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The SASPREN primary care survey — who consults the family doctor?

J. Volmink, J. Laubscher, S. Furman

Objective. To describe selected characteristics of patients consulting general/family practitioners in the Western Cape.

Design. A cross-sectional survey design was employed in which doctors completed a structured questionnaire during or immediately after each consultation.

Setting. Data were collected by family practitioners in private practice who were affiliated to the South African Sentinel Practitioner Research Network (SASPREN).

Participants. All patients who had a face-to-face encounter with the doctor at his/her surgery. A total of 2 473 such encounters was included.

Main outcome measures. Age, sex, race, method of payment and smoking status.

Results. Females outnumbered males in all race groups except blacks, where they comprised 48% of patients. Most patients were under the age of 14 years (23.3%) or between 25 and 44 years (33.3%). However, after the demography of the catchment population was taken into account, the highest utilisation of general practitioner services was found to be at extremes of age. This utilisation pattern was demonstrated in both sexes and all races. In relation to their distribution in the population, whites and Indians are over-represented in private practice while blacks and coloureds are under-represented. The bulk of patients (67%) pay for general practitioner services via some form of insurance (medical aid or benefit fund), but significant differences exist across race groups. In the case of blacks and Indians, the majority (72% and 64% respectively) of consultations are funded 'out of pocket'. An alarmingly high smoking prevalence was found in black and coloured men. In all race/sex groups smoking rates peak between 25 and 44 years. In this age group, 68.6% of black men and 73.3% of coloured men were current smokers.

Conclusions. This study provides essential information on patients seen in family practice. Access to family doctor services in the Western Cape should be improved for blacks and coloureds. There is an urgent need for smoking cessation interventions in the region.

S Afr Med J 1996; **86:** 239-243.

Epidemiological surveys conducted in primary care settings provide useful data for the planning of appropriate health services as well as for the training of present and future health care providers. The collective experience of primary care physicians in the public and private sectors with regard to illness in the community is considerable. This resource should be mobilised in the interest of improving the health of the population.

In most industrialised countries, volunteer general/family practitioners are involved in the ongoing collection of morbidity statistics on a regional or national basis.[1] To date, this has not been the case in South Africa. The South African Sentinel Practitioner Research Network (SASPREN) attempts to redress this situation. It is a network of research-minded family doctors, distributed across the country, who voluntarily provide data on patients seen during the course of their work. Serial studies are conducted, each project with an identified principal researcher. In-depth investigations of topics pertinent to family practice are undertaken in addition to surveillance of conditions selected on the basis of their public health importance. More detailed information on SASPREN is available elsewhere.[2,3]

During 1991 SASPREN conducted a survey that aimed to describe various aspects of primary care in the Western Cape. In particular, the study sought to determine who consults the general practitioner, the spectrum of morbidity encountered and the nature of medical care offered. This is the first paper reporting on the survey. It focuses on selected characteristics (age, sex, race, method of payment and smoking status) of patients seen by family doctors in private practice. Generalisability of research findings is an issue which arises in all studies involving sentinel health care providers or sites. This theoretical limitation is considered briefly.

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Methods

Sampling

A questionnaire was designed to elicit the information required to meet the objectives of the study and piloted in 6 practices. Twenty-nine private general practitioners in the Cape Peninsula and Stellenbosch participated in the main study. They were requested to complete the questionnaire during or immediately after 100 systematically selected patient encounters (consultations). The first encounter of each working day was selected, followed by every fourth encounter thereafter. Data collection took place between August and December 1991. All patients who had face-to-face encounters with the doctor at his/her surgery were included in the study. Patients seen elsewhere (e.g. home visits) and those who presented for administrative or other reasons and who did not see the doctor were excluded.

Data processing and analysis

All completed questionnaires were returned to the Medical Research Council in freepost envelopes. Information was centrally coded by trained assistants and analysed with the SAS programme on the mainframe computer. Confidentiality of information was maintained throughout the study and patients' identities were known only to the attending doctor.

Sentinel doctors participating in this study were compared with respondents in a recent survey of a random sample of general practitioners.[4] The differences in prevalence (PD) of various characteristics is reported, together with their 95% confidence intervals (CIs). A 95% CI which does not include zero indicates that the difference is statistically significant.

