
Use of Medications and Vitamin-Mineral Supplements by Children and Youths

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Synopsis

The National Health Interview Survey was administered in 1981 to a national probability sample of approximately 42,000 families. The questions on the Child Health Supplement of the survey were asked about one child in each family that had a child under age 18. The supplement included a

series of questions about prescription and nonprescription medications and vitamin and mineral supplements. The respondents supplied information on 15,416 children under age 18.

About two-thirds of the children had had some form of medication or vitamin-mineral supplement during any 2-week period in 1981. About one-third of the children were using medications that had been prescribed or recommended by a physician. About 17 percent of the children had been taking medication (excluding vitamin-mineral supplements) daily or nearly every day for the previous 3 months.

Use of medications varied by age group. About one-fourth of the children 0-2 years were being given two or more physician-prescribed or -recommended medications or supplements. Use of medications was highest in the first quarter of the year.

ABOUT TWO-THIRDS OF THE CHILDREN and youths in the United States, 40 million people under age 18, had had some form of medication or had taken vitamin-mineral supplements in any given 2-week period in 1981. About one-third of these children had had medication or supplements that had been prescribed or recommended by a physician; 13 percent had had two or more medications that had been prescribed or recommended by a physician.

Methods

The National Health Interview Survey is a household-interview survey based on a national probability sample that has been continuously in operation since July 1957 with approximately 42,000 households in the sample each year. Response rates are extremely high—about 96 percent (1).

The questionnaire consists of a core, which is relatively unchanged from year to year, and one or more supplements. In 1981 the supplement was the Child Health Supplement, which had questions that focused on children, their care, and their families. The questionnaire has been published (2). Through a predetermined sampling plan, one child in each family with one or more children under age 18 was selected. An adult, usually the mother or the child's

caretaker, answered questions about the 15,416 children in the survey. Among other questions, the respondent was asked a series of questions about each of the 10 kinds of medication or supplements shown in table 1. The same series was asked about up to three additional medications as required. All data were appropriately weighted to represent the 63 million children and youths under the age of 18 living in the United States that year.

Results

Use of vitamin-mineral supplements was frequent. About 36 percent of the children under the age of 18 had taken vitamin-mineral supplements during the 2-week period before the interview. Pain killers were used frequently also; 28 percent of the children had taken them at some time during the 2 weeks.

Use of other medications was less frequent. About 13 percent of the children had taken cough medicine and 6 percent had had other cold medicines during the 2-week period. About 5 percent of the children had had antibiotics; 5 percent, allergy medication; and 3 percent, laxatives. About 2 percent had had topical steroids and 10 percent, other skin ointments. A small proportion had had tranquilizers. In addition, about 5 percent had had other

Table 1. Type of medications and vitamin-mineral supplements used by children and youths under age 18 during a 2-week period, by age group, United States, 1981

Medication or supplement	Percent of children and youths				
	Total (N = 63,142,000)	0-2 years (N = 10,489,000)	3-6 years (N = 12,767,000)	7-11 years (N = 17,173,000)	12-17 years (N = 22,713,000)
Any use	63.4	73.4	69.6	60.8	58.2
Vitamin-minerals	36.4	46.3	48.6	34.4	26.4
Pain remedies	27.8	29.6	23.9	25.2	31.0
Cough remedies	13.4	18.9	19.8	12.6	7.8
Other cold remedies	5.9	9.1	6.6	5.0	4.6
Antibiotics	5.4	8.4	6.6	4.5	4.2
Allergy medication	4.9	2.5	4.1	5.8	5.7
Topical steroids	1.5	1.6	1.5	1.6	1.5
Other skin preparations ...	9.8	15.7	7.1	6.8	10.8
Laxatives	2.7	3.4	2.7	3.0	2.3
Tranquilizers	0.4	0.3	0.3	0.4	0.4
Other medicines	4.7	4.6	4.8	4.1	5.0

NOTE: Percentages do not add to "any use" because of multiple use.

medications that were not specifically named on the list.

