



IMPLICATIONS FOR STUDENTS

Teaching Behavior Change Skills to First-year Medical Students: A Small Group Experiential Approach

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ABSTRACT Purpose: *Develop and evaluate a course to help first-year medical students learn about health-related behavior change by focusing on their personal health goals.*

Course methods: *Students each identified two health-related behavior change goals for themselves. Lectures presented relevant content concerning behavior change. In small group, experiential sessions, students formed five-person teams and rotated positions as “patient,” “doctor,” “manager” and observers. “Doctors” and “patients” had one or two follow-up visits. Students evaluated their goal attainment and the value of their experience as “patient” and as “doctor.”*

Sample: *100 first-year medical students.*

Results: *Students chose exercise, nutrition, academic, interpersonal and psychological goals. Rating of the educational values and goal attainments were variable. Mean rating for educational value was 40%, and for goal attainment 55%.*

Conclusions: *Experiential learning is valuable in introducing medical students to behavior change. Students learn from both the role of change agent and the role of “patient.” Although the design of the course was cost-effective, with appropriate modifications considerably more impact could be gained from such a course. To improve this type of experiential learning we recommend careful attention to goal-setting, and more attention to developing the learners’ feedback-giving and facilitation skills.*

KEYWORDS *Behavioral change, instructional methods, experimental methods in medical education.*

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Introduction

Physicians need well-developed skills to help patients change their health-related behavior (Bolman, 1995). The traditional model of physician as expert authority who issues “doctor’s orders” has failed to make a significant impact on lifestyle-related health problems and other issues of “compliance,” despite most physicians’ enthusiasm for this approach (O’Connell, 1997). When modern medical school curricula address these issues at all, it is typically by lecture (Ockene *et al.*, 1990; Steele & Susman, 1998), although one experimental course reported the use of simulated patients (Levenkron *et al.*, 1990). Innovations in teaching these skills are badly needed.

As behavioral science coordinator and course director for the first-year introduction to clinical medicine course at our school, we sought an experiential approach that would demonstrate the need for well-developed behavior change skills and provide a “laboratory” for introducing these skills. Involving students in efforts to change their own behavior seemed to offer a potential for both high impact and cost-effectiveness compared to traditional lectures. We designed a course that involved students working on each others’ behavior change goals in small groups. We present here the organization of the course, the results of the first year’s efforts, and some lessons learned.

Methods

Course Description

The “behavioral change” component of the course was allotted 15 hours over five class sessions. We stated the goals of the module as: “To develop effective medical behavior change skills, including the ability to conceptualize behavioral elements of medical problems and the ability to use basic behavior change techniques to promote healthy behavior change.” The class was divided in half for the behavior change sessions, with 50 students scheduled for each class session. Each of the five class sessions was three hours long. Because of other course scheduling requirements, the sessions were held at approximately one-month intervals. The structure of the experiential sessions is outlined in Table 1.

The five class sessions were arranged as follows.

Class 1. A two-hour lecture–demonstration on issues in behavioral change preceded the experiential sessions. Lecture material focused on the role of behavior change skills in addressing “lifestyle” problems that exacerbate or create medical illnesses; goal-setting; assessment of goal attainment; resistance and related obstacles to following through with medical recommendations; and reinforcement of patient gains. Videotaped examples of primary care physicians using these skills with “noncompliant” patients were shown. Lectures drew on research in health communication, compliance/adherence enhancement, the

Table 1. Structure of the small group experiential behavioral change sessions

During initial class, students identify and record their behavior change goals. Students are assigned to five-person teams.