The age, sex and race* distribution of patients were compared with 1991 census population data on the patient catchment area (Cape Peninsula and Stellenbosch). As a measure of relative use of private family practitioner services by different age/sex and age/race groups, a utilisation ratio was calculated for each group by the method employed in a recent Australian study.[5] The proportion contributed by each group to family practice encounters was accordingly divided by the proportion of that group in the overall population of the catchment area. A ratio of 1 means that a particular group is represented in GP encounters in the same proportion as it is in the population; less than 1 and more than 1 imply under-representation and over-representation, respectively. The χ^2-test was used to determine whether age-specific utilisation rates differed significantly across racial categories.

Results

Characteristics of participating practitioners

The practice location of participants is shown in Fig. 1. Compared with a random sample of private general practitioners from the region (Table I), sentinel practitioners were more likely to be women (PD 21.8%; 95% CI 3.5 - 40.1) and in solo practice (PD 29.4%; 95% CI 8.3 - 50.5). They were also more likely to have a postgraduate qualification in general/family practice (PD 41.8%; 95% CI 23.2 - 60.3) but less likely to have obtained their basic medical degree at the University of Stellenbosch (PD –20.8%; 95% CI –35.1 - –6.5). Although the age distributions of the two groups were not significantly different, the sentinel group tended to be somewhat younger.

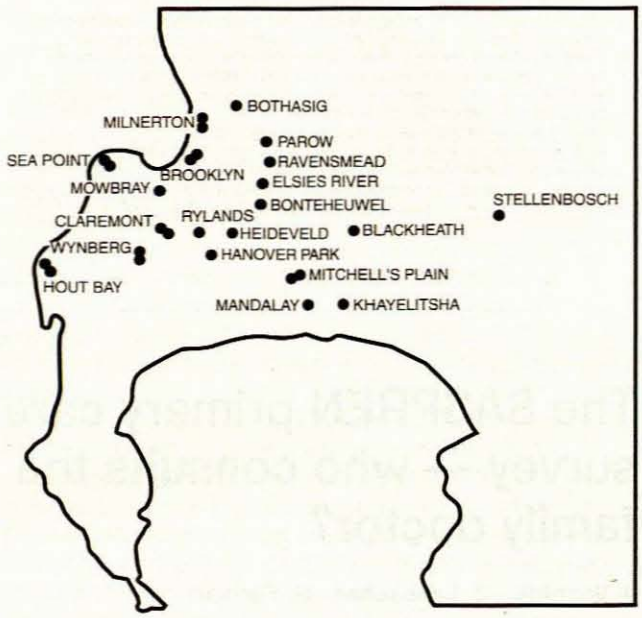

Fig. 1. Practice location of general practitioners participating in the survey.

Table I. Characteristics of participating sentinel practitioners and a random sample of private sector general practitioners

Characteristics	Sentinel GPs (*N* = 29)	Random GPs (*N* = 65)
Sex (%)		
Male	69.0	90.3
Female	31.0	9.7
Age (yrs)		
25 - 34	24.1	15.1
35 - 44	41.4	43.1
45 - 54	24.1	30.8
55 - 64	6.9	4.6
65+	3.4	6.1
Median	41	42
Range	29 - 70	26 - 75
University at which basic degree was obtained (%)		
Cape Town	65.5	50.0
Stellenbosch	6.9	28.1
Pretoria	6.9	6.3
Natal	3.4	4.7
Witwatersrand	6.9	1.6
Non-South African	10.3	9.4
Postgraduate qualification in general/family practice (%)	44.8	3.1
Practice type (%)		
Solo	58.6	29.2
Other	41.4	70.8

Sentinel GPs were compared with private GPs working in the Cape Peninsula and Stellenbosch.

* Although collection of data by race is controversial, the legacy of social and health inequities associated with the now defunct apartheid system will remain for years to come. Retention of the race variable should assist in the identification and removal of these inequities. We therefore believe that the collection of race-based information was justified in this study.