About one-third of the children (half of those who had had medication or supplements) were using them on prescription or on the recommendation of a physician (table 2).

Excluding vitamin-mineral supplements, about 17 percent of the children had had medication within the 2 weeks and had reportedly been taking it every day or nearly every day for the previous 3 months. Two million children were using two or more medications that often (table 3).

Age differences. There were age differences in the use of some of the medications with a general pattern of more use at younger ages (table 1). Children under age 7 were more likely than older ones to be receiving vitamin-mineral supplements, cough and other cold remedies, and antibiotics. Children under age 3 had the highest use of skin preparations, although use of these preparations was also high among adolescents.

Use of prescribed or recommended medication or supplements was also more frequent among the youngest children with the same pattern of a general decrease with age (table 2). Multiple use of physician-prescribed or -recommended medication or supplements during a 2-week period was especially pronounced among the youngest children; about a quarter of them were being given two or more such medications.

The age differentials are less pronounced when vitamin-mineral supplements are excluded and daily or almost daily use over the past 3 months is considered (table 3). Use of medications daily or almost

Table 2. Number of medications and vitamin-mineral supplements used by children and youths under age 18, during a 2-week period, that were prescribed or recommended by a physician, by age group, United States, 1981

Number of medications or supplements	Percent of children and youths				
	Total	0-2 years	3-6 years	7-11 years	12-17 years
Total	100.0	100.0	100.0	100.0	100.0
None	67.1	44.0	61.0	72.8	77.0
One	20.1	31.1	23.6	17.0	15.3
Two	7.6	13.8	8.5	6.3	5.2
Three	3.6	7.6	4.5	2.7	1.8
Four or more	1.6	3.5	2.3	1.1	0.7

daily over the previous 3 months was especially high among the younger children, but the 12-17-year-olds were frequent users also.

Seasonal differences. Use of medication was higher in the first 3 months of the year, the winter quarter, than in the other quarters (table 4). This was due to higher usage of pain medication, cough and other cold medications, and antibiotics.

Discussion

The extensive and multiple use of medications by the elderly has been documented and recommendations made about checking carefully to see what medication the elderly person is taking before recommending or prescribing additional medicines. There have been few data on use of medications by children. The finding that two-thirds of the children

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Table 3. Number of medications used daily during previous 3 months by children and youths under age 18, by age group, United States, 1981

Number of medications	Percent of children and youths				
	Total	0-2 years	3-6 years	7-11 years	12-17 years
Total	100.0	100.0	100.0	100.0	100.0
None	83.1	78.4	85.3	85.7	82.2
One	12.1	15.2	9.3	10.7	13.3
Two	3.4	4.6	4.1	2.4	3.1
Three or more ...	1.4	1.9	1.3	1.2	1.4

NOTE: Vitamin-mineral supplements are excluded from this table.

under the age of 18 are receiving some form of medication known to the mother or caretaker during any given 2-week period should alert the provider community to the extensive use of medications and of vitamin-mineral supplements by children and youths.

Although the proportion of children taking many of the medications was small, the numbers were large. For example, 8.5 million children had had cough medicine during the 2 weeks before the interview. About 11 million children had had medication within the 2 weeks (excluding vitamin and mineral supplements) and had been taking it every day or nearly every day for the previous 3 months.

It is of interest that the national estimates of vitamin-mineral supplement usage are much higher than those reported for a group of rural Mississippi children. A little more than 11 percent of these children, who were in the Aid to Families with Dependent Children Program, regularly took vitamins (3).

