



# Effectiveness of a Dental Students Stress Management Program

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## Abstract

The dental education stress effects and sources were explored thoroughly in the literature, but the effectiveness of stress management programs received less attention. This study introduced a new stress management program, named Dental Education Stress Management (DESM) program. It showed its effectiveness in a quasi-experimental pretest-posttest-follow-up-control group design. The new program was based on the principle of psychoeducation and consisted of three 90-min sessions, to teach dental students how to better deal with their stress symptoms and to reduce their general stress level. Two instruments were used to assess the level of stress of the dental students, namely the Dental Environment Stress questionnaire (DES), and the Psychological Stress Measure (PSM-9). Results show that the DESM program has the desired effect of decreasing the stress levels of its participants, and these effects lasted for at least two weeks. Because of several methodological limitations of the study more research is needed to draw more generalizable conclusions.

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## 1. Introduction

Besides positive aspects as the development of a useful and profitable career, health professions education, especially medical and dental education may also have serious negative aspects. Students may suffer from high levels of stress, which sometimes leads to alcohol and drug abuse, interpersonal relationship difficulties, depression and anxiety. Stress may also harm students' professional effectiveness: it decre-

ases attention, reduces concentration, impinges on decision-making skills, and reduces students' abilities to establish adequate physician–patient or dentist–patient relationships.<sup>1</sup> Academic factors and faculty relationships with students are the sources that create the most stress.<sup>2</sup> Some stress is desirable to prevent boredom and under-stimulation, but the persistence of stress-related symptoms may result in mental and/or physical ill health, substance abuse, and diminished efficiency at work or learning.<sup>3</sup> Despite the obvious negative consequences of stress in health profession education, little research has been done into possible ways to reduce stress in these programs. One way would be the implementation of special stress management programs. The aim of the present study is to describe an investigation into the effects of such a newly developed stress management program.

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Descriptions of stress management programs are limited in the literature; in a systematic review we only found seven studies discussing such stress management programs for dental students.<sup>4</sup> This systematic review made clear that only a few studies have been discussing the prevention or management of stress as compared to studies that reported sources of stress. Instructors recommended to promote physical exercise by students and interaction with a psychologist,<sup>5,6</sup> while students should carefully select the instructor to be approached for comments. Procedures for stress reduction consist of different training programs that are intended to reduce stress. Examples hereof are relaxation via Synchro-Energizer,<sup>7</sup> training workshops that include aspects of academic problem solving,<sup>8</sup> deep breathing and Progressive Muscular Relaxation (PMR),<sup>9</sup> and introducing stress-management training over time which is effective in stress reduction and coping.<sup>10</sup>

Based on those previous studies we decided to develop a new stress management program for dental students, incorporating elements that have been proved to be useful previously. We named the program the Dental Education Stress Management program (DESM program). The site where we have developed this program was the College of Dentistry, King Saud bin Abdulaziz University for Health Sciences in Riyadh, Saudi Arabia. The main question in this study is concerned with the effectiveness of this stress management program.<sup>11</sup> This question will be answered with the use of a quasi-experimental design in which students' stress levels before and after completing the program are compared. We expected that the new stress management program would lead to a reduction of stress in the dental students.

## 2. Method

A quasi-experimental pretest-posttest-follow-up-control group design was used to study the effectiveness of the stress management program (see Fig. 1).

### 2.1. Design of the research

From Fig. 1 it becomes clear that there were three moments during which the tests were applied: T1, T2 and T3. After the pretest (T1) the experimental group followed the stress management program, whereas the control group had to wait. After following the stress management program respectively after the waiting period, both groups had to fill out the tests again at T2. This was two weeks after the experimental group finished the program and one day before the members of the waiting list control group started to follow the stress management program. For the experimental group this was posttest 1; for the waiting list control group this was pretest 2. After that, Group 2 followed the DESM program. This period served as a follow-up period for the experimental group. At T3 (two weeks after ending of the DESM program) members of both groups had to fill out the tests again. For Group 1 this was posttest 2; for Group 2 this was posttest 1. A design in which we had used a control group that had not received any stress management program might have been preferable; however, we considered this as unethical with respect to the students who were willing to be the members of the waiting list control group.

### 2.2. Participants

The College of Dentistry, King Saud bin Abdulaziz for Health Sciences in Riyadh, Saudi Arabia, started accepting male students in 2010. So far it has admitted three cohorts of male students. The fact that only male students are admitted to the College has to do with the regulation concerning participation of the different sexes in one building in Saudi Arabia.

Of the three cohorts in the College of Dentistry, two cohorts of students were selected to participate in this study. This selection was based on their timetable and availability of free time. In total, 42 students were invited by the students' affairs officer to participate in the study. Of these 42 students, 31 students (73.8%) accepted the invitation. Then, the students were

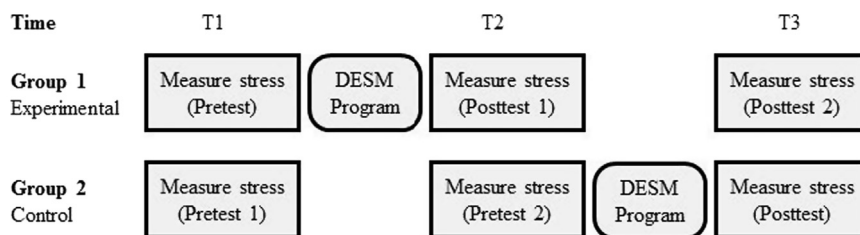


Fig. 1. Study design.

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