Original Article

Quasi-experimental Study on the Effectiveness of the Readers' Test in the Medical Journal *La revue Prescrire*

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Abstract: *The objective of this study was to determine whether participation in a readers' test of a medical journal improves knowledge recall. A quasi-experimental design was used. The study population consisted of general practitioners who were divided into three groups: group A-subscribers to journal and readers' test, group B-subscribers to journal only, and group C-nonsubscribers. All physicians were interviewed over the telephone in January and June 1994 and subjected to a knowledge test that contained nine true/false questions. Interviewers were blinded to the correct responses; physicians were unaware of the study's objective and of the second interview. In April 1994, the readers' test required its participants to indicate the correctness of statements referring to information published 2 months earlier and containing the true responses to the study's knowledge test. Statistical analysis was done via an "intention to treat" comparison of postintervention scores (minimum: 0, maximum: 9) and comparison of the change in scores from pre- to postintervention, using a two-sample t-test and paired t-test, respectively. Of 373 physicians, 24 (54%), 42 (38%), and 26 (11%) in groups A, B, and C agreed to participate. Mean scores were 5.4 +/- 0.68, 5.1 +/- 0.45, and 4.2 +/- 0.66 at preintervention and 6.8 +/- 0.77 , 4.6 +/- 0.49, and 5.1 +/- 0.66 at postintervention for groups A, B, and C. Groups A and C had a statistically significant improvement in scores, with a mean change of 1.38 +/- 0.76 (p < .0002) and 0.84 +/- 0.67 (p < .02). This is the first study examining the effectiveness of readers' tests in the context of continuing medical education. Physicians participating in the readers' test had a significant improvement in knowledge scores compared to nonparticipants.*

Key Words: Continuing, knowledge recall, medical education, quasi-experimental study, readers' test

Readers' tests generally comprise a series of multiple-choice questions. To complete these tests, readers may either read the information while completing the test or may try to answer

the questions from memory. In several countries, these readers' tests allow physicians to obtain continuing medical education (CME) credits on a formal basis. In France, the Brittany College of General Physicians (Collège des Hautes Etudes en Médecine Génerale de Bretagne [CHEMG], referred to hereafter as the "College") issues CME credits to members who can demonstrate that they participate regularly at readers' tests that have been previously approved by the College.[1] In the U.S., the educational value of readers' tests is recognized by the Accreditation Council for Continuing Medical Education (ACCME), provided that the information content of these tests is evidence based and free of any relationship to private interests of financial sponsors. In particular, two readers' tests have gained formal recognition by the ACCME: one is offered by the Yale School of Medicine and relates to information provided in the Medical Letter*; another is offered by the National Institutes of Health (NIH) and relates to the recommendations of NIH-sponsored consensus conferences.**

Although most physicians quote medical journals as their primary source of information,[3-6] there have been few studies of whether reading a CME journal improves physicians' knowledge or leads to a change in patients' health.[7-11] We are not aware of any study investigating the effectiveness of readers' tests in the context of CME. The term "readers' test" does not exist as a descriptor in databases such as Medline or the Research & Development Resource Base in Continuing Medical Education (RDRB/CME). Further searches of the same databases, using keywords and textwords such as "reading," "periodicals," "recall," "knowledge acquisition," "learning," "educational measurement," and "medical education, continuing" were unsuccessful in retrieving any reference about readers' tests in the context of CME.***

The objective of this study, therefore, was to find out if-and to what degree-the participation of physicians in a readers' test improves recall of the factual knowledge provided by a CME journal. The readers' test in question is offered by *La revue Prescrire*. This monthly publication is geared toward the continuing education of family physicians and pharmacists in France. It is entirely independent, free of any influence from the pharmaceutical industry and public institutions, and financed exclusively through its readers, without additional resources from advertisements. Unlike most of the French journals promoting the continuing education of health professionals, *La revue Prescrire* is distributed exclusively to personal subscribers. All articles are written by a team of practicing health professionals and are subjected to a rigorous editorial process. Each article is submitted, under anonymous authorship, to 10 to 30 external reviewers who pay particular attention to content validity, accuracy, and educational value. Readers' tests are published in each of the 11 monthly issues of the journal and usually contain 10 questions that refer to information contained in the issue published 2 months earlier. Readers have 2 months to send in their final responses. The services associated with the test are available to all subscribers at an additional yearly fee.

