JOURNAL OF THE AMERICAN GERIATRICS SOCIETY
Copyright © 1979 by the American Geriatrics Society
Vol. XXVII, No. 8
Printed in U.S.A.

Incorporation of Gerontology into Medical Education

GEORGIA G. HALL, PhD* and MONICA N. STARKMAN, MD†

Department of Psychiatry, University of Michigan Medical School, Ann Arbor, Michigan

ABSTRACT: Despite the increasing importance of gerontology to medical practice, it has been difficult to incorporate it into the curriculum of most medical schools. The aim of this project was to explore the feasibility of introducing gerontology into medical education by utilizing the framework of an existing clinical program. A gerontologist used the structure and resources of a Psychiatry Consultation-Liaison Program for this purpose. Three groups of target trainees were identified: psychiatry residents on their Liaison rotation; junior medical students on their psychiatry clerkship; and medical-surgical house officers in the general hospital. The objectives were to impart didactic information and to counteract negative attitudes leading to disinterest in evaluating and treating the elderly. The results indicated a positive impact on all three trainee groups, and a diffusion of the gerontologic innovation from the initial locus of a clinical sub-unit into the medical center and the medical school.

The exponential growth of scientific knowledge in our time challenges medical schools with serious problems in their efforts to provide comprehensive, high-quality, and up-to-date medical education. Moreover, pressures to shorten the length of time required for study may be increasing. Since no medical school can teach all there is to know about medicine to its students, the question posed here is how to include an important aspect of medicine, namely, gerontology, in an admittedly full curriculum.

INCLUSION OF GERONTOLOGY IN MEDICAL EDUCATION

Background

The continuing change in demography consisting of a rising proportion of elderly persons in the general population is causing a change in the characteristics of those who require the physician's time and attention. An aged person is not necessarily an ill person, but it is undeniable that illness strikes the elderly more frequently than the young. Also, multiple pathologic disorders are common among the elderly. The complexity of the older patient's problems—social, environmental, economic—influences his/her ability to cope with hospitalization and medical illness. Solution of the health problem for a medically ill older person is often not as clear as for a younger person with an acute illness. However, despite the factors of demographic change and the special character of the multiple disorders of old age, little attention is given to geriatric issues, as reflected in medical school curricula (1, 2).

Freeman reviewed the catalogues of 99 medical schools in the United States for the academic year 1969–70, to determine the inclusion of gerontologic teaching material, and found that attention to this subject was only marginal (3). In 1975, Senator Frank Moss of Utah, then Chairman of the Subcommittee on Aging, sent a questionnaire to 101 medical schools, asking whether or not medical students are assigned to work at nursing homes and, if geriatrics was not included as a requirement, whether it was being considered for such inclusion. He received 100 replies. Only 13 percent of the responding schools were in the process of making geriatrics a specialty in the curriculum; 26

* Instructor in Gerontology, Department of Psychiatry.
Address for correspondence: Georgia G. Hall, PhD, Department of Psychiatry, University Hospital, University of Michigan Medical School, Ann Arbor, MI 48109.
† Assistant Professor and Director of the Adult Service Consultation-Liaison Program, Department of Psychiatry.

percent, however, offered programs through which students could fulfill requirements by being assigned to nursing homes (4). According to the 1976 Association of American Medical Colleges Curriculum Directory, 32 of 114 medical schools offer geriatrics as an elective, but *none* as a requirement (1). The medical care of the aged is not presently stressed in American medical schools. The most recent study on the subject indicates that demographic changes have yet to have an impact on medical education (5).

The growing interest in and concern about medical care of the elderly was clearly displayed in the questionnaire sent to the nation's 114 schools of medicine by the Liaison Committee on Medical Education, a joint body of the American Medical Association and the American Association of Medical Colleges. The schools were requested, among other things, to state whether gerontology and geriatrics are being taught, and, if so, where responsibility for such instruction was located. The latter question may reflect the differences between those who are persuaded that it is necessary to create departments of geriatrics and those who believe, instead, that the subject should be woven into the entire curriculum. The point, however, is that the debate is now in the open, and at levels where its resolution can lead to action, not merely recommendations.

