A Health Enhancement Programme for physiotherapy students: a mixed methods pilot study

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ABSTRACT

Health professional students have a high incidence of fitness to practise issues, including stress and may need strategies to support their wellbeing. The 331 first year Bachelor of Physiotherapy students enrolled in our programme between 2009 and 2013 undertook a 3-4 week wellness programme. They completed the Perceived Stress Scale (PSS), Fantastic Lifestyle Assessment questionnaire and the World Health Organisation Quality of Life Brief (WHOQOL-BREF) scale before and after the programme. Thematic analysis was used to interpret qualitative data. A non-clinically significant increase in the PSS coincided with increased assessment load during the semester which is a potential confounding variable thus randomised controlled trials taking this into account are indicated. Increases in the Fantastic Lifestyle Assessment across the 4-week programme indicated a healthier lifestyle had been adopted. Participants enjoyed the mindfulness (being aware of the present moment) activities, resources, sharing of discussion, content on healthy behaviours and goal setting. Practical activities in tutorials, and the lecturer and tutorial staff were viewed positively. There were a number of suggested changes to the programme content. To our knowledge this is the first documented wellness programme for physiotherapy students. A number of quantitative studies exist regarding health professional wellness courses, but minimal qualitative data exist. This article aims to address this.

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INTRODUCTION

Stress amongst university students is a serious issue. In a cross-sectional survey of 1,168 students attending the health services at three large Australian universities, approximately half of the students reported psychological distress (Stallman & Shochet, 2009). Distress is defined as psychological discomfort that interferes with the activities of daily living (Weissman, Pratt, Miller, & Parker, 2015). The majority of severely distressed students had not sought any professional assistance for mental health problems (Stallman & Shochet, 2009).

Due to the demands of continuous assessment, knowledge retention, confronting circumstances associated with health service provision and long contact hours, health professional students are at risk of mental health issues including burnout. Burnout is described as a combination of emotional exhaustion, depersonalisation, and a reduced sense of accomplishment (Maslach & Jackson, 1981). A review of mental health issues, including burnout in medical students, indicates that the prevalence rate may be between 45-71% (IsHak et al., 2013). A study of physiotherapy student stress and psychological morbidity demonstrated that 27% of the 125 undergraduate students surveyed scored above the threshold on the General Health Questionnaire. This indicated probable psychological morbidity (Walsh, Feeney, Hussey, & Donnellan, 2010). This was higher than in the general population. Stress in nurses has been shown to result in anxiety, disturbances to sleep, loss of confidence and self-esteem issues (Bennett, Lowe, Matthews, Dourali, & Tattersall, 2001; Dallender, Nolan, Soares, Thomsen, & Arnetz, 1999; Hillhouse & Adler, 1997). Stress can also result in unhealthy lifestyle behaviours (Tully, 2004), stress-related health issues (Tyler & Cushway, 1998) and even suicide (Feskanich et al., 2002).

Consequently Seritan and colleagues (2012) highlighted the need for culture change and advocated for health professional curricula to include evidence-based strategies to support student wellbeing. A systematic review of randomised controlled trials by Fjorback et al., (2011) and a meta-analysis by Regehr et al., (2013) demonstrated that strategies such as Mindfulness Based Stress Reduction reduce stress in university students. Mindfulness has been described as the practice of non-judgmental awareness of the present moment (Kabat-Zinn, 2009). These findings have encouraged Mindfulness Based Stress Reduction to be considered for inclusion in health professional curricula (Erogul, Singer, McIntyre, & Stefanov, 2014).

Since 2012 there has been a rapid increase in the evaluation of wellbeing curricula (Lo et al., 2017). The interventions to enhance wellbeing have included mindfulness, psychoeducation, cognitive-behavioural techniques and relaxation. A systematic

review and meta-analysis of randomised controlled trials (Lo et al., 2017) evaluating group interventions to improve health professional student mental health found that while mindfulness interventions reduced stress, psychoeducation reduced depression. Cognitive-behavioural and relaxation interventions both reduced anxiety, depression and stress. Wellness programmes have been delivered to nursing, medical, pharmacy, psychology and dental students. However, there has been no research investigating wellness programmes delivered to physiotherapy students. The review by Lo and colleagues demonstrated that multimodal interventions may provide additional benefits across a number of areas of mental health.

A multimodal intervention developed for the medical students at Monash University has been evaluated (Hassed, De Lisle, Sullivan, & Pier, 2009). This Health Enhancement Programme (HEP) includes mindfulness, a stress release programme and a lifestyle programme based on the acronym ESSENCE. ESSENCE highlights the importance of Education, Stress management, Spirituality, Exercise, Nutrition, Connectedness and Environment in fostering wellbeing. Evaluation of this programme demonstrated that 90.5% of medical students were personally applying the mindfulness practices taught. Improved student wellbeing was noted on all measures and reached statistical significance for the depression and hostility subscales of the Global Severity Index of the Symptom Checklist-90-R (SCL-90) but not the anxiety subscale of the SCL-90. The SCL-90 is a 90-item self-report scale that assesses psychological issues (Derogatis, 1976). Significant results were also found for the psychological domain but not the physical domain of the Australian version of the World Health Organisation Quality of Life Brief (WHOQOL-BREF) questionnaire. This was the first study to demonstrate overall improvement in student wellbeing in the period prior to exams. The study findings suggest that the decline in wellbeing that occurs during the pre-exam period is avoidable.