1. Introductory remarks, questions on reading or other material, convening of teams
 2. Students each take one of the following roles:
 - a. Patient
 - b. Doctor
 - c. Manager
 - d. Process observer
 - e. Content observer
 3. “Manager” asks “patient” to present and discuss behavioral goals with “doctor”
 4. Manager halts session after 15 minutes
 5. Manager conducts debriefing session:
 - a. Doctor identifies issues on which he/she would like feedback
 - b. Process observer reports
 - c. Content observer reports
 - d. Patient provides “satisfaction ratings” and other feedback
 - e. Team discusses which tactics were effective and ineffective
 6. Students change roles and second “round” of exercise is conducted
 7. Process continues until each team member has taken each role
 8. Class reconvenes for discussion of issues detected by instructor, questions, clarification of themes, link of lecture material to teams’ experiences, etc.
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Stages of Change model and cognitive–behavioral therapy techniques (Bandura, 1977; Miller & Rollnick, 1991; Prochaska *et al.*, 1992, 1994; Botelho & Skinner, 1995; Clark & Dodge, 1999). Minimal reading (O’Connell, 1997) was assigned.

Students were asked to identify two health-related personal behavior change goals. Changes that involved nutrition, exercise, and interpersonal communication were encouraged, since students had been introduced to these aspects of health in earlier lectures and in their orientation to medical school. Recognizing that some goals might be personally sensitive, students were encouraged to choose change targets which they were comfortable sharing with their peers and which represented moderate levels of complexity and/or significance.

Students were divided into learning teams of five each. For each exercise one student was designated the “patient,” who was to work on his/her change goals. One student, designated the “doctor,” became the change agent. A third student served as the manager of the exercise. The remaining two were assigned observer roles, one focusing on the process of the session, the other focusing on the content. Students were oriented to the forms used in the experiential sessions (see “Instruments” below).

Class 2. A brief opening discussion and question period was followed by the teams convening for behavior change exercises. Each team conducted five “visits,” with each student serving in each of the five roles in turn. “Patients”

presented their problems, and “doctors” attempted to clarify goals, identify steps toward change, and promote action (or progress toward the action stage of change). “Visits” were limited to 15 minutes, followed by 10-minute debriefings, during which the “doctor” received feedback from his or her “patient” and from the two observers. The instructor served as a roving consultant to the 10 teams. Following completion of all five visits in a class session, the full class reconvened and discussed what had emerged from these encounters.

Class 3. Five weeks following class 2, a follow-up session was held. This class was comprised of a 30-minute lecture on assessing and “treating” obstacles to follow-through and a two-hour experiential session, with the same learning teams as previously. “Patient” and “doctor” met again to assess follow-through and provide additional help. After all five teams had completed their “visits” the class reconvened for a 20-minute discussion.

Class 4. A final experiential session for the initial set of problems was held six weeks later. It was preceded by a brief lecture on maintaining healthy changes and dealing with relapse. All “doctors” and “patients” met again to assess progress, if necessary, on the “patient’s” first goal. They then began focusing on the “patient’s” second goal.

Class 5. The final class was held approximately one month after class 4. Teams reconvened, and a round of follow-up visits on behavior change target 2 was conducted. A large group debriefing concluded the module.

Instruments

The behavior change sessions were largely guided by the forms provided to each team member.¹ These were as follows:

1. “doctor” form, which included a “decision balance,” adapted from Botelho & Skinner (1995), and ratings of “patient’s” self-efficacy level, stage of change, and planned work on the goal;
2. “manager” form, for recording attendance and roles taken, time the exercise began and ended, perceived level of involvement, suggested debriefing instructions, and unexpected developments or questions, if any;
3. “patient” form, a six-item checklist of doctor or session impact (e.g. “The doctor/this session helped me to clarify my goal”), stage of change and goal attainment ratings;
4. process observer form, a 14-item checklist of communication skills such as clarifying, conveying empathy and making eye contact; and
5. content observer form, a 14-item checklist that includes such items as identification of stage of change, efforts to assess and increase self-efficacy, and translation of goals or problems into specific behaviors.