This debate has been going on for some years. In 1974, the existence of more than 50 scientific journals, and numerous regional, national and international societies, attested to the special information that is being compiled and applied in gerontology (6). The Gerontological Society's annual meeting in October 1976, focused on the theme of "Medicine and Aging: An Assessment of Opportunities and Neglect." The director of the still new National Institute on Aging, Dr. Robert M. Butler, is continuing his long advocacy of the inclusion of gerontology in medical curricula. In March 1977, he convened a two-day meeting in Bethesda, Maryland, at which representatives from medical schools throughout the United States discussed the issues and problems inherent in such curricular change. The methods and approaches proposed for implementation varied considerably, but there was no disagreement about the importance of incorporating gerontology into the education experience of student physicians. This view, whose advocacy in American journals stretches at least from Zeman to Eisdorfer and others, is now becoming respectable (7, 8).

Outside of the medical school, the growth of gerontology as an academic discipline has been phenomenal in the last decade. Watkins reports that in 1967 there were only a few academic programs related to gerontology in the United States (9). As of July 1976, the AGHE (Association for Gerontology in Higher Education) National Directory listed 1,275 different courses and programs related to gerontology offered at colleges and universities around the country.

Within medical education, however, medical educators, gerontologists, politicians, and many others continue to debate whether or not to make geriatrics a specialty, where and when in the medical curriculum it might be taught, and so on. In the meantime, as the discussion about theory and tactics goes on, little teaching is initiated, old people continue to get sick and to require medical care, and physicians must continue to make decisions about them without the benefit of education in this area.

A proposed response

It is a common observation that medical education consists of both the planned and the unplanned, the required and the elected, the scheduled and the spontaneous, the appointed and the accidental experiences of medical students. Medical students, in fact, have potential opportunities for multifaceted and diverse educational experiences during their clinical clerkships in the standard curriculum.

Therefore, it seemed plausible that medical schools might find ways to introduce gerontology into medical education immediately, provided an existing clinical department or departments could be identified that would be willing to allow an instructor of gerontology to exploit the potential opportunities for teaching about the medical care of geriatric patients. In this way it seemed possible to introduce gerontology as a presence within the educational environment of medical students and residents despite the absence of a formal didactic or clinical allocation of structured time for it. A study testing this hypothesis was developed and implemented, and is reported in this paper.

The setting

The setting in which this exploratory program took place was the Psychiatry Department's Consultation-Liaison Program, a component of the Department's adult service. The existing structure of this program lent itself well to the introduction

of an educational innovation related to the older patient, since its functions involve both consultation to and liaison with the general hospital, where older people are frequently admitted. The program is structured not only to provide learning experiences for those medical students and residents assigned to it, but also to teach the principles of psychologic medicine to medical students, house officers, and senior staff physicians of other specialties who request psychiatric consultation about their patients. This makes it possible to capitalize on the "teachable moment" when interest is heightened and help is sought.

Psychiatric residents on the service are assigned to specific inpatient units of the hospital. A liaison relationship is thus formed between the resident and the medical staff. When consultation requests are received, they are distributed to the appropriate resident. Residents and medical students on their psychiatry clerkship then see the patients, and respond to the consultation requests. They interact with the referring physician, and write the formal consultation responses. The psychiatry residents can in this way also function as teachers of psychologic medicine with the ward staff.

Regular clinical supervision/teaching rounds are held, attended by psychiatry residents, medical students on their psychiatric clerkship, and psychiatry senior staff members. These rounds are conducted as a group discussion and problem-solving activity. Residents, students, and senior staff members join in critical discussion of the case evaluation presented, focus on the biopsychosocial factors relevant for that particular patient, and suggest treatment strategies. This provides the opportunity for a comprehensive discussion of various aspects of the patient.