Much of the medication being taken by children is not the powerful forms of medication given for the debilitating chronic diseases of the elderly (4,5). The risk of dangerous interactions may be much

Table 4. Type of medication and vitamin-mineral supplements used by children and youths under age 18 during a 2-week period, by quarter, United States, 1981

Medication or supplement	Percent of children and youths				
	Total	Jan.-Mar.	Apr.-June	July-Sept.	Oct. Dec.
Any use	63.4	71.0	60.7	60.2	63.2
Vitamin-minerals ..	36.4	41.0	36.2	33.7	34.6
Pain remedies	27.8	34.2	24.6	24.5	28.1
Cough remedies ..	13.4	20.9	9.2	7.2	16.6
Other cold remedies	5.9	8.6	4.8	3.5	6.6
Antibiotics	5.4	8.4	4.3	3.8	5.4
Allergy medications	4.9	4.6	5.4	5.2	4.2

NOTE: Percentages do not add to "any use" because of multiple use.

less, but the evidence on multiple usage from the 1981 Child Health Supplement suggests that one needs to be careful. The current concern about the possibility of a relation between aspirin—a drug that is readily available without a prescription—and the occurrence of Reye's syndrome is an example.

The pervasive use of medication by children, especially the extensive use by younger children, should alert physicians and others who recommend medication to the necessity of asking the child's caretaker what other medications are being given the child before prescribing or recommending anything. This may be a particular problem during the winter months when use of medications for pain and cold symptoms is high. It may also alert physicians to be careful when suggesting medications and to make certain that the mother or caretaker understands if use should be discontinued after a stated period.

It should also alert physicians to ask what medications the child is being given as part of a routine physical examination. In almost all cases the survey respondent stated that medications such as antibiotics and topical steroids were given on a physician's prescription. However, there were reports that such medications were "recommended by a physician" and rare reports that the child was taking such medications with no prescription or recommendation. Also, much of the use of vitamins and minerals, pain medication, and cough and other cold medications was not on a physician's recommendation.

The extensive and, apparently, common use of medications and vitamin or mineral supplements should also alert everyone to the possibility of poisoning. If medications are being used frequently,

they are probably kept where they are convenient. If they are convenient for the adult, they may be easy for the child to reach as well. A young child, if given pills daily, might see no danger in taking the entire bottle. The pervasive use of medication also raises questions about the messages being given, probably inadvertently, to children. If they are accustomed to taking pills and drugs, will they be more open to suggestions that they "try" another—perhaps illicit or inappropriate—drug when it is offered?

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**Smoking in the Workplace:
Review of Critical Issues**

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Synopsis

The relationship among various occupations, smoking, and disease has been studied extensively,

but few investigators have looked closely at smoking in the workplace, particularly among blue-collar workers. The authors discuss the phenomenon of smoking in work settings and suggest reasons why tobacco use has been accepted on the job. The fate of heavy smokers in the wake of workplace smoking bans is considered. The authors discuss the relationship between smoking and work-related stress, particularly among blue-collar workers. The influences of job tasks, workflow, and employee social networks on smoking are examined. The authors suggest that, until recently, work settings have provided little support for cutting back and many opportunities that reinforced smoking habits. Work-site cessation is reviewed briefly, followed by suggestions for improving present worksite-based cessation strategies. The authors pose an agenda for future descriptive and applied research on smoking in the workplace.

THE RELATIONSHIP AMONG occupational hazard, smoking, and disease is long established. Smoking rates of various occupations, from asbestos workers to physicians, have been studied (1–3). Researchers have recognized the importance of the work setting in determining smoking habits (4,5) and the potential of the workplace in fostering smoking cessation (4–6). Smoking is rapidly being curtailed in many work settings (7,8). To date, however, the relationship between smoking and work has been studied in piecemeal fashion. This paper examines smoking in the workplace and considers the influence that the

job setting may have on both smoking continuation and smoking control.

Smoking Norms in the Workplace

Until recently, smoking has been accepted in all but a few work settings. Even eating, a universal need, is typically more socially bounded than smoking. Considering that nicotine is a drug with immediate psychoneurological and physiological effects (9,10), the phenomenon of smoking at work is remarkable. In contrast to smoking, drinking alco-