Adolescent Health and Social Problems

A Method for Detection and Early Management

John H. Wasson, MD; Steven W. Kairys, MD; Eugene C. Nelson, DSc, MPH; Norton Kalishman, MD; Priscilla Baribeau; Elizabeth Wasson; for the Dartmouth Primary Care Cooperative Information Project (COOP)

**Objective:** To develop and test a method for identification and early management of the health and social problems of adolescents, many of which go undetected and untreated.

**Methods:** Picture-and-word charts for the measurement of health and social problems formed the core of a brief, self-teaching lesson. Other sections of the lesson were designed to help teenagers interpret, invent solutions for, and communicate concerns about these problems. We examined the impact of the lesson on teenagers' understanding of themselves, their feelings, and their actions. Two hundred ninety-one adolescents served as subjects for this research.

**Results:** Less than 5% of the respondents found the chart-based lesson difficult or bothersome in the way it probed personal topics. Ninety percent reported that the lesson would have some positive impact on their actions or feelings. Three to six weeks after completing the lesson, their opinion of its impact remained high, and 36% of the students reported that they had shown it to others outside the school.

**Conclusion:** A chart-based lesson is well accepted by adolescents and can be used to overcome obstacles for the detection and early management of adolescents' health and social problems.

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Detection is a critical prerequisite for the successful management of adolescent health and social problems. We recently designed and tested single-item, picture-and-word charts to identify problems of adolescents. The charts are valid, reliable, and acceptable for use in the school setting or the primary care office. However, the published literature indicates that detection alone does not ensure that difficulties will be addressed. The teenager must recognize the importance of the problem and understand the techniques that might ameliorate it. Many teenagers and even some health care workers are uncomfortable dealing with common health and social concerns of adolescence.

An approach is needed for linking problem detection with primary management. Therefore, we incorporated the Picture-and-Word Dartmouth Primary Care Cooperative Information Project (COOP) Charts into a brief lesson to address teenagers' self-reported problems. This brief report describes adolescents' assessments of lesson impact and how their personal problems influence their perceptions of its impact.

**RESULTS**

EVALUATION OF THE CHART-BASED LESSON

Immediate Postlesson Evaluation

After completing the lesson, about 2% of the 291 student respondents said that they were "not very honest" and 3% said that the lesson was "somewhat difficult." Because we were concerned that explicit questions about emotional problems, family relationships, and bad health habits might be upsetting to students, we asked whether the lesson bothered them. Only 4% said that it bothered them "a lot."

The students' average rating of how much the lesson would have an impact on
METHODS

THE DARTMOUTH COOP CHARTS FOR ADOLESCENTS

The six charts are titled "Physical Fitness," "Emotional Feelings," "School Work," "Social Support," "Family Communications," and "Health Habits." Each chart has five response options; a score of 5 is interpreted as a bad score and a score of 1 as a good score. A review of their content shows that the Physical Fitness and Emotional Feelings charts measure key dimensions of physical function and mental health. The School Work and Family Communications charts reflect academic performance and communication with family members. The Health Habits chart is an indicator of risky health-related behaviors. The Social Support chart reveals whether the adolescent perceives that someone is available to help him or her. When tested in a diverse group of adolescents, the charts were found to be acceptable and reliable. The Health Habits chart was particularly useful for identifying teenagers who have engaged in risky behaviors.1 The convergent and discriminant correlations of the charts were .62 and .34, respectively, which are similar to corresponding correlations for similar charts that have been developed for adults.2 Therefore, these charts seem to be of value for identifying problems that require more extensive evaluation.

DEVELOPMENT OF THE CHART-BASED LESSON FOR EARLY MANAGEMENT OF HEALTH AND SOCIAL PROBLEMS

The COOP staff developed the lessons with the assistance of student counselors (n=3), a school nurse (n=1), teachers (n=4), physicians (n=4), and school administrators (n=3). The lesson content was based on the theories of behavior change.3 The principles underlying the lesson were that it should do the following: require no teacher expertise in health issues; require no more than 45 minutes of classroom time; be in a workbook format so that any 12th-grade teacher could use it; facilitate classroom discussion; encourage student identification with the message; illustrate specific applications of its content; and provide a foundation for discussion with peers, family members, or other adults.

The lesson included a step-by-step teacher's manual and a student booklet that was divided into four sections. The first section required the students to complete the six adolescent charts (Figure 1). The second section presented four typical problem situations of adolescence, asked the students to list the actions they would customarily take in these situations, and illustrated the consequences of different student choices. For example, when confronted with a situation that might cause a disagreement with a peer, would the student tend to negotiate, confront, or withdraw? The third section asked the adolescents to compare their chart responses with the range of scores reported by others (Figure 2). The lesson requested those students whose scores placed them in the most bothered 20% to 30% to plan specific actions for improvement. The student usually referred back to the action-consequence examples from the previous section when developing their improvement plans. Section 4 was an optional section designed for use at home or as an additional classroom exercise. This last section included seven additional charts and exercises to reinforce the information contained in sections 1 through 3. The seven additional charts were titled "Stress," "Self-esteem," "Good Health Habits," "Behavior," "Energy," "Pain," and "Getting Along With Others." In this section, the respondents were asked to imagine how they might react to examples of stressful situations and to evaluate those reactions, to consider ways of managing and avoiding high-risk situations, and to share their thoughts and experiences with other teenagers on these topics.