Implementation

Through use of the hospital's referral system and the mode of operation of the Psychiatric Consultation-Liaison Service, gerontologic concepts and issues were introduced into the educational program of the medical center.

Three groups of trainees were identified.

The first group consisted of the psychiatric residents assigned to the Consultation-Liaison Program. The deficiency of gerontologic content in the education of psychiatrists is similar to that lack in the training of other medical specialists, both in medical school and during their residencies. In order for the psychiatry residents to incorporate a gerontologic focus in their own work as well as in their liaison teaching in the general hospital, they would need to learn the subject first in order to utilize and teach it.

The second group of trainees consisted of the medical students on their general psychiatry junior clerkships, who spent 8 hours a week with the Consultation-Liaison Program.

The third group of trainees consisted of the medical and surgical interns and residents in the general hospital. Their exposure to gerontology would be directly through contact with the gerontologist, and indirectly by diffusion through consultation with the psychiatric resident who was consulting with the gerontologist.

The psychiatry residents had contact with the gerontologist in the following ways. The gerontologist, a non-physician, was provided with clerical and administrative support. She was introduced to the Consultation Service by its Chief, with a memorandum describing what services she could perform for the staff. The memorandum did not require the residents to avail themselves of her consultation services; it made her services available to them if they *chose* to try them.

Throughout the period of the study, the gerontologist worked as a "consultant's consultant." She attended the Consultation-Liaison Program's staff meetings, lectures, and presentations. She participated in clinical interviewing of patients, together with residents and medical students, when invited, and participated with them in clinical conferences about particular patients, with medical residents and the nursing staff. She maintained an index of local community and state resources for the elderly. The gerontologist regularly participated in the Consultation-Liaison Program's clinical rounds, where she was able to infuse gerontologic perspectives and content into the discussion about specific patients.

The gerontologist was thus available to the Psychiatry Consultation-Liaison residents for assistance with consultation requests concerning older patients, even if issues of gerontology and aging were not specifically mentioned by the consultee. This facilitated a gerontologic focus on all such patients, even when the need for a gerontologic perspective was as yet unrecognized by either the liaison resident or by the consultee who originated the request.

Medical students related to the gerontologist in two ways. The first was during the morning rounds, as described previously. The second was when the gerontologist was asked to interview patients by the residents, and all three (gerontol-

ogist, medical student and psychiatric resident) were present at the interview. The medical students were given articles relevant to the clinical features of the patient they had seen, and to the issues brought up in the supervisory discussion with the gerontologist that followed.

Medical house officers worked with the gerontologist in the following manner. When the gerontologist was asked to accompany the psychiatric resident to the medical wards for evaluation interviews with the patients, she routinely introduced herself to the medical staff before seeing the patient, thus allowing interaction with the staff and fostering an initial awareness of the potential clinical applicability of gerontology. Together with the psychiatry resident, she frequently discussed the case afterwards with the medical house officer who had initiated the consultation. This was often followed by bringing to the house officer some journal articles relevant to the gerontologic issues of the patient's clinical problem or to aging in general.

Techniques and content

The methods used were in contrast to the traditional approach to medical education, which is to proceed from reading and listening to lectures and then to working with patients, applying theory to practice. The approach employed in this study did exactly the reverse. For example, the gerontologist established a file of journal articles listed so as to identify specific medical and psychiatric diagnoses and the ways in which these disorders manifest themselves in the elderly. Building on the concept of the patient as the "creator" of the curriculum, papers related to specific diagnoses or to aging in general were distributed to trainees only when the papers had relevance to the specific clinical situation.

The content of each educational experience was thus influenced by the clinical context of the particular consultation. Certain topics and issues, however, were identified as being so central to the educational goals that efforts were made to incorporate them into teaching opportunities whenever possible. These are described below.

