

Nutritional Supplement Utilization in an Urban Family Practice Center

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A survey of 128 patients in an urban family health center examined their use of nutritional supplements and found that 31 percent currently used supplements, primarily multivitamins and other vitamins. The patients' desire to increase their energy and to ensure good nutrition were the major reasons for their taking supplements, along with prevention of illness, desire for strength, and dealing with stress. Patients reported that they were influenced by their physicians' advice and were willing to change their supplement use upon physician recommendation. The resident physicians who cared for these patients were also surveyed, and they estimated that an average of 23 percent of their patients used nutritional supplements. Residents did not consider discussion of nutritional supplements to be of high priority, nor did they usually discuss them with their patients. Discussion about the use of nutritional supplements can contribute to the role family physicians play in nutrition education.

Nutritional supplements include vitamins, minerals, and less conventional additives such as lecithin, brewer's yeast, and protein powders that people take in addition to their usual food. The use of these substances is common in the United States, with the rapidly growing vitamin industry currently doing over \$2 billion of business per year.¹ Some physicians discuss the use of nutritional supplements with their patients, whereas others avoid this topic in their patient care, despite the frequency of the practice by patients and the

potential ramifications it has for patient health.

Existing studies of nutritional supplement usage show considerable variation in the prevalence of utilization and have not considered many populations important to family physicians. Only one study² examined family practice patients. It found that of the 60 private practice patients studied, 67 percent currently used nutritional supplements or had used them to treat illness. Physicians who cared for these patients did not regard discussing nutritional supplement use with their patients as their responsibility.

Other research has shown variable prevalence of nutritional supplement use in different populations. Government studies found that 47 percent³ to 54 percent⁴ of households included members who used nutritional supplements, and that although 52 percent of individuals had used them at some point in their lives, only 22 percent currently

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used them.⁵ Other investigations of the general population reported that 66 percent of those studied used supplements.^{6,7} A study of nurses stated that 38 percent used multivitamins, 23 percent used vitamin C, and 15 percent used vitamin E.⁸ In university students one investigation found 57 percent used supplements,⁹ and another reported that 42 percent used multivitamins, 46 percent vitamin C, and 15 percent vitamin E.¹⁰

An important group for family physicians to study is the inner-city population typical of the clinic patients characterizing programs where medical students and residents are frequently trained. The health practices of these patients who are seen in medical training can become the cause of concerns and expectations that physicians carry over into their later practices. Thus clinic populations need to be understood in comparison with other groups.

Methods

To assess reported practices and beliefs about the use of nutritional supplements, a standardized questionnaire was developed. The survey instrument was pretested on a sample of patients. Straightforward, standardized, fixed-format questions were used to assess the demographic attributes (sex, age, education, and household composition) and the health attributes (including self-rated health status, a rating of the healthfulness of diet, frequency of physician contact, and discussion of nutritional issues with their physician) of the patients. The current prevalence, type, and frequency of nutritional supplement use were examined, along with the reasons for taking them and sources of influence for using supplements. Finally, patients were asked whether their physician knew and should know about their use of these supplements, their willingness to modify their supplement use based upon physician's advice, and their feeling about whether the "average" person should use nutritional supplements. A questionnaire assessing parallel concepts was developed for the resident physicians staffing the Family Health Center, assessing their sex, year in the residency, estimate of the percentage of patients who used nutritional supplements, estimate of the four most commonly used supplements, and their personal use of supplements. Residents were also queried as to how frequently they asked patients about nutritional supplement use and their

beliefs regarding patient compliance with their advice about the use of nutritional supplements.*

The patients were given the questionnaire on a clipboard as they entered the waiting area of the clinic and were asked to complete it before seeing the nurse. Over the five-day period during which the study was conducted, a total of 242 patients came through the clinic during the daytime hours, and 128 completed questionnaires were obtained, for a 53 percent response rate. There were no apparent differences between respondents and nonresponders, although specific data for comparison were not collected. Of the 39 residents associated with the clinic, responses were obtained by personal or telephone interview with 36, for a response rate of 92 percent.