STUDY POPULATION AND EVALUATION APPROACHES

Identification of Participating Students and a Description of Their Problems

Subjects were identified in 16 classrooms from two urban and one rural New Mexico high schools. The purpose of the study was explained both verbally and in writing to all students. Because no names of the respondents were recorded, consent forms were not required by our institutional review board.

Before using the chart-based lesson, we asked students to rate the ease with which they could obtain help for common problems of adolescence and their most helpful resources. The median age of the 291 participants was 15 years (range, 12 to 20 years); 52% were female, 62% were Mexican-American, and 25% were white, non-Hispanic.

Adolescent Opinion of the Chart-Based Lesson

Immediately after completing the lesson, we administered a questionnaire that asked about general attitude toward the lesson, ease of understanding the lesson, honesty in completion, whether the lesson content was upsetting, and how much the lesson information would help the student. This last content area of the questionnaire asked students to rate how much the lesson information would help them in five knowledge areas (the understanding of feelings, actions, similarities to others, and dissimilarities to others and what to do for problems) and in three action areas (how to feel better, act better, and solve problems). The response categories for these eight impact areas were "none," "a little," "some," and "a lot." The end of the academic year limited distribution of identical 3- to 6-week follow-up questionnaires to only seven classes (123 students).

ANALYSIS

We developed a summary impact score for each of the eight items described above. The impact score reflected how students reported that the lesson would help them understand themselves, their feelings, and their actions. The score was transformed to a scale that ranged from absolutely no impact for any of eight questions (0) to a lot of impact for all items (100). Cronbach's α, a test of the internal consistency and reliability of the impact score, was high (0.94).11 The Spearman Rank Correlation Coefficient was used to examine the associations among the charts and adolescent characteristics. Contingency table χ² tests and Student's t tests were used to compare scores for different subgroups, (eg, male students vs female students and at-risk scores vs other scores).
their knowledge of themselves and their actions was 53 on a scale that ranged from absolutely no impact reported for any of eight questions (0) to a lot of impact for all eight items (100). Ten percent of the respondents reported no value from the lesson in any areas, and 3% claimed that the lesson would help them a lot in all impact areas. Table 1 shows that the potential impact of the lesson corresponded to the adolescents’ general evaluation of it. However, 58% of those who claimed that they learned nothing still reported a positive impact on one or more of the eight questions.

Age was unrelated to the impact score (r=.02). Female students’ impact scores appeared to be slightly higher than those of male students (56 vs 50; P=.06) as were Hispanic students’ scores compared with those of non-Hispanics (55 vs 48; P=.10).

Reevaluation of the Lesson After 3 to 6 Weeks

Eighty-one percent (100/123) of the eligible students responded. The respondents’ demographic characteristics were not statistically different from those of the entire sample. Over the 3- to 6-week follow-up period, the students’ assessment of the lesson’s impact score had diminished slightly from the immediate postlesson evaluation (46 vs 53); the percentage who reported no impact of the lesson only increased from 10% to 12%. Table 1 compares the general trends in lesson assessment by the students over time.

During the interim between the lesson and the follow-up questionnaire, 36% of the students reported that they had shown the lesson to others outside the school; 24% had reviewed the lesson with family members or adults. Impact scores of those who showed the lesson to others were not significantly different from the scores of those who had not shown it to others.

LESSON IMPACT IN RELATION TO STUDENTS’ SELF-RATED HEALTH AND SOCIAL PROBLEMS

Table 2 cross-tabulates the lesson’s impact scores with the adolescents’ self-rated scores on the COOP charts. This table illustrates how the range of lesson impact decreases for those adolescents who have scores of 4 or 5. This finding is compatible with the claims of troubled adolescents that they have many difficulties that might not be ameliorated by information in a chart-based lesson alone. For example, compared with adolescents who had good Emotional Feelings chart scores (1 or 2), those who had worse scores (3 through 5) reported significantly more difficulty with questions about relationships (P=.001), life (P=.02), alcohol and other drugs (P=.02), and methods to solve personal problems (P=.03). Similarly, the anticipated future impact of the lesson was lowest for the students who had at-risk Health Habits scores (a score of 3 through 5) compared with those who had better chart scores (1 or 2); the respective impact scores were 45 and 58 (P=.0005). Nevertheless, despite their lower average impact scores, only 19% of the adolescents with at-risk Health Habits scores recorded no impact of the lesson and 58% had impact scores of 50 or higher.