Methods

Population. The base population consisted of 363 general physicians, registered at least twice at the College. All physicians were officially contacted by the College by mail and invited to participate in a telephone survey dealing with "the role of reading in the acquisition of knowledge useful to general physicians." In the letter, the physicians were informed that the survey would not exceed 15 minutes; they were not told that the readers' test of the journal *La revue Prescrire* was being studied. All physicians were classified into three subgroups based solely on their subscriber status. Those who were identified as subscribers to *La revue Prescrire* and its readers' test (group A) and those who were identified as subscribers to *La revue Prescrire* without having subscribed to its readers' test (group B) constituted the index and primary comparison groups, respectively. Simply being a subscriber does not automatically imply effective reading of the journal or annual participation in the readers' test.

The remaining group consisted of those physicians who were not subscribing to *La revue Prescrire* (group C). Group C was not intended to serve as a comparison group to answer the primary objective of this study but to emphasize eventual characteristics of the two subscribers' groups.

The study was designed to randomly select an equal number of physicians from the respective groups. However, a low response rate precluded this and led to the inclusion of all physicians who agreed to participate. An additional group of 10 physicians participating in the readers' test and not registered with the College was contacted to increase the base population to 373. Three of these 10 physicians agreed to participate and were included in group A.

Table 1   Schedule of Pre- and Postintervention Survey, Publication of the Relevant Issue of *La revue Prescrire*, and Publication of the Readers' Test

	Preintervention Survey (Jan 15–30, 1994)	Publication of Issue with Relevant Articles (Feb 1994)	Publication of Issue Containing Readers' Test (April 1994)	Postintervention Survey (June 16–30, 1994)
Group A	X	X	X	X
Group B	X	X	—	X
Group C	X	—	—	X

A: Subscribers to *La revue Prescrire* and the readers' test; B: subscribers to *La revue Prescrire* only; C: nonsubscribers.

Study design. The majority of studies in the field of CME are either observational studies or evaluations of interventions under controlled conditions. The present study is commonly referred to as a quasi-experimental study, a design that could also be called a hybrid form between an observational study and an intervention. The total study extended over a period of 5 months (Table 1). All physicians who agreed to participate were called by telephone and asked to provide demographic information and answer nine knowledge questions in a preintervention interview. One month after the preintervention interview, groups A and B of the physicians were both exposed to the issue of *La revue Prescrire* that contained the necessary information to answer the knowledge questions correctly. Group A was exposed to a readers' test of *La revue Prescrire* 2 months after the appearance of the issue. Two months later (4 months after publication of the issue and 5 months after the preintervention interview), all physicians were contacted by telephone again to answer the same knowledge questions they were confronted with at the beginning, this time in reverse order. In this study, telephone interview was used for data collection: self-administered questionnaires would have measured participants' ability to gather documentation instead of recalling information. All physicians were completely unaware of the study's intention and of the involvement of *La revue Prescrire*, and they did not know that they would be subjected to a postintervention interview. The interviews were conducted by assessors from an independent research organization (EVAL). Assessors were sociologists and were blinded toward the correctness of the responses as well as physicians' group assignment.

Demographic information. Demographic information included the age of the physician, how long he or she has been practicing, and whether he or she practiced in a group or solo setting. Physicians were also asked which CME journals they were reading and whether they participated in readers' tests. This information primarily served to check the correctness of the inclusion criteria.

Table 2   Nine Questions Physicians Were Asked at the Preintervention and Postintervention Surveys and the Correct Responses

A.	Ten years after smoking cessation, a person who smoked more than an average of 20 cigarettes per day has the same risk of developing lung cancer as a nonsmoker, independent of age and duration of smoking history.	(False)
B.	In the present state of knowledge, it is imperative to give advice against visiting altitudes of more than 2000 meters to all patients with coronary heart disease even if they are therapeutically stable.	(False)
C.	Atopic asthma is aggravated at high altitudes because of hypoxia-provoked bronchoconstriction.	(False)
D.	Intake of beta blockers for longer time periods, such as in the treatment of hypertension, increases the risk of acute altitude sickness.	(False)
E.	Fluoxetine (Prozac) and minaprine (Cantor) are both liable to provoke convulsive attacks, even at therapeutic dosage levels.	(True)
F.	Lipid-lowering agents belonging to the family of statins have the advantage of not increasing the anticoagulating activity of antivitamin K agents.	(True)
G.	Long-term intake of oral corticosteroids is the principal cause of drug-induced cataract.	(True)
H.	Each carotid stenosis found after a transient ischemic attack not older than 6 months requires surgical intervention if it exceeds 30%.	(False)
I.	Angiography is the diagnostic investigation of first choice when seeking a potential carotid stenosis underlying a transient ischemic attack not older than 6 months.	(False)

