

AN AUDIT OF CLINICAL PROBLEMS AND ACTIVITIES DURING CONSULTATIONS

A study of an urban primary medical care facility in Pretoria

Summary

Objective: To audit the clinical problems and consultation activities in an urban primary care facility.

Design: A cross-sectional prospective descriptive study.

Setting: The out-patient divisions of the Department of Family Medicine, Faculty of Medicine, at HF Verwoerd Hospital in Pretoria.

Method: Data on patient profiles, presenting problems, special investigations, referrals and duration of the consultations were gathered by the participating doctors for a period of 19 weeks.

Results: The mean age of the patients was 46,1 years. 9 559 consultations, during which 17 096 problems were attended to, were recorded. The mean duration per consultation was twelve minutes, blood tests were performed on 5,4% of the patients and 10% underwent radiological investigations. The referral rate to specialist departments was 15,2%.

Conclusions: The results provide a base from which future planning and management of the service in the Department can be improved, trends determined and the quality for both patients and personnel improved.

Introduction

Research into health care over the last decade or so has revealed a remarkable feature of clinical activity in both primary health care and hospital care, namely the large variation between individual clinicians even when caring for the same or similar sorts of patients¹. Primary medical care, as part of the primary health care system, endeavours to render first-contact care by family physicians and medical practitioners that testify to a high quality cost-effectiveness and accessibility. In order to be able to succeed, planning and assessment should be part of the service and one way of achieving this is by means of an audit process.

Definitions of audit identify three distinct elements of the process: purpose, method and area of investigation. Crombie et al² define the primary purpose of an audit as the process of reviewing the delivery of health care to identify deficiencies so that they may be remedied. The reasons for carrying out an audit are to improve the quality of patient care and more specifically to identify areas where improvement in clinical care and practice organisation is necessary; to facilitate the changes necessary for improvement, to educate, to stimulate, to enthuse the practice team and to increase resources (financial, people and local services)³.

The purpose of this project was to audit the consultation activities and medical problems encountered by the family physicians and medical practitioners working in the outpatient divisions of the Department of Family Medicine of the Faculty of Medicine, University of Pretoria, at the HF Verwoerd Hospital in Pretoria.

Method and subjects

This is a cross-sectional prospective descriptive study. The study population consisted of all the patients attending the two divisions of the out-patient clinic and the study sample was formed by those patients entered by the family physicians and medical practitioners who participated in the project.

Data was collected for a period of 19 weeks (July to first week of November 1995) by means of a data sheet on which the following information on every patient during each consultation was entered: age, gender, race group, presenting problem or diagnosis (provision was made for five problems), special investigations (blood tests and radiology) and whether the patient was referred to a specialist department for further management.

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Figure 1: Number according to gender (n=9 525)

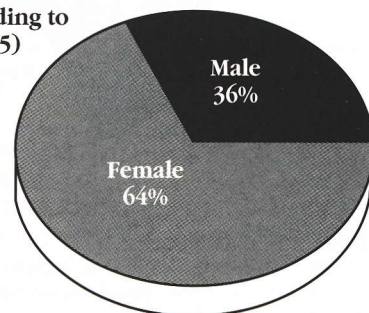
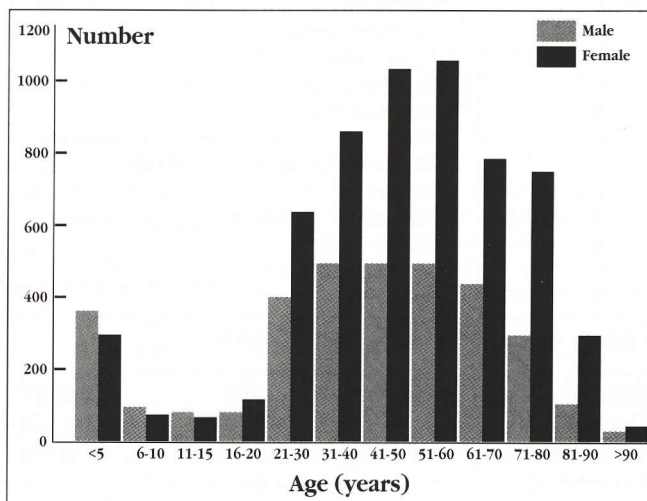


Figure 2: Age distribution according to gender (n=9 492)



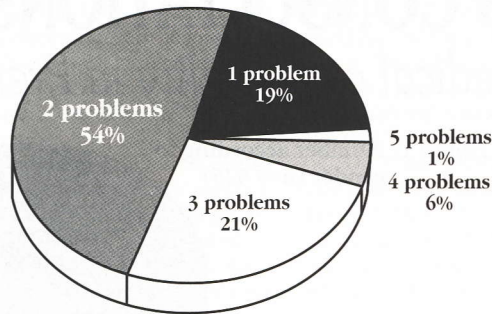
The International Classification of Primary Care (ICPC)⁴ was used to code the problems encountered in the consultations and the data was analysed by means of the EpiInfo Version 6 computer programme.

Results

During the study period, 23 326 consultations were performed by the doctors in the department and 9 559 (40,9%) of these were documented by the 14 participating family physicians and medical practitioners. One medical practitioner did not participate in the project. There were 3 461 (36,3%) males and 6 064 (63,7%) females (Figure 1). The mean age of the patients (n=9 510) was 46,1 years (range 0,1-97); males (n=3 445) mean age 42,1 years (SD 23,2, range 0,1-91) and females (n=6 047) mean age 48,4 years (SD 21,4, range 0,1-97). The difference in mean age between the males and females was statistically highly significant (students $t=13,2$, $p=0,00$). The age distribution according to gender is presented in Figure 2.

