

IMPROVING THE CARE OF OLDER PEOPLE BY FAMILY PHYSICIANS IN POLAND

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Summary

Introduction. Polish society has been aging rapidly. The percentage of citizens aged ≥ 65 years will increase to 17.2% in 2025. The current undergraduate and postgraduate training in geriatrics is not sufficient. The project objectives were to provide general practitioners (GPs) with the necessary knowledge.

Material and methods. A group of GPs was trained in important geriatric problems management during a one-year course funded by a grant from the Merck Institute of Aging & Health; The course covered: data concerning community-dwelling and institutionalized elderly, morbidity, mortality, the most important elements of comprehensive geriatric assessment. The program included 5lecture (general knowledge)-, 8seminar (problem-based approach to the topic)- and 16workshop days (case studies). At the beginning and at the end of the course trainees completed tests regarding geriatrics knowledge.

Results. Evaluation of the educational modules was performed (0-5 scale). Assessment included scientific value (SV), practical value (PV), presentation techniques (PT), global evaluation (GE). SV was highest for seminars (4.98 ± 0.02) (mean \pm standard error), lower for workshops (4.62 ± 0.05), the lowest for lectures (4.47 ± 0.04). PV was better for seminars (4.88 ± 0.05) and workshops (4.60 ± 0.06) than for lectures (4.39 ± 0.04). PT were higher for seminars (4.84 ± 0.09) and workshops (4.57 ± 0.05) than lectures (4.25 ± 0.04). GE was highest for seminars (4.92 ± 0.04), the lowest for lectures (4.42 ± 0.04). Mean result of the follow-up test (12.54 ± 0.48 correct answers) was significantly higher ($P < 0.001$) in comparison with the baseline test (11.0 ± 0.37).

Conclusions. The program was effective in improving the GPs knowledge on essential issues of geriatrics. Providing interactive methods is crucial for an efficacious GPs education in geriatrics.

Key words: geriatrics, gerontology, postgraduate education, elderly, aging

INTRODUCTION

Poland, with over 38 million inhabitants (1), is one of the largest countries in the Central-Eastern Europe. Polish society has been aging rapidly during recent years. Since 1990, the average life span has increased by nearly 4 years (ys) for men and 3.4 ys for women. Although the average life expectancy was 70.5 ys for men and 78.9 ys for women in 2003, it is predicted to increase to 77.6 ys for men and 80 ys for women by 2030. The percentage of citizens aged ≥ 65 ys was 10.2% in 1990, 12% in 1999, and is predicted to increase further to 17.2% by 2025 (1). This aging population is confronted by a medical education system completely unprepared to deal with such a situation. The number of geriatricians in Poland is about 150, only 80 actually work within this specialization, making an average of 0.16 geriatricians/10,000 citizens > 65 ys old, which is far lower than what is needed and much lower than in the other EU countries. In Great Britain for example, the number of geriatricians is about 800; however, the target level is 1200 (1.2 geriatricians/10 000 subjects over 65 ys) (2). In Poland, undergraduate training in gerontology and geriatrics does not exist in the majority of medical universities, postgraduate training for geriatricians is

very scarce, and for GPs, it is virtually absent. A growing number of older people require adequate medical treatment and care. Primary care physicians consult the majority ($> 65\%$) of patients from their lists at least one time each year and 90% at least once in 5 years, so they are in an excellent position within the health care system to provide the proper care (3).

AIM

As GPs lack knowledge of gerontology and geriatrics, the project objectives were to provide Polish family physicians with this knowledge.

MATERIAL AND METHODS

A group of GPs was trained in the management of important geriatric problems, such as data concerning the community-dwelling and institutionalized elderly in Poland, morbidity and mortality, and the most important elements of comprehensive geriatric assessment, on a one-academic year course funded by a grant from the Merck Institute of Aging & Health. Particular emphasis was paid to the following information and skills:

1. Biology of aging; demographic and epidemiological data concerning the community-dwelling and

institutionalized elderly in Poland. Prevalence of diseases, morbidity and mortality.

2. The most important elements of comprehensive geriatric assessment:
 - evaluation of the nutritional state by measuring the percentage of body fat tissue, using the 4-skinfolds method, measuring calf circumference, the waist-hip-ratio (WHR), calculating the body mass index (BMI) and using the Mini Nutritional Assessment questionnaire (MNA),
 - evaluation of physical disability by the activities of daily living (ADL) and the instrumental activities of daily living (IADL),
 - evaluation of cognitive functions using the minimal state examination (MMSE) and the 15-item geriatric depression scale (GDS).
3. Other important elements of geriatric evaluation, such as physical activity questionnaires or quality of life scales.
4. Disease and disability prevention.

