

Patient Understanding of Commonly Used Medical Vocabulary

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Words are vital to the physician in both diagnosis and treatment of his or her patients. Yet how much do patients understand the vocabulary used by their physicians in communication with them? Previous studies have shown that patient understanding of medical terminology is relatively poor.¹⁻⁷ Patient misunderstanding of medical vocabulary has been shown to have an adverse effect on the physician-patient relationship⁴ and to interfere with medical therapy.³

With daily changes in diagnostic and therapeutic technology, and with an increasing expectation that patients take some responsibility for their own health care, the question of patient understanding of commonly used medical vocabulary should be readdressed periodically and in different patient populations. The purpose of this study was to assess patient understanding of commonly used medical terms and to determine whether variables such as age, sex, race, and educational level might influence such an understanding. In addition, this study poses two questions not previously explored: where do patients get their medical information, and how does their source of information affect their understanding of medical terms? These questions might reflect upon the role and efficacy of the health care provider in educating his or her patients.

METHODS

Data for this analysis were obtained from 50 patients chosen at random from eligible men and women over the age of 17 years who were registered patients in the Primary Care Center of the Yale New Haven Hospital. The clinic serves a population that is generally representative of a

lower socioeconomic level. Only patients born in the United States whose native language was English were eligible.

The format used in testing each patient was a casual interview in which the patient was asked to define verbally 15 medical terms taken from patient education brochures available in the clinic. The brochures were written by such organizations as the American Heart Association, the Arthritis Foundation, the American Diabetes Association, and various pharmaceutical companies.

Patient responses were scored by placing them into one of three categories: category A corresponds to responses that reveal a workable understanding of the word, category B to incorrect definitions together with definitions so vague that the patient is misled by the word, and category C to no knowledge of the word whatsoever so that no attempt was made at a definition. No response was subjected to a strict dictionary definition, but if the response showed that the patient understood the general use of the word in the context of an example sentence, then the response was scored as correct.

RESULTS

The number and percentage of responses falling into the three major categories are indicated in Table 1. Of all responses, 63 percent were scored as "correct," 26 percent as "vague or wrong," and 11 percent as "no knowledge."

Table 2 contains data relating patient scores to the source from which the patient receives his or her medical information. A comparison of the five sources revealed that those patients who claimed reading as their main source of information scored significantly higher on the test than the other groups. None of the other sources had an effect on test scores. Thus, patients who gave "reading" as their main source scored significantly higher than patients who cited "visits to their doctor."

This finding may reflect several factors. For example, separate analysis of the data shows that the readers had significantly more education than other groups, and more

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TABLE 1. NUMBER AND PERCENTAGE OF CORRECT AND INCORRECT RESPONSES TO 15 WORDS

Word	No.*	Correctness of Response					
		A		B		C	
		Correct	Percent**	Vague or Wrong		No Knowledge	
	No.	Percent	No.	Percent	No.	Percent	
Abdomen	35	70	11	22	4	8	
Diabetes	43	86	5	10	2	4	
Infection	43	86	6	12	1	2	
Orally	31	62	16	32	3	6	
Sodium	33	66	13	26	4	8	
Rectum	44	88	4	8	2	4	
Diarrhea	48	96	2	4	0	0	
Hypertension	22	44	24	48	4	8	
Atherosclerosis	2	4	9	18	39	78	
Fracture	24	48	25	50	1	2	
Symptom	39	78	7	14	4	8	
Stroke	12	24	36	72	2	4	
Allergies	43	86	4	8	3	6	
Bowel	26	52	20	40	4	8	
Hereditary	28	56	11	22	11	22	
Total	473	63	193	26	84	11	

* Number refers to number of responses for this word out of a total of 50 responses that fell into the given scoring category
 ** Percent refers to the percentage of responses that were scored in the given category for this word

TABLE 2. CORRECTNESS OF RESPONSE ACCORDING TO PATIENT SOURCE OF MEDICAL INFORMATION*

Source of Information	Correctness of Response					
	A		B		C	
	Correct	Percent***	Vague or Wrong		No Knowledge	
	No.**	Percent	No.	Percent	No.	Percent
Total (n = 50)	9.5	63	3.9	26	1.6	11
Visits to physician (n = 22)	8.6	57	4.3	29	2.0	13
Reading (n = 12)	12.1	81	2	13	0.9	6
Television (n = 8)	8.5	57	5.3	35	1.2	8
Associates and friends (n = 4)	7.3	48	4	26	3.7	26
None (n = 4)	7.7	52	4	26	3.3	22

* Analysis of variance showed that the various categories of obtaining information on health care matters affected patient performance to a significant degree ($P < .01$). Multiple comparisons between the categories using the Bonferroni t test showed that patients who claimed to obtain information by reading had a significantly higher number of mean correct responses than any other method of obtaining medical information ($P < .05$)

** Number refers to the mean number of responses for that source of information in the given scoring category
 *** Percent refers to the mean percentage of responses for that source of information in the given scoring category

education itself was shown to correlate with higher scores. Also, reading is a daily activity, whereas clinic visits are only occasional events. The sobering thought remains, however, that those who gave the physician's office as their main source of information scored no better on the test than those patients who claimed no source of obtaining information. The results indicate that health professionals might play a more effective role in raising patient levels of knowledge. In addition, the use of professionally written

and printed information brochures does not ensure adequate patient education.

Some interesting findings arose from analyzing patient definitions of medical terms. For example, nearly 50 percent of the patients defined the word "hypertension" as meaning "nervous" or "easily upset." One out of four patients thought that "orally" meant "how often" one takes a medication and that "sodium" referred to multiple items in the diet (eg, "sugar, fats, salt," etc). In addition,

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MEDICAL VOCABULARY

many of the subjects understood the word "stroke" to mean paralysis, but thought it arose from a heart attack. Finally, the word "bowel" signified "passing stool" to 25 percent of the subjects.

COMMENT

The results of this study were consistent with those of earlier reports showing relatively poor patient comprehension of medical vocabulary.¹⁻⁷ As in previous studies,^{1,4,5} the variables of race, sex, and age had no effect upon patient understanding of medical vocabulary. Conversely, level of education was found to correlate positively with vocabulary test performance, a finding also consistent with earlier studies.^{2,4-7} Clearly, misunderstanding of commonly used medical vocabulary could interfere with all aspects of health care, including diagnosis, therapy, and prevention.

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