COLLEGE OF FAMILY PHYSICIANS SINGAPORE

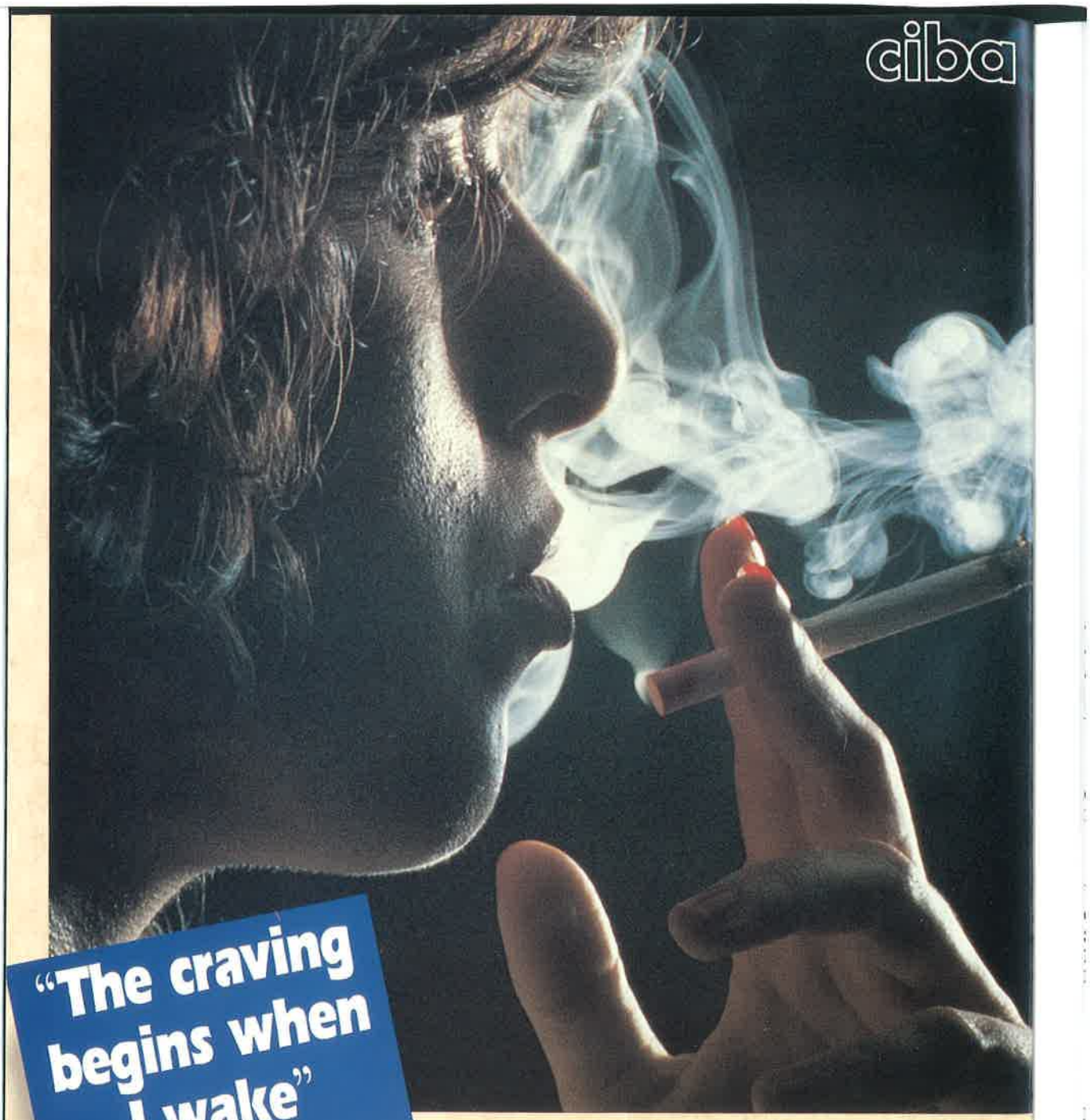
The SINGAPORE FAMILY PHYSICIAN

PSYCHOLOGICAL MEDICINE

- Insomnia
- Depressive Illness
- Anxiety Related Disorders

ISSN 0377-5305

Vol. XX NO. 2
Apr/Jun 1994



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The Singapore Family Physician

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Vol XX No. 2 April / June 1994 M.I.T.A (P) NO. 147/01/94
Price to Non-Members S$7.50

CONTENTS

Page

EDITORIAL

RESEARCH IN FAMILY MEDICINE – The Crux of the Matter

It was a busy Saturday morning clinic in January. Mdm F, a regular patient in her sixties, came in complaining of weakness of leg muscles on climbing up the school bus. She was previously very healthy, and only noted this weakness when she accompanied her Primary One grandson to school. To cut a long story short, Mdm F had proximal muscle weakness secondary to polymyositis. An extensive search for underlying malignancy yielded a Duke's class A carcinoma colon which was successfully resected. The family physician who first saw her thought that this was interesting and uncommon, and there was a lesson to learn from the experience, but he did not go further besides recounting the story to colleagues.

All of us who are in active clinical practice will come across many such cases which are interesting and unusual. If these are documented and disseminated, more will benefit from the experience. Afterall, we know that "to study medicine without textbooks is to sail in uncharted seas; (but) to study medicine without patients is not to go to sea at all' (Sir William Osler). A case study such as this is one type of research that any practising family physician can do, that is close to the heart of "people medicine", as opposed to basic research involving the unravelling of genes and molecules. It is no less important than what is traditionally viewed as research, as each serves to increase knowledge in different spheres, and is targeted at different audiences.

What is involved in the writing up of a case study? It is necessary to document the clinical progress as completely as possible, including the investigations and outcome. A search should then be made of the literature, to see how common is the condition under study, what are the similarities and differences in the previous cases reported, and what lessons can be learnt. It should then be written up and submitted to a suitable journal, such as the Singapore Family Physician, for publication.

Case studies are not the only type of research that family practitioners can do, though it is the simplest. A step more sophisticated will be the writing of a review paper. This can have its beginning in any setting. Over coffee and talking shop, one may be baffled by why some patients keep coming back for treatment of recurrent urinary tract infection, while others do not, and what to do about it. This can lead to a search of published literature to see if there is any known difference between patients prone to recurrent UTIs and those who are not, and what is the current "state of the art" regarding management of this problem. The knowledge gleaned from the search can be shared with other practitioners by writing a review on this topic and having it published in a journal.

From here, there is no limit to further research that family practitioners can do. Take the case of recurrent UTIs, for example. Most of the published literature comes from the West, and known risk factors include diaphragm use, which is not common in this part of the world. Are there any local risk factors that make patients more susceptible to recurrent UTIs? This is the beginning of the formulation of the "research question" that is so much talked about in the articles on research. In order to answer the research question, one can then conduct a research project. It need not be on a large scale, initially. Just a case series study to observe any differences between the patients who have recurrent UTI and those who do not. One can then go a step further to control for certain factors,

for example to look only at those who use barrier contraceptives. And this can go on and on .....

Research in Family Medicine is a wide open and as yet largely untapped field. Not much is known about many areas in Family Medicine, which is still considered a "new kid on the block". There is a great need to document what is done, how it is done, why it is done in a certain way, what is the outcome; the special aspects in ambulatory care, from the type of patients to the disease pattern to management strategy, etc. What is needed are enthusiastic individuals, keen to build up a core knowledge in the fast expanding discipline of Family Medicine, rewrite some of the traditional textbooks with input from the new knowledge gleaned from research, and firmly establish Family Medicine as a specialty in its own right.

The rest, as they say, are details. Details of learning research methodology, of overcoming barriers of lack of time or resources, of the fear of rejection of one's writings. This is not to understate the difficulties that one embarking on research will encounter, but to emphasise the point that if the basic motivational factor of interest is present, then much can be done in overcoming difficulties. There are always avenues of assistance available locally, from the academic department of Community, Occupational and Family Medicine in the National University of Singapore, to the College Research Committee, and fellow family practitioners experienced in research.

With the establishment of the undergraduate and postgraduate programme in Family Medicine, research has emerged as an important impetus to further the development of Family Medicine in Singapore. Practising family practitioners are the persons best suited for conducting research in this area, and we look forward to the next horizon of contributing to an increase in knowledge unique to ambulatory patient care.

Dr Hong Ching Ye

SLEEPLESS IN SINGAPORE

Sleep, for God's simpler creatures, is as natural as night following day. For the modern man in the industrial age, it is sometimes a luxury and sometimes an elusive state of mind. Modern society requires men to work when they should sleep and to sleep when they should be awake. Our diet contains many substances that alter our wakefulness. Caffeine and alcohol have become ubiquitous in the diet of modern men. The idea of popping a pill to solve all our physiological problems has also taken root in our thinking. More dangerously, some have come to expect that modern medicine should be able to sustain mankind in a perpetual state of blissful existence. Drug abuse is perhaps an extreme form of such a philosophy. Many patients therefore have unrealistic expectations of their sleeping pattern and equally unrealistic expectations of what can be done to solve their perceived problem.

