A Pilot Study Examining Patient Response to a Weight Loss Workbook Designed to Be Used in a Family Medicine Outpatient Setting

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This study measured patient response to a self-help weight loss workbook designed for use in an outpatient, family medicine practice. The primary measures were 2 follow-up telephone calls, the first at 1 week and the second at 1 month after the book was given to the patient. Initially, patients were enthusiastic about the book and had read it, and 24 (70%) intended to use it. On the other hand, at 1 month, only 8 (32%) of those called were actually using the book. Reasons for this change are explored.

RESULTS

Thirty-six patients received the workbook between January 14, 1999, and March 2, 1999. Among 34 patients followed up, 18 (53%) of the books were dis-
PATIENTS AND METHODS

SITE

This study was completed at Rose Family Medicine Center, a residency training program affiliated with the Department of Family Medicine, University of Colorado Health Sciences Center, Denver. Twenty residents, 6 faculty members, and 1 fellow were practicing at the center when the study was conducted. A recent survey of 100 adults in this practice provided the following demographics: mean age, 34.3 years; 24% men and 76% women; 24% receiving Medicaid, 3% receiving Medicare, 64% with private insurance, and 9% with no insurance.

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE RECOMMENDATIONS

The guidelines set the goal for weight loss at approximately 10% from baseline. The recommended interventions include use of low-calorie diets that create a deficit of 2100 to 4200 kJ/d, a graduated program of moderate physical activity to enable daily physical activity of 30 minutes per day, and behavior therapy as a means for achieving these goals. The importance of maintenance after the active phase of a program, usually about 6 months in duration, is stressed.

WORKBOOK

The workbook incorporates all the guideline recommendations, as previously described. It was written by one of us (B.S.L.), who is a health educator, and grew out of her experience providing weight loss counseling to patients and teaching health promotion and disease prevention to residents. Two physicians (S.D.M. and M.I.-S.) provided valuable and practical input.

The book is 120 pages long, is divided into 11 modules, and is written at or below the fifth-grade reading level (additional information about the contents of the weight loss workbook is available from the authors). Care was taken to make each page inviting and attractive by using graphics, using various text arrangements with large font sizes, providing a generous amount of white space, and avoiding clutter. Concepts are introduced gradually, and worksheets help the patient process the information. Advance organizers are provided throughout. The book was modeled in part from The LEARN Program for Weight Control.

The book opens by addressing and emphasizing patients’ responsibility to assess their readiness to engage in the program. Guides for making this decision are provided in several ways. In the “Overview,” the patient is asked, “Is this workbook for me?” This is followed by a table synthesizing program content and an “Introduction” emphasizing the self-help orientation. A weight loss of no more than 5% to 10% of current weight, over approximately 6 months, is carefully explained. Finally, the first module, “Are you ready?,” provides 2 tests of readiness followed by a section facilitating interpretation of the test results.

Capitalizing on the principles of self-management, patients using the workbook make personal decisions and build plans of action. Readers develop needed skills by selecting from an ample variety of ideas. This approach builds the patients’ self-reliance and self-efficacy, which optimizes chances for permanent change.

Patients complete most modules on their own and see their physician to review their progress. Seven physician visits during a period of 6 months are suggested. This format economizes the physician’s time but is sufficient to...
capitalize on the strengths of the physician-patient relationship and continuity of care. The importance of maintenance visits is also addressed in the book.

**PHYSICIAN ORIENTATION TO THE WORKBOOK**

Before the workbook was made available within the practice, every physician was oriented to its use. During a brief 20-minute, one-on-one meeting, the workbook was reviewed page by page, the main recommendations of the National Heart, Lung, and Blood Institute guidelines were discussed, and a copy of that document was given to the physician. The stages of change model11 was explained, and the physician was urged to offer the workbook only to highly motivated patients in the “preparation” stage. Criteria for the preparation stage included (1) a willingness to begin the program within the month; and (2) apparent high motivation without urging or prompting from the physician, and having taken some preliminary steps toward making the change, such as cutting back on certain foods, starting a walking program, thinking about it, and making plans. Furthermore, it was suggested that the best candidates for referral might be those with less severe obesity, those either overweight (body mass index [BMI]; calculated as weight in kilograms divided by the square of height in meters], 25.0-29.5) or in obesity class 1 (BMI, 30.0-34.9). During the physician’s orientation, time was also allotted for skimming the entire workbook.

**WORKBOOK DISTRIBUTION**

Workbooks were distributed within the context of any patient visit. Physicians were counseled to give patients a week to review and confirm their commitment to using the workbook by reading the introductory section and module 1 before returning to formally begin the program.