The principal intervention included lectures, seminars and workshops throughout the whole academic year. Five general lectures -4 hours (h) per lecture- presented general knowledge in geriatrics (epidemiology, health promotion, disease prevention, care of older adults). The team of instructors comprised four university professors, and four university lecturers with PhDs: two in geriatrics and two in family medicine. The number of participants was 50-100 at each lecture. Eight seminars (4 h per seminar, 1 seminar per month) included lectures provided by both instructors and participants, working groups and case discussions concerning community and hospitalized patients. Each seminar included an introduction with an overview and a problem-based approach to the topic of the session, focusing on a community setting. The number of participants was 10-25 at each seminar. Sixteen interactive workshops and small group discussions designed to deal with case studies and one selected practical geriatric topic (4 h per session) were provided. Five expert geriatricians, two university family medicine lecturers and one senior nurse lecturer were running the sessions with 5-15 participants at a time. Workshops included case presentations and practical training methods including fitness measurements (aerobic exercise testing, musculoskeletal fitness, flexibility), anthropometry, and nutritional assessment. Interactive discussions in small groups enabled GPs to analyze their own practice, discuss current approaches and share opinions among the work-groups about an assigned topic. Implementation of EBM standards of care at homes for the elderly was especially stressed.

The unique feature of the educational program was the cooperation with the WHO Countrywide Integrated Noncommunicable Diseases Intervention Programme (CINDI) in Poland⁴. The course coincided with an important event, the national WHO CINDI Poland Meeting with disease prevention and health promotion in the elderly being the leading topic, with one day of the congress being devoted to GP training in geriatric medicine.

The educational grant financed also two TV programs and two general newspaper articles on health problems affecting the older population in Poland. All these activities substantially contributed to the development of a policy of non-communicable disease prevention in the elderly. A special website "Improving the care of older people in Poland", targeting practising GPs in particular, was created (5). A special issue of *Lekarz Rodzinny* (Family Physician), one of the well-known journals for GPs in Poland, was published (6).

Statistical analysis

Data were verified for normality of distribution and equality of variances. The one way analysis of variance (ANOVA) with LSD post hoc testing and the Kruskal-Wallis test were used for comparisons between educational modules and lecturers' evaluation. Paired t-test was used to compare final to the baseline test performed by the same 59 GPs. The results are presented as the mean \pm standard error (SE). The level of significance was set at $p \leq 0.05$ for all the analyses.

RESULTS

An evaluation of each module (lectures, seminars, workshops) was performed. Assessment included scientific value (SV), practical value (PV), techniques of presentation (PT) and global evaluation (GE). The scale of the assessment was 0 (minimal) to 5 (maximal).

SV was graded higher for seminars (4.98 ± 0.02) (mean \pm standard error) than for lectures (4.47 ± 0.04) and workshops (4.62 ± 0.05). Workshops were graded higher than lectures (tab. 1). PV was better for seminars (4.88 ± 0.05) and workshops (4.60 ± 0.06) than for lectures (4.39 ± 0.04) (tab. 2). PT were scored higher for seminars (4.84 ± 0.09) and workshops (4.57 ± 0.05) as compared to lectures (4.25 ± 0.04) (tab. 3). GE was the highest for seminars (4.92 ± 0.04), intermediate for workshops (4.65 ± 0.05), and the lowest for lectures (4.42 ± 0.04) (tab. 4). Therefore, the overall evaluation of different modules by GPs would appear to be satisfactory, with the highest evaluation of seminars, intermediate for workshops and the lowest for lectures (ANOVA $F = 10.33; 9.46; 15.25$ and 14.46 for SV, PV, PT and GE, respectively, with $P < 0.001$ for all the comparisons).

Evaluation of the 13 lecturers and instructors by the participants was also performed. Scores for SV ranged from 3.83 to 5.0 (mean 4.54), PV ranged from 3.71 to 5.0 (mean 4.48), PT ranged from 3.82 to 5.0 (mean 4.37), and GE ranged from 3.84 to 5.0 (mean 4.51) for different teachers (tab. 5) ($F = 9.95; P < 0.001$ for ANOVA comparison of teachers' evaluation). GPs voluntarily completed an anonymous test verifying their knowledge twice; Each test consisted of 20 questions with multiple choice answers. The same questions were asked at the beginning and at the end of the program in a random order. The mean result of 12.54 ± 0.48 correct answers during follow-up was significantly higher (paired t-test P -value < 0.001) in comparison with the baseline test (11.0 ± 0.37 correct answers) for those 59 GPs who

Table 1. Scientific level of the different educational module types.