A major goal was to create an awareness of the special characteristics and needs of the medically ill elderly patient, and an awareness of the existence of a body of knowledge concerning these characteristics and needs. The characteristics and impact of the biologic changes of aging were discussed. A special focus in this area was the perceptual changes in vision and hearing which are crucial to the elderly person's experience of the world. Psychologic changes were discussed, e.g., significant losses in the latter stages of life, coping with illness and disability in old age in the context of loss of social supports, shrinkage of life space, loss of power, and loss of influence over one's own destiny.

The importance of the social milieu for the patient's functioning in the hospital as well as in the external environment was stressed. How the impact of role reversals and the decrease of social supports influence a patient's ability to respond to and cope with medical illness, hospitalization and rehabilitation was emphasized.

Another goal was to help students develop new attitudes as to what constitutes optimal help for older people, and to spark an interest in the comprehensive medical care of the aged. The importance of assessing the patient's residual functional capabilities—physical and mental, positive and negative—was stressed. An approach which includes an objective evaluation of the current and anticipated short-range functional status was encouraged, to provide the potential for a more positive assessment of possible medical interventions, as well as possibilities for rehabilitation, often overlooked or rejected for the elderly. The potential converse error of setting unrealistic goals and prescribing over-vigorous medical treatment for the elderly was also discussed. When treating an elderly patient who has chronic disease, the physician's choice of a medical regimen may have little to do with that patient's own definitions of acceptable function. For the elderly, with their high incidence of multiple chronic illnesses, the patient's own goals for life and acceptance of specific levels of functional capacity need to be dealt with directly in the decision-making process.

Special attention was given to instruction in the identification and utilization of community resources, such as county councils on aging and departments of social services. Alternatives to institutionalization were emphasized, as was the evaluation of the competency and adequacy of residential care facilities such as nursing homes. Teaching how to identify and use community resources is an area in medical training that is often overlooked, yet is of great practical significance for gaining knowledge and experience.

Collection of data

It was hypothesized that the acceptance of the

gerontologist as consultant and educator would be reflected in the number and nature of interactions which the residents and medical students initiated.

In order to document and assess these factors, records kept on all referred patients aged 60 or older included information about the gerontologist's involvement and interaction with the three trainee groups.

Written psychiatric consultation responses on the 50 referred patients seen during the period of the study were reviewed and compared with data from 50 consultation responses concerning patients matched for age from the year prior to the introduction of the gerontologist on the Consultation-Liaison Program. The referrals from the period of the study thus represented the experimental group during the period in which the gerontologic program took place, and those from the previous year represented the control group, i.e., during the period when no gerontologist had been present in the Consultation-Liaison Program.

RESULTS OF GERONTOLOGY PROGRAM

Psychiatric residents

(a) Utilization of the gerontologist's services by the psychiatric resident: For 32 of the first 50 patients over the age of 60 referred for consultation after the gerontologist joined the Consultation-Liaison Program, the gerontologist was invited to participate in the interview and follow-up; 12 additional patients were discussed with, but not seen by the gerontologist. For 6 patients, the involvement of the gerontologist was not actively sought by the resident.

(b) Impact on the written psychiatric consultation response: A search word-list of key terms associated with aging was generated, e.g., retirement, loss of control over one's life, and isolation. Since these were issues emphasized by the gerontologist, it was expected that in the experimental group the residents' recognition of, and reference to such problems would indicate a heightened degree of awareness due to their gerontologic exposure. References to age-related problems in the consultation responses written during the experimental period did show a major increase over the control group's responses. In the experimental group, 17 of 50 consultation responses, compared to 9 of 50 responses in the control group, mentioned one or more of the selected search words ($X^2_{(1)} = 3.32$, $p = 0.1$). In addition, the term *gerontologist* was used eight times by the experimental group, and not once by the control group, suggesting movement toward the identification, acceptance and validation of the gerontologist.

Medical students

The first demonstration that awareness and interest had been stimulated in this group was their request that a seminar on aging be introduced into the standard didactic series of lectures given for all students when they are on their general clinical psychiatry clerkship. Such a session was initiated, scheduled by the Psychiatry Department's Director of Medical Student Teaching. This session included a well-received technique of teaching the impact of age-related sensory changes, namely, the "empathic model" (10). Having the students use eyeglasses with distorting lenses, ear plugs, and a special coating for the finger tips which produces tactile impairment, provided a dramatic confrontation with the difficulties experienced by the aged in sensing, assessing and interacting with the environment.