Knowledge questions and the readers' test. The preintervention and postintervention interviews proposed nine true/false statements. However, in order to judge the degree of random guessing, the respondent was allowed to specify his or her degree of confidence for each answer as being "certain," "hesitant," or "ignorant/refuse to answer."[12,13] True/false questions were thought to be more feasible to administer by telephone than multiple-choice questions. Table 2 lists all nine statements and correct responses. The readers' test published in *La revue Prescrire* contained all of the questions in the knowledge test but was constructed as a set of 10 questions in multiple-choice format, each comprising four statements, for which subjects had to indicate which were correct. All questions were developed in December 1993 in anticipation of the content of the February 1994 issue of *La revue Prescrire.* Four major themes were covered by the nine questions: theme 1-management of carotid stenosis after a transient ischemic attack; theme 2-drug-related adverse events (i.e., corticosteroids, statins, psychotropic agents); theme 3-advice for patients planning trips to high altitudes; and theme 4-risk of lung cancer after smoking cessation. The written version of all questions was verified by a team of physicians, all members of the editorial board, to eliminate ambiguity, negative wording, and other sources of misunderstanding. All questions were proofread to guarantee their relevance with regard to a generalist's practice.

Confounding information. All physicians were asked in the last question of the postintervention survey to indicate which source(s) of information may have contributed to improving their knowledge of the four questionnaire-related themes. Interviewers suggested the following sources: medical journals, books (especially the compendium of pharmaceuticals and specialties), CME seminars, discussions with colleagues, television, and the public press.

Statistical Analysis

Each question was scored 0 for an incorrect response and 1 for a correct response. A summary score varying from 0 to 9 was calculated for each physician's responses at the preintervention and postintervention interview. A two-sample t-test was used to test for differences among groups between the mean scores at the preintervention as well as the postintervention interview. Mean scores for group A were compared to mean scores for group B and the scores of groups A and B respectively were compared to the mean score of group C. The paired t-test

was used to compare the changes in scores from pre- to postintervention in all three groups. A level of p = .05 was considered to be statistically significant.

While the primary analysis was conducted on the groups of physicians as they were defined before the study, similar to an intention-to-treat analysis, an additional analysis, similar to an analysis of protocol adherers or completers, was conducted by excluding nine physicians that (a) subscribed to *La revue Prescrire* during the study period and received the February issue (one physician of group C), (b) read the February issue of a colleague who subscribed to it (one physician of group C), (c) stopped subscription and did not receive the February issue (one physician of group B), (d) completed the readers' test without being officially registered (two physicians of group B), and (e) did not complete the readers' test although being officially registered (four physicians of group A).

When the primary analysis was inconsistent with the additional analysis, the latter gave a more accurate interpretation of results.

Results

Table 3   Number and Response Rates of Physicians in the Respective Study Groups

	Group A	Group B	Group C
Contacted by mail	44	110	219
Refused to participate	20 (45.5%)	68 (61.8%)	193 (88.1%)
Not completing the study	0 (0%)	0 (0%)	1 (0.5%)
Final participants	24 (54.5%)	42 (38.2%)	25 (11.4%)

A: Subscribers to *La revue Prescrire* and the readers' test; B: subscribers to *La revue Prescrire* only; C: nonsubscribers.

Participation rates. The number of physicians contacted, the number of physicians agreeing to participate in this study, and the final response rates are displayed in Table 3 for each subgroup. An average response rate of 24% was achieved with a total of 92 physicians agreeing to participate, and 91 completing the entire study: 24 in group A (subscribers to *La revue Prescrire* and the readers' test, 54.5% response rate), 42 in group B (subscribers to *La revue Prescrire* but not the readers' test, 38.2%), and 25 in group C (nonsubscribers to *La revue Prescrire* and its readers' test, 11.4%).

Baseline comparison of the groups. No statistically significant differences were found between the groups with regard to gender, duration of practice, type of practice, and the place that reading medical literature took in their CME. The physicians of group A were significantly younger (p < .03) than the physicians in group C (nonsubscribers). However, no significant relationship was found between age and the overall scores obtained in the knowledge tests.