Educational module	Count	Range	Mean	Standard error (SE)
Seminars	44	4.0-5.0	4.98*†	0.02
Workshops	197	2.0-5.0	4.62*	0.05
Lectures	485	0.0-5.0	4.47	0.04
Total	726	0.0-5.0	4.54	0.03

* better as compared to lectures

† better as compared to workshops

Table 2. Practical value of the different educational module types.

Educational module	Count	Range	Mean	Standard error (SE)
Seminars	44	4.0-5.0	4.88*	0.05
Workshops	197	1.0-5.0	4.60*	0.06
Lectures	484	1.0-5.0	4.39	0.04
Total	725	1.0-5.0	4.48	0.03

* better as compared to lectures

Table 3. Techniques of presentation of the different educational module types.

Educational module	Count	Range	Mean	Standard error (SE)
Seminars	44	2.0-5.0	4.84*	0.09
Workshops	196	2.0-5.0	4.57*	0.05
Lectures	484	0.0-5.0	4.25	0.04
total	724	0.0-5.0	4.37	0.03

* better as compared to lectures

Table 4. Global evaluation of the different educational modules types.

Educational module	Count	Range	Mean	Standard error (SE)
Seminars	44	4.0-5.0	4.92*†	0.04
Workshops	197	2.0-5.0	4.65*	0.05
Lectures	480	1.0-5.0	4.42	0.04
total	721	1.0-5.0	4.51	0.03

* better as compared to lectures

† better as compared to workshops

Table 5. Lecturers' general assessment.

Lecturer	Count	Range	Mean	Standard error (SE)
A	45	4.0-5.0	4.7*†	0.07
B	21	4.5-5.0	4.95*†‡§	0.03
C	17	5.0-5.0	5.0*†‡§	0.0
D	22	3.0-5.0	4.68*†	0.12
E	17	4.0-5.0	4.71*†	0.11
F	41	4.0-5.0	4.83*††	0.07
G	59	1.0-5.0	3.84	0.13
H	42	4.0-5.0	4.90*†‡§	0.04
I	49	2.5-5.0	4.55*†	0.09
J	23	3.0-5.0	4.70*†	0.11
K	245	1.0-5.0	4.44*†	0.05
L	54	1.0-5.0	4.18*	0.13
M	86	2.5-5.0	4.60*†	0.07
total	721	1.0-5.0	4.51	0.03

* better as compared to G

† better as compared to L

‡ better as compared to K

§ better as compared to I and M

performed both tests. Therefore, the program could be considered to have been effective in improving the GPs' knowledge on essential issues of geriatric medicine.

DISCUSSION

The rapid growth of the senior population in the developed countries has led to a growing need for health and social services as well as for an increased need for trained professionals. Education in geriatrics is a great challenge. One of the most important questions is how to teach effectively with methods accepted in academic medicine (7). It should be emphasized that the great task of higher education institutions all over the world is to develop well-trained professionals responding to current social and health priorities, especially in the context of the multiple needs of an increasingly elderly population (7). There are strong economic reasons all over the world to educate physicians in geriatrics. In the USA for example, people > 65 ys represent 12% of the population, consume 1/3 of healthcare services and occupy 50% of all physicians' time (8). Currently, about 7.4% of the world's population are older people. In the developing world, life expectancy is predicted to increase from 45 ys in the 1950s to 72 ys in 2020 (9). Therefore, a proper, comprehensive EBM education in geriatrics is vital (9). The phenomenon of rapidly "greying" societies is strictly bound with health-care costs and the financial benefits of using well-trained physicians seem potentially great. Health-care professionals educated in proper management can cause significant reduction in costs, especially by avoiding unnecessary hospitalizations. The Alliance for Aging Research estimates that proper geriatric care could reduce care costs (hospital, home care) by about 10% annually, which in the American system could mean \$133.7 billion savings in 2020 (8). Therefore in the USA, leading physician policy experts appeal for changes in the medical education system at multiple levels to prepare doctors to face the problem of an aging society (10). GPs provide continuous, general, comprehensive, family and community oriented health care. Due to their training, as well as their opinion on the community, they may have a stronger public health recognition than other medical specialists and be even more efficient than other specialists in achieving health goals within the public, collaboration with authorities and commitment to outcomes in local communities (3). Scientific data show that many community-based GPs lack familiarity with geriatric knowledge and best practices, but they face a number of barriers to improve their skills in the care of older people. However, it has been shown that traditional lecture and slide show-style continuous medical education (CME) programs are relatively ineffective in changing the practice of GPs (11). In order to ensure a better trained physician for geriatric care, multiple solutions are proposed, such as increasing funding for geriatrics in medical universities or requiring practicing physicians to complete certificated geriatric CME (10). Boulton point out that older patients with multiple chronic health conditions and complex health care needs often receive fragmented, incomplete, inefficient, and ineffective care (10). In addition, a study by Oxman showed

