Handling nutritional advice in general practice in Norway\(^1,2\)

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**ABSTRACT** General practitioners (GPs) in Norway are in a unique position to influence their patients' lifestyles during consultations. The speciality of family medicine has been recognized in Norway since 1985. In continuing medical education, nutrition issues are integrated with the discussion of relevant diseases. The first book on health education for Norwegian general practice (1990) contains a set of general dietary guidelines. GPs are informed of the results of the National Health Screening Service, which measures blood pressure and serum lipids and records smoking habits. Serum cholesterol concentrations and coronary artery disease mortality are declining. GPs have been involved in this achievement, although they were found in 1988 to set more conservative cutoffs of serum cholesterol concentrations for dietary advice than an expert committee. GPs have been directly involved in preparing the latest cholesterol guidelines. In 1994 Norwegian GP organizations started a project of quality indicators in general practice (SATS). Of the four conditions that are themes for the first project, treatment of diabetes mellitus has a major nutritional aspect. *Am J Clin Nutr* 1997;65(suppl): 1953S–6S.

**KEY WORDS** Clinical guidelines, quality assurance, nutritional advice, Norwegian general practice, serum cholesterol, coronary artery disease, diabetes

**INTRODUCTION**

Little is known about the attitudes of Norwegian general practitioners (GPs) toward nutritional counseling. There is, however, some information about the handling of risk factors connected with cardiovascular disease (CVD). I will therefore use mainly this latter topic in my effort to give a picture of how nutritional questions are handled by GPs in Norway.

**BACKGROUND**

Norway has 4.4 million inhabitants and there are \(\approx 1400\) inhabitants per GP. There is no list system and patients are free to go to the GP of their choice and to change doctors as and when they wish. The Norwegian GP either runs his or her own practice, receiving reimbursement as fees for services and a subsidy from the local municipality or is employed by the municipality, receiving a salary. If the patient wishes to see his or her GP merely for health education and nutritional advice, there is no subsidy and the patient must pay the full fee, \(\approx \)Hkr 130 (\(\approx \$71\)). Outside the cities, the distance to the office of a GP can exceed 50 km.

Norwegian GPs recognize the unique opportunity they have to influence their patients' lifestyles during consultations. There are many reasons for this: the person-to-person situation, the motivation of the patients, the personal knowledge of the GP through continuity of care, and the credibility of the GP.

**EDUCATIONAL ASPECTS**

Knowledge about health education and nutritional issues is gained by GPs mainly during their pregraduate medical education. Since 1973 there has been a specified educational program for GPs and in 1985 a specialty in family medicine was acknowledged. The program consists of several elements that take at least 5 y to complete and recertification is required after each 5-y period. One of the main objectives of the obligatory courses is to get authorization as a specialist in general practice health education. In the continuing medical education (CME) program, issues on nutrition are integrated with the discussion of relevant diseases. This also is the attitude of Norwegian GPs—to give nutritional advice in secondary prevention.

In 1990 the first book on health education in general practice was published (1). In this book only three pages cover dietary aspects. The following dietary advice is given:

1. Eat more rough-ground cereals.
2. Eat more fish, especially fatty fish such as salmon, herring, and mackerel.
3. Eat less animal fat, that is, pork, cheese, and butter. One should also eat less meat because most sorts of meat also contain fat.
4. Eat "lean" foods. Use lean milk, lean sour cream, lean cheese, and lean margarine.
5. Replace saturated fat with unsaturated. Use oils instead of butter and soft margarine instead of hardened margarine.
6. Eat more potatoes, vegetables, and fruit.
7. Eat less sugar.
8. Limit the amount of salt in food.

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The responsibility for giving health education in Norway is founded by law, and GPs together with public health nurses are recognized by the law as the main providers of this education. Public health nurses have the important role of educating small children and their parents and pupils and teachers at schools.

HISTORY

During World War II there was a substantial decrease in cardiovascular deaths in Norway. After the war, however, the number of deaths due to CVD increased continuously until 1970–1975. The increase was twofold for both men and women, and this triggered a national initiative. In 1975 the government published a white paper on nutrition and dietary advice. Since then the promotion of healthy food and drink has made the population increasingly aware of the importance of the issue.

Since the late 1970s the decline in mortality from CVD has been substantial, together with an increase in healthy eating habits (Figure 1). But consumption of saturated fat is still considered to be too high. In 1985 it was expected that when following 1000 Norwegian men between 35 and 49 y of age for 10 y that 20 would die of heart infarction, another 40 would get an infarction but survive, 5–10 would undergo a coronary bypass operation, and 12 would have a stroke. These figures are better than those of Sweden and Denmark, but compare unfavorably with many other countries, for example, Finland, Italy, and the Netherlands. From the late 1980s on, therefore, the effort has been intensified.