Patient demography

Data were collected on 2 473 encounters (median 94 per doctor, range 31 - 103). The race/sex and age/sex distributions of the patient sample are shown in Figs 2 and 3, respectively. Overall, females outnumbered males in all race groups except blacks, the proportions being 57.8%, 58.9%, 54.5% and 48% for whites, coloureds, Indians and blacks, respectively. One in four encounters was with a child (23.3%), 13.3% of encounters were with young adults and the rest with older adults aged 25 - 44 years (33.5%), 45 - 64 years (20.8%) and 65 years and older (9.1%). A comparison of the proportion of patients in the 65 years and above group with those less than 65 years across the various race groups revealed that there were more elderly patients among whites and Indians than among coloureds and blacks and that this difference was statistically significant (PD 11%; 95% CI 8.7 - 13.3). Boys were encountered more frequently than girls (age 1 - 4 years; PD 3.2%; 95% CI 0.8 - 5.6%; and age 5 - 14 years: PD 5.0%; 95% CI 2.5 - 7.6%).

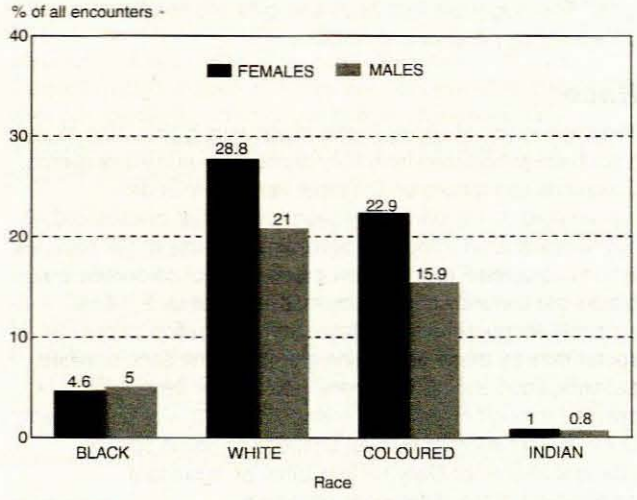

Fig. 2. Distribution of patient encounters by race and sex (*N* = 2 365).

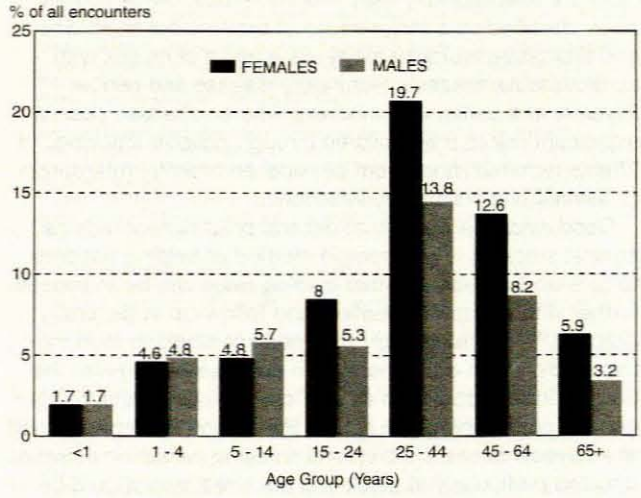

Fig. 3. Distribution of patient encounters by age and sex (*N* = 2 400).

Use of GP services

Overall utilisation ratios were consistently higher for females than males across the race groups. As can be seen in Fig. 4, which presents ratios by age and sex for all race groups combined, utilisation was highest at extremes of age. In both sexes there was a steady drop in the use of services from the first year of life, with the lowest attendances reached in the 5 - 14-year group for females and the 15 - 24-year group for males. Similar utilisation patterns are seen in Fig. 5 where ratios are presented for race/age groups. Indians were excluded as age-specific estimates are not reliable on account of small numbers. Fig. 5 shows that relative to their distribution in the population, whites are over-represented in private general practice while blacks and coloureds are under-represented. The difference in the utilisation rate between the 3 groups within each age category was highly significant ($P < 0.001$). The overall utilisation ratio for Indians (1.46) suggests that they may also be over-represented.