Physicians completed a form with all patients receiving the workbook. The form included identifying data and patients’ signatures, granting permission for one of us (B.S.L.) to call patients to inquire about their reactions to the workbook.

**DATA COLLECTION**

Patient responses to the workbook were collected by telephone at 1 week and 1 month after they received the book. The telephone discussions were unstructured to avoid missing what patients saw as important to report. Notes were taken during the telephone call and transcribed.

A review of the telephone call transcripts demonstrated that there was some consistent content that could be quantified. These data include: (1) percentage of patients who read the workbook, (2) how much of the book was read, (3) reactions to the workbook, (4) intention to use the workbook at the time of the first contact, (5) use of the workbook at the time of the second contact, (6) reasons why the patient was not using the book, and (7) a determination of whether the patient was trying to lose weight some other way if the patient was not using the book.

Patient medical records were audited at 3 months to record demographics, the problem list, the context of the visit in which the workbook was offered, and number and content of visits subsequent to receiving the workbook. A “continuity index” was computed by dividing number of visits in which weight loss was discussed by total visits since the book had been issued. Demographics included age, sex, and BMI. The descriptive data were processed using statistical software.12

It is encouraging that this pilot study to learn about patient responses to a self-help weight loss workbook found that initially the book was well received and read by most, and that 24 (70%) of those receiving the book intended to use it 1 week after receiving it. On the other hand, only a third of the patients receiving the book were still using it at 1 month. The reasons for discontinuance, as discussed later, may provide a more effective set of criteria for the distribution of the workbook.

Incorrect assessment of the preparation stage of readiness by the physician probably accounts for a significant portion of patient failure to use the book. Even though each physician was given a one-on-one orientation to the book in which the preparation stage of readiness was defined and its importance emphasized, it is the impression of one of us (B.S.L.) that these criteria have been relaxed because of the physician’s desire to try out the book; to cooperate with one of us (B.S.L.); and to offer something new to patients whom the physician had been observing for some time, patients who seemed motivated but who had not been successful in losing weight. In the future, physicians using the book might be issued a pocket-sized card with a few preparation stage questions to ask the patient during the orientation session, followed by an intermittent reinforcement session and feedback from medical record audits of patients issued the workbook. Initial enthusiasm by the patient may also
have misled the physician into incorrectly diagnosing the preparation stage—initial enthusiasm, high motivation, and a general desire to make a behavior change are characteristic of individuals in the contemplation stage and can give the impression of preparation. Clearly, it is important for the physician and the patient to invest time and effort in assessing readiness to use the book.

The lack of continuity between the referring physician and patients who were issued the workbook probably also accounted for patient nonadherence to the program. Weight loss was discussed in only about half of the subsequent visits of patients having received the weight loss workbook. The medical record audit showed that frequently these patients were seen by a different physician who, despite clear documentation in the medical record of the patient’s enrollment, did not address weight loss. This omission seems to constitute a rather significant threat to continuance of the program even though the visit was for an unrelated problem. The patients may interpret the lack of discussion as a lack of interest, or perhaps simply the omission of reinforcement is a more significant disincentive for the patient than anticipated.

It will be important to develop a better understanding of this phenomenon.

Physician’s failure to follow up with patients using the workbook was not anticipated in the study design and not addressed in the physician’s orientation.

Table 1. Patient Characteristics

<table>
<thead>
<tr>
<th>Sex</th>
<th>Distribution, %</th>
<th>Age, y</th>
<th>BMI†</th>
<th>No. of Problems</th>
<th>Subsequent Visits</th>
<th>Continuity Index, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (n = 9)</td>
<td>26</td>
<td>39.0 (11.28)</td>
<td>39.44 (6.56)</td>
<td>3.56 (1.81)</td>
<td>1.22 (1.20)</td>
<td>67 (0.52)</td>
</tr>
<tr>
<td>Female (n = 25)</td>
<td>74</td>
<td>38.0 (11.58)</td>
<td>38.76 (8.48)</td>
<td>5.36 (4.00)</td>
<td>2.32 (2.10)</td>
<td>46 (0.41)</td>
</tr>
<tr>
<td>All (N = 34)</td>
<td>100</td>
<td>38.2 (11.34)</td>
<td>38.94 (7.93)</td>
<td>4.88 (3.62)</td>
<td>2.03 (1.95)</td>
<td>51 (0.43)</td>
</tr>
</tbody>
</table>

* Data are given as mean (SD) unless otherwise indicated. Of the 34 patients, 14 (41%) had psychological complaints, including depression, anxiety, stress, and bipolar disease.
† BMI indicates body mass index (calculated as weight in kilograms divided by the square of height in meters).