The second demonstration of positive impact on these students was their request that a month-long elective in gerontology and geriatric care be developed and offered by the Medical School, for senior medical students. This elective was established through the Department of Psychiatry, by the Office of the Associate Dean for Curriculum. This elective is currently being chosen by medical students. Its design includes didactic seminars, geriatric inpatient and outpatient clinical care, home visits and interaction with social agencies which assist in the medical care and management of the environmental and social problems of the aged patient.

Medical house officers

Gradually, awareness of the existence of a medical gerontologist and the usefulness of interaction with such a person became established. The gerontologist was invited as a participant at several medical clinical staff conferences concerning patients in whose evaluation she had been involved.

Medical residents began to ask for the gerontologist's assistance in evaluating and making recommendations for patients whom they were not referring for psychiatric consultation. They requested that a mechanism be established so they might make referrals specifically and directly to the gerontology consultant for assistance in the care of geriatric patients, when the services of a psychiatrist per se were not indicated.

DISCUSSION

Evidence was obtained in this study that teaching medical gerontology through an appropriate, already existent clinical setting such as the Psychiatry Consultation-Liaison Program, is both feasible and effective.

Use of the existing framework of a medical center's referral system, combined with the expertise of a gerontologist, makes it possible to infuse gerontology into medical education while temporarily sidestepping such questions as the desirability of organizing departments of geriatric medicine or the difficulties of persuading curriculum committees to take action. Not that these are not significant issues. However, it would seem important to find ways, now, of introducing gerontologic concepts and a geriatric point of view to students in medical school and residency programs.

An awareness of gerontology as a discipline, and access to the biopsychosocial insights of this field, were provided for medical students and house officers. In addition to providing information relevant to diagnosis and management, the presence of the gerontologist provided trainees at all levels with the stimulus and the opportunity to discuss feelings about the aged and about treating older patients with irreversible mental changes, while developing more positive attitudes toward the aged.

Through a beginning with one sub-unit of a clinical department, interest and involvement in gerontology developed throughout the department as a whole. This spread to other clinical departments in the general hospital, and finally reached the administrators of the medical school curriculum.

REFERENCES

1. Butler RN: Medical schools should pay more attention to the aged, AAMC Education News 4: 4, 1976.
2. Rao DB: Fellowships in geriatric medicine, J Am Geriatrics Soc 21: 169, 1973.
3. Freeman JT: A survey of geriatric education: catalogues of United States medical schools, J Am Geriatrics Soc 19: 746, 1971.
4. Subcommittee on Long-Term Care, US Senate Special Committee on Aging, Nursing Homes in the United States: Failure in Public Policy. Supporting Paper No. 3: Doctors in Nursing Homes: The Shunned Responsibility. Washington, DC, U.S. Government Printing Office, 1975.
5. Akpom CA and Mayer S: A survey of geriatric education in US medical schools, J Med Educ 53: 66, 1978.
6. Freeman JT: Training in medical schools is the cornerstone of caring for the elderly, Geriatrics 29: 98, 1974.
7. Zeman FD: Teaching geriatrics: basic principles and syllabus of course now in the 5th year, J Gerontol 4: 48, 1949.
8. Eisdorfer C: Issues in health planning for the aged, Gerontologist 16(I): 12, 1976.
9. Watkins BT: Gerontology comes of age as an academic field, Chronicle of Higher Education 14: 10, 1977.
10. Pastalan LA, Mauta RK and Merrill J: The stimulation of age-related sensory losses: a new approach to the study of environmental barriers, *in* Environmental Design Research, Vol. 1, ed. by Preiser. Stroudsburg, PA; Dowden, Hutchinson et al, 1973, p 383.