A brief evaluation was conducted at the end of the last class. We asked students to rate the value of the experience—both as “doctor” and as “patient”—for their medical education on a scale of 0–100, with 0 representing “notvaluable” and 100 representing “completely valuable.” Students were also asked to rate the percentage accomplishment of their second goal, also on a 0–100 scale.

Sample

Useable responses were submitted by 86 of the 100 students. Scheduling problems at the final class session led to approximately 10 students leaving early from one section, and several additional students did not turn in evaluation forms.

Data Analysis

Students’ goals were reviewed and categorized. Mean ratings of value and of goal attainment were then calculated.

Results

Goals or problems identified by the 86 respondents fell predominantly into five categories: exercise-related goals, chosen by 41% (e.g. lift weights, exercise regularly, ride bicycle four times per week); nutrition-related goals, chosen by 21% (e.g. decrease caffeine intake, increase broccoli, less snacking); academic goals, chosen by 13% (e.g. improve study habits, increase reading time); interpersonal goals, chosen by 9% (e.g. make new friends, spend more time with wife, go on dates); and psychological goals, chosen by 6% (e.g. eliminate nail biting, “decrease panic and stress”).

Student Evaluations

Mean educational value rating was 41% (SD = 0.33) for the “patient” role and 40% (SD = 0.33) for the “doctor” role. Specific ratings by category are shown in Table 2. Ratings of the educational value of being a “patient” were somewhat greater than those for being a “doctor” for the exercise, interpersonal, and psychological categories.

Goal Attainment

Ratings were only collected for the second goal. It is important to note that attainment of change goals was not an educational objective *per se*. Indeed, it was expected that students would find goal attainment harder than they antici-

Table 2. Ratings of perceived educational value^a by role and category of goal

Goal category	N ^b	“Patient”	“Doctor”
Exercise	35	45%	39%
Nutrition	18	37%	37%
Academic	11	35%	43%
Interpersonal	8	40%	36%
Psychological	5	44%	27%
Overall		41%	40%
		(SD 33%)	(SD 33%)
		Range: 0–100%	Range: 0–100%

^a Ratings (without anchors) from 0 (“not at all valuable”) to 100 (“extremely valuable”).

^b Total does not equal 86 because of nine ratings categorized “other.”

pated. Mean goal attainment was 55% (SD = 31%, with a range of 0–100%). Mean goal attainment for the five major categories of goals was: exercise, 52%; nutrition, 66%; academic, 50%; interpersonal, 49%; psychological, 39%.

Instructor Impressions

Level of student involvement in the classes seemed high, as assessed by the roving instructor’s sense of students’ engagement in the exercises and spontaneous student comments. It also seemed that the majority of students were readily able to identify a moderately difficult, personally relevant change target on which to focus.

Limitations

This report is limited by the fact that the evaluation strategy emerged only after the course was developed. Also, the report is based on only the initial year of the course. No evaluation data were available to compare the experiential approach to the earlier lecture-only presentation of similar material in prior years.

Lessons Learned

Physical arrangements must be conducive to small group work. Lecture halls with fixed seating (the only option available for this course) are awkward for small group work, as students cannot sit facing each other. Some groups elected to leave the lecture hall and find space on their own in the library or outdoors, which made it difficult for the instructor to provide consultation.

Careful attention should be paid to the selection of behavior change targets. Although students were instructed to choose goals of moderate difficulty, a few goals were either trivial or highly significant. Either made it more difficult to learn how to appropriately implement behavior change.

Efforts to promote honest constructive feedback are necessary. Especially when there are few faculty available to serve as consultants, students need to learn to invite the “doctor” to engage in self-assessment, and all students need to learn to provide constructive feedback. It appears that in their role as “doctors” students were given relatively uninformative, vaguely positive feedback. Even when the instructor observed the “doctor” dealing with the “patient” in a harsh, judgmental fashion, observer feedback was mild to favorable. The instructor attempted to address this problem in large group debriefings, but this seemed to have little effect on the quality of feedback provided at subsequent sessions. A more explicit effort to prepare the students for understanding and giving feedback is needed.