that formal CME conferences are not effective (12). Physicians are "the frontliners" of health-care delivery. In everyday practice, most physicians involved in direct clinical practice, need easy access to research findings that are applicable to their work. In the education process it is of a great meaning to recognize how people learn and how to influence students' behavior to increase the expected positive effects of learning (13). The Practicing Physician Education Project funded by John A. Hartford Foundation and the American Geriatrics Society found that models using small groups, physician leaders in the community, and interactive case studies were able to initiate appropriate changes in GP practice (8). Additionally, German studies have shown that seminars had changed physician attitude and behavior, as well as awareness and provision of geriatric home care (14). The most effective methods to change behaviors involve multiple educational efforts such as written materials or toolkits combined with feedback and strong communication channels between instructors and learners (11). The other important aspect of the effective education is using the proper methods. Researchers from the Sheffield University proved that using multiple media, as well as putting emphasis on interpretation, results in better outcomes for learners (15). In the UK, The Royal College of General Practitioners emphasizes the important role of well trained GPs. One of their most important documents, "High-quality GP care for all", asserts that older patients deserve high-quality services close to where they live, and that GPs should provide more integrated, patients' needs focused care in the community (16). This aim is particularly important in the light of the results of a Canadian study (1997-2006) which showed that prescribing to older people by family physicians had increased substantially since 1997: a revelation that causes concerns regarding quality of care and patient safety (17).

The education program that we performed was tailored to the hierarchy of needs of the geriatric population in Poland, which may be to some extent different to those in Western countries, especially for the community-dwelling elderly. Recently, the health-related quality of life (HRQL), rather than mortality and morbidity, has emerged as the key goal for health promotion in the elderly (18). "Successful aging" is described by various elements of the HRQL, such as disability prevention, maximizing function, complex management based on EBM treatment, as well as individualized care guided by the patient's preferences (9). It is noteworthy that the HRQL scores obtained in Poland are clearly lower than those of corresponding age groups taking part in general population studies in Western societies (18). The poorer environment and medical care disadvantages within both home-dwelling and institutional living conditions in Central and Eastern European countries are probably responsible for the lower HRQL values found there in comparison to Western Europe. The prevalence of comorbid metabolic conditions and heart diseases is higher in Central-Eastern European countries than in Western Europe or the USA (18) (ex. The percentage of adults aged ≥ 70 suffering from heart disease is

32% in the USA and 37.3% in Poland (18)). In Poland, as many as 5.3% of Polish seniors have reported three major metabolic problems – obesity, hypertension and diabetes, which seems very high in comparison to the 1-2% in the USA (18).

Overweight/obesity and sedentary lifestyle with multiple metabolic consequences would appear to be the most powerful determinants of health conditions and independent predictors of lower HRQL in community-dwelling seniors aged 66-79 ys in Poland (18). Poor nutritional state is not a major determinant of HRQL in independent community-dwelling seniors although in nursing home residents, as well as in undernourished and frail older seniors, this relationship might have been opposite. As they are potentially reversible, overweight/obesity and sedentary lifestyle should be the first target of geriatric care and the leading topics for educational program. Such knowledge could improve the efficacy of preventive measures and health promoting behaviors to positively influence HRQL in older people (18).

Our project was based around problem-based and EBM learning, which have been shown to be two approaches which could significantly improve the teaching of geriatrics (9). It is thus extremely important to provide GPs with up-to-date knowledge in the best possible way. This is especially of great importance in the light of American and Dutch studies which reveal that about 30-40% of patients do not currently receive adequate care, and about 20-25% of the care provided is not needed or is potentially harmful (19). To remain up-to-date many physicians use educational materials or attend conferences (19). However, these strategies might not be effective enough, unless education is interactive and continuous, and includes discussion of evidence, local consensus and feedback on performance (19). The UCLA/RAND ACOVE (Assessing Care of Vulnerable Elders) project showed that structured education and efficient office-based case finding and intervention could effect with an improvement in the geriatric care in the primary care (20).

We noticed that teachers who received the best feedback, received the highest marks in each evaluation category. Conversely, the teachers with worse overall feedback were usually evaluated lower in each of the categories. Our study suggests that personal features of the instructor and their commitment to the subject are a good basis for students' perception and hence the result of the course.

CONCLUSIONS

Providing interactive methods is crucial for effectively educating GPs in geriatrics. The program was effective in improving GPs knowledge of essential issues of geriatric

medicine and has also raised awareness of practicing physicians concerning the problems of elderly subjects.

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