The Prescribing Practice of Primary Health Care Physicians in Riyadh City

F. M. Felimban


The prescribing habits of physicians in primary health care centres were studied to assess the contents of prescriptions and the extent to which attempts were made to educate the patient about the prescribed drugs. The study involved six physicians at three primary health care centres in Riyadh city, and 1090 consultations, over a 4-week period. The prescribing rate was assessed, also the weighted scores of contents of the issued prescription, and whether an effort was made to educate the patient or not. Overall 85.3% of the examined patients were issued with prescriptions. On average each prescription contained 1.7 therapeutic items. Of those prescribed 96% were available within the essential drug list. The prescription content score was generally unsatisfactory. A drug generic name was used in 8.5%; in 78% tablet numbers were used to quantify the recommended dose and an inappropriate treatment course was detected in 8.7% of the examined prescriptions. The education of the patient about the prescribed agent was limited. Important areas like drug side-effects and possible interactions were more likely to be ignored than discussed during consultations. Most consultations at primary health care centres resulted in a prescription being issued. The content of the prescription needs further improvement, the issuing of drugs by their generic name and the usage of the standard international units to determine the recommended dose require more emphasis. The potential for patient education in relation to commonly used pharmaceutical products is being missed in the primary health care setting.

Drug prescribing is one of the important activities that medical practitioners perform daily often in order to relieve doctors from the burden of diagnosis.1 Prescribing in primary health care is unique. As many patients can present with benign, self-limiting, or non-specific illness, quite often management decisions are taken without diagnostic confirmation, and occasionally practitioners are...
compelled to prescribe for social reasons, and a
prescription can be used as a disengaging device.\textsuperscript{2,3}
Moreover, the problems of non-compliance and
disperition are likely to be exacerbated.

Centres involved in this study were selected by a simple
random method from the list of centres located within
Riyadh city boundaries. They serve different catchment
areas.
increase the patient’s understanding of the prescribed agents. Examples were the expected side-effects, drug interactions, when to expect a response, conditions calling for discontinuation of the treatment and urgent consultations. This type of information was either discussed with patient or not. The collected data were analysed, and frequency distribution tables were constructed. The prescribing rates were defined as the number of prescriptions written during the study period multiplied by 100 divided by the total number of consultations during the same period. The monthly prescribing rate per doctor was estimated by dividing the total number of prescriptions, items over the number of the participating physicians. The χ² test was used to investigate the differences between the prescribing habits of physicians in the studied centres.

Results

A total of 1090 consultations were witnessed during the study period, of which 360 (33%), 350 (32%) and 380 (34.9%) were in the first, second and third centres respectively. Of the total patients 69.5% were males and 30.5% were females; 72% were Saudi, children below the age of 10 years of age represented 33.6%, while elderly (over 60 years of age) formed 6.5% of the examined patients. The proportions of the consultations which resulted in the issuing of prescriptions were 86.7%, 90.9% and 78.4% in the three centres (Table 1), and the differences were statistically significant (p<0.001). The total number of the prescribed items was 1580. An average consultation ended with at least 1.7 prescription items. Of the drugs prescribed 1338 (84.7%) were initial items and 242 (15.3%) were items repeated mainly for chronic conditions such as diabetes mellitus and hypertension. Of the prescribed agents 96.4% were procurable from the essential drug list and in only 3.6% patients had to purchase them from commercial pharmacies. Table 2 shows that of the total drugs prescribed, 51% were symptomatic, 18.9% were curative, 15.6% were supportive and 14.4% were intermediate agents. From the pharmacological point of view, analgesics (28%) antibiotics (18.9%) and antitussive agents (17.7%) were the most commonly prescribed agents, while the least frequent were hypoglycaemics (1.3%) and bronchodilators (1%). A statistically significant difference (p<0.0001) was detected between physicians in the three centres.

When the prescription contents were examined (Table 3) the median content scores were 9 (range 4–15), patient identifiers such as name, age, and file numbers were recorded in nearly all (98.7%) prescriptions, while the diagnosis was documented in 87.3%. The drug generic name was used in 8.5% of the examined prescriptions and drug tablet numbers were used to quantitate the dose of the prescribed agents in 83.1%, while in 16.9% the recommended dose was stated using the international standard units. The frequency of drug administration was documented in 58.9% of the examined prescriptions but was absent in 41%. Occasionally (8.7%) an inappropriate duration of the treatment course was detected.