A single change goal is probably sufficient in a first-year course that has such limited available time. The design called for a “repeat” round of change efforts to provide more practice opportunities. However, in the context of the other demands of the first medical school year, the costs of this strategy may outweigh the benefits. Although the evaluation did not address differences in educational value between goal one and goal two, several students suggested elimination of the second round of “visits”

Process skills rather than content expertise should be the constant focus. Despite efforts to focus on goal-setting, decision balance and self-efficacy aspects of change, students gave considerable amounts of advice. (Changing students’ “clinical” behavior can be as challenging as changing patients’ health behavior.) Time saved by expecting only one goal could be used to re-emphasize the importance of the facilitative role and deal with students’ discomfort at not being able to “give a prescription.” Actually, some students commented that they felt incompetent if they could not provide advice and directives to their “patients.” Important teaching on this issue occurred during large group debriefing sessions. “Patients,” when pressed, noted that they did not want advice, and frequently they had already attempted what was being suggested to them. Their primary difficulties involved psychological and environmental blocks, low self-efficacy, and difficulty clarifying steps toward their goals.

Evaluation should be tied to the goals of the course. This lesson was learned as our goals for the course evolved through the experience of delivering this first version. In retrospect, the initial goals were too ambitious for the time available and the students’ levels of expertise. More appropriate learning objectives include willingness to take on facilitative roles, readiness to learn behavior change skills, and confidence in the efficacy of such efforts, as well as increased understanding of patients’ experiences in attempting to adhere to medical regimens and manage chronic diseases. Future evaluations will focus on these aspects of the course.

Students benefited from taking both the “patient” and “doctor” roles. Experiencing the patient role was rated as valuable as, and in some cases more valuable than, experiencing the role of change agent. We also attempted to draw analogies between what the students were experiencing and what their patients might experience. The degree to which these changes are personally beneficial to students was not directly evaluated, as it was not a focus on the course. None the less it seems likely that students personally benefited from the changes they were able to make. In addition, subtle changes in the typically competitive class atmosphere may have occurred as a result of students facilitating each others’ goals.

Examples of behavior change efforts from a variety of specialties will improve the legitimacy of these approaches in students’ eyes. Students who were already planning on specialties such as surgery or emergency medicine seemed not to consider behavior change skills necessary or relevant. Since case examples were drawn primarily from primary care and chronic diseases (e.g. asthma, diabetes, smoking, weight loss), additional case examples from a broader range of specialties might be helpful to such “resistant” students. It is noteworthy that some of these first-year students had more firmly entrenched attitudes toward different aspects of medicine and the proper role of various specialties than we had expected.

Some logistical modifications are needed for experiential courses. When structured small group learning activities extend over several class sessions, the absence of team members creates problems, and plans need to be made to prepare for this inevitable occurrence. Also problematic are makeup assignments for students who miss sessions. The optimal number of roving faculty also needs to be better determined. Our experience was that requests from teams for consultations were manageable with 10 teams and two (sometimes one) faculty present, but this needs to be more systematically assessed.

Conclusions

Based on this one year’s experience with an experiential approach to teaching behavioral change skills, we conclude that the approach we took is necessary, feasible and valuable. It is necessary because of the growing importance of these skills in effective health care. It is feasible because self-guided learning teams can be established, and face-valid behavioral change efforts can be practiced without large expenditures of time and money. And finally, it is valuable in providing students with direct experiences with the difficulty of making behavior changes, the difficulty of facilitating rather than directing behavior change, and may even improve the quality of life for students who succeed in making desired changes in their behavior. To enhance the impact of this course we will need to give careful attention to goal-setting, and we will need to improve the process of self-guided, peer group learning, with particular attention to the development of the learners’ feedback-giving and facilitation skills.

Note

1. Copies of these forms are available from the corresponding author upon e-mail request.

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