Results

Respondents were predominantly female (85 percent), aged under 30 years (53 percent), high school educated or above (79 percent), residing with others in their household (84 percent), and had children in their household (76 percent). The majority of the patients were black. Most respondents felt that they were in excellent or good health (75 percent), with only 3 percent reporting that their health was poor. Similarly, only 17 percent of the patients believed their diet was not very healthful. The majority (79 percent) of the patients had seen a physician one or more times in the last 12 months, and 62 percent stated that their physicians did not routinely discuss diet and nutrition with them.

The current use of nutritional supplements by these patients was 31 percent (40 of 128 reported using supplements). The reported use of nutritional supplements did not vary significantly by patient age, sex, education, residential environment, reported health or diet, frequency of physician contact, or discussion of nutrition with the physician. The largest percentage of supplement users took them daily (49 percent) as opposed to weekly (18 percent) or monthly (5 percent), with another substantial group stating that they took supplements, but did so only rarely (28 percent). As shown in Table 1, multivitamin users were the most frequent (53 percent of supplement users and 16 percent of all patients), followed by users of

*Copies of these survey instruments are available upon request from the authors.

Table 1. Types of Nutritional Supplements Taken by Patients

Supplements	No. of Users	Percentage of Supplement Users (n = 40)	Percentage of All Patients (n = 128)
Multivitamins	21	53	16
Vitamin C	19	48	15
Iron	17	43	13
Vitamin E	13	33	10
Vitamin B	11	28	9
Calcium	6	15	5
Other vitamins	4	10	3
Zinc	3	8	2
Other minerals	3	8	2
Magnesium	1	3	1
Other supplements	11	28	9

vitamin C (48 percent of users, 15 percent of patients), iron (43 percent of users, 13 percent of patients), vitamin E (33 percent of users, 10 percent of patients), vitamin B (28 percent of users, 9 percent of patients), calcium (15 percent of users, 5 percent of patients), and a variety of other vitamins and minerals. A desire for more energy dominated the reasons for using nutritional supplements (48 percent), with other reasons for use being to ensure good nutrition (42 percent), combat fatigue (34 percent), feel good (25 percent), prevent illness (25 percent), gain strength (23 percent), deal with stress (21 percent), treat illness (15 percent), and other nonspecific reasons (19 percent). Only 13 percent (n = 5) of supplement users and 4 percent of all patients listed pregnancy as a special reason for taking supplements. Surprisingly, there was no consistent association between type of nutritional supplement taken and reasons given for its use. Of those 31 users who responded to a question about their average weekly spending on nutritional supplements, 36 percent reported spending less than \$1; 52 percent, \$1 to \$5; and 13 percent, over \$5.

The most influential source of information for supplement users in their decision to use these products was their physician (42 percent). Next were family and friends (32 percent), the media (22 percent), and last were other health professionals (8 percent). Only 39 percent of all patients reported that they thought their physician knew

Table 2. Resident Beliefs About Nutritional Supplement Use by Their Patients

Supplement	Resident Estimate of Patient Use * (%)
Multivitamins	33
Vitamin C	12
Iron	1
Vitamin E	3
Vitamin B	4
Zinc	1
Other minerals	12
Other supplements	18

*Percentage of residents listing this supplement in an open-ended question asking about the four most frequently used patient supplements

about their use of nutritional supplements, whereas 84 percent believed that their physician should know about their use of nutritional supplements. Patients reported that they were willing to modify their use of nutritional supplements on the basis of their physician's advice, with 77 percent of all patients saying they would be willing to increase and 62 percent stating they would be willing to decrease their use of supplements on the advice of their physician. There was a general belief that nutritional supplements were valuable for most people, with 65 percent of all patients stating that the average person should utilize nutritional supplements.