THE INTERVENTION

In 1972 the internationally known Oslo Study was started. The first results published in 1975 showed that it is possible to lower the mortality rate among middle-aged residents by giving them advice on nutrition twice a year. This elicited a major CVD prevention project that started in three Norwegian counties and now covers 18 of 19 counties. The program is carried out by the National Health Screening Service (SHUS) and includes measurement of blood pressure, height, and weight; the taking of a blood sample that is analyzed for total serum cholesterol and triacylglycerol; and asking about smoking habits. All persons attending the screening are given a pamphlet with information on how to prevent CVD. All participants receive their own results in the mail, supplemented by individual advice on how to prevent CVD. SHUS also sends reports to GPs on the screening results of their patients. For persons who are recommended to attend follow-up examinations, GPs are provided with special follow-up cards. In addition, the report system includes statistics on the screening results, which are sent to the GPs and municipal health services when the screening has been completed in the county. SHUS also offers GPs and the municipal health services assistance in the form of a structured program to prevent CVD.

In 1985–1990 two screenings for CVD risk factors were carried out with an interval of 3 y in four Norwegian counties. All residents aged 40–42 y were invited to both screening rounds and certain subgroups from the first round were invited to the second round. The attendance was 74% for males and 83% for females. For both sexes the highest risk score was found in the northernmost county, the lowest in the southern counties. The risk was also high in some rural areas in southern Norway. Compared with the score attained by the first generation, the total mean risk score for myocardial infarction achieved by the second generation was 19% lower in males and 15.5% lower in females. The main cause of this reduction appeared to be lower serum cholesterol concentrations. Results from subgroups suggest that the estimated mean risk score for the total male cohort had decreased by 10% at the rescreening 3 y later. In one municipality where special effort was put into a health education program, a decrease was achieved in total coronary artery disease risk level to less than one-half the level of 3 y earlier. Thus, the results indicate a continued, and perhaps accelerated, decrease in coronary artery disease mortality as new generations populate the age groups in which this disease is more prevalent. Because the screening was a part of a prevention program, it is reasonable to assume that efforts by
TABLE 1
Handling of nutrition in general practice—proposal for how to perform a medical audit

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Criteria</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational aspects of general practice</td>
<td>Specially trained nurse</td>
<td>Diabetic care</td>
</tr>
<tr>
<td>Are target groups defined?</td>
<td>Yes</td>
<td>50% for persons with diabetes</td>
</tr>
<tr>
<td>Are target groups established?</td>
<td>Yes</td>
<td>50% for persons with diabetes</td>
</tr>
<tr>
<td>Are pop-up questionnaires and advice available?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detection of overweight</td>
<td>90%</td>
<td>40%</td>
</tr>
<tr>
<td>Detection of hypercholesterolemia</td>
<td>90%</td>
<td>60%</td>
</tr>
<tr>
<td>Advice given to members of the target groups</td>
<td>90%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced percentage of patients with overweight</td>
<td>50%</td>
<td>20%</td>
</tr>
<tr>
<td>Reduced percentage of patients with serum cholesterol &gt; 8 mmol/L</td>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

A criterion is an element of care that is definable and measurable (by using an indicator) and that is agreed to be relevant to the definition of good quality. A standard is the level of performance of a criterion against which a practice can be assessed. For example, if the criterion for good quality in detection of hypercholesterolemia is to identify 90% of patients, the standard in a given practice may be that a level of 60% is reached or considered achievable.

The primary health care services contributed to the improvement. GPs have a leading role in these services.

In 1988 a group of experts published a program for treatment of patients with increased serum cholesterol. The program recommended dietary counseling when serum cholesterol exceeded 5 mmol/L. In the autumn of 1988 the Norwegian National Health Association started a campaign on cholesterol for health personnel. To find out to what extent GPs adhered to the recommendations of the program, a random sample of 100 GPs received a questionnaire before and after the campaign. The results showed no significant differences in the doctors’ attitudes toward diagnosis and treatment of patients with increased serum cholesterol. Both before and after the campaign, serum concentrations at which they would initiate follow-up, dietary counseling, or drug therapy were 1–2 mmol/L above the concentrations recommended by the expert group. About 90% of the GPs said that they were considering cholesterol more frequently in their preventive efforts but this had not changed their conduct. The attitude of the GPs was more conservative than the recommendations of the program. The interval between the campaign and the poststudy was only 6 mo. It is a complicated process to change attitudes and practice routines, and the time required may be longer than 6 mo. Furthermore, the recommendations of the program were questioned by other doctors, including GPs, which reduced the effect of the program.

