

The acceptability of colouring in as a mindfulness activity to reduce distress among adult chemotherapy in patients at Universitas Academic Hospital, Bloemfontein



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Mindfulness-based techniques have been used in the medical context to reduce patient distress. This study aimed to explore the acceptability of colouring in as a mindfulness-based activity for chemotherapy patients. In a randomised controlled trial investigating the effectiveness of colouring in as a stress-reducing activity, 18 participants in the intervention group completed self-report questionnaires, an adapted distress scale, a 30-min colouring-in activity, a post-intervention distress scale as well as an acceptability questionnaire. This article reports on the high level of acceptability of this mindfulness-based activity. Over three-quarters of participants experienced it as positive, half recorded lower distress scores after colouring in, 83.0% reported a subjective reduction in distress and 89% confirmed that they would use the activity again. The high level of acceptability found in this study warrants further consideration of colouring in as a cost-effective mindfulness strategy.

Keywords: mindfulness-based techniques; mandala; colour; stress; chemotherapy.

Introduction

Mindfulness can be described as the intentional focus of one's attention on current experiences.¹ Mindfulness-based interventions have been effectively used in the medical context, including oncology, to reduce psychological distress.² Colouring in can be considered a mindfulness-based activity because it entails a voluntary focus on a present-moment experience accompanied by a non-judgemental acceptance of that experience, allowing people to 'get pleasantly lost in the intricacy of the ornate pages'.^{1,3} Oncology inpatients have highlighted the activity's helpfulness in passing the time and aiding in physical relaxation.⁴ Complex and structured geometric patterns, such as mandalas, have demonstrated greater efficacy for decreasing anxiety, when compared with free-form colouring-in.^{5,6}

Acknowledging the need for cost-effective and patient-driven stress-reducing techniques in the South African healthcare context, this article reports on the acceptability of colouring in as a mindfulness-based activity among inpatients admitted for chemotherapy.

Research methods and design

As part of a randomised controlled trial investigating the effectiveness of colouring in to reduce distress of 33 patients undergoing chemotherapy, 18 adult inpatients at Universitas Academic Hospital (UAH) were randomised to an intervention group. Exclusion criteria included sensory or motor difficulties, reported illiteracy or not being fluent in Sesotho, Afrikaans or English.

A stimulus figure was designed according to mandala principles.⁶ Participants completed a researcher-developed demographics and coping questionnaire and a 10-point distress scale, which was adapted from the National Comprehensive Cancer Network Distress Thermometer to allow participants to rate their experience of distress at that current moment as opposed to over a 1-week period. They were then given 12 colour pencils and 30 min for colouring in one mandala image. Thereafter, they completed the distress scale again and a researcher-developed acceptability questionnaire. The control group completed their second distress scale following a 30-min activity of their own choosing.

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Results from a two-week pilot study were included as no major changes were made. Data were captured and compiled by the researchers and analysed by the Department of Biostatistics, Faculty of Health Sciences, University of the Free State. Results were summarised by percentiles (numerical variables) as well as frequencies and percentages (categorical variables). The small sample size prohibited comparisons with the control group. Findings from the intervention group are presented in this article.

Ethical considerations

Ethical approval was obtained from the Health Sciences Research Ethics Committee, University of the Free State (UFS) (HSREC-S 23/2016). The heads of the Free State Department of Health and UAH Oncology Department gave permission. Participating patients gave written informed consent. Personal information was handled confidentially.

Results

The median age of participants was 47.5 years (range 22–74 years) and 61.0% were women. Their level of education ranged from primary school (28.0%), secondary school (44.0%) to tertiary education (28.0%). Home languages were reported as Sesotho (67.0%), Afrikaans (22.0%) and English (11.0%).

Distress at baseline was reported for 44.0%. Self-reported adaptive coping strategies included religious practices (94.4%; $n = 17$), time with family (83.3%; $n = 15$) and mindfulness-based activities such as reading (77.8%; $n = 14$) and meditation/yoga (27.7%; $n = 5$).

Half of the participants recorded unchanged distress scores, and half noted a decrease between 1 and 4 points. On a 5-point scale, all participants reported either a positive (78.0%) or neutral (22.0%) experience during the activity. Table 1 summarises responses regarding the colouring in activity's impact, as well as recommended changes.

Discussion

Oncology patients in this study showed coping strategies similar to what has been described in international literature.^{7,8} Their report of other strategies related to mindfulness further suggests acceptability of mindfulness-based activities among this group.

TABLE 1: Intervention group responses to colouring in activity.

Variable	'Yes' responses (%)
Effectiveness of activity to reduce distress:	
Effective	83
No effect	11
Caused distress	6
Would make use of the strategy in future	89
Recommended changes to colouring in activity:	
More colours	72
More complex picture	17
Less complex picture	33

The high degree of acceptability of the activity correlates with international research on mindfulness-based activities with oncology patients.⁴ Acceptability could further be improved by offering more colours or different degrees of complexity of the stimulus picture.

Conclusion and recommendations

Colouring in as a mindfulness-based activity has a high level of acceptability for the majority of the participants in this study. The authors recommend that it receives further consideration as a cost-effective mindfulness strategy for the management of emotional distress to further expand oncology patients' adaptive coping strategies. Larger randomised controlled studies should be conducted to further investigate its effectiveness. In order to avoid that language and literacy exclusions in research methodologies could contribute to inequality in patient access to the stress-reducing activity in the care setting, it is recommended that future methodologies are broadened to include children and patients with low literacy skills, especially as colouring in itself is a literacy and language-independent activity. Future studies can focus on specific treatment settings, such as the chemotherapy waiting or treatment rooms, or different population groups, such as patients on dialysis. Judging by the nursing staff's keen interest in the project at the study site, and as proposed in recent literature,⁹ colouring in should be investigated as a potentially helpful coping strategy for healthcare workers.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

K.B., K.J., M.K., E.L. and N.P. were the medical students who compiled the protocol, performed the data collection and wrote the first draft report of this study. C.N. was the study leader who suggested the topic and supervised the students through the project process. A.S. was the co-study leader who supervised the students through the project process. G.J. advised with the planning of the study, performed the analysis and assisted with the write-up of the manuscript. All authors contributed to and approved the manuscript.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

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