Indeed the problem of disordered sleep, in the vast majority of cases, is a problem of perception. Exceptions such as sleep apnoea and narcolepsy are uncommon. Paul Freeling wrote that he noticed that symptoms are often reported in the typical "grammar of insomnia"; children *won't* sleep; I *can't* sleep; and the elderly *don't* sleep. We must also remember that a symptom of disordered sleep is just that, a symptom. Like fever, headache and dyspnoea, it alerts us to a problem and should not be mistaken as the problem itself. Making the symptom go away usually does not solve the problem. The main causes are psychological and related to the stress of daily living in a hostile environment. However, we must not forget that symptoms relating to sleep may be brought on by organic illnesses which we normally do not think of as sleep disorders. Paroxysmal nocturnal dyspnoea in cardiac failure, night coughs in asthma, nocturia in diabetes mellitus and prostatism are but some examples.

We should not medicalise sleep as it is largely a natural, physiological process. On the other hand, we should not trivialise the problems of those who have lost the natural rhythm of sleep and wakefulness. We should not dismiss them as the mere failings of weak minds that are unable to cope with stress. Sleep disorder is a very complex and diverse problem. Not all patients who have disordered sleep can be dismissed with a prescription of hypnotic. Surveys have shown that insomnia is the most frequently reported reason for starting a person on benzodiazepines. However, the majority of chronic insomniacs suffer from anxiety and / or depression and should be treated in that context. Iatrogenic sleep disorder in the form of hypnotic drug addiction is perhaps the most avoidable and the most difficult problem to treat. In the United Kingdom, it has been found that 12% of the elderly (aged 65 and above) are regular users of benzodiazepines. We know that sleep requirement naturally decreases with age and that depression and organic illnesses that may affect sleep are more common in the elderly. It make us wonder how many of our own elderly patients are being given benzodiazepines for the wrong reasons.

As family physicians we should realise that a proper sleep history is often crucial in identifying the problem and obtaining a satisfactory solution. We should be familiar with and know how to advise patient on good sleep hygiene. We should familiarise ourselves with the many diverse conditions that may present as a problem of sleep. We must be proficient and circumspect in the prescription of medication. Most important of all we must be able to put all these in the perspective of our patient's daily life and our community's expectation.

Dr Lee Kheng Hock

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THE COMPLAINT OF INSOMNIA: SELECTED CASE HISTORIES

R Mahendran, MBBS, DPM, M Med (Psych), FAMS

SUMMARY

The diverse aetiologies underlying the symptom of insomnia makes it crucial that the individual sleep problem be understood clearly. An accurate diagnosis is important in the management.

The case histories described present with the common complaint of insomnia. They reveal the importance of the history and questioning around the symptom for purposes of gathering information.

Key words: Insomnia, aetiology

"I cannot sleep" is a common complaint. Studies overseas and in Singapore have shown an incidence of insomnia of approximately 30%[1]. A 1979 Gallup poll survey in America showed that 95% of the adult population had experienced insomnia[2].

But its management is neither simple nor straightforward because the aetiologies of an insomnia diagnosis are diverse and often multifactorial. Coleman et al assessing 5000 patients at a sleep disorders centre found that psychiatric disturbance was responsible for an estimated 35% of diagnosed cases[3]. See Table 1. It is important not to treat the insomnia complaint symptomatically but instead to carefully evaluate and determine the primary contributing factors, whether medical, psychiatric, psychosocial or pharmacologic.

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Tale 1: Causes of Insomnia

Psychological Factors
Stress, psychopathology, nightmares, inactivity, reinforcement for insomnia.

Physical Disorders
Periodic movements during sleep, restless legs, gastro-oesophageal reflux, sleep apnoea, fibromyalgia, arthritis, chronic pain, cardiac problems.

Substances
Caffeine, nicotine, alcohol, hypnotics, tranquillizers, prescription medications, substances of abuse.

Circadian Rhythm Problems
Shift work, jet lag, delayed sleep phase syndrome, advanced sleep phase syndrome.

Poor Sleep Environment
Noise, ambient temperature, light sleeping surface, bed partner.

Poor Sleep Habits
Extended time in bed, naps, irregular schedule, bed as a cue for arousal.

The following cases are described because they reflect some of the diverse aetiologies and presentations of the insomnia complaint.

CASE 1

KR, a 35 year old housewife, was referred for frequent complaints of inability to sleep for the last two years. She complained of giddiness and headaches during the day and attributed it to insufficient sleep. KR related that her symptoms began two years ago when she pulled out a grey hair. She remembered that her head hurt after that and she felt giddy and began to experience difficulty sleeping soon after.

At the interview it became clear that she had symptoms of anxiety. She had psychological symptoms of fear and repetitive thoughts and physical symptoms of giddiness and headache. Her husband described her as a loner, not sociable and the worrying type. Her husband was busy with long hours at work and her two teenaged children were busy with school and their own activities.

A diagnosis of Anxiety Neurosis with secondary insomnia was made. KR was provided basic information about sleep and sleep hygiene. A cognitive behavioural approach was used for her symptoms of anxiety and included relaxation training to help induce sleep and to help her function effectively during the day. She was also started on anxiolytics.

CASE 2

LBS, a 55 year old teacher and a bachelor, was referred to the Sleep Clinic for complaint of insomnia for ten years and the referral stated he was otherwise well and had no worries or problems. LBS related that he slept from 3 am to 6:30 am and sometimes did not fall asleep till much later. He occasionally napped in the day if he felt tired.

The history was interesting. When questioned about what time he actually went to bed and the activities prior to sleep, LBS said that he usually only got to bed at 3 am because he had to complete a lot of tasks. He spent his evenings and nights marking his students' books and he would repeatedly check what he had marked, sometimes as often as each book three times. When he was finally satisfied there were no errors in his marking, and preparations for next day's lessons were completed, he would bathe. This would take him about one and a half hours as he would repeatedly wash each part of his body. When he finally got to bed he would ruminate about the day's activities and the next day's plans. He had various checking rituals throughout the day. He also revealed that he had recently started to drink beer a few times per week to "help" him fall asleep.

The diagnosis was Obsessive Compulsive Disorder with secondary insomnia. The interview also indicated features of a compulsive personality i.e. conventional, serious, perfectionist with excessive devotion to work and productivity[4]. The symptoms were discussed with him and treatment explained. But he felt a hypnotic alone would solve the problem. He was started on clomipramine for the obsessive compulsive disorder and behaviour therapy to deal with the rituals and obsessional symptoms.

CASE 3

ST, a 38 year old housewife, was referred for complaint of insomnia off and on for many years. She had complained that the medicines that she was taking were "losing their effect". ST related that her sleep difficulties usually occurred when her husband was away on business trips. She would sleep lightly, awake at the slightest noise, repeatedly check the doors and pace about the flat at night.

It was evident that her sleep disturbance was related to her husband's absences and careful enquiry revealed that her husband had told her he was having an affair and he had not terminated that relationship. Each business trip to her meant he was with his mistress.

The patient was upset by the whole situation and particularly so when the husband was away. Her husband also frequented prostitutes and the patient had recurrent Herpes Simplex infections. She also had an underlying fear that she might have AIDS.

In this case the marital problems were a stressful stimulus causing an Adjustment Sleep Disorder.

Quite often a stress or temporary disturbance in the person's life can mark the beginning of a long chronic disorder. But there are no studies to actually indicate what percentage of patients with chronic insomnia begin with these sort of problems. Hence prompt evaluation, judicious use of hypnotics for a short period and supervised discontinuation of the hypnotics is important. In addition, psychological support during the period of stress with cognitive therapy and coping skills to help the individual handle the stress are necessary. Also provided were measures to improve sleep hygiene, reduce performance anxiety related to sleep and in this case, marital counselling.

CASE 4

CHL, a 44 year old manger, was referred to the Sleep Clinic for complaints of interrupted sleep and daytime sleepiness. History revealed that he spent long hours at work, his evenings entertaining clients and in mahjong games. He consumed alcohol usually beer almost every night, a lot of coffee during the mahjong games and he smoked heavily. He would usually go to bed after 2 am and over the last few months awoke two to three times at night to micturate.

He claimed this had been his lifestyle for many years but over the last six months he was becoming increasingly sleepy during the day and had to regularly nap at lunch-time. He also complained of increased thirst and polyuria and he had lost weight.

It was clear that the patient had to be evaluated for an underlying medical problem, in this case, diabetes. He was counselled on sleep hygiene measures, in particular his daily activities, irregular sleep schedule and the use of products that interfere with sleep. Alcohol may induce drowsiness but often leads to fragmented sleep and abrupt awakenings later in the night. Nicotine is a stimulant that tends to increase sleep latency. His sleep requirements and the changes with age were discussed.

CONCLUSION

Insomnia exists as a symptom, not a disease or a diagnosis. A thorough history and physical examination are important and necessary to determine the aetiology of the insomnia complaint and to address all of the contributing factors.