There was no statistically significant difference between the three groups in their judgments about the practical relevance of each of the four themes. Three of the four themes were unanimously judged to be practically relevant by physicians in all groups, the management of carotid stenosis by at least 79%, and drug-related adverse events as well as the risk of cancer after smoking cessation by at least 88%. The practical relevance of knowing how to advise patients planning to travel to high altitudes was less unanimously agreed upon by 71% of the physicians in group A, 60% in group B, and 76% in group C, respectively.

Table 4   Mean Pre- and Postintervention Scores of the Main Comparison Groups

	Group A	Group B	Between-group Comparison
Preintervention	5.4	5.1	No significant difference
Postintervention	6.8	4.6	p = .0001
Score's variation	+1.38	−0.5	
Within-group comparison	p < .002	p = .06	

A: Subscribers to *La revue Prescrire* and to its readers' test; B: subscribers to *La revue Prescrire* and not to its readers' test.

Between-group performance. The average scores were 5.4 (pre) and 6.8 (post) for group A, 5.1 (pre) and 4.6 (post) for group B, and 4.2 (pre) and 5.1 (post) for group C. The mean preintervention and postintervention scores of the main comparison groups A and B are shown in Table 4. While there was no statistically significant difference between the groups in the scores obtained at the preintervention interview (see Table 4), this difference became statistically significant at the postintervention interview. On average, two additional questions were answered correctly by group A; the probability that this could have happened by chance was 1 in 10,000 (p = .0001).

The average preintervention score of the physicians in group C was significantly lower than the preintervention scores of group A (p = .02) and group B (p = .04).

Within-group performance. The improvement in scores was statistically significant for group A, in which the physicians improved by 1.38 correct answers on average (p < .002). The postintervention score of group B worsened on average by 0.5 (p = .06), whereas group C improved with a postintervention score changing by 0.84 correct answers (p < .02). The analysis of protocol adherers yielded similar results.

Table 5   Sources of Information Cited by Physicians as Having a Potential Influence on Their Survey Performance

Theme	Group	*La revue Prescrire*	Medical Journal or Book (including CPS)	Continuing Medical Education Sessions	Informal Discussion with Colleagues	Visits by Pharmaceutical Representatives	Other Sources	Total per Group
Management of carotid stenosis	A*	17	3	5	0	0	0	25
	B*	2	14	7	3	0	0	26
	C*	0	7	7	0	1	0	15
Drug-related adverse events	A	19	1	1	3	0	2	26
	B	4	11	4	6	1	2	28
	C	0	5	0	2	2	0	9
Advice for patients who travel to high altitudes	A	21	1	1	0	0	0	23
	B	2	11	0	0	0	1	14
	C	0	2	1	0	0	0	3
Risk of lung cancer after smoking cessation	A	13	4	0	0	0	0	17
	B	0	2	1	0	0	0	3
	C	0	0	0	0	0	0	0

Number of physicians indicating information sources in the respective themes.
*Group A: N = 24; Group B: N = 42; Group C: N = 25.
CPS = Compendium of Pharmaceuticals and Specialties.

Sources of information. Sources that were considered by the physicians as having a potential influence on their postintervention scores are shown in Table 5. Most physicians in group A specified *La revue Prescrire* as a source of information affecting their performance at the postintervention survey for all four themes. Strikingly, most physicians in group B, who did not perform the readers' test of *La revue Prescrire*, did not cite this journal, even though they subscribed to it.

In general, group B subscribers attributed eventual improvement in their performance to other journals or books far more often than group A subscribers (see Table 5).

The sources of information quoted as having a potential influence on the postintervention scores varied by theme. For example, 19 physicians across all three groups attended CME sessions related to theme 1. With regard to drug-related adverse events (theme 2), some physicians accorded an improvement in their postintervention score to either the compendium of pharmaceuticals and specialties or visits by pharmaceutical representatives.