SOURCES OF HELP FOR ADOLESCENTS IN RELATION TO SELF-RATED HEALTH HABITS AND EMOTIONS

Although the chart-based lesson may be a useful first step for problem recognition and resolution, many
adolescents undoubtedly require additional support and counseling. Unfortunately, when asked about the quality of the help they received for health and social problems, troubled teenagers perceived traditional authority figures less helpful (Table 3). Adolescents who had at-risk Health Habits scores (3 through 5) claimed less assistance from physicians (6% vs 19%; \(P = .005\)) and even teachers (33% vs 47%; \(P = .003\)) and parents (66% vs 80%; \(P = .01\)) compared with those with better scores on the Health Habits chart. Those who claimed emotional problems on the COOP chart (a score of 3 through 5) tended to avoid teachers (33% vs 48%; \(P = .02\)) and seek out family members other than their parents (70% vs 54%; \(P = .01\)). For only a minority of teenagers were doctors, religious leaders, school counselors, coaches, and teachers considered helpful.

The COOP charts for adolescents are new tools for identifying important health and social problems.\(^1\) To ensure that problems receive the same initial management, we incorporated these charts into a brief lesson. The chart-based lesson was designed to help teenagers interpret, invent solutions for, and communicate concerns about their self-reported health and social problems.

Is the chart-based lesson helpful? Adolescents generally liked the lesson and believed that it would have a positive impact on their ability to solve common health and social problems.

The teachers who were involved in the testing of the lesson also considered it a useful, standard method to initiate meaningful conversation about important adolescent issues. When used in a group setting, they
observed that follow-up discussions based on distributions of chart scores stimulated respondent interest in problem identification and management. Despite their lack of formal health education, these teachers were comfortable leading the lesson. Several commented that this brief lesson could replace hours of less structured health education. Explicit scores on the charts were seen as increasing teachers' understanding of adolescents' needs.

Despite the apparent value of the chart-based lesson as a standard, acceptable, and efficient tool for evaluation and preliminary management of adolescent problems, it has the following limitations: First, we observed that those students at highest risk for important health and social problems are less likely to claim that it is helpful for them. A single assessment and management approach for teenagers will not change entrenched behaviors, difficult environments, and distrustful attitudes. Therefore, the lesson should be considered an adjunct to, not a replacement for, more comprehensive counseling services. Second, our results confirm that many teenagers do not highly value information about health and social problems provided by professional sources. For this reason, the use of the lesson in a school counselor's or physician's office is likely to prove insufficient unless it is incorporated into the family and peer network appropriate for the teenager. Third, our results are uncontrolled, and we did not examine actual change in student behavior. We recommend testing of this lesson in a

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<tr>
<th>Table 2. Lesson Impact Scores in Relation to Adolescents' Chart Scores</th>
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<tr>
<td><strong>Chart Score</strong></td>
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<tr>
<td><strong>Impact Score</strong></td>
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<tr>
<td>Physical Fitness</td>
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*Each chart has five response options; a score of 5 is interpreted as a bad score, and a score of 1, as a good score.

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<th>Table 3. Who Gives the Best Help to Adolescents?</th>
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<td><strong>Percentage Response of Adolescents</strong></td>
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<tr>
<td>With Emotional Feelings Chart Scores of 3-5 (n=139)</td>
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<tr>
<td><strong>percentage</strong></td>
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<tr>
<td>Friends</td>
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<td>Parents</td>
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<td>Siblings and relatives</td>
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<td>Other adults</td>
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<td>Teachers</td>
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<td>School counselors</td>
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<td>Coaches</td>
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<td>Religious leaders or organizations</td>
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<td>Doctors</td>
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*Multiple responses were allowed.
†Statistically significant difference between adolescents with chart scores of 1 or 2 (not shown) and those with scores of 3 through 5 (P<.01).
‡Statistically significant difference between adolescents with chart scores 1 or 2 (not shown) and those with scores of 3 through 5 (P=.01 to .05).
controlled environment to assess student understanding of their problems and parental and professional involvement in problem management.12

The implications of adolescent health and social problems are immense,13 and the solutions will undoubtedly require major changes in the way our educational, social, and medical systems function.14-16 The programs that seem to be most successful for adolescents at risk provide individual attention and require broad, communitywide, multicomponent interventions.15 The single-item COOP charts are helpful for identifying important problems of adolescence, and the chart-based lesson seems useful for helping the adolescent think about problem management. Therefore, our chart-based lesson represents a standard method for individualizing health information so that it can be easily incorporated across a broad range of community programs and service organizations. Further studies are necessary to validate our findings and to examine the impact of the lesson on adolescents' most distressing health and social problems.

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Reprint requests to Department of Community and Family Medicine, Hinman Box 7265, Dartmouth Medical School, Hanover, NH 03755-3862 (Dr Wasson).

REFERENCES