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PRIMARY CARE PSYCHIATRY: I. DEPRESSIVE ILLNESS

T Burke, MBChB, MRCPsych, DPM

SUMMARY

The annual prevalence of psychiatric illness in primary care is substantial (10 - 15%). The majority constitutes neurotic disorders, only 5% is psychotic in nature, half is chronic with a duration of more than one year, and only 5% comes to the attention of psychiatrists. Depressive illness predominates, followed by anxiety-related disorders and adjustment reactions. Physical illness and psychiatric illness may co-exist but psychiatric diagnosis should be made on positive psychiatric grounds and not by more exclusion of physical illness. The recognition of milder and atypical depression is particularly relevant in a primary care setting, while panic disorder is increasingly recognised as a distinct entity and common cause of chronic psychiatric morbidity. Drug therapy needs are best met by close familiarity with a limited number from the wide range of drugs currently available, and the commonest causes of poor therapeutic outcome are compliance failure or inappropriate dosage schedules.

INTRODUCTION

Psychiatric morbidity constitutes a substantial proportion of patients attending primary care physicians. While at individual patient level this is the cause of considerable anguish and unhappiness, disrupting the quality of personal and family life, at national level it contributes to decreased productivity through lost work days and impaired work efficiency. Between 10-36% of patients attending primary care physicians have demonstrable psychiatric disorder[1,2], and the majority are depressive or anxiety-related illness. The overwhelming bulk of psychiatric morbidity seen in general practice constitutes neurotic disorders, only 5% is psychotic in nature; half of the morbidity is chronic, with a duration of more than one year, and only 5% of it ever comes to the attention of psychiatrists[3]. A corollary of this is that psychiatrists see only the tip of the ice-berg of psychiatric morbidity, the most severely ill and protracted forms of psychiatric illness, and unrepresentative of the majority of psychiatric patients treated in general practice. Since psychiatrists write about what they see, a further corollary is that psychiatric textbooks deal largely with a hospital-based psychiatric population that does not necessarily reflect the psychiatric problems commonly seen in primary care. To cite a specific example, in the standard British psychiatric textbook "written primarily as an introductory textbook for trainee psychiatrists, and also as an advanced textbook for clinical medical students", the chapter on affective disorders is 50 pages in length, but only 31 lines are devoted to mild depressive disorder[4].

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PREVALENCE

The annual prevalence of depression in general practice is in the order of 10%, and while most of these are mild it is estimated that 1 in 20 persons will have a moderate to severe depressive episode. Severe depression affects 3-4% of the population, but only one fifth of this group seek medical treatment. In addition, recent studies have

demonstrated failure to identify between one third and one half of those patients with emotional disorders, and figures as low as 3.5% of total morbidity have been described[5]. Several reasons may account for this low detection rate. Patients, particularly those in the lower socio-economic group, may experience difficulty in expressing emotional problems. They are more likely to present with somatic complaints. This phenomenon of somatisation occurs more frequently than in western countries, and cultural factors as well as socio-economic ones play an important role. Co-existence of genuine physical illness may overshadow an underlying depression. The prevalence of depression in the genuinely medically ill has been estimated at between 20% and 30%[6]. The commoner physical causes of depression are shown in Table 1. Anxiety symptoms are present in up to 70% of depressed patients, and unless the possibility of an underlying depressive illness is considered the patient may be inappropriately treated with anxiolytics.

Table 1: Physical Causes of Depression

Neurogical Parkinson's disease, multiple sclerosis, stroke, epilepsy, dementia.
Endocrine Hypothyroidism, hyperadrenalism, hypoadrenalism.
Renal Renal failure, haemodialysis.
Malignancy Lung cancer, pancreatic cancer, brain tumours.
Rheumatological Rheumatoid arthritis, SLE.
Anaemia Iron deficiency, B12 or folate deficiency.
Infections Post-dengue, influenza and post-influenza, infectious mononucleosis, hepatitis, post-herpes.
Iatrogenic Steroids, methyldopa, reserpine, fertility drugs, beta-blockers, diuretics.
Drug Withdrawal Benzodiazepines, alcohol.

Table 2: Symptoms of Depression

Persistent low mood
Lack of enjoyment or pleasure in usual activities
Reduced energy and fatigue
Sleep disturbance - initial insomnia / early wakening
Impaired efficiency
Poor concentration
Indecisiveness
Low self-esteem and self-reproach
Irritability / tension / agitation
Appetite disturbance
Weight change
Low libido
Constipation
Amenorrhoea
Suicidal thoughts
Delusional thoughts and hallucinations occur only in severe psychotic depressive illness

CLINICAL FEATURES AND DIAGNOSIS

The symptoms characteristic of depression are shown in Table 2. Depressed mood is persistent and pervasive, sometimes described as being like "a dark cloud hanging over everything you do." Its duration and severity are disproportionate to any causes or recent stresses and typically it is worst in the mornings. Complaints of tiredness, reduced energy, and loss of interest or enjoyment in previously pleasurable activities are common. Sleep disturbance may take the forms of either initial insomnia or more characteristically early wakening with inability to sleep again. Constitutional symptoms such as loss of appetite,

weight change and constipation point to a moderately severe depressive illness. Impaired concentration may result in work-related problems, which in turn may reinforce already existing diminished self-esteem. Anxiety symptoms such as irritibility, tension or agitation may be present in more than 50% of depressed patients and should not distract from the genuine depressive core of the illness. By contrast, and particularly in more severe depressions, retardation may be present. The presence of suicidal thoughts can be elicited sensitively by questions such as "Do you sometimes feel it is all too much for you?" or "Do you sometimes ask yourself if it is all worthwhile?" A positive response to either question could then lead naturally to discussion of suicide plans.

Since the aim should be the early detection and diagnosis of mild depressive states before they reach a stage of chronicity, not all the symptoms listed in Table 2 need be present to validate the diagnosis. In milder depressive disorders the classical depressive symptoms may be present, but in an attenuated form. Biological features such as impaired appetite, weight loss and decreased libido are not usually present. While in moderate to severe depressions, mood state is characteristically lowest in the morning, in milder depression it is frequently worse in the evening. In milder depression sleep disturbance frequently takes the form of initial insomnia and periods of wakening during the night, rather than the early wakening that is more characteristic of severe depression. A range of symptoms that may be classified broadly as "neurotic" may be prominent in milder depressions. These include panic disorder, phobic anxiety, obsessional and hysterical symptoms. Over the years in clinical practice one encounters "pointers" that may indicate the presence of depressive illness, although these do not lie within the operational definition of depression. These include:

- Hypochondriacal preoccupation over symptoms without physical cause.
- Vague musculo-skeletal aches and pains around joints, "fibrositis-like" syndromes.
- Vague gastro-intestinal complaints.
- Unexplained changes in anxiety level.
- Frequent consultation without change in clinical status.
- "Difficult" patients dissatisfied with their treatment.
- Increased alcohol consumption in males.
- Sexual difficulties arising de novo.
- Marital problems arising de novo.
- Recurrent presentation of children by patient.

Atypical Depressions

This unsatisfactory term has been applied to a heterogeneous group of patients suffering from eating disorders, psychosomatic disorders and chronic pain syndromes such as atypical facial pain. Although they do not conform to the operational definition of depression and there is no characteristic mood change, they respond to antidepressant medication. Such patients are sometimes described as suffering from "masked depression." Because of the atypical nature of their illness they are probably best treated in a specialist setting and should be referred to a psychiatrist.

INDICATIONS FOR PSYCHIATRIC REFERRAL

- The presence of psychotic symptoms such as delusional ideas or auditory hallucinations.
- The presence of a recognised suicidal risk.
- When the diagnosis of depression is in doubt.
- Resistance to adequate antidepressant treatment.
- Significant weight loss despite treatment.
- Refractory insomnia.

DIFFERENTIAL DIAGNOSIS

While in moderate to severe depressive illness there is usually little difficulty in diagnosis, in milder forms which constitute the majority of cases seen in primary care the issue is less clear cut. Anxiety symptoms may be more prominent than affective ones and questioning should be directed towards areas such as early wakening, loss of interest, low energy level, and changes in body weight and appetite.

The Persistent and pervasive quality of depressed mood, as well as failure to respond to previously pleasurable activities, point to a depressive aetiology. Similarly, up to 50% of mildly depressed patients may present with somatic complaints and attention should be paid to the overall clinical picture. The disruptiveness of the symptoms in the quality of the patient's life, relative to the objective lack of physical signs provides a clue to the underlying depressive disorder. Adjustment disorders associated with a recent stressful event may be difficult to distinguish from a mild depressive illness, since sleep disturbance, appetite change and impaired concentration may be present in both. Reactivity to pleasant stimuli and responsiveness to reassurance in those patients with clearly identifiable stressors suggest the likelihood of an adjustment disorder. In difficult cases however, it may be necessary to follow a pragmatic course with a therapeutic trial of antidepressant medication.

TREATMENT OF DEPRESSION

The management of depression involves both physical and psychological aspects of treatment, each of which has an essential role. Antidepressant medication obviously has a greater role in moderate to severe depressions, while in milder depressions psychological intervention through reassurance and problem solving may suffice.