Table 6   Analysis within Groups of the Overall Percentage of Correct Responses to Individual Questions

Question	% Correct Responses (Preintervention)	% Correct Responses (Postintervention)	% Difference	p
A. Cancer risk after smoking cessation	A: 88	A: 71	−17	NS
	B: 64	B: 52	+8	NS
	C: 44	C: 52	+8	NS
B. High altitude and coronary heart disease	A: 25	A: 50	+25	NS
	B: 43	B: 36	−7	NS
	C: 28	C: 32	+4	NS
C. High altitude and atopic asthma	A: 67	A: 83	+16	NS
	B: 62	B: 52	−10	NS
	C: 52	C: 64	+12	NS
D. Beta blockers and altitude sickness	A: 25	A: 67	+42	<.01
	B: 36	B: 17	−19	<.02
	C: 12	C: 16	+4	NS
E. Fluoxetine, minaprine, and convulsive attacks	A: 75	A: 83	+8	NS
	B: 62	B: 57	−5	NS
	C: 24	C: 68	+44	<.01
F. Interaction between statins and antivitamin K	A: 33	A: 58	+25	NS
	B: 17	B: 17	0	NS
	C: 40	C: 32	−8	NS
G. Corticosteroids and drug-induced cataract	A: 38	A: 96	+58	<.001
	B: 52	B: 69	+17	<.03*
	C: 48	C: 72	+24	NS
H. Surgical intervention after transient ischemic attack	A: 96	A: 88	−8	**
	B: 81	B: 71	−10	NS
	C: 84	C: 88	+4	NS
I. Angiography to detect carotid stenosis after a transient ischemic attack	A: 96	A: 83	−13	NS
	B: 90	B: 86	−4	NS
	C: 92	C: 84	−8	**

*Results of protocol adherers analysis.
** Samples too small to apply McNemar's chi² test.
NS = nonsignificant.

Individual question analysis. Each of the nine questions was also considered individually (Table 6). The average level of knowledge was calculated as the percentage of correct responses obtained for each group for each question in the knowledge test. To demonstrate an

eventual improvement in the physicians' knowledge scores for individual questions, we subjected the percentage difference from preintervention to postintervention to McNemar's chi-squared test for paired comparisons at a significance level of $p = .05$. Group A showed a significant improvement in two questions ("beta blockers and altitude sickness," "corticosteroids and drug-induced cataract"). Protocol adherers from group B improved significantly in one question ("corticosteroids and drug-induced cataract") and worsened in one question ("beta blockers and altitude sickness"). Group C improved significantly in one question ("fluoxetine, minaprine and convulsive attacks").

Two questions elicited positive responses of over 80% at the preintervention interview in all three groups (H and I in Table 6). It is, therefore, not surprising that no significant improvement could be demonstrated for these two questions. However, questions associated with a low proportion of correct preintervention responses (B, D, and F in Table 6) were more likely to show an improvement in the overall proportion of correct responses. Group A improved significantly to question D and showed a trend toward improvement for questions B and F. From another perspective, one could argue that the lower the percentage of correct responses at the preintervention test, the more the participants were tempted to guess. This is probably the case for question D, for which the percentage of correct responses at preintervention was very low, and where a worsening could be observed for group B. Also, this was the question that the physicians answered with least certainty.

Table 7   "High Confidence" Responses According to Individual Questions and Groups

Question	Group A		Group B		Group C	
	Pre (%)	Post (%)	Pre (%)	Post (%)	Pre (%)	Post (%)
A. Cancer risk after smoking cessation	96	100	93	93	83	83
B. High altitude and coronary heart disease	56	88	71	71	79	79
C. High altitude and atopic asthma	52	88	67	76	71	71
D. Beta blockers and altitude sickness	40	60	45	55	54	75
E. Fluoxetine, minaprine, and convulsive attacks	28	80	38	71	71	75
F. Interaction between statins and antivitamin K	76	80	71	86	58	75
G. Corticosteroids and drug-induced cataract	48	76	29	83	29	96
H. Surgical intervention after transient ischemic attack	84	92	90	88	96	96
I. Angiography to detect carotid stenosis after a transient ischemic attack	96	96	98	95	100	100

Physicians' confidence in the correctness of their responses varied according to the groups and the questions (Table 7). The three questions (I, H, A) for which self-confidence at the preintervention score was highest also obtained a high percentage of correct responses in the three groups. For the three questions that obtained the worst percentage of correct responses (B, D, F), self-confidence varied from group to group.

Discussion

In this quasi-experimental study, we examined the effect of a readers' test of the CME journal *La revue Prescrire* on the recall of medical knowledge by physicians who participated in the journal's readers' test compared to physicians who subscribe to the journal but not to its readers' test. Members of the College of General Physicians of Brittany who agreed to participate were subjected to the same knowledge interview twice, the second taking place 2.5 months after publication of the readers' test. Physicians were not expecting the second

interview. There was a significant improvement from preintervention to postintervention for the recall of knowledge among subscribers to the readers' test. The average score at the postintervention interview was also significantly higher than that for either comparison group, who did not participate in the readers' test.