In 1991 a revised program was published, this time with GPs included in the group of experts. In this program it is pointed out that when evaluating the risk of developing coronary artery disease a combined risk score should be calculated. In addition to cholesterol risk factors such as family history, other factors such as sex, age, smoking, hypertension, and presence of diabetes should also be taken into account. Regarding treatment, special emphasis was placed on changing the diet. The effect of this modified program is not known, but the SHUS program should give an answer.

THE FUTURE

The implementation of clinical guidelines for quality assurance in general practice so far has had a limited effect. Methods to encourage change of performance on the basis of currently available knowledge are required. Organizational and pedagogical skills should be adopted for this end.

The Norwegian GP organizations developed and started the SATS project in 1994 by integrating the use of quality indicators into general practice. The procedure used in this project is adapted from the Dutch method of developing guidelines for general practice. A central working party does the research and makes the draft, which is sent to 25 randomly chosen GPs for comments. The draft is likewise sent to departments of general practice at the four Norwegian medical schools before they are published and implemented in the GPs’ computerized record-keeping systems. The indicators are linked to structure, process, and outcome, and are to be used as a basis for the setting of standards and evaluation by the GP in his or her own practice. The use of peer group learning has proved successful in specialist training in Norway, and is likely to become a cornerstone of CME in the future. The SATS project will promote quality development in peer groups, on the basis of the participants’ own measurements. A cycle of quality improve-

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TABLE 2
Classification of clinical guidelines

<table>
<thead>
<tr>
<th>Probability of being effective</th>
<th>Development strategy</th>
<th>Dissemination strategy</th>
<th>Implementation strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Internal</td>
<td>Specific educational intervention</td>
<td>Patient-specific reminder at time of consultation</td>
</tr>
<tr>
<td>Above average</td>
<td>Intermediate</td>
<td>Continuing education</td>
<td>Patient-specific feedback</td>
</tr>
<tr>
<td>Below average</td>
<td>External, local</td>
<td>Mailing targeted groups</td>
<td>General feedback</td>
</tr>
<tr>
<td>Low</td>
<td>External, national</td>
<td>Publication in journal</td>
<td>General reminder</td>
</tr>
</tbody>
</table>

From reference 2.
ment based on a registration of indicators, discussion, and standards setting in local groups followed by a new registration will be introduced as a new form of CME in 1996 (Appendix A). Currently, quality indicators are being developed for the care of persons with diabetes, the diagnosis and treatment of acute sore throat, and the use of laboratory tests. The indicators will be measured within the computerized record-keeping systems. Recording of data and report processing will be minimally time-consuming for the GP.

In this project nutritional advice will fit in nicely (Table 1). Making indicators of quality on when and how to make dietary counseling readily available in the consultation should ensure an important improvement in the GPs’ handling of this issue. This supposition is supported by the review made by Grimshaw and Russell (2) in 1993 on evaluations of the effect of clinical guidelines (Table 2).

SUMMARY

GPs in Norway are well aware of their limited influence on the dietary habits of their countrymen and -women, but there should be no doubts about their role when it comes to individual counseling. The CME program includes nutritional aspects, but GPs do not comply readily with new information given by authorities. As important coworkers in a national intervention program, however, they have contributed to a substantial decline in CVD. To increase the quality of this work, indicators of quality together with guidelines for how and when to give nutritional advice will in the near future be implemented in the GPs’ computerized record-keeping systems.

REFERENCES


APPENDIX A

SATS

PROJECT QUALITY INDICATORS IN GENERAL PRACTICE

The Norwegian Association of General Practitioners, Norwegian College of General Practice

Description of the project

The project was initiated by the associations of general practice in Norway.

SATS develops quality indicators for general practice. The indicators are to be used as a basis for the setting of standards and evaluation by the general practitioner in his or her own practice.

The project is run by a project group consisting of five general practitioners, each with a responsibility for his or her own health region in Norway.

The project is funded by the Quality Assurance Fund of The Norwegian Medical Association. The project started in September 1994 and is planned for 3 y. The long-term goal of the project is to integrate continuous quality improvement into general practice by integrating evaluation procedures into the continuing medical education programs of general practitioners.

The tasks of the project group include the following:

1) designing proposals for indicator sets,
2) providing for a “hearing” of the proposals among general practitioners,
3) making a draft for comments from representatives of the primary medicine institutes of Norway’s four universities,
4) publishing the indicators,
5) developing computer-based versions and tools to integrate the quality indicators into medical record computer software and motivating colleagues to use and evaluate the indicators in groups by the method of peer group learning, and
6) evaluating the project.

Themes of the first project are as follows:

1) Treatment of diabetes mellitus
2) Diagnosis and treatment of throat infections
3) Use of the laboratory in general practice
4) Diagnosis and treatment of migraine