Our study involves the application of this Health Enhancement Programme to first year physiotherapy students at Monash University. To our knowledge this is the first documented wellbeing programme incorporated into a physiotherapy undergraduate course. There is an established need for the wellbeing of physiotherapy students to be addressed with proactive strategies, however specific strategies to improve wellbeing of physiotherapy students have not been investigated. There is potential for the findings of this study to inform curricula and not only benefit the physiotherapy profession, but have applications in other health care professional programmes. The question we wished to address was 'Does the Health Enhancement Programme lead to improved outcomes on the Perceived Stress Scale, Fantastic Lifestyle Assessment Questionnaire or World Health Organisation Quality of Life Brief (WHOQOL–BREF) questionnaire in physiotherapy students'?

METHOD

Study Design

Pre-post scores on the lifestyle perceptions of physiotherapy students were collected using an anonymous online survey. Students constructed their own unique identification code to ensure anonymous completion of the survey. Data were collected pre-programme at the beginning of the first tutorial in week 1 (T1). The post-programme measures were collected at the end of the last tutorial (T2). At the end of the programme, students were also asked what they enjoyed about the programme, what could be changed and any other comments they had. Assessors were blinded to the completion of the survey data.

Ethical approval was granted by the Monash University Human Research Ethics Committee (CF10/1321 - 2010000703).

Participants

All students enrolled in the first year of the Bachelor of Physiotherapy programme at Monash University between 2009 and 2013 were eligible to participate in the study. The data were a convenience sample. We used the Harvard sample size calculator with the following parameters: significance level (adjusted for sidedness) = 0.025, standard deviation = 5.92, power = 0.8, difference in means = 3, location of mean in one group as a percentile of the other group = undefined. This yielded a required sample size of 126 participants.

Intervention

The Bachelor of Physiotherapy course at Monash University is a four year undergraduate degree. Given there are demands associated with adjusting to university, the Health Enhancement Programme was introduced into semester two of first year. At this time students had completed one semester of musculoskeletal theory and completed some coursework in inter-professional groups. The structure of the course is such that first year has a focus on musculoskeletal theory and practice. Second year has a focus on cardiorespiratory and neurological theory and practice. Third year includes theory and practice in specialist areas such as Women's and Men's Health, Amputees and Emergency Health. Year four covers employment preparation, Indigenous health and applied research skills. Woven throughout the four years is curriculum covering personal and professional development topics, research skills and inter-professional education. Clinical education commences in Year two with three half day visits progressing to 15 weeks during Year three and 17 weeks in Year four. An estimate of the ratio between face-to-face classes and self-directed learning would be approximately 60:40%. The Health Enhancement Programme commenced in 2009. In the first iteration, the programme ran for three consecutive weeks with three 1 hour lectures and three 1.5 hour tutorial classes. The tutorial classes gave the students an opportunity to practise skills. After receiving student feedback, the programme was then expanded in 2010 to a 4-week programme with an additional 1 hour lecture and 1.5 hour tutorial. This enabled concepts to be more fully expanded whilst fitting within the constraints of available time within the existing curriculum structure. The tutorial group size was between 14-20 students and each tutorial included a mindfulness practice.

For the 4-week programme, Week 1 introduced the concepts of education / behaviour change and lifestyle modification. This included information on the ESSENCE model, the course outline, the relationship between mental health and lifestyle and an introduction to mindfulness. Prochaska and DiClemente's stages of change were included (DiClemente, Prochaska, & Gibertini,

1985). The stress performance curve was also an inclusion (Nixon, Murray, & Bryant, 1979) as was Motivational Interviewing (Miller & Rollnick, 2012). Information of clinical and personal relevance was highlighted in the course. SMART goals were also discussed (Doran, 1981). SMART goals are Specific, Measurable, Attractive, Realistic and Timely goals which help facilitate change. The week 1 tutorial learning objectives were to:

1. Describe 'mindfulness' and how this applies to health and wellbeing.
2. Identify basic key components of Motivational Interviewing and how it applies to personal and health care settings.
3. Describe the ESSENCE model of health and wellbeing.
4. Outline the stages of behaviour change using the Prochaska-DiClemente Cycle.

Week 2 focused on stress management / education / the link between mind and body / mindfulness including the relationship between stress and health and clinical applications of mindfulness. The tutorial incorporated a Motivational Interviewing practice and an example of setting SMART goals. The week 2 tutorial learning objectives were to:

1. Describe SMART goals and how to set one.
2. Apply the ESSENCE model of health to one's own personal health goals.
3. Identify examples of mindfulness practice.
4. Identify how Motivational Interviewing techniques may promote client engagement with health goal setting.

Week 3 focused on exercise and nutrition including the health benefits of both healthy eating and physical activity. It also included the discussion of the psychology of eating and weight management. Tutorial 3 included a mindfulness practice to focus on being in the present moment whilst eating food. Learning objectives were to:

1. Describe the Australian Dietary Guidelines
2. Analyse the relevance of the Australian Dietary Guidelines to one's own eating habits.
3. Describe the influence of exercise and nutrition on health and wellbeing.
4. Identify how exercise and nutrition impact on one's own health and wellbeing currently and in the future.