Table 2. Patient Intent to Use the Workbook

<table>
<thead>
<tr>
<th>Intent to Use the Workbook</th>
<th>Telephone Call 1 (n = 34)</th>
<th>Telephone Call 2 (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>24 (70)</td>
<td>8 (32)</td>
</tr>
<tr>
<td>No</td>
<td>5 (15)</td>
<td>13 (52)</td>
</tr>
<tr>
<td>Undecided</td>
<td>5 (15)</td>
<td>4 (16)</td>
</tr>
</tbody>
</table>

* Data are given as number (percentage) of patients.

Table 3. Sample of Favorable Comments About the Workbook

- Overall:
  - "This is a valuable book."
  - "Level headed and safe."
  - "Thanks for writing it."
  - "Good to see it in black and white."
  - "I like what it had to say."
  - "I read everything. It's good. Very challenging."
  - "I recommended it to a friend."
  - "It looks interesting."
  - "It's a good book."
  - "It sounds interesting. I want to do it."
  - "This book has got me thinking again."
  - "It makes sense."
  - "I've already made changes."

- Components:
  - "The tests were helpful."
  - "It's good to make you think like that [self-test]."
  - "I like the food diary that includes behavioral aspects."
  - "It's pretty cool, like keeping the diary when I'm eating. I can learn why."
  - "Really like the one-on-one [interview] with your doctor."
  - "Before doing this I had always been told to count calories, and this gives me a way—it helps me on how to do that."
  - "I'm impressed with the amount I have to lose—the first time I've seen it put that way. It's very helpful."
  - "How to figure calories is helpful."
  - "I like the ideas in the book. Like losing a little at a time."
  - "It helps you learn about yourself. I know a lot, but it helps to go through it again."
  - "It helps to write things down. I can see that will help."
  - "I like the book and the way it is structured. I like the idea of small steps."
  - "It makes you look at yourself, your strengths and weaknesses. It's useful."
  - "I found some weakness I didn't realize I had."
  - "It made me think and decide if I'm ready and what to do to get ready."
  - "I like the format...the motion of the text."

Table 4. Sample of Unfavorable Comments About the Workbook

- "You need to expand on past history of losing weight, what did and did not work."
- "Too bad Phen/Fen is gone."
- "It's not exciting. It has to be exciting for me; it's my personality."
- "It's a lot of work."
- "Originally I thought it was talking down to me, but I can work around that."
- "The exercises were a little general."
- "I'm surprised you didn't mention anything about water."
- "You shouldn't assume overweight people do not feel good about themselves."
- "I could add more about portion control."
- "I'm not a calorie counter, but I like the exercise section. I'll use that."

The lack of continuity between the referring physician and patients who were issued the workbook probably also accounted for patient nonadherence to the program. Weight loss was discussed in only about half of the subsequent visits of patients having received the weight loss workbook. The medical record audit showed that frequently these patients were seen by a different physician who, despite clear documentation in the medical record of the patient’s enrollment, did not address weight loss. This omission seems to constitute a rather significant threat to continuance of the program even though the visit was for an unrelated problem. The patients may interpret the lack of discussion as a lack of interest, or perhaps simply the omission of reinforcement is a more significant disincentive for the patient than anticipated. It will be important to develop a better understanding of this phenomenon.

Physician’s failure to follow up with patients using the workbook was not anticipated in the study design and not addressed in the physician’s orientation. Because the
lack of follow-up seems to be a major contributor to nonadherence, in a practice in which the workbook is to be used, all physicians need to commit to providing follow-up. Of course, brief notes should describe all encounters related to the weight loss program to guide future discussions. Many physicians in this study wrote brief, but descriptive and useful, notes. Finally, those in a practice adopting the workbook will need to agree on how to identify patients in the program in the medical record and perhaps also keep a tickler file.

Telephone follow-up with patients revealed that patients frequently experienced problems getting appointments within the time frame suggested by the workbook. The practice is extremely busy, and it is not unusual for some physicians to be booked for weeks ahead. This problem, too, can contribute to nonadherence. Thus, a practice using this workbook must commit to making follow-up appointment times available. Use of the tickler file previously mentioned might help. Furthermore, a staff well briefed about the program almost surely will contribute to its successful implementation. Members of the office staff in this study were not briefed, and although the nursing staff was notified, orientations were not given. In addition, a well-briefed staff often provides valuable, informal support to patients.