In relation to patient education (Table 4), it was found that 36.2% of those who received prescriptions, were informed verbally about the frequency and route of administration of the prescribed agent. Facts relating to side-effects and interactions with dietary constituents and other drugs were discussed with 4.3% of the patients. Measures to be taken if an undesirable response developed, or situations calling for treatment discontinuation and urgent consultation were described or discussed with only 2.2% of patients.

Discussion

The supply of essential drugs to the community based on their actual needs is an important element of a primary health care programme.\textsuperscript{18} The prescribing rates estimated by the present study range between 10.2 and 11.8 prescriptions per patient per year. The figures are difficult to interpret in national terms but it is greater than that reported for New Zealand (8.5), Australia (7.7), the UK (7.0) and Sweden (4.7), and lower than that of the USA (16.6).\textsuperscript{2} Variation in prescribing rates observed between centres have been documented by others,\textsuperscript{19} and can be accounted for by differences in morbidity patterns, social perceptions toward illness and the clinical skills and experiences of health professionals. High prescribing rates may signify that doctors prescribe drugs too readily. The implications of writing prescriptions for nearly all the patients in health and economic terms are enormous.\textsuperscript{4} Furthermore, the reason for prescribing should be discussed

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<th>Table 1: The presenting pattern in different centres</th>
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<td>Venue</td>
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χ² = 23.26  \( p < 0.001 \)
with the receiver. The average number of drug items per prescription per patient per consultation reported here (1.7) is greater than the average reported for developed countries,²⁰ but lower than that cited by Al-Nasser (2.3) and Sebaie (3.0).²¹,²² This apparent reduction in the number of the prescribed items per prescription per consultation may be attributable to several factors including the awareness of the general population about the hazards of drugs in general and polypharmacy in particular, the growing interest of health professionals in the quality of their prescribing performance and the presence of the essential drug list. Unfortunately our knowledge about prescribing behaviour prior to the essential drug list era is limited. Therefore a large cross-sectional survey is needed to assess the long-term effect of that list on the prescribing practice of primary health care physicians.

The individual style of writing prescriptions is usually reflected most accurately in the initial prescriptions,²³ and as 84% of the total prescriptions were initial items, one could anticipate that the results obtained represent the actual prescribing behaviour of the recruited physicians. Thus, the difficulties discovered may help in

defining the short- and the long-term objectives of any educational programme aimed at optimizing the quality of prescribing. On the other hand, the 15% of repeated items and the previously documented changes in the dynamics of the Saudi population,²⁰ can allow us to forecast the probability that repeat prescriptions will become a sizeable problem for prescribers. As such, efforts should be made to monitor that activity. Future work is needed to determine the current magnitude of repeat prescribing and different techniques available to monitor it. Overall, symptomatic treatment is a major cause of prescribing. This practice reflects the practitioner’s attitude and approach to illness, which may increase patient expectations, and impose a great economic burden on the health services. Therefore, it may be necessary for practitioners to consider critically when and what to prescribe, when to consider non-pharmacological alternatives, and how to modify the help-seeking behaviour of their patients.

The habit of writing drugs using their generic
sources. That will ensure consistency of purity and bioavailability, and may reduce the cost of the prescribed agents. The small proportion (4%) of drugs obtained from commercial pharmacies, reflects the positive impact of the essential list programme on drug availability within the centre. Other important areas in prescribing worthy of attention are the lack of use of standard units of the prescribed drug to state the dose, and the occasional inappropriate treatment course such as antihypertensive drugs used as a therapeutic trial for 3–7 days. This observation implies that there is a need for periodic continuous educational activities to update practitioners’ knowledge about pharmaceutical products. Several methods have been proposed to achieve such objectives. Furthermore, the presence of a national prescription pricing committee, who monitor dispensed prescriptions, and provide regular feedback to the practitioners about their current prescribing behaviour, would allow comparison with other centres and with standard national figures, and it would permit primitive but useful quality judgements to be made. Such a scheme would maintain the consciousness of prescribers about their performance, and strengthen the desire to improve it.

This study revealed that sharing information about drugs with patients is limited. Important issues like drug interactions and possible undesirable effects were likely to be omitted, as only 4.3% of patients were given the privilege of receiving this knowledge. Several factors including patient education.

The presented data and the high prescribing rate discovered reinforce the need for a comprehensive revision and scrutiny of prescribing behaviour. The observed defects pinpoint areas to be addressed in any educational activities aimed at encouraging more rational prescribing. Conventional channels for updating practitioners’ knowledge of the range of drugs available should be encouraged, and periodic amendment of the national essential drug list should be promoted taking into consideration the prescribers’ comments and opinions.

References

8. McCarthy M, Wilson-Davis K, McGavock H. Relationship