Week 4 concluded with a discussion of spirituality, connectedness and environmental factors which may impact on health. The tutorial 4 learning objectives were to:

1. Identify one's own understanding of spirituality / meaning and how this relates to health.
2. Analyse appropriate responses to other's views of spirituality / meaning that may differ from a student's own.
3. Describe connectedness and how this positively and negatively impacts on health and wellbeing.
4. Identify the impact of environmental factors on health and wellbeing.

For further explanation of the Health Enhancement Programme refer to Hassed and colleagues (2009). All students were encouraged to practise at home and a self-reflective journal was assigned at the end of each tutorial as a formative hurdle assessment task. Tutors provided brief comments on these journals and returned them at the following tutorial. If students presented with signs of significant mental health issues or other concerning problems they were referred to health services or on-campus counselling. To highlight the importance of the programme, students were informed that the material was core curriculum and examinable in both written exams and their practical Objective Structured Clinical Exams (OSCEs).

Outcome measures

Students completed the following three questionnaires:

1. The Perceived Stress Scale. The 10-item version of the scale that assesses stress in everyday life was used (Cohen & Williamson, 1988). This scale has been found to be reliable and valid in the assessment of perceived stress in university students (Roberti, Harrington, & Storch, 2006). The items are assessed using a 5-point Likert scale with categories from never (0) to very often (5). The total Perceived Stress Scale score is obtained by reversing the scoring for the positive items for example, 0=4, 1=3, 2=2, etc. and then summing across all 10 items. The positive items are items 4, 5, 7 and 8. An example question is: "*In the last month, how often have you felt nervous and stressed?*" Higher scores indicate higher degrees of stress.
2. The Fantastic Lifestyle Assessment questionnaire (Wilson & Ciliska, 1984). This 25-item questionnaire assesses physical, emotional and social components of health that are considered relevant to quality of life, morbidity and mortality. There are three options for each item, scoring 2, 1 or zero points. This sums to a total score out of 40. The higher the score, the more positive the lifestyle of the participant. The correlation co-efficient has been found to be 0.88 (Wilson & Ciliska, 1984).
3. The Australian version of the World Health Organisation Quality of Life Brief (WHOQOL-BREF) tool, is a 26-item assessment of quality of life over four domains (Murphy, Herrman, Hawthorne, Pinzone, & Evert, 2000). The first two domains, physical and psychological, were of interest. The higher the score, the higher the quality of life. This instrument has been found to be valid for use in the Australian population (Murphy et al., 2000). The original WHOQOL-BREF scores demonstrated good content validity, internal consistency and test-retest reliability (Harper, 1998). For all of the questionnaires an "I do not wish to answer" option was added. When students utilised this item in the Perceived Stress Scale and Fantastic Lifestyle Assessment questionnaires it was determined that a total score could not be calculated and this resulted in missing data for that questionnaire. In alignment with the WHOQOL-BREF protocol (World Health Organization, 1996), a missing item was substituted with the mean of the other items in the domain. Where more than two items were missing from the domain, the domain score was not calculated. When more than 20% of data were missing from a participant's

questionnaire, the assessment was discarded. According to protocol, WHOQOL-BREF domain scores were multiplied by four such that the scores could be comparative to the WHOQOL-100 normative values. Students were also asked to complete an evaluation survey regarding the Health Enhancement Programme.

Data process and analysis

We exported the numerical survey data into Microsoft Excel™ to aggregate scores. We conducted repeated measures t-testing on the pre and post scores on each of the three scales: Perceived Stress Scale, Fantastic Lifestyle Assessment questionnaire and the WHOQOL-BREF (Australian version) for both the 3 and 4-week programmes.

We calculated the power of the sample. The probability was 52% percent that the study would detect a treatment difference at a two-sided 0.05 significance level, if the true difference between interventions was 2.0 units. This is based on the assumption that the standard deviation of the response variable was 5.92.

The qualitative data were analysed using the realist method of qualitative analysis, reporting experiences and meanings from the participants' perspective. These themes were coded rather than thematic analysis (Braun & Clarke, 2006). There was no minimum number of responses needed to generate a theme as we wished to provide a thematic description of our entire data set to give a sense of the predominant or important themes. We used inductive thematic analysis and themes were applied until data saturation occurred. Themes were identified at a semantic level and we used an essentialist / realist epistemology. First, the two independent researchers familiarised themselves with the data, initial codes were developed. Codes were then collated into themes. These themes were then reviewed by two researchers. When consensus was reached as to the final theme titles, the data were recoded into the final themes. Another period of consensus followed to check that the allocation of themes was consistent. Where possible, qualitative data was used to expand on quantitative findings. Data are reported in alignment with the quality assessment tool for pre-post studies with no control group (National Heart Lung and Blood Institute, 2014).