PHYSICAL TREATMENT

Antidepressants

Antidepressant medication has been available since the late 1950's and when prescribed in appropriate situations and in the correct dose, provides an effective and safe method of treatment. In recent years many non-tricyclic antidepressants have been introduced, but none has shown consistently better therapeutic efficacy than the original tricyclic antidepressants, they are more expensive, and less predictable in therapeutic effect. There are currently more than 15 different antidepressant drugs available in Singapore, but the primary care physician's requirements are probably best met through close familiarity with one or two well established tricyclic antidepressants, (Table 3). One disadvantage is the anticholinergic side-effects (dry mouth, sweating, constipation, orthostatic hypotension, visual blurring on close objects), which may account for covert compliance failure in up to 40% patients during the first month of treatment. However these are dose-related and usually are better tolerated as treatment progresses. Patient acceptance is increased by the physician indicating at the outset that these side-effects will occur, that they are completely reversible on discontinuing the drug, and that they are harmless. Drowsiness may be experienced during the initial 36 hours of treatment, and the patient should be advised of this, but reassured that it will recede after the first day or two. Even with adequate dosage the onset of therapeutic efficacy is delayed for 10 to 21 days, and the patient should be informed that he may not experience significant improvement until he has been taking the medication regularly for 2 weeks. The importance of counselling the patient about side-effects and delay in therapeutic efficacy cannot be over-emphasised to overcome the risk of patient drop-out.

Table 3: Tricyclic Antidepressant Drugs

			BLOCK FOR AMINE PUMP	
DRUG	SEDATION	ANTICHOLINERGIC EFFECTS	5-HT	NA
Imipramine	++	++	++	++
Amitriptyline	+++	+++	+++	+
Desipramine	+	+	0	+++
Nortriptyline	++	++	+	++
Doxepin	+++	+++	Weak	Weak

Note: The following potential drug interactions with tricyclic antidepressants:

Guanethidine, methyldopa, Clonidine	– Reduction of antihypertensive effect
L-Dopa	– Reduction of L-Dopa action
Local anaesthetic	– Potentiates adrenaline - caution!
Oral contraceptives	– Antidepressant action reduced

Treatment should commence with 25 mg of an antidepressant from Table 3 taken after dinner, then increased over the next 2 to 3 days to 75 mg in a single nightly dose. This dosage should be adequate for most moderately depressed patients, but could be increased by 25 mg increments up to a maximum of 125 mg in more severely depressed patients. The most severely depressed patients who would require more than this should be referred for specialist treatment. Some clinical improvement will be noticed after 2 weeks, but treatment should continue on the same dosage for 3 months to prevent relapse. If there has been no improvement after 3 weeks on a nightly dosage of 75 mg, the most likely reason is that the patient has not been taking the medication regularly, if at all. Milder depressions may respond to a lower dose of tricyclic antidepressants such as 50 mg nightly, but this represents the minimal effective therapeutic dose.

In order to minimise suicidal risk, only small quantities of anti-depressants should be prescribed at any one time, and in any event the patient should be seen at weekly intervals during the early phase of treatment, so that bulk prescribing is unnecessary. There is evidence suggesting that monoamine oxidase inhibitor antidepressants may be more effective in certain atypical depressions, but the treatment of these conditions would be more appropriately dealt with by a psychiatrist.

Anxiolytics

In general, anxiolytic drugs are best avoided in the treatment of depression unless anxiety symptoms are intolerable. They tend to exacerbate drowsiness experienced from antidepressant medication, and further impair concentration already diminished by the depressive illness. If the severity of concomitant anxiety necessitates an anxiolytic, then diazepam 2 mg three times daily or lorazepam 0.5 mg twice daily should suffice. Benzodiazepines should not be prescribed continuously for longer than 3 weeks because of the risk of dependence, and at the end of 3 weeks should be tapered off gradually over a 7 day period.

Hypnotics

Sleep disturbance in the form of early wakening is a troublesome symptom during early stages in the treatment of depression and may require a hypnotic. Short acting benzodiazepines such as midazolam ("Dormicum") are ineffective against early wakening and should be avoided. Flurazepam ("Dalmadorm") 15 mg is effective, as is nitrazepam ("Mogadon") 5 mg, although the latter is often associated with an unacceptable "hangover" effect. As with anxiolytics, the risk of dependence emerging is a real one, and hypnotics should not be prescribed continuously for longer than 3 weeks. A good working rule with benzodiazepines is that the risk of dependence is greater with short-acting members than with long-acting ones, and that great caution should be exercised in prescribing short-acting benzodiazepines.

PSYCHOLOGICAL TREATMENT

This forms an essential component in the treatment of depressive illness of any degree of severity. At the most basic level it may consist of little more than empathic attentive listening and reassurance to the patient that his complaints are understood. The consultation must be unhurried, and at the outset unless the physician feels that he can comfortably set aside enough time then a decision should be made to refer the patient to a psychiatrist. With milder depressions, reassurance and a problem-solving approach to current difficulties will be helpful. In moderate to severe depressions the patient requires assurance that he is not going insane, and that with appropriate treatment a complete recovery can be anticipated within a reasonable time. At this stage counselling about the nature and reversibility of drug side-effects, as well as the time-lag of 2 weeks before drug efficacy is evident, is time well spent if drop-out is to be avoided.

During the past decade a method of psychological treatment known as cognitive behavioural therapy has been developed. In mild to moderate depressions this has been shown to be as effective as antidepressant medication, but the method is time-consuming and out of the range of primary

care treatment. It might be appropriate for those patients who are unwilling to consider antidepressant medication and such patients should be referred to a psychiatrist for assessment as regards their suitability for this form of treatment.

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PRIMARY CARE PSYCHIATRY: II. ANXIETY-RELATED DISORDERS

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INTRODUCTION

Anxiety is a universally experienced phenomenon as normal response to threat or stress which phylogenitically has survival value. It tends to improve performance, and only when it is excessive does performance deteriorate. Anxiety may also be found as a personality trait, at least in part genetically determined, and which predisposes an individual to a life-long tendency to be anxious and worried. In extreme cases such individuals are described as suffering from anxious personality disorder. Anxiety may also be present as a symptom of a seperate psychiatric disorder such as depression, schizophrenia, or organic disorders. The anxiety in such instances is a secondary phenomenon, and treatment should be directed to the primary psychiatric disorder. Anxiety may also form the basis of distinct anxiety disorders, state anxiety as opposed to trait anxiety. These anxiety disorders may be classifies into 3 groups:

1. Generalised anxiety disorder
2. Panic disorder
3. Phobic disorders

GENERALISED ANXIETY DISORDER

Previously described as "anxiety neurosis", the symptoms are both psychological and physical, it affects about 5% of the population and occurs twice as frequently in females as in males. However many patients who were previously described as suffering from "anxiety neurosis" are now regarded as having panic disorder. Psychological symptoms include a sense of fearful anticipation (frequently based on groundless worries), irritibility, sensitivity to noise, feeling keyed up and on edge, an exaggerated startle response, and a sense of physical restlessness.

Concentration is often impaired, resulting in forgetfulness that may be regarded as poor memory. Sleep disturbance in the form of initial insomnia is common, with wakening during the night associated with a startle response, but early wakening as in depression is less common and would suggest that diagnosis.

Physical symptoms result from autonomic hyperactivity and include: palpitations, dry mouth, shortness of breath, dizziness, sweating, paraesthesia in the extremities, urinary frequency, diarrhoea and sexual dysfunction. Skeletal muscular overactivity produces characteristic tension headaches, muscular aching in the neck and shoulders, easy tiredness, muscular twitching and trembling. The natural history of generalised anxiety disorder is to follow a chronic fluctuating course over many years, but unlike panic disorder there is little social impairment and there is loss of work efficiency rather than interruption. Duration of symptoms is a prognostic indicator. Patients who have experienced symptoms for less than one year have a more favourable outcome, while those with a duration of three or more years are likely to persist.

Treatment

1. Benzodiazepines

These have been used excessively and for far too long a duration in the past before the risk of dependency was recognised. About 50% of

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long-term benzodiazepine users will experience an abstinence withdrawal syndrome when they are discontinued. Benzodiazepines should not be prescribed for longer than 3 weeks without interuption, and should be tapered off gradually rather than abruptly discontinued. Longer-acting members such as diazepam are preferred and a regular dosage schedule should be avoided. They are better taken "as required", but with strict guidelines limiting frequency. This minimises the risk of tolerance emerging if they are used sparingly.

2. ***Buspirone***
   Because of the potential for benzodiazepine dependency emerging through chronic use, intensive research continues for new anxiolytics free from risk of dependence. Buspirone is a novel anxiolytic that works through brain 5-HT pathways and is claimed to be free from dependency risk. The main disadvantages are headache and light-headedness during the first few days of use, and even more disadvantageous is the fact that clinical efficacy does not become apparent until after 2 to 3 weeks of continuous usage. An appropriate dose would be 5 mg three times daily.

3. ***Beta-blockers***
   Beta-blockers find an occasional use in those patients who are troubled by palpitations and muscular tremor which has not been relieved by benzodiazepines. However they do not significantly influence the psychic component of anxiety and the usual contraindications to beta-blockers apply. A suitable dosage schedule would be propranolol 20 to 30 mg three times daily.

4. ***Tricyclic Antidepressants***
   In recent years it has been recognised that tricyclic anti-depressants have anxiolytic properties in addition to anti-depressant effect. They may have a role in those patients for whom benzodiazepines pose a dependency risk. They are at least as effective as benzodiapezines in generalised anxiety disorder and superior in panic disorder. The main disadvantage is anti-cholinergic unwanted effects and there is a delay of several days before they become effective. Amitriptyline or imipramine would be suitable given in a single nightly dose of 25 to 50 mg, subsequently reduced to the minimum dose required to provide symptomatic relief.