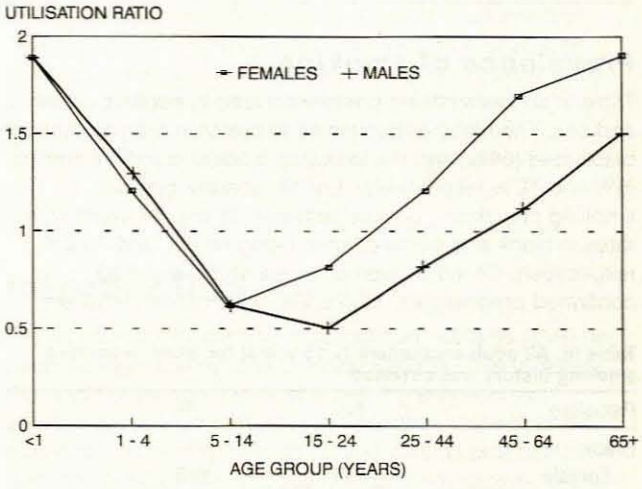

Fig. 4. Ratio of the distribution of patient encounters to the distribution of the population by age and sex.

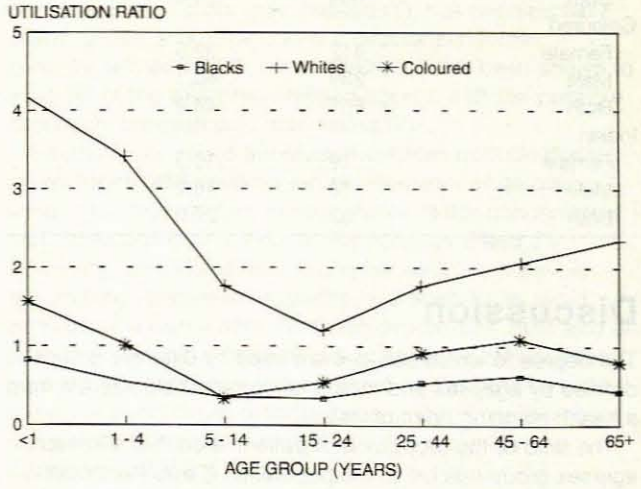

Fig. 5. Ratio of the distribution of patient encounters to the distribution of the population by race and age.

Source of payment

Table II shows that some form of prepaid insurance (medical aid or benefit fund) covered the cost of two-thirds of all encounters. 'Out-of-pocket' payments served as the major source of payment for a substantial proportion of encounters, especially in the case of blacks (72%) and Indians (64%); among coloureds, almost 1 in 5 encounters were funded through benefit funds. The distribution of source of payment by age and sex revealed no significant differences.

Table II. Distribution of source of payment by race (%)

	Source of payment			
Race	Medical aid	Benefit fund	Self-pay	Other
Black (*N* = 228)	15.8	9.2	71.9	3.1
White (*N* = 1 138)	69.2	0.4	29.1	1.4
Coloured (*N* = 948)	56.64	19.3	21.8	2.3
Indian (*N* = 47)	29.8	0.0	63.8	6.4
Total (*N* = 2 358)	58.2	8.8	31.0	2.0

'Other' comprises mainly no-charge and Workman's Compensation categories.

Prevalence of smoking

Table III shows smoking prevalence among adults by race and sex. The highest rates occur in coloured men (66%) and black men (64%) and the lowest in black and Indian women (6% and 10% respectively). For all race/sex groups, smoking prevalence peaked between 25 and 44 years with rates in black and coloured men being 68.6% and 73.6%, respectively. Of the 51 women in the study who had confirmed pregnancies, 13 (25.5%) were current smokers.

Table III. All adult encounters (> 15 years) for which a positive smoking history was obtained

Race/sex	No.	%
Black		
Female	77	6.5
Male	88	63.6
Both	165	40.0
White		
Female	523	20.3
Male	341	29.3
Both	864	23.8
Coloured		
Female	412	32.5
Male	239	66.1
Both	651	44.8
Indian		
Female	19	10.5
Male	13	46.2
Both	32	25.0

Discussion

The degree to which services are used by different groups defined by age, sex and race is of considerable interest from a health planning point of view.

