inner peace	3	much better than expected
An improved inner balance	4	far better than expected
Release tension in the spine	2	moderately better than expected
3. Make everyday work more quiet		
A relaxed approach in difficult professional situations	3	much better than expected
Through meditation, find a quiet pole in everyday life	2	moderately better than expected
More relaxed overall	1	slightly better than expected
Strengthen serenity and humour towards colleagues	3	much better than expected
4. Judgment formation / Curiosity		
One possibility for professional development - project work	2	moderately better than expected
That I have a personal benefit from the program	5	extremely better than expected
Check if course is suitable for KSSG	midpoint	As expected
Assess whether MBSR is suitable for employees	5	extremely better than expected
5. Learn techniques		
Open to experience in power sources and find a way into the soul	3	much better than expected
Regular meditation for inner peace and balance	4	far better than expected
Benefit from the regular practice of MBSR	midpoint	As expected
Learn MBSR to know	3	much better than expected
Learn about the methods of MBSR	5	extremely better than expected
Overall	2.6	Average rating oft he course: *substantially better than expected*

Table 1: Objectives prior to and achievement of the objectives after intervention

Ethics:

The data of the participants were kept confidential. All documents were handed over to the Institute for Applied Nursing Research (IPW-FHS, Dr. André Fringer) for the analysis and were then safely archived, inaccessible to third parties.

Descriptive Statistics PLC	Before the course		After the course	
	Average	(SD; Min./Max.)	Average	(SD; Min./Max.)
Item 1: Functional status	2.52	(0.74; 0.75/3.13)	2.75	(0.79; 1.25/3.75)
Item 2: Enjoyment	2.45	(0.57; 1.38/3.25)	2.59	(0.71; 1.38/3.63)
Item 3: Positive affect	2.15	(0.65; 1.00/3.00)	2.06	(1.05; 0.00/3.20)
Item 4: Negative affect	2.69	(0.59; 1.63/3.38)	2.41	(1.25; 0.00/3.88)
Item 5: Social contact	2.55	(0.81; 1.17/3.83)	2.61	(0.73; 1.67/3.83)
Item 6: Sense of belonging	2.71	(0.97; 1.40/4.00)	3.00	(0.93; 1.60/4.00)

Table 2: deskriptive statistics

Results:

Five key themes could be identified from the personal goals before the mindfulness training started (see Table 1). As the table shows, the personal goals of the participants could be reached "even a bit" to "much better than expected". Overall, the personal goals achieved were largely positive.

Testing the differences of PLC (see Table 2) showed both the Wilcoxon and the T-test due to the small sample size in each case of no significance (see Table 3).

Only item one (functional status) and six (sense of belonging) shows tendencies towards differences before and after the intervention (see table 3).

Signifikanztests PLC	Wilcoxon-Test	T-Test
	exact significance (1-sided, 95% CI)	exact significance (1-sided, 95% CI)
Item 1: Functional status	.078	.077 (df 8)
Item 2: Enjoyment	.355	.289 (df 8)
Item 3: Positive affect	.316	.413 (df 8)
Item 4: Negative affect	.516	.252 (df 8)
Item 5: Social contact	.410	.430 (df 8)
Item 6: Sense of belonging	.098	.082 (df 8)

Table 3: results of Wilcoxon and T-test
(CI: Confidence Interval; df: degree of freedom)

The final evaluation showed an overall positive experience for the participants with the MBSR training.

Discussion:

The results show that rather striking subjective achievements of key personal goals of participant related to emotional balance in the work situation and beyond, as well as a general perception of being able to have attained improvements in mindfulness as a consequence of participation. Significantly, all personal goals were met at least to the level that participants had hoped for preceding the intervention. Regarding quality of life measures, effects were nonsignificant, although results suggest that functional status, indicating performance and physical and mental capacity, might be shown to increase, if similar degrees of improvement were to be found among a larger sample size. Likewise, improvements in sense of belonging tended toward significance, suggesting that perceived socio-emotional support and sense of closeness to others may be enhanced by a mindfulness program. The results of our pilot study therefore indicate that the MBRS training program appears feasible and suitable to apply to a larger sample size of employees working in hospital settings.

Limitations:

The results of this pilot study are preliminary, due to the small sample size and must be interpreted with great caution. Another study with a larger sample and effect-size estimation will be necessary to determine efficacy of this mindfulness program.

Conclusion:

Personal goals of participants were uniformly achieved, on average, substantially better than participants had expected. Standardized assessment of functional status and sense of belonging tended toward statistical significance. Such changes and suggestions of improved functioning justify conducting a larger controlled trial.

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