RESULTS

Flow of participants through the study

There were 362 students enrolled in the first year of the Bachelor of Physiotherapy programme from 2009 to 2013. The 3-week programme had 33 complete datasets for the Perceived

Table 1: Summary of mean and standard deviation data, normative values and follow-up paired samples t-tests for measures across T1 and T2

Variable	T1			T2			T	df	Significance (two tailed)	95% CI	Normative data	
	n	Mean	SD	n	Mean	SD					Mean	SD
PSS 3-week	33	18.09	6.13	33	18.21	6.55	0.17	32	p =0.860	-1.27 to 1.51		
PSS 4-week	115	16.02	5.72	115	17.60	5.74	3.01	114	p =0.003	0.54 to 2.60	16.78*	6.86*
Fantastic lifestyle assessment 3-week	35	27.11	3.65	35	28.20	4.79	1.11	34	p =0.274	-0.90 to 3.07	-	-
Fantastic lifestyle assessment 4-week	96	26.37	3.36	95	28.90	4.10	4.51	95	p <0.0001	1.41 to 3.62		
WHOQOL-BREF												
Physical domain 3-week	43	92.47	12.84	43	93.42	11.84	0.39	42	p =0.70	-4.06 to 5.97		
Physical domain 4-week	176	90.75	12.01	176	91.03	12.67	0.21	175	p =0.836	-2.36 to 2.91	85.40	10.90
Psychological domain 3-week	43	84.74	11.05	43	87.44	10.50	1.11	42	p =0.272	-2.20 to 7.59		
Psychological domain 4-week	176	83.27	10.73	176	83.66	12.63	0.32	175	p =0.751	-2.04 to 2.82	71.40	17.5

Notes: SD, standard deviation; CI, confidence interval
*2009 data for < 25 year old sample from United States (Cohen & Janicki Deverts, 2012).

Stress Scale, 34 data sets for the Fantastic Lifestyle Assessment and 42 for the WHOQOL-BREF. The 4-week programme had the following complete datasets: 115 for the Perceived Stress Scale, 96 for the Fantastic Lifestyle Assessment questionnaire and 176 for the WHOQOL-BREF.

Means and standard deviations were calculated for each of the outcome measures at both T1 and T2. Table 1 displays these scores with the associated normative reference scores for adolescents where available. For the WHOQOL-BREF pre-data, there was one participant whose data were excluded as more than 20% of the questionnaire data were missing. There was only one instance that the mean domain score needed to be substituted for missing values to enable calculation. For the WHOQOL-BREF post data, data from three participants were excluded as more than 20% of the questionnaire data were missing. In five cases the mean domain score needed to be substituted for missing values to enable calculation: three in domain 1 (physical) and two in domain 2 (psychological). Increases in the physiotherapy students' mean scores across T1 and T2 were observed.

Repeated measures t-tests revealed that the Perceived Stress Scale scores increased significantly from T1 to T2 for the 4-week programme only, indicating higher levels of stress. The Fantastic Lifestyle Assessment measures increased significantly from T1 to T2 for the 4-week programme only, indicating a more positive lifestyle. The WHOQOL-BREF scores from T1 to T2, across both the physical and psychological domains, increased but not significantly for both the 3 and the 4-week programmes (Table 1).

The results of the survey evaluating the components of the Health Enhancement Programme including overall enjoyment of the programme are given in Figure 1. There were between 203-205 responses for each questionnaire item. Figure 2 shows the topics participants suggested they would like to spend more time exploring. Participants discussed the optimum duration of the Health Enhancement Programme: 2% no lectures or tutorials, 11.2% 1 hour lecture and no tutorials, 48.8% 1 hour lecture and 1 hour tutorial, 15.1% 1 hour lecture and 1.5 hour tutorial, 3.9% 1 hour lecture and 2 hour tutorials and 18.5% tutorial only.