PANIC DISORDER

Panic disorder is increasingly recognised as a distinct nosological entity from generalised anxiety disorder and has a prevalence of approximately 3% in the population. The distinguishing feature from generalised anxiety disorder is its episodic nature, circumscribed episodes occuring unexpectedly and accompanied by severe psychic anxiety verging on panic, during which the patient feels that he may be suffering from a heart attack or will die. Many of these patients present at Accident and Emergency Units believing that they have a heart attack and in primary care settings the presenting symptoms are most commonly palpitations and tachycardia. In the past these patients were regarded as having "hyperventilation symptoms". The pathophysiological basis of their symptoms is autonomic hyperactivity and they include palpitations, tachycardia, shortness of breath, smothering sensation, chest tightness, dizziness and faintness, sweating, trembling, numbness or tingling sensations in the extremities and a sense of unreality. At least four of the above symptoms must be present during a single attack, accompanied by severe anxiety verging on panic, and in order to make the diagnosis with confidence four attacks should have occured during the previous one month. In practice, by the time that the patient presents he is usually experiencing several attacks daily. Another characteristic feature of panic disorder is the anticipatory dread the patient experiences of having a subsequent attack, which may be as disabling as the attacks themselves. This may limit the patient's occupational and social activities with avoidance of places and situations where previous attacks have occured. There is growing evidence that the majority of patients suffering from agoraphobia also suffer from an associated panic disorder.

Treatment

The objective of treatment is to bring the recurring episodes of panic under rapid control before the condition becomes chronic and phobic states develop through avoidance behaviour. Unfortunately there is growing evidence of recurrence when medication is discontinued, especially in chronic cases. This necessitates a behavioural approach in addition to pharmacological treatment. Panic attacks "feed on fear" and the patient must be taught to "decatastrophise", thus depriving the condition of the fear it requires to sustain its effect on the patient. The patient should be given a detailed explanation of the pathophysiological basis of the symptoms couched in appropriate terms. He should be taught to recognise the earliest symptoms and their significance in relation to fear and anxiety. He should then reassure himself that he is only having another panic attack, that he is already familiar with the symptoms and their sequence of development, that although the next few minutes will be uncomfortable his symptoms do not constitute a threat to life, and that his physician has excluded any organic basis for his symptoms. The technique is simple and effective, and the patient must be encouraged to practice it whenever a panic attack occurs. Because of the risk of chronicity producing secondary phobic states or depression, unless panic disorder is brought rapidly under control the patient should be referred to a psychiatrist for specialist management.

1. ***Benzodiazepines***
   The initial drug of choice is alprazolam ("Xanax") since diazepam and other benzodiazepines are less effective. Depending on the severity, treatment commences with 0.25 to 0.5 mg three times daily. This produces rapid symptomatic relief and the frequency of attacks drops rapidly within a few days. Once control has been achieved, the dose should be decreased by one half of a tablet daily every 3 days until the minimum effective dose to control symptoms has been reached. As with other benzodiazepines, the risk of dependence must be remembered and the drug should not be discontinued abruptly to avoid abstinence withdrawal symptoms. It is probably safer to regard alprazolam as "first aid" while the patient is progressing with the behavioural technique mentioned above, or until he can be switched to a tricyclic antidepressant. In general, it would be unwise to continue with any benzodiazepine in an uninterrupted dosage schedule for longer than 3 to 4 weeks.

2. ***Tricyclic Antidepressants***
   Imipramine has been found to be effective in the treatment of panic disorder and has the advantage of freedom from dependency or abstinence withdrawal symptoms. Treatment commences with 25 mg at night and continues on this dose until the patient experiences another panic attack, when he is then instructed to increase the dose to 50 mg at night. If this is insufficient the dose can be increased to 75 mg, although the majority of patients are controlled with 50 mg at night. After three to four nights and provided that there have been no further panic attacks, the dose can be reduced to 25 mg with instructions to increase again should a panic attack recur. The majority of patients can attain freedom from panic attacks on this regimen without risk of drug dependence.

PHOBIC DISORDERS

Phobic anxiety differs from generalised anxiety in that anxiety is experienced solely in relation to specific situations. The fear and anxiety are disportionate to the evoking stimulus and paradoxically the patient shows searching behaviour for the threatening stimulus in order to avoid it. These conditions are usually chronic and the degree of incapacity varies according to the type of phobia. For example, phobic anxiety in relation to snakes or rodents may cause only minor inconvenience, while severe agoraphobia may be socially and occupationally paralysing.

Phobic anxiety can be classified into three variants:

1. **Simple Phobias**
   These are merely an exaggeration of the fears common to many children and adults, such as fear of snakes, spiders, thunder, heights and flying. However the fear experienced is intense, verging on panic, and the patient usually recognises that the fear is irrational.

2. **Social Phobia**
   Here the patient becomes fearful and anxious in situations where he can be observed, or where he fears criticism. He avoids social gatherings, or when this is unavoidable hovers on the fringes where he feels unobserved.

   Restaurants pose a particular threat and the simple task of using eating utensils or drinking from a cup in public constitutes a nightmare. This condition should not be diagnostically confused with agoraphobia, for while many agoraphobic patients also experience social phobia, pure social phobic patients are not agoraphobic.

3. **Agoraphobia**
   Agoraphobic patients become anxious when they leave home, enter crowded places such as supermarkets or shopping centres, or in situations which they cannot easily leave. Many people feel uncomfortable if they are seated in the middle of a row in a cinema, and although they are not genuinely agoraphobic it gives some understanding of the discomfort that agoraphobic patients encounter daily. As mentioned above, there is evidence that in many agoraphobic patients pre-existing panic disorder has over time generated into agoraphobia through avoidance behaviour. Commonly these patients have associated depression and many also experience episodes of depersonalisation, a most unpleasant feeling of unreality.

Treatment

Phobic disorders are most effectively treated by means of behaviour therapy and these patients should be referred to a psychiatrist for assessment and treatment. Pharmacological treatment has only a minor secondary role and because of their chronic nature benzodiazepines should be used sparingly, if at all. Agoraphobic patients may require treatment for concomitant depression, but this should constitute part of the broader behavioural treatment approach to the disorder.

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INSOMNIA IN GENERAL PRACTICE

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SUMMARY

A request for a benzodiazephine for insomnia is common in general family practice. It is important that the doctor makes the effort to determine which of the 5 'P's is the cause of the insomnia in the patient — physical, physiological, psychological, psychiatric or pharmacological. The common clinical situations that the family doctor may find himself are: the young unknown patient, the self-confessed substance abuser, the patient with acute situational stress, the long-term insomniac and the shiftworker. Enough is known of the place of hypnotics in insomnia. We should prescribe them only when appropriate. We also need to be prepared to deal with the hypnotic substance abuser in an assertive and professional way. Benzodiazepines should only be used to treat insomnia that is severe, disabling or subjecting the individual to extreme distress. They should be given in the lowest dose that control the symptoms, if possible intermittently, should not be continued beyond four weeks and should be withdrawn by gradual tapering of the dose to zero in order that rebound insomnia does not occur. Short-acting agents are indicated for acute situational stress where residual sedation is undesirable or when necessary, in elderly patients. Longer-acting agents are needed when early waking is a problem and when an anxiolytic effect is needed during the day or when some impairment of pyschomotor function is acceptable.

INTRODUCTION

A request for a benzodiazepine for insomnia is common in general family practice. This paper examines briefly the causes of insomnia and describes the common clinical situations that the family doctor may find himself. It has been said that few clinical disorders have been more casually and carelessly treated than insomnia[1]. Notwithstanding the time constraints that often face the family doctor, an effort should be made to determine the cause of insomnia.

Pharmacological treatment is not always indicated. Prescription of hypnotic without regard to the underlying disturbance subjects the patient to the risk of abuse, may mask the signs and symptoms of a treatable disease, and may dangerously exacerbate an unrecognised apnoea. Furthermore, behavioural therapy, psychotherapy, or non-hypnotic drugs may be superior to hypnotic drugs when the insomnia has a specific cause as for example, instead of hypnotics use antidepressants for endogenous depression, phenothiazines or halorperidol for psychosis, phenytoin for paroxysmal nightmares and analgesics when sleep is impaired by (even subliminal) pain.

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Even when no specific pathological aetiology can be identified, insomnia may nevertheless be related to identifiable causes, such as ingestion of food or coffee near bedtime, various drugs, or a host of other factors. Only when specific causes cannot be eliminated or compensated for should a hypnotic drug be considered.

CAUSES OF INSOMNIA

There are many causes of insomnia. They can be broadly categorised as the 5 'P's — physical, physiological, psychological, psychiatric and pharmacological[2]. The sleep disturbance itself may consist mainly of difficulty in falling asleep, frequent nocturnal arousals, early morning awakening or a general dissatisfaction with the quality of sleep that is perceived as unrefreshing.