In the survey of the 36 resident physicians caring for these patients, 67 percent were male. Their mean estimated percentage of patients who use nutritional supplements was 22.7 percent \pm 15 (range, 2 percent to 60 percent). This did not vary significantly by sex, year of resident, discussion of nutritional supplement use, or use by the residents themselves. Multiple vitamins were the most frequent supplement the residents believed their patients used (named by 33 percent of the residents as one of the four most commonly used supplements), followed by iron (25 percent), other minerals (12 percent), and a variety of other substances (Table 2). Few (11 percent) of these physicians always discussed nutritional supplement use with their patients, 36 percent usually did, 50 percent rarely did, and only one resident never

broached the subject. The discussion of nutritional supplement use did not vary significantly by sex or year of the resident. Residents overwhelmingly reported that they believed it was only somewhat important to discuss this topic with patients (74 percent); only 8 percent believed it was very important, and 17 percent said it was not very important. Belief in the importance of discussing nutritional supplement use did not significantly vary by sex or year of resident. A total of 55 percent of the physicians reported they thought their patients would comply with their advice about nutritional supplement use. Belief about patient compliance did not significantly differ by sex or year of resident. Assessment of the residents' own use of nutritional supplements found that 23 percent reported they never used them, 51 percent rarely used them, and 26 percent usually used them. There was no statistically significant difference by year or sex in the use of nutritional supplements by residents.

Discussion

The use of nutritional supplements by patients in this urban family health center was about one half of that reported in an earlier study of family physicians' private patients conducted by English and Carl,² or the reports of 66 percent usage in the general population,^{6,7} but not much higher than in one government study.⁵ Physicians should be sensitive to the specific utilization of health-related substances in the specific patient populations with whom they work. The infrequent use of supplements in this group exhibited no significant patterns by demographic attributes of the patients, their frequency of contact with physicians, or the discussion of nutrition with their physicians. The supplements reported by the patients were not unusual and could be obtained easily at most drug or grocery stores. The reasons given for the use of nutritional supplements, however, were often not among the physiological effects vitamins and minerals are known to produce, suggesting a need for patient counseling about the effects of nutritional supplements.

Of central importance to practicing physicians is the strong tendency of these patients to report their willingness to listen to their physician about the use of nutritional supplements. A high proportion of the patients reported they were willing to change their nutritional supplement use, although

more were willing to increase the use of nutritional supplements than were willing to decrease. There has been much concern about the lack of nutrition education for physicians,^{11,12} and these findings suggest a need for sound nutritional training so that physicians can properly advise patients about nutritional issues. The patient care activities during residencies are key periods for learning clinical nutrition,¹³ but performance of nutritional skills such as counseling about vitamin use lags behind perceived importance of these activities.¹⁴

On the average, the residents studied were fairly accurate in their perception of the use of supplements by their patients, with their 23 percent estimate being two thirds of the actual figure of 33 percent, although the range of estimates was wide (2 percent to 60 percent). This possible similarity between patient use and resident estimate of use occurred despite the lack of usual discussion of nutritional supplement use and despite the low priority residents gave to obtaining information about supplement use. Although the resident estimates of patient nutritional supplement types were similar for multiple vitamins and iron, residents were largely unaware of the frequent use of vitamin C, vitamin B, vitamin E, and calcium by their patients. Residents' estimates were similar to those of the patients regarding compliance with a physician's advice on the use of nutritional supplements.

There are a number of reasons for physicians to be aware of the use of nutritional supplements by their patients. Several recent studies point out the potential existence of false readings in diagnostic tests performed on patients taking high-dose ascorbic acid supplements.^{15,16} Overuse of nutritional supplements can also present medical problems, with megadoses of vitamin A and vitamin E presenting the potential for hypervitaminosis.¹⁷ Vitamins and minerals can interact pharmacologically with each other and with medications to produce potentially beneficial or deleterious effects.^{18,19} Dietary quackery and dietary fraud are common in American society,^{20,21} and the family physician is in a strategic position to provide patient education about the appropriate use of nutritional supplements.

As part of the comprehensive patient care that family physicians offer to patients, a nutritional supplement history can provide a valuable assessment of the patient at various points during the

continuity of care that a family physician offers to patients and their families. The results of this study suggest that physicians have the potential to be influential in the use of vitamins and minerals by some patients. As the first contact with the medical care system for many patients, family physicians can play an important role in patient education in nutrition and nutrition supplementation.

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