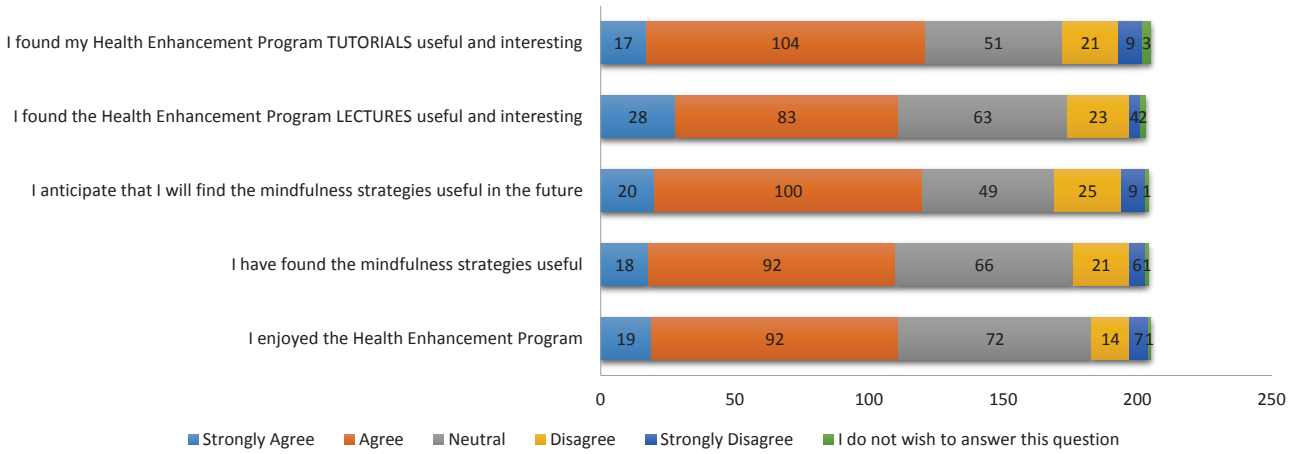

Figure 1: Student experience of the Health Enhancement Programme

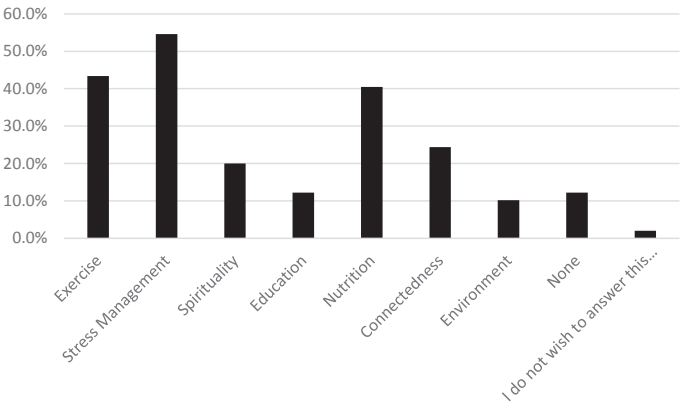

Figure 2: The ESSENCE topics that participants would have liked to spend more time exploring

When asked what particular things participants enjoyed, there were six themes, seen in Figure 3 with respondent numbers provided in parentheses. Figure 4 indicates the nine themes identified by participants of the particular changes that could be made to improve the programme. Figure 5 summarises the nine themes under "other comments" made by participants.

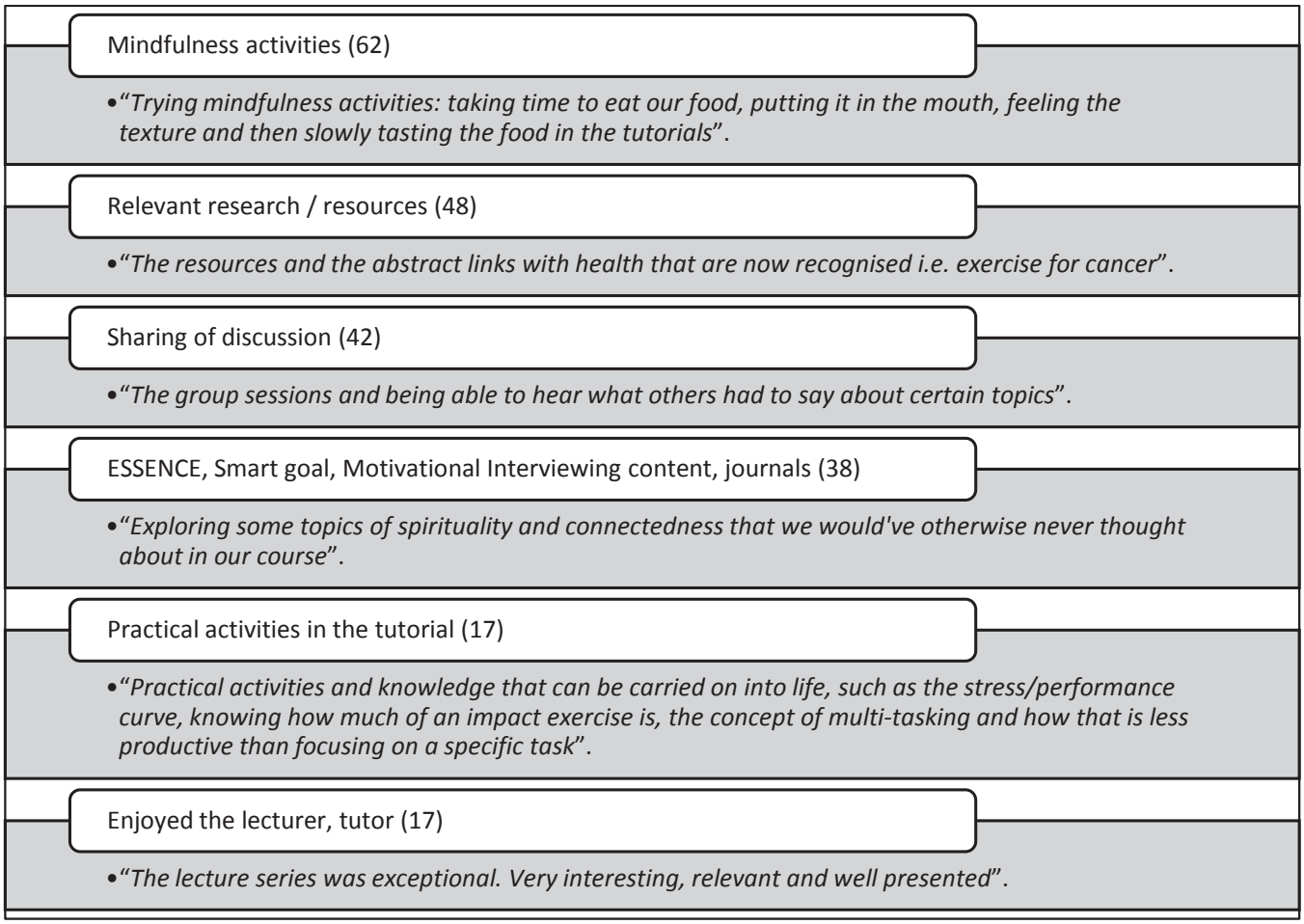

Figure 3: The particular things participants enjoyed (6 themes)