Can we now conclude that regular participation in readers' tests leads to better recall of factual knowledge? Participation in the readers' test certainly implies more complete and attentive reading of *La revue Prescrire* that is also independent of the readers' personal interests. We suggest, therefore, that the intensified reading that resulted from participation in the readers' test enhanced the knowledge recall of these physicians, probably by expanding the amount of information that is processed with increased attention. Physicians participating in the readers' test have committed themselves to regular and probably more intensive reading of *La revue Prescrire* since they are required to send in their responses within 2 months. Physicians who do not subscribe to the readers' test may never read an issue or may delay the reading, which may explain their low scores.****

There are several potential sources of bias that may have led to an unjustified attribution of a positive influence of the readers' test on the physicians' improved knowledge.

First, variations in scores could have resulted from differing views among the three groups of the practical relevance of the four major themes. It has been shown for medical students[14] and general practitioners[9] that they have very diverse areas of interest that induce selective recall of knowledge. Readers with special areas of interest choose information that best suits those interests when they are confronted with the variety of themes, messages, and information that are provided by medical journals. However, this is unlikely to explain the findings in our study, as the four themes were considered to be practically relevant by all physicians. This was confirmed by statistical testing.

Second, attributing the improvement in knowledge recall to the influence of the test alone is problematic. Physicians who subscribed to the readers' test had a significantly higher response rate, despite being unaware of the objective of the study. It seems, therefore, as if willingness to subscribe to the readers' test distinguishes this group of physicians for their motivation in general, particularly in a study that has as its objective the "acquisition of knowledge through reading." For this reason, we may attribute the success of the readers' test not only to the test itself but also to the unique interest that these physicians have in continuing their medical education.

Third, one might suspect an improvement in scores that is due to chance alone, even in the absence of any educational intervention.[15] This, in fact, is frequently observed in comparison groups of before/after type studies and may be explained through the influence of unforeseen sources of information. For example, when analyzing the responses of the physicians to each individual question, it becomes apparent that the nonsubscribers of group C improved on only one question: question 5, regarding the adverse effects of fluoxetine and minaprine. Several physicians in this group attributed their change in knowledge regarding drug-related adverse events to visits by pharmaceutical representatives. This influence, however, is unlikely to affect the physicians who subscribed to *La revue Prescrire* (groups A and B), since subscribers to *La revue Prescrire*-which is entirely independent from industry-are generally reluctant to receive visits by pharmaceutical representatives.

Fourth, inflated positive findings among the physicians who subscribed to the readers' test may have resulted from the proximity of the postintervention survey to the deadline for the submission of responses. It would be interesting to see the results of a postintervention interview conducted at 6 months or 1 year.

This study is the first of its kind examining the effects of a readers' test on the recall of factual knowledge. The design was that of a quasi-experimental study, and physicians were unaware of the intervention. A randomized controlled trial design would have been very artificial in this case: it was not feasible to randomize physicians into subscribers or nonsubscribers and to blind them to the study's objective.

By choosing this quasi-experimental design, we made it possible to study the physicians' improvement in knowledge recall in a virtually natural setting. This, in our opinion, is the optimal method to prove effectiveness of a voluntary method of CME. We conclude that better recall of knowledge could be observed among physicians who participated in a readers' test. The group of physicians who subscribed to *La revue Prescrire* and its readers' test had significantly higher scores at postintervention than those of either comparison group. Future studies should confirm these findings with a larger number of physicians by paying particular attention to factors that might explain the relationship between knowledge acquisition and the willingness to engage in CME efforts.

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***We conducted manual searches (1994-1995) of relevant CME journals that were held by the Department of Pedagogy of Health Sciences (Medical Faculty of Bobigny) and electronic searches of publications that were indexed in Medline (1990-1995) and the RDRB/CME database (1979-1995). These electronic searches were both conducted by searching relevant terms first as keywords, then as textwords.

****A survey conducted by *La revue Prescrire* in 1993 among physicians who participated in the readers' test found that the journal was read "entirely" by 131 (62%) of 212 responding physicians, while "diagonal reading" was achieved by 75 (35%) of them. A previously conducted postal survey found that the majority of physicians read the relevant articles while answering the questions.

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