Accident Prevention and Nursing

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THE AVOIDANCE of accidents depends to a much larger extent on individual understanding and action than does the prevention of infectious diseases. The nurse in her work in prenatal and well-baby clinics, in school and industrial health programs, in home visits—in fact, in any health work with individuals and families—needs to find ways of helping people develop this understanding and motivate them to take positive action with regard to safety. The nurse can inform persons as to the hazards around them, help them evaluate the risk they take when they perform an unsafe act, and teach them to consider the probable consequences of their actions to themselves and others. For example, a person who smokes in bed knows that he may fall asleep; nevertheless, he takes his chances with a lighted cigarette. Is it worth the small luxury of smoking in bed to risk being scarred and crippled? Raising such questions is part of the nurse's responsibility in helping to develop the competence of each family with whom she works. At the same time, the questions and answers alone do not satisfy the need.

This was brought to my attention recently when a friend showed me a small book entitled "Home Care of the Sick and the Prevention of Diseases." This book was published about 1925–26. It contains a chapter on accident prevention which states that in the home the first thought should be given to the prevention of accidents to children. Railings should be used on stairways; kerosene should be kept under lock and key, and so on. Some 30 years later we are still saying these same things without remarkable results.

More than a knowledge of hazards and their role in accident causation is needed for effective nursing participation in a community accident prevention program. A knowledge of the nature and extent of the problem and its relationships to other health problems in the community is necessary.

In the past, accident prevention activities have been characterized by a concern with the environmental causes of accidents. While considerable progress has been made through this approach, and it is necessary that we continue to be concerned with the environmental aspects of accident prevention, still the human factors need attention, especially from nurses and sanitarians.

Although many believe that simply by showing how accidents happen people can be motivated to change their behavior and act in a safe manner, we have ample proof that knowledge of facts regarding health matters cannot be equated with appropriate behavior. For example, a great proportion of the public remains indifferent to appeals for moderation in eating, drinking, smoking, and driving.

Behavioral scientists tell us that motives connected with health are at best only a small part of the vast and complex scheme of human motives (*1*). They tell us that even if the health motive is important to a person, he must also believe that he is susceptible to a particular health hazard and he must at the same time believe that the hazard would have serious consequences for him. It is the individual's belief about his susceptibility and the seriousness of the threat that determines his acceptance of a personal health problem. Frequently a person cautioned about an unsafe act responds, "Oh, I always do that and nothing ever happens." Clearly, along with teaching the rules of safety, one should explain the reasons for the rules.

With the multiplicity of hazards being in-

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troduced into our homes these days there is no such thing as a completely "safe" home. Most homes contain garden chemicals for pest and weed control, power lawnmowers, electrical equipment which requires heavy current, do-it-yourself equipment, detergents, medicines, throw rugs, plastic bags, and so forth. While none of these are dangerous if used properly, all have caused injuries and deaths. This situation surely indicates a need to help people learn to live safely in their environment. What people do or fail to do appears to play a very important part in accident causation.

Industry, which has an amazing record of accomplishments in making the environment safe for the worker, is now recognizing the need to study attitudes and behavior of people in regard to industrial accidents. In the President's Conference on Occupational Safety, this concept was emphasized by several speakers. One person expressed it this way: "The shift from safety of things to the safety of people is the big change in safety thinking today."

Safety for Children

Many studies have been made to determine how accidents really happen. Studies of childhood accidents show that the vast majority of these accidents can be prevented. Dietrich's theory of accident prevention for young children is "learn and live" (*2*). He believes that the safety of a child requires 100 percent protection during the first year of life. After this first year, while still maintaining protection, increasing reliance should be placed on education and gradual exposure. Dietrich advocates teaching a child to do safely all things compatible with his abilities and his interest. Other pediatricians are subscribing to this theory. The American Academy of Pediatrics has recently prepared a pamphlet, "Obedience Means Safety for Your Child," which every nurse who works with parents and children will find helpful (*3*).

In counseling parents regarding the safety of children, nurses find the following points are important:

1. Children are great imitators, and actions and attitudes of parents or guardians will be copied. It is not enough to instruct a child to cross the street only when the light is green if the parent then darts across the street when the light is red. Good parental example is necessary if a child is to learn safe behavior.

2. Excessive limitations of a child's activities may hinder the development of his ability to cope with dangerous situations. An active, restless 4-year-old who is constantly penned in his yard by his mother to keep him from being hit by a car may be better protected by being taken into the street and trained to follow rules of safety.

3. Minor accidents are to be expected during the process of growth. It is partially through them that a child gains awareness of the world and the reality of its dangers.

4. Unsupervised infants and preschoolers are susceptible to accidental injuries.

Studies of childhood accidents indicate that in a large proportion of the accidents the injured child was not properly supervised at the time the accident occurred. It is estimated that nearly 400,000 children in this country under age 12 have to care for themselves while their mothers work (*4*). Of these children, 138,000 are less than 10 years of age. The Children's Bureau and the Department of Labor recently sponsored a meeting in Washington to consider what can be done to provide day care for children of working mothers. However, the practice of leaving small children at home unattended is not limited to families in which the mother is required to work; it is a rather common practice among those who can afford to provide care and who seemingly are intelligent, careful parents otherwise. Parents need to be warned that it is not safe to leave young children in the home unattended even a short time, not even the minute it takes to run next door or to the corner store. It is true that nothing may happen, but newspapers are full of reports of the tragic consequences of this practice.