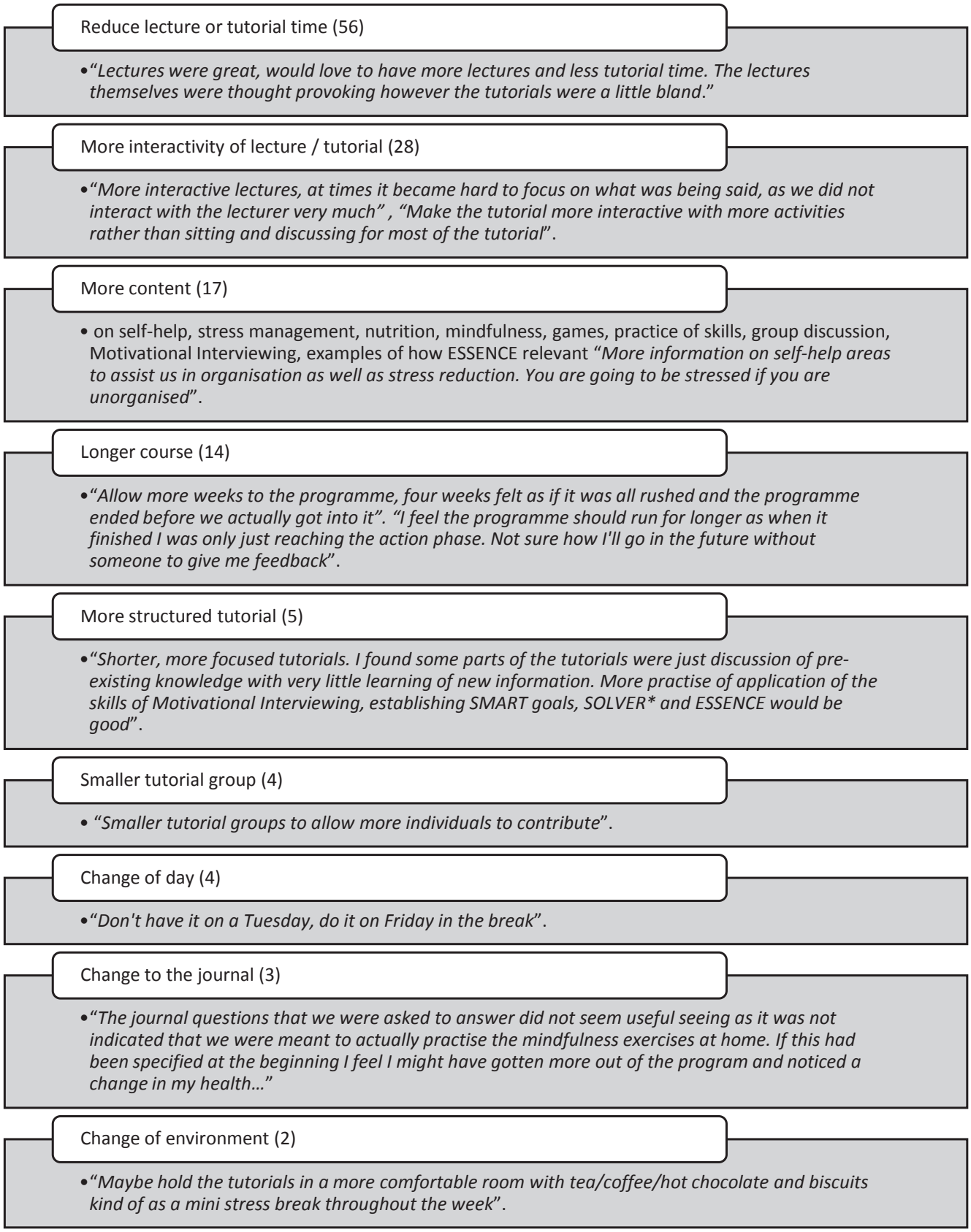

Figure 4: Changes that could be made to improve the programme (9 themes)

Note: *S.O.L.V.E.R is a way of facilitating communication and stands for Sitting squarely, Open posture, Lean into the client, Verbal reinforcements, Eye contact and Relaxed posture.