A few referrals were ill advised and almost certainly precluded success: a man with an impairment who had experienced a stroke whose enrollment was completed by his wife; the spouse who enrolled based on a brief discussion with the physician during his wife’s visit; the mother who enrolled during her youngster’s well-child visit; and the patient with a long history of nonadherence to medication, exercise, and weight loss efforts. A history of depression may also be a sign for exercising special care in issuing the workbook. There was a high prevalence of current or past depression among patients discontinuing use of the book.

Another group of referred patients may also have accounted for the high failure rate of the workbook. Despite the suggestion made by one of us (B.S.L.) to limit referrals to those in the overweight or class 1 obesity category, several patients were in the more severe categories, 6 in the class 2 and 13 in the class 3 obesity category. This phenomenon may indicate that family physicians have a pressing need to have something to offer these “symptomatic” patients who most likely have comorbidities. It may also mean that physicians are less likely to identify patients in the earlier stages of needing weight loss—those with a BMI of 25.0 to 29.9 (overweight) or a BMI of 30.0 to 34.9 (obesity class 1). Early detection can optimize chances for success in weight loss, and physicians need to screen for overweight and early obesity more carefully.

The primary reasons given by patients for not using the book or for discontinuing its use related to problems dealing with life stresses, being too busy, and/or the tedium of counting energy intake. Based on these findings, it is probably advisable for physicians to probe for these potential problems before enrolling a patient. Indeed, willingness to count energy intake might function as an additional criterion of readiness for the workbook program. Longer patient interviews, focus groups, or both might have revealed more.

The desire to continue some form of weight loss on the part of most (9 or 56%) of the patients not using the book is interesting. This intent to continue weight loss may partly have been stimulated by physician attention,
the follow-up telephone call, and/or the attractiveness of the workbook itself. It may be that within the preparation stage, there are 2 levels of patients: those committed to their own familiar, albeit ineffective, weight loss efforts; and those ready to embark on a more formal and disciplined program. It would be interesting to study this phenomenon in greater depth.

Although this was not a study to examine physician response to the workbook, anecdotal remarks suggest its appeal, particularly among the faculty. Perhaps longer experience dealing with the problem of obesity made the faculty particularly receptive to the workbook. It is encouraging that there have been 2 printings of the workbook at the Rose Family Medicine Center and a second residency affiliated with the Department of Family Medicine, University of Colorado Health Sciences Center.

Some physicians were surprised that several patients whom they had considered highly motivated to lose weight declined to use the workbook. This relieved the physician of the need to aggressively pursue weight loss with these patients. It became clear that these patients were not ready. It appears that the contemplation stage can effectively masquerade as the preparation stage. Thus, the workbook, although not used by the patient, ultimately saved the physicians time and energy and perhaps relieved them of some guilt.

As is the case with most pilot studies, there are weaknesses. In this study, for example, the workbook could have been further assessed using focus groups, using one-on-one interviews with patients, and testing comprehension levels. The physicians might have been better prepared to manage and follow up patients whether they were their own patients or not. There were many missed opportunities to provide follow-up. A practice planning to use a weight loss workbook or similar tool might benefit by reinforcing the importance of follow-up periodical, auditing medical records, and providing feedback to physicians about their performance. The practice itself must be committed to the success of such a program and make adjustments accordingly. The orientation of the front office staff and nursing staff would strengthen the commitment.

The lack of a standardized patient selection process was another study weakness. Future studies should address that issue. Furthermore, no efforts were made to standardize the individual physician’s referral style. Although a standardized approach might have had benefits, it would be difficult to monitor and physicians might actually have resisted using an approach that was different from their usual style. The lack of long-term follow-up was also a weakness in this preliminary study and clearly deserves attention in future studies.

Another inherent weakness with this study is one that will always be encountered when weight loss is offered by a practice. Obesity is a chronic disease, and weight loss a lengthy and difficult-to-manage process. While it seems overwhelmingly logical for family practices to offer a weight loss program to their patients, especially in light of the multitude of commercial programs with high failure rates and steep fees, the inherent problems create enormous barriers—lack of financial incentives; lack of time and ease of program implementation; little training in behavior change techniques; and, for many, lack of motivation to provide such assistance. For a program to be successful within the context of a family practice, it must identify and minimize these barriers.

In summary, it is encouraging that patients read and enjoyed the weight loss workbook, a program designed for ease of implementation within the context of a family medicine practice. It is also encouraging that physicians were receptive to using the book and that referrals could be made within the context of acute and follow-up visits and well-adult visits. Given this clear initial acceptance of the workbook by physicians and patients, additional studies to examine the workbook’s efficacy are warranted.

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