The insomnia may be transient, short term or chronic. Transient insomnia may occur in those who normally sleep well and may be due to an alteration in the conditions that surround sleep e.g., noise or intercontinental travel. Short-term insomnia is usually related to an emotional problem or serious medical illness. Long-term or chronic insomnia may be related to an underlying psychiatric disorder, especially depression, to alcohol or drug abuse, excessive caffeine intake, or to specific sleep disorders such as sleep apnoea, although in many no cause can be identified.

It is important to explain to the patient that nature does not compel the individual to sleep eight hours a day, and many persons function well on much less sleep. Sometimes simple assurance of this fact is sufficient to improve sleep or at least to decrease the concern about nocturnal sleeplessness. A relaxing activity before bedtime is often helpful.

THE PATIENT COMING AT NEAR CLOSING TIME

The scenario of a young unknown patient coming at near closing time with a request for a prescription of benzodiazepine is well known to general practitioners. A paper in the Practitioner discusses three doctors' opinions of how each will deal with a request for temazepam (Normison) by such a patient[3]. A young patient coming for sleeping pills at near closing time should make the doctor feel suspicious. Was the timing of this visit accidental or deliberate? Before going any further, a past history would have to be obtained. In particular, details of past illnesses, alcohol consumption and present or recent medication would be required.

Strategy
The doctor should be diplomatic. He should remember to use neutral language in order to avoid provoking the patient to violent behaviour, e.g. do not use words like stupid, drug, addict, stoned. Find out the nature of his sleep disturbance: look for depression, adverse home circumstances and problems in his sleep environment. Use open questions: *I would like to know more about your problem with sleeping? How are your home circumstances? Is there anything that makes it difficult to go to sleep?*

Once convinced that one is dealing with a substance abuser, the doctor has to make a decision. The wise decision is to refuse to treat such patients — partly because it is difficult to succeed, given the environment that the patient is in and partly, because one may not have the skills to do so. The ethical dilemma is that these patients are usually young and in desperate need for help. If the doctor refuses to treat him, the patient will obtain the drugs he needs somehow — either by persisting in seeing other doctors or by buying drugs on the street, the money usually obtained by breaking the law.

Should the patient's request be acceded to?
Unless the patient is intoxicated, it may be difficult to refuse to prescribe at all to someone who is desperate and possibly may be suffering from a withdrawal, as he might then be difficult to handle. One strategy is to avoid giving a prescription if at all possible. The doctor can try to explain why such a request cannot be granted, for the patient's own good. If the doctor feels that he is unable to refuse because of fear on one's own and the receptionists' safety, a compromise may have to be struck up.

Making a concession and being prepared
It is reasonable to prescribe two 5 mg tablets of diazepam to tide him through the night. Be vigilant that he may become violent: be assertive and confident. For the lady doctor, the idea of installing a panic button that is within reach may be considered. Such a button could be connected to the local police station.

THE SELF-CONFESSED SUBSTANCE ABUSER

The self-confessed substance abuser is a variation of the theme. It is important not to succumb to misplaced kindness, however much the patient may promise that he will stop his substance abuse.

Strategy
The patient should be persuaded that he be referred to the Singapore Anti-Narcotics Association. He should be reassured that he will not be prosecuted. One should try to convince him that this is the best option. Spend time to address his fears and allay

his anxiety. Give him a sense of self-worth. It is important to remember that it will be professional misconduct to profit from the misery of such patients. The doctor should,therefore always remain above board in his management of such patients.

THE PATIENT WITH ACUTE SITUATIONAL STRESS

When insomnia is expected to be transient, as in minor situational stress or jet lag, the use of hypnotic drugs may be justifiable, depending upon the assessment of the situation and personality factors. *Use drug of short half-life, limited to one to three nights.* Examples of agents to use are midazolam (Dormicum), temazepam (Normison) and triazolam (Somese).

In short-term insomnia, as when caused by grief, short-term illness, a change in occupational status, or temporary family or occupational stress, a hypnotic can be prescribed and the patient should be counselled. *Use either a hypnotic drug with short half-life e.g., temazepam or midazolam or an antianxiety drug with a longer half-life e.g. diazepam. Discontinue for at least one to two nights after one to two nights of acceptable sleep have been obtained. Treatment should not exceed three weeks. Discontinue gradually.*

THE LONG-TERM INSOMNIAC

People who present with insomnia are often naturally mildly anxious[4]. They may describe themselves as tense or prone to worrying. Often they use their nervous energy in productive ways, but they may overdo it and cause stress. Sleep cannot be expected to make up for an undisciplined or overly taxing daytime lifestyle.

Often such people will feel that they could cope better with work, responsibilities, and so on if their sleep is improved. Too much is being expected of sleep. The source of the problem is being wrongly attributed. Some patients with insomnia need to learn more about the practical management of time, people and stress than about the management of sleep. Problems of concentration and decision-making during the day may be attributable to as sleep disorder, but equally they may reflect work overload or anxiety. Irritability and other emotional reactions may have similar causes. The doctor's role in assessment is to help clarify the nature of the presenting problems. Insomnia can be a symptom as well as a cause of general difficulties[4].

The use of sedative-hypnotic drugs in the treatment of long-term insomnia is controversial. One should look for disorders manageable by psychotherapy, physical therapy, chronotherapy, or nonhypnotic drugs. *The hypnotic drug should be administered no more frequently than every third night in order to avoid adverse alteration in sleep pattern, drug accumulation and tolerance. The drug should be discontinued gradually after three to six months, or earlier*[1].

SLEEP PROBLEMS IN THE SHIFTWORKER

Over half of patients working shifts will complain of unsatisfactory sleep and daytime sleepiness, even after years of shift working. Sleep problems in the shiftworker are multifactorial. The doctor needs to remember that many adverse effects are attribute to social and domestic factors. Some who initially tolerated shift work may become unable to cope in their mid-40s and after[5].

Strategy

It is necessary to take a good social, occupational and sleep history. Correct social and domestic factors, alcohol misuse, change working conditions or to nonshift work.

Hypnotics should be reserved for short-term use in workers where temporary disturbances or anxieties are causing disrupted sleep, or as last resort, as short-term trial for the older worker with persistent sleep disruption and not willing to give up shift work.

Long-term treatment with any hypnotic is not an acceptable therapeutic option. All hypnotics must be regarded as having the potential to cause drug dependence in any patient, especially if prescribed for long periods or at a high dosage. Hypnotics should not be prescribed for more than two weeks at any one time with the lowest possible dose being used.

Table 1: Benzodiazepines commonly used as hypnotics

Drug (trade name	Recommended dose range (mg)	Time to peak plasma level (hours)	Elimination half-life (hours)	Comments
Relatively slow elimination, short duration of action due to marked distribution				
Diazepam (Valium)	5 - 10 (elderly 0.25 - 0.5)	1.1 ± 1.3	32.0 ± 11.0	Slow elimination of parent compound and active metabolite (desmethyl-diazepam) leads to accumulation and daytime anxiolytic effect with repeated ingestion.
Flunitrazepam (Rohypnol)	0.5 - 1.0 (elderly 0.5)	1.0 ± 0.5	15.5 ± 4.8	Doses exceeding 1.0 mg likely to lead to some residual effects and may led to rebound insomnia.
Nitrazepam (Mogadon)	5 - 10	1.4 ± 1.0	30.0 ± 5.0	Residual effects are likely and accumulation on daily ingestion inevitable. Useful for frequent nocturnal awakenings when some daytime sedation is acceptable. Doses exceeding 5 mg may not be appropriate.
Relatively rapid elimination and marked distribution phase				
Lormetazepam (Loramet)	1.0 - 2.0 (elderly 0.5)	1.0 ± 0.2	10.3 ± 1.4	Doses exceeding 1.0 mg may lead to rebound insomnia and may not be appropriate.
Temazepam	10 - 30 (elderly 10 - 20)	0.8 ± 0.3	8.4 ± 0.6	Soft gelatin capsule formulation in the dose range 10 - 20 mg is free from residual effects and of significant accumulation on daily ingestion. Useful if rapid sleep onset required.
Ultra-rapid elimination				
Midazolam (Dormicum)	7.5 - 15.0 (elderly 7.5)	0.3 ± 0.11	1.9 ± 0.4	7.5 mg is usually adequate for sleep onset. Dose exceeding 15 mg may lead to rebound insomnia.
Triazolam (Somese)	0.25 (elderly 0.125)	1.2 ± 0.5	2.6 — 0.7	Higher doses may lead to residual effects and rebound insomnia. Useful for sleep onset. The smaller dose 0.125 mg may be useful for adults other than the elderly.

Source: Rob Griffins. Medical Progress Sep 1992:34 (adapted)

Rebound insomnia after a course of hypnotics is completed appears to be a more frequent side effect of treatment with ultra-rapidly eliminated hypnotics, e.g. midazolam (Dormicum) and triazolam (Somese). Higher doses of flunitrazepam (Rohypnol) or lormetazepam (Loramet) may also lead to rebound insomnia. "Tailing off" the dose of these hypnotics should prevent patients returning for repeat prescriptions because "the sleeping problem" is back again.