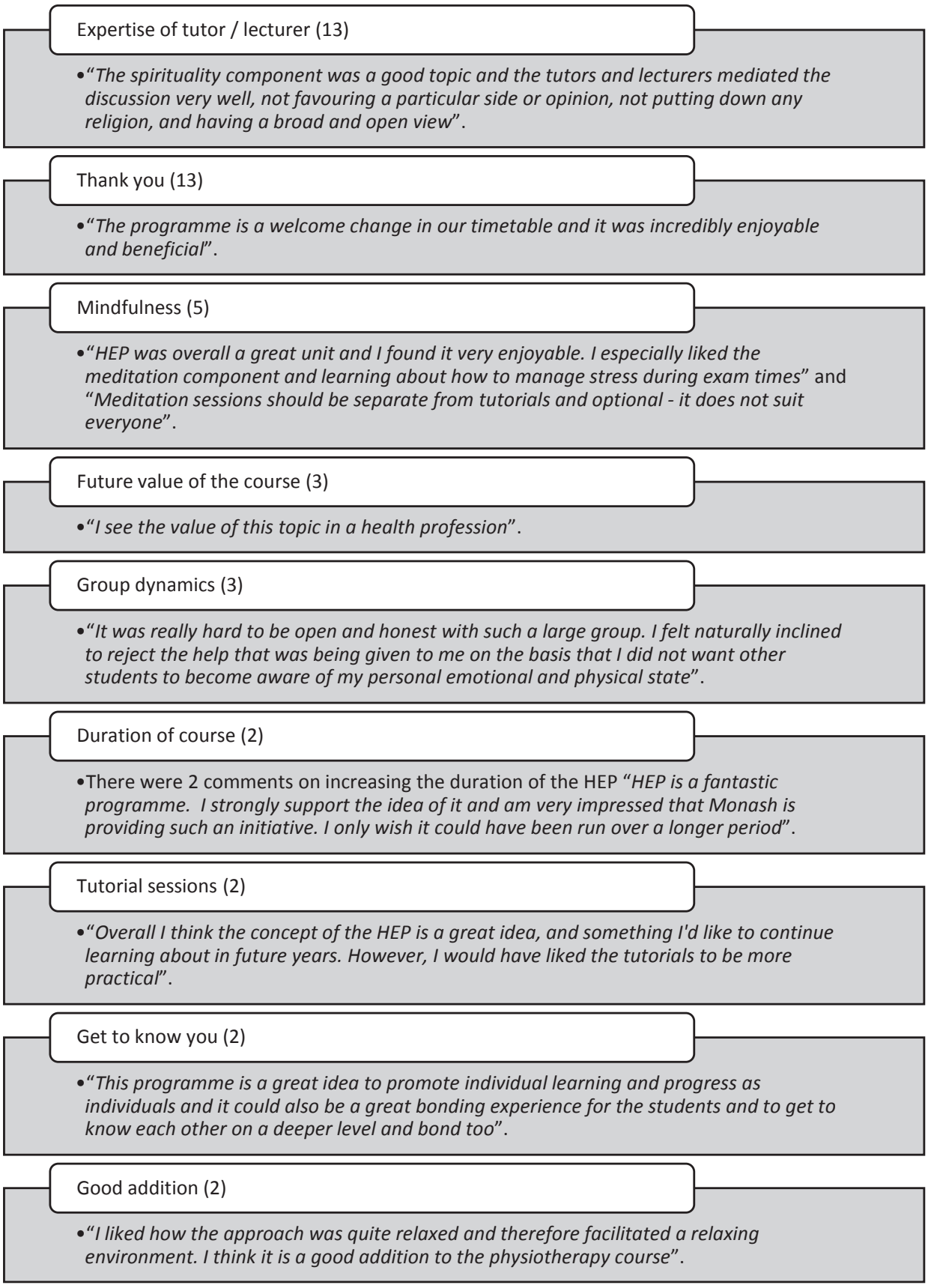

Figure 5: Other comments provided by the participants (9 themes)

Note: HEP, Health Enhancement Programme

DISCUSSION

Our study data demonstrated that the 3-week programme had an increase in Perceived Stress Score but this was not statistically significant. The 4-week programme had an associated significant increase in Perceived Stress Scale score indicating higher levels of stress. The 4-week programme had a significant increase in Fantastic Lifestyle Assessment score indicating a more positive lifestyle. This is a particularly encouraging finding given the post-test measures were taken towards the middle of semester when the assessment load was higher. We note that while a one point increase is statistically significant, this may not be a clinically significant change. Our findings differ to those of Carmody and Baer (2008) who demonstrated significant reductions in the Perceived Stress Scale scores in an 8-session Mindfulness Based Stress Reduction course for medical students. It is unknown however whether the timing of the post-assessment coincided with increased workload in the medical curriculum. Our findings highlight the importance of the timing of re-assessment with regards to assessment periods. Pre-post studies in an educational context where workload can interact with stress and coping, may be inappropriate and randomised controlled trials that take this into account are thus indicated. Erogul and colleagues (2014) completed a randomised controlled trial of 58 undergraduate medicine students taking an abridged 8-week Mindfulness Based Stress Reduction course versus a no-intervention control and found a significant reduction in Perceived Stress Scale score ($p = 0.03$). This reduction did not persist at six months post study.

Another mitigating factor in our study was the duration of the programme and it may be that a longer intervention is warranted. In the literature, the duration of mindfulness courses varied from 1 to 16 weeks with an average of 6 weeks (Lo et al., 2017). The Fantastic Lifestyle Assessment measures increased across the duration of the Health Enhancement Programme which was statistically significant for the 4-week programme. These data support that a 4-week programme is preferable to a 3-week programme in relation to impact on lifestyle. This finding however would need to be confirmed with a randomised controlled trial. The Fantastic Lifestyle Assessment tool has not been researched extensively and it has not been previously used to assess responses to wellbeing curriculum so we are unable to compare findings to current literature.

The WHOQOL-BREF scores increased across both the 3 and 4-week programmes indicating an increase in quality of life. This increase was however not statistically significant. A six week Health Enhancement Programme by Hassed and colleagues (2009) demonstrated a significant improvement in mean scores on the psychological domain of the WHOQOL-BREF scale and a trend towards improved physical health. These findings were assessed in the week prior to examination which was encouraging, however a randomised controlled trial is required to conclude that this positive change is in response to the programme.