Recently, 100 cases of accidental poisoning in children were studied, and it was concluded that two-thirds of the poisonings were preventable (*5*). In 26 cases some person other than the parents (siblings, other children, neighbors, relatives) either made it possible for the child to reach the poison or failed to put it away. In 31 cases the parent did not think that the child was able to climb, open doors, unscrew caps, or per-

form other actions necessary to get the poison. Most of the parents appeared to have some degree of safety consciousness and had tried to provide a safe place for the poisons. However, failure to put dangerous substances away in the proper places after use was one of the leading causes of poisoning among young children.

Safety Education in the School

The objective of a safety education program in the school should be to prepare the child to live safely. Prevention of accidents, as was indicated previously, does not lie primarily in devising more and more safety devices, however important these may be, but in improving man's knowledge, skill, attitudes, and habits.

An indication of the need for improved safety teaching in schools was revealed by a survey of some 5,000 school children in six urban and six suburban communities in the eastern United States (*6*). The survey pointed out the prevalence of certain harmful health and safety misconceptions held by 5th, 6th, and 10th grade children. These misconceptions and the proportion of children who held them were rather shocking:

- About 75 percent of the children thought that the only good way to help a drowning person is to jump in the water to save him.
- More than half of the children thought that it is usually safe to go in swimming alone, if one knows how to swim.
- Many thought that a bullet cannot go off unless it is fired by a gun; oil, grease, and gas fires should be put out with plenty of water; if clothing catches on fire a person should always run for water; and bicycle riders do not have to obey traffic lights.
- Twenty-six percent of the 10th graders thought it was all right to point a gun at somebody if one is sure it is not loaded, and 60 percent agreed that people should walk on the right-hand side of the road if there are no sidewalks.

One has only to look at the death rates from firearms, drownings, and pedestrian accidents to understand the significance of this study. Nurses who have responsibility for school health work can be helpful to classroom teachers in developing safety programs and curriculum content. Responsibility for such teaching, however, belongs to the classroom teachers; the nurse's function is chiefly advisory.

The Aged

In a high proportion of home accidents, the victims are elderly. Two-thirds of all accidental injuries to persons 65 years of age and older occur in the home. Nurses need to understand that care and foresight by those responsible for the care of the elderly can do much toward decreasing the risk of accidental injury. It does little good to admonish an oldster to be careful. This may only induce anxiety and irritation and thus cause the individual to be more susceptible to accidents. As with children, the approach should be through the person responsible for the welfare of the oldster. The nurse in her home visits can observe conditions and situations that might cause accidents, and she can then suggest practical aids and techniques to add to the older person's comfort and safety.

Specific Tasks

In addition to those activities which I have mentioned, the following are some of the many specific contributions nurses can make toward accident prevention:

- Emphasize safety in all teaching during home visits, especially in maternity, infant, and child care, and care of the aged.
- Include in all group teaching a discussion of home accident prevention techniques. This probably can be done most effectively by incorporating safety into the subject being discussed.
- Include home safety education in school health programs through teacher-nurse and pupil-nurse conferences and in all school activities in which nurses participate.
- Participate in epidemiologic studies of home accidents.
- Cooperate with industry to incorporate home safety education into occupational safety programs.
- Observe and record situations in the home environment that might predispose to accidents. Recording should include recommendations and corrections.

• Include safety as part of the training of nursing aides in nursing homes. Safety of nursing home personnel as well as patients should be emphasized.

• Every nurse can learn the technique of mouth-to-mouth resuscitation and, when possible, teach others. As part of civil defense nurses are being taught this technique.

Accidents kill more children and young adults than any single disease in our country today. Surely increased attention and effort by nurses to help prevent this needless loss of life is warranted.

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Eosinophilic Meningitis on Tahiti

A mysterious outbreak on Tahiti of a disease, clinically described as eosinophilic meningitis, is under investigation by Dr. Leon Rosen of the National Institute of Allergy and Infectious Diseases, Public Health Service, and Jacques Laigret and Serge Bories of Tahiti. A report on their findings to date appears in the August 1961 issue of the *American Journal of Hygiene.*

The scientists seek to determine whether the disease is caused by a nematode recovered for the first time by Dr. Rosen from the brain of a patient who died recently in a hospital in the Hawaiian Islands. An autopsy on the Hawaiian patient disclosed young adult nematodes in both brain tissue and meninges. Cerebrospinal fluid obtained prior to the patient's death showed changes typical of those seen in Tahitian patients with eosinophilic meningitis. The condition of the patient, however, made it impossible to determine whether his symptoms were similar to those of the Tahitian patients or whether death was due to eosinophilic meningitis.

The postmortem findings, after a cooperative investigation with the Hawaii State Health Department and St. Francis Hospital in Honolulu, indicated that the nematodes, *Angiostrongylus cantonensis,* are a type found in rats, land snails, and slugs.

The disease on Tahiti, where hundreds of cases have occurred since 1958, resembles other types of meningitis in its painful and paralytic symptoms, the most common of which are headache and stiffness of the neck and back. Since no ideal treatment exists, the cause must be found before preventive measures can be established.

Cerebrospinal fluid changes in patients provided the investigators with the first lead in studying the Tahitian outbreaks. Clinical, laboratory, and epidemiologic determinations subsequently ruled out all known diseases which cause similar changes. Poisons, viruses, bacteria, fungi, protozoa, and worm parasites were then considered as possibly responsible for the disease.

Months of laboratory analyses, direct examinations of patients, and door-to-door interviews narrowed the field of suspicion to parasitic worms. The investigators found no evidence that the parasite was transmitted from person to person or that it was mosquito borne. The fact that the infection came in "waves" and attacked several members of a family simultaneously suggested a common source of food as the carrier of the parasite.

Fish were examined for parasites after several persons became ill from eating raw fish at a family reunion feast. Although it was not possible to perform spinal taps on all individuals, 10 persons had symptoms compatible with the disease.