The shiftworker may already have problems with sleepiness and poor arousal at work due to the effects of circadian rhythms. This will be exacerbated by the use of any hypnotic which causes sedation in the post-awakening period. Hypnotics most likely to cause sedation are those most slowly absorbed or eliminated e.g., nitrazepam (Mogadon) and diazepam. Post-awakening sedation can generally be avoided by prescribing hypnotics that fall into the rapid or moderately rapid elimination group. Lormetazepam is example of the moderately rapid elimination group; the dose is 1 mg (elderly 0.5 mg) see Table 1.

CONCLUSIONS

A request for a benzodiazepine for insomnia is common in general family practice. It has been observed that insomnia is to psychiatry as fever is to physical illness: it is a barometer of mental health[6]. The family doctor needs to make the effort to find out the cause of insomnia. Enough is known of the place of hypnotics in insomnia. We should prescribe them only when appropriate. We also need to be prepared to deal with the hypnotic substance abuser in an assertive and professional way.

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ORIGINAL ARTICLE

1993 MORBIDITY SURVEY OF OUTPATIENTS

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1. INTRODUCTION

Morbidity surveys are an established means for ascertaining the sickness patterns and the healthcare-seeking behaviour of populations during sickness episodes. Knowledge of such disease patterns provides an insight into prevailing health problems and also provides valuable information for healthcare policy formulation, aimed at more cost-effective management of the diseases of importance.

The first Morbidity Survey of Outpatients in Singapore was carried out in 1988[1] to capture, for the first time, information on the national morbidity profile of patients seeking outpatient medical care in the country. Prior to this, no information on the morbidity profile of outpatients seeking care from the private sector was available. The private sector is the largest provider of primary health care in Singapore, with one-quarter of doctors in Singapore working as general practitioners in private practice (henceforth referred to as private General Practitioners or private GPs).

The survey was conducted by the College of Family Physicians (COFP)* in collaboration with the Ministry of Health (MOH), the Singapore Medical Association, the Association of Private Medical Practitioners and the Academy of Medicine. Outpatient morbidity surveys covering visits to private general practitioner offices are also carried out regularly in the United States, United Kingdom and Japan.

Five years have lapsed since the first Morbidity Survey in Singapore was carried out. A second Morbidity Survey was therefore conducted on 13 July 1993.

The objectives of the 1993 Survey were to:

(1) obtain an updated picture of morbidity patterns at primary health level in Singapore;

(ii) examine the patient and disease profiles of those attending public and private primary health facilities, and to assess whether any changes have taken place over the past five years;

(iii) determine the current patient-load of the public sector versus the private sector in primary health care provision, and to assess how this has changed from the picture five years ago;

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* The College of Family Physicians Singapore, previously known as the College of General Practitioners Singapore, was renamed on 17 November 1993.

(iv) elicit for the first time, the sick leave taking pattern of patients seeking treatment from public and primary medical care providers; and

(v) determine for the first time as well, the load of foreign patients seeking primary health treatment in Singapore and their treatment-seeking pattern.

The second Morbidity Survey of Outpatients, by providing updated information on the current leading diseases and the patient-load managed at primary health level, provides an insight:

- into conditions for which improved ambulatory care should be focused on and resources channelled, in order to further improve the health of Singaporeans;
- for better planning of primary health care provision in the country by coordinating and maximising the contributions of the public and the private sectors, and the patients and types of disease they attend to;
- into the areas where training of primary health doctors, family medicine trainees and medical students should be emphasised, to enable them to better fulfill their roles as family physicians providing a good standard of care; and
- into important areas for epidemiological and health services research in an ambulatory setting.

2. METHODOLOGY

The first survey in 1988, as the bench-mark survey, aimed to be comprehensive to test out the methodology for all future surveys on this subject. As such returns in the 1988 Survey were sought from all ambulatory care providers, including specialists in the private and public sectors.

The response from private specialists in the 1988 Survey was poor. It was therefore decided that only all private GPs and doctors in the government primary health care (PHC) clinics, comprising the Family Health Service and School Health Service clinics, would be covered in the 1993 Survey. These sources currently constitute primary medical care providers to the Singapore population.

Measures were also taken during the 1993 Survey to improve the 25% response rate obtained from private GPs during the 1988 Survey. A coordinated and staged publicity programme was drawn up to increase the awareness of private GPs about the Survey and its benefits. The publicity programme was started six months prior to the survey. A summary of the 1988 Morbidity Survey findings and that of the 1990 National Ambulatory Medical Care Survey in U.S.[2], were highlighted in the editorial of the Singapore Medical Association Newsletter. In addition, prominent announcements of the 1993 Survey were made in the College of Family Physicians' and the Singapore Medical Association's Newsletters.

The survey form, together with a letter signed by the Presidents and Masters of the four relevant professional bodies and the Permanent Secretary of Health / Director of Medical Services, were sent to all 1,103 private GPs registered with the Singapore Medical Council (SMC), informing them about the survey and seeking their cooperation for it.

The survey was carried out for one day. The survey record form was specifically designed to be simple, to minimise imposing a significant additional load to the private GP's already heavy work schedule. Only useful and relevant information to meet the survey's objectives were requested for.

The survey format required the doctor's assistant to complete a few relevant biographic data related to each patient, by ticking the appropriate columns in the Survey Return. Doctors were only required to record the diagnosis of each patient who sought treatment on the survey day. In addition to information which had been captured in the previous survey, data on the patient's residential status, working status, and medical certificate-taking pattern were captured for the first time during the 1993 Survey. The 1993 Survey Return is at Figure 2.1.

Returns from private GPs were tagged so that non-responders to the survey could be identified. All private GPs who did not respond were sent an appeal letter and another Survey Return. Their cooperation was sought to carry out the survey on another day of their choice, within a specified week in August. Doctors who had been away, had

Figure 2.1

A ONE-DAY MORBIDITY SURVEY OF OUTPATIENS 1993

Clinic : .....

Name of Doctor : .....

Serial Number	Age (in years)	Sex*		Race*				House type*				Postal District of Residence	Residential Status*			Currently* Working?		Medical* Certificate Given?		Principal Diagnosis (Indicate Presenting Complaint if no diagnosis is arrived at)	ICD Codes (for Office Use)
								HDB 1 - 3	HDB 4 & above Ind HUDC	Pte Apt or House	Others		S'pore Citizen or PR	Foreigner working or living in S'pore							
		M	F	Chinese	Malay	Indian	Others							Yes	No	Yes	No	Yes	No		
1																					
2																					
3																					
4																					
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* Please tick ✓ the appropriate column

the day-off, or had not submitted their returns for one reason or another, were those who mainly responded to this second appeal.

Disease coding, data analysis and report writing of the survey were done by the Research and Evaluation Department of the Ministry of Health. Coding of all diagnoses on the survey returns was carried out using the 4-digit disease coding of the International Classification of Diseases (ICD) Ninth Edition of the World Health Organisation.

As an added benefit from the survey, the disease and epidemiological information on patients who sought treatment from doctors whose practice address was recorded on the survey return, were analysed and sent back to the respective doctors.

Computations and Definitions Presented in Report

In this section, important computations and definitions in the Survey Report are given.

Computations

1. Outpatient Visit Rate Per Person Per Year –

$$\frac{\text{Survey Attendances / day for all private GPs x 312 working days / year + Survey Attendances / day to Govt PHC x 286 working days / year}}{\text{Singapore population}}$$

2. Medical certificate (MC) Rate / Year –

$$\frac{\text{Survey Attendees given MCs}}{\text{All Survey Attendees}}$$

Definitions

1. "Sick" visits:
   visits made by patients who had a medical complaint.
2. "Well" visits:
   visits by survey attendees who came for immunisation, pre-employment checkings, family planning visits, etc.

3. SURVEY FINDINGS

3.1 Response Rate

Of the 1,103 private GPs registered with the SMC in June, a total of 345 private GPs responded to the survey. This gave an almost one-third response rate (31%), which was higher than the 25% response achieved in the 1988 Survey. For the public sector, a 100% response was once again obtained.

An examination of the geographic distribution of the private GPs who responded to the survey showed that their distribution did not differ significantly from that of all private GPs registered with the Singapore Medical Council ($0.10 > p > 0.05$).

3.2 Patient-load

From the survey findings, most private GPs (70%) saw between 20 and 60 patients a day. The 1993 Survey also showed that the average daily patient-load of a private GP was 40 patients. The total patient attendances of all primary health physicians in Singapore was 16.6 million outpatient attendances a year, comprising 13.6 million attendances at private GP clinics and 3 million attendances at government PHC clinics.

The 1993 Survey showed that there was a 25% increase in overall patient-load at primary health clinics, from the 13.3 million patient attendances obtained from the 1988 Survey. The average number of visits a Singaporean makes to his / her family doctor currently was found to be 5.2 visits a year.

The 1988 Survey had depicted that 75% of all **ambulatory care** in Singapore was provided by the private sector and 25% by the public sector. This included outpatient care provided by private and government specialists.

If **primary medical care** provision alone is considered, it is seen that:

- In 1988, 80% of primary medical care in Singapore was provided by private GPs and 20% by government primary health physicians.
- By 1993, the provision of primary care by private GPs had risen slightly, to 82%. For government primary health physicians, the provision fell correspondingly from 20% in 1988 to 18% in 1993.

The biographic characteristics of patients who attended on the survey day, by sector, are presented in Annex 1.