The ratio of the proportion of patient encounters in each age/sex group relative to the population (Cape Peninsula and Stellenbosch) is shown in Fig. 4. This graph is remarkably similar to the one constructed for the Australian population in a recent study.[5]

Age

It is not surprising to find the relatively high utilisation rates in the youngest and oldest groups as these are the individuals who are physically the most vulnerable. This pattern of utilisation by age is consistent across race and sex (Figs 4 and 5).

Sex

The preponderance of women among general practitioner attendees found in this study is a universal phenomenon.[6,7] This difference, which is not accounted for entirely by pregnancy and gynaecological consultations, is thought to be due to women's being more willing to report symptoms and feelings, having more time flexibility and being more familiar with surgery staff because of attendance during pregnancy and with sick children. The finding that boys present more often than girls is of interest. It has been shown in The Netherlands that boys consulted more frequently with non-serious morbidity, were referred more often and were admitted to hospital more frequently than girls.[8] This suggests that boys and girls are handled differently by parents and doctors.

Race

The proportions of whites in this study were higher than might have been anticipated from their distribution in the population. Coloureds and blacks on the other hand were under-represented. It has previously been shown that medical aid membership is an important determinant of use of GP services among coloureds[9] and that low proportions of coloureds and blacks are currently covered by medical insurance.[10] This probably accounts for the relative underutilisation of private sector care by these population groups. In the case of white patients, good access to general practitioner services is assured through medical aid membership (70% of encounters). Other factors such as cultural attitudes to health service attendance are not likely to have been an important determinant of the differences observed.

Smoking — a burning issue

The present study provides further evidence that smoking rates are unacceptably high in South Africa. Smoking has been identified as a major cause of preventable morbidity and premature mortality mainly as a result of its link with cardiovascular disease, respiratory disease and cancer.[11,12] Parents, and particularly mothers, who smoke also pose a significant risk to their children through passive smoking.[13,14] Effects reported range from physical and mental retardation to asthma and respiratory infections.

Good evidence exists that general practitioners' advice against smoking is an effective method of helping patients to give up the habit and that quitting rates can be increased further with information leaflets and follow-up in general practice.[15-17] The alarmingly high rates of smoking found in this study, which correspond with previous findings for the South African population as a whole,[18] should therefore spur general practitioners into action. Prevention strategies aimed at adolescents and children and smoking cessation activities directed particularly at black and coloured men should be undertaken without delay. Women who continue to smoke during pregnancy (25% in this study) constitute another subgroup in need of special attention.

Study limitations

With regard to the limitations of this survey, a key issue is the extent to which our findings can be generalised to all patients seen by private general practitioners in the Cape Peninsula and Stellenbosch. The geographical distribution of sentinel practitioners within the catchment area can be considered adequate to provide a patient sample of varying socio-economic status. However, participating general practitioners differed from a randomly selected group in a number of ways. They were more likely to be young, female, qualified in family practice and in solo practice. A similar trend was found in the Ambulatory Sentinel Practice Network of North America (ASPN).[19] The under-representation of graduates from Afrikaans-language universities can be attributed to the fact that SASPREN doctors were recruited mainly from the membership list of the Academy of Family Practice, which enjoys stronger support among English-speaking general practitioners.

The network should attempt to obtain a more representative sample of practitioners in the future. Whether complete representativeness is achievable remains doubtful, as doctors who voluntarily participate in research tend to be atypical and this constitutes a potential source of bias. Current evidence does not, however, enable us to determine with any certainty whether the above differences have influenced the results of this study. Future research should explore this possibility.

We wish to express our sincere thanks to the following sentinel practitioners without whose participation this survey would not have been possible: A. Moosa, R. Friedman, N. A. Parker, R. Lalkhen, A. Q. A. Surve, K. L. Eksteen, S. Lison, M. M. Cohen, P. M. L. Herbert, A. Steinberg, L. Berkowicz, S. Bulley, D. A. Hellenberg, A. Engelbrecht, M. R. de Villiers, A. Lombard, S. Levenstein, R. P. D. Kessow, N. J. David, E. J. Evans, G. Parr, F. Christians, P. G. Krige, A. Mitha, F. L. Songca, S. E. I. Moosa, L. Geffen. Financial support from the Kaiser Family Foundation (California) is gratefully acknowledged.

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Accepted 13 Feb 1995.