A total number of 17 096 problems were encountered during the 9 426 documented consultations, with a ratio of 181 problems per 100 consultations; 5 059 (53,7%) consultations had two presenting problems, 1 992 (21,1%) had three problems, 526 (5,6%) had four problems and 93 (1%) had five problems (Figure 3). The number of problems encountered for each ICPC chapter is presented in Figure 4. (The chapters and their alpha codes are presented in Table I.) Blood tests were performed during 523 (5,4%) consultations and radiological examinations, including X-rays, ultrasound and scans, were requested during 957 (10%) consultations. There were 1 304 (15,2%) referrals to specialist departments and the number of referrals to

Figure 3: Number of problems encountered per consultation (n=9 426)



Alpha Code	Chapter
A	General, unspecified
B	Blood, blood forming
D	Digestive
F	Eye
H	Ear
K	Circulatory
L	Musculoskeletal
N	Neurological
P	Psychological
R	Respiratory
S	Skin
T	Metabolic, endocrine, nutrition
U	Urinary
W	Pregnancy, child-bearing, family planning
X	Female genital
Y	Male genital
Z	Social

Table I: Alpha codes of the ICPC chapters

Specialist Department	Number (%)	Specialist Department	Number (%)
Cardiology	15 (1,1)	Ophthalmology	125 (9,6)
Dermatology	78 (6)	Orthopaedic surgery	145 (11,1)
Dietician	10 (0,8)	Paediatrics	62 (4,8)
Ear, nose & throat	44 (3,4)	Physiotherapy	12 (0,9)
Gastroenterology	44 (3,4)	Surgery (incl. plastic surgery)	213 (16,3)
Gynaecology	158 (12,1)	Urology	55 (0,4)
Internal medicine	139 (10,7)	Other	146 (11,1)
Maxillofacial surgery	7 (0,5)		
Neurology	43 (3,4)		
Neurosurgery	8 (0,5)		

Table II: Number of referrals to specialist departments (n=1 304)

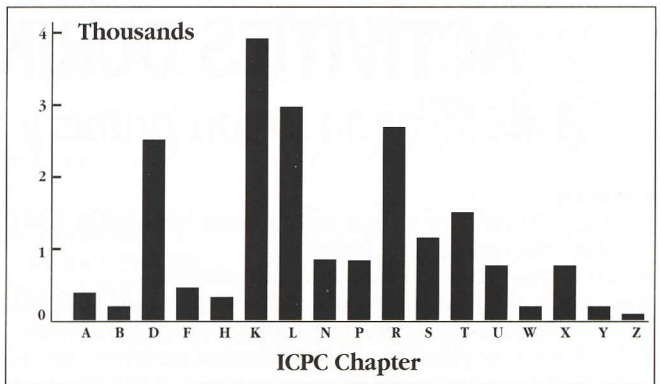
specific departments is presented in Table II.

The mean duration of the consultations (n=9 369) was 12 minutes (range 1-75), with 1 361 (14,6%) lasting five minutes or less, 3 747 (40%) lasting six to ten minutes, 2 664 (28,4%) lasting 11 to 15 minutes, 1 003 (10,7%) lasting 16 to 20 minutes, 281 (3%) lasting 21 to 25 minutes, 185 (2%) lasting 26 to 30 minutes and 128 (1,3%) lasting longer than 30 minutes.

Discussion

One of the major problems facing the Department is the drastic escalation of the number of patients utilising the facilities at HF Verwoerd Hospital, which are insufficient to cater for the increased number of patients. From a management viewpoint, it was important to establish the time and motion aspects of what is happening in the Department and although an audit is not considered the same as research¹, the audit process creates an opportunity to assess the process and content of clinical practice. The results of this project provided information on what is happening during the consultation process in the out-patient division of an urban academic Department of Family Medicine.

Figure 4: Number of problems per ICPC chapter



The majority of the patients were female (female:male ratio 2:1) and the average duration of the consultations was approximately 12 minutes, which means that the doctors could consult an average of four patients per hour if allowance is made for three minutes between each consultation for administrative activities, like completion of clinical records and preparing the consulting room for the next patient. This information is now used to determine the daily number of patients who arrive without an appointment that could be consulted.

The number of problems encountered per consultation is similar to previous studies^{5,6}, but more than in a study by Ingle and Fehrsen⁷. The documentation of the problems led to the establishment of a morbidity register which is used to perform audits on clinical problems, eg. asthma and diabetes mellitus.

Cardiovascular problems were the major component of the clinical profile encountered, followed by musculoskeletal, respiratory, digestive and endocrine, metabolic and nutritional. The relatively few social problems identified may be an indication that the doctors' focus was mainly biomedical and that psycho-social problems were neglected.

The referral rate was higher than in other studies^{6,8} at 15,2%, but the reason is that the family physicians and medical officers of the Department do not have access to hospital beds and theatres, so every patient needing admission or a procedure has to be referred to a specialist department for further management. From a training and work satisfaction point of view this is one of the negative aspects in the Department. The requesting of blood tests and radiological investigations will be audited in more detail in future with the utilisation found in this study as a baseline.

Conclusions

Auditing clinical activities is a useful exercise and the critical appraisal of a practice or clinical department by its personnel could generate measures to improve the standard of care and personal job satisfaction of those involved in the rendering of a primary medical service. The problem areas identified with this audit in the Department of Family Medicine at the HF Verwoerd Hospital in Pretoria are being addressed. A follow-up is planned for 1997. ●

References

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