3.3 BIOGRAPHIC PROFILE OF PATIENTS SEEKING PRIMARY HEALTH CARE

3.3.1 All Outpatients

Table 3.1
Biographic Characteristics of All Outpatients
1988 vs 1993

Characteristics	1988		1993	
	Percent of Total Attendances	Outpatient Visit rate per person per year	Percent of Total Attendances	Outaptient Visit rate per person per year
Sex				
Male	47.3	4.4	46.6	4.8
Female	52.7	5.0	53.4	5.7
Age				
Under 1 year	4.5	12.2	2.9	9.9
1 - 4 years	8.8	7.2	8.7	7.2
5 - 14 years	11.7	3.7	10.6	4.1
15 - 24 years	15.4	3.7	15.9	4.7
25 - 44 years	34.9	4.3	37.6	4.9
45 - 59 years	13.6	5.2	13.7	5.7
60 years and above	11.1	6.3	10.6	6.6
Ethnic Group				
Chinese	74.0	4.6	74.8	5.3
Malays	15.0	5.1	14.4	5.6
Indians	7.3	4.6	7.2	5.1
Others	3.7	5.0	3.6	3.4
Residential Status				
Singaporeans / Permanent Residents	-	-	91.9	-
Foreigners (working in Singapore)	-	-	7.2	-
Foreigners (not working inSingapore)	-	-	1.0	-

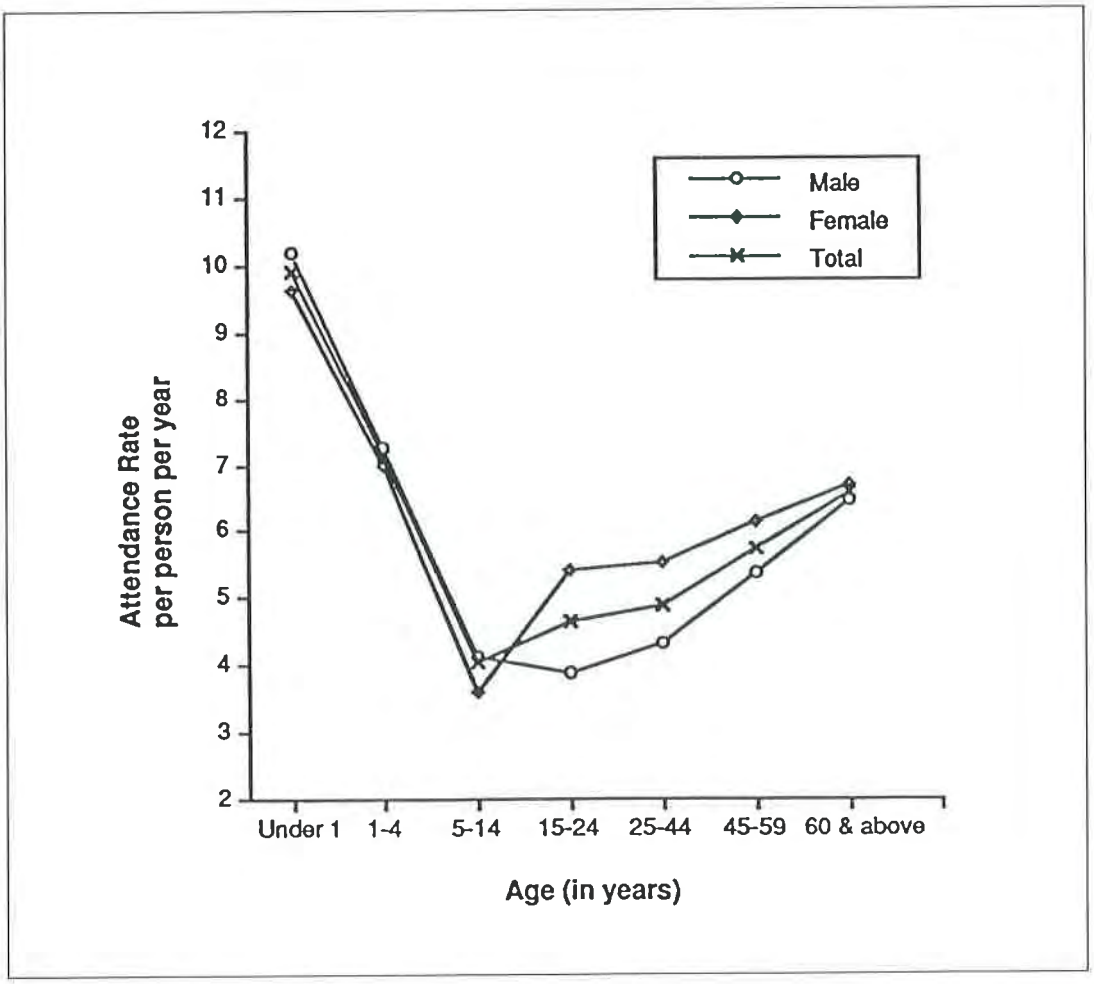
Among the sexes, females accounted for a higher proportion of outpatient attendances (53.4%). Analysis by age showed that infants (under 1 year of age) had the highest age-specific attendance rate followed next by the elderly (60 years of age and above). The lowest attendance rate was seen in children and teenagers (5 to 14 years old), following which attendance rates increased steadily with age.

The age-specific attendance rates of male and female patients are illustrated in Figure 3.2. This shows that females had higher attendance rates than their male counterparts from 15 years of age onwards. The trends in the age-specific attendance rates for both females and males were fairly close to those observed in 1988.

When analysed by ethnicity, Malays had a slightly higher visit rate than Chinese and Indians. These ethnic variations were similar to those seen in 1988.

In terms of nationality it was observed that the majority of the patients seen by primary health practitioners were Singaporeans (91.8%). The rest (8.2%) were foreigners who were mainly working in Singapore.

Figure 3.2
Age-Specific Attendance Rates per person per year
1993



3.3.2 Private Sector vs Public Sector Visits

Table 3.3 shows the distribution of outpatient attendances in the private and public sectors in terms of sex, ethnic group and age.

Sex:

The higher proportion of female attendances compared with male attendances, as shown by the 1993 Survey, was seen in both the public and private sectors. The finding was similar to that in 1988.

Ethnic Group:

The distribution of patients attending private clinics conformed closely with the ethnic distribution of the general population. In the public sector, on the other hand, there was a higher representation of Malays (20.8% vs 13.3%) and Indians (10.3% vs 7.4%). A similar picture was seen in 1988.

Age Group:

Public sector PHC clinics once again handled a higher load of the young and elderly, compared with their representation in the population (20.5% vs 7.9% and 16.5% vs 8.4% respectively).

Table 3.3
Biographic Characteristics of Primary Health Patients by Sector
1988 vs 1993

Percent

Characteristics	General Practice Clinics		Government Primary Health Care Clinics	
	1988	1993	1988	1993
Sex				
Male	46.5	46.3	50.3	47.7
Female	53.5	53.7	49.7	52.3
Ethnic Group				
Chinese	75.4	76.5	68.5	66.6
Malays	14.1	13.1	18.3	20.8
Indians	6.3	6.5	11.2	10.3
Others	4.2	3.9	2.0	2.3
Age				
Under 1 year	2.5	1.5	12.4	10.1
1 - 4 years	9.0	8.4	7.6	10.4
5 - 14 years	12.1	10.9	10.5	8.6
15 - 24 years	15.4	16.5	15.5	13.1
25 - 44 years	37.3	40.1	25.4	25.1
45 - 59 years	13.5	13.2	13.9	16.2
60 years and above	10.2	9.4	14.7	16.5

Table 3.4 shows the distribution of attendances in the private and public sector by socio-economic, working, and residential status of patients.

Socio-economic Status:

To analyse the socio-economic differences of patients attending public and private sector clinics, house-type was used as a proxy indicator*. The distribution of patients by house-type showed that government PHC clinics provided care to more patients from the lower socio-economic group i.e. those living in HDB 1-3 rooms, compared with the private clinics (46.1% vs 36.5%). Private GPs served proportionately more patients living in private apartments or houses compared with government clinics (13.2% vs 7.4%). This once again reinforced findings from the 1988 Survey.

Working Status:

The working profile of outpatients seeking care from the private sector differed from that of their counterparts in the public sector. More than two-thirds of outpatients seeking treatment from private GPs worked. In the public sector only about one-third were working.

Residential Status:

Private GPs saw a relatively higher proportion of foreigners than government doctors (9.1% vs 3.7%). These were mainly foreigners working in Singapore (8.0%) while 1.1% were foreigners who were not working in Singapore but sought treatment here. The corresponding proportions for government PHC clinics were much lower at 3.4% and 0.3% respectively. Foreigners attending government clinics it must be noted include Work Permit Holders. These workers are entitled to use government primary health facilities as part of their terms of approval to work in Singapore.

Table 3.4
Socio-Economic Charateristics of Primary Health Patients by Sector 1988 vs 1993

Percent

Characteristics	General Practice Clinics		Government Primary Health Care Clinics	
	1988	1993	1988	1993
House-Type				
HDB 1 - 3 room	81.2	36.5	87.8	46.1
HDB 4 - 5 room / Executive / HUDC		46.9		44.0