In response to questions on participants' experiences of the Health Enhancement Programme, the majority thought that the tutorials and lectures were useful and interesting. The majority of students found the mindfulness strategies useful and anticipated that the mindfulness strategies would also be useful in the future. Chen (2013) asked participants to rate the effectiveness of the 7-day mindfulness meditation programme after the completion of the intervention. This was measured on a 10-point analogue scale, with "1" indicating that the programme provided no help at all and "10" indicating that the programme provided the maximum level of help. The average response was 5.2 with a standard deviation of 1.4. Jain and colleagues (2007) asked participants to evaluate the teacher and the environment in which the mindfulness sessions were conducted, however they found no significant differences between groups in response to these two variables. Other than these two examples, published programme evaluations by participants in response to randomised controlled trials of Mindfulness-Based wellness programmes were not found.

The top three topics that students wished to explore further were stress management, exercise and nutrition. The programme could thus be expanded to include further information on these topics. The majority of students preferred 1 hour lectures and 1 hour tutorials and a 3-week duration course, with 4 weeks as the second most preferred duration. This information can be used to inform the structure of the programme for a planned randomised controlled trial.

Participants provided valuable insights into the Health Enhancement Programme. The positive attributes were the mindfulness activities including relevant research in the lectures, sharing of discussion in the tutorials and the ESSENCE SMART goals. Motivational Interviewing content, journals and the practical activities in the tutorial were also deemed beneficial. Having interesting lecturers and tutors who gave good presentations was also important.

Improvements to the course were suggested which included reductions in the lecture or tutorial time and enhanced interactivity of the lectures and tutorials. Participants wished there to be more structured tutorials with content on self-help, stress management, nutrition, mindfulness including games, practise of skills, group discussion, Motivational Interviewing and relevant examples of ESSENCE. A number of students suggested that the programme duration be extended, and that the programme should be offered on a different day to align with the established lecture programme rather than on a day when no other lectures were scheduled. Suggestions of reduced tutorial group sizes were acknowledged, which may further facilitate discussion. The significance and content of the homework journal may have been more adequately introduced in the tutorial sessions. There were also suggestions of different environments for the tutorials that would support what was trying to be achieved by the programme.

Limitations

The number of data points for pre-post analysis across the Perceived Stress Scale and the Fantastic Lifestyle Assessment questionnaire was limited by including the item "I do not wish to answer" as one of the options in each questionnaire. This inclusion was to support ethics approval of the study. The WHOQOL-BREF had a protocol to manage missing data so the maximum number of datasets was achieved for this questionnaire. There were limited data on the 3-week

programme as this was for one cohort of students only and this may have impacted the results. There were also simultaneous assessment tasks occurring during the Health Enhancement Programme which may impact on the results. In addition, this study followed students for a 3 or 4-week period only and thus conclusions regarding long-term benefits should be interpreted with caution. Participants in this study only included an Australian population of physiotherapy students and is limited by being a pre-post study with no control group.

Future research

Given the potential confounding variables such as curriculum assessment load, future recommendations include the need for high quality randomised controlled trials particularly investigating long-term effects of interventions. To optimise the quality of future research it is important to specify the eligibility of participants (for example: all first year students in the Bachelor of Physiotherapy programme). Random allocation to groups must be concealed from the researcher. Blinding of the assessors can be maintained by online completion of the outcome measures. Our calculated sample size was 126 participants. Given the participation rate was 40% we would need to use 315 participants (three cohorts of participants) for a randomised controlled trial. Given a systematic review found that there was a lack of literature investigating burnout, the Maslach burnout inventory (Maslach, Jackson, & Leiter, 1986) may be indicated as an additional outcome measure or potential replacement for the Fantastic Lifestyle Assessment. Research may benefit from including records of student attendance and compliance with home practice to establish the potential confounding or influential effects this may have on outcomes. Studies may also benefit from selecting student participants rather than advertising for volunteers as volunteer participants may already be interested in the course content which may be a confounding variable. Agreement on consistent outcome measures including physiological measures of stress would be beneficial to enable pooling of data in meta-analysis. As strategies to support male students are limited (Regehr et al., 2013), gender would be particularly important to record. Application of the Health Enhancement Programme to further health professional student programmes would be a valuable extension of this study.

CONCLUSION

A 3-week brief wellness programme resulted in non-significant increases in Perceived Stress. A 4-week brief wellness intervention resulted in significant increases in the Perceived Stress Scale, indicating higher levels of stress, and a significant increase in Fantastic Lifestyle Assessment score, indicating a healthier lifestyle. The WHOQOL-BREF scores increased across both the 3 and 4-week programmes indicating increased quality of life, however this increase was not significant. Participants enjoyed the mindfulness (being aware of the present moment) activities, resources, sharing of discussion, content on healthy behaviours and goal setting. They also enjoyed practical activities in tutorials and interaction with the lecturer and tutorial staff. There were a number of suggested changes to the programme including changes to the lecture and tutorial timing and content, changes to the day and size of the tutorial groups, changes to the journal and to the environment in which the tutorials were held. It is suggested that randomised controlled trials be conducted to discern the effect of curriculum assessment load on programme outcome measures.

KEY POINTS

1. A brief wellness intervention resulted in a non-clinically significant increase in the Perceived Stress Score which coincided with increased assessment load during the semester.
2. Increases in the Fantastic Lifestyle Assessment scores indicate a healthier lifestyle.
3. To our knowledge this is the first documented wellness programme for physiotherapy students.
4. Qualitative data indicate areas for improvement in wellness courses in the health professions.

DISCLOSURES

No funding was obtained for the study. The authors report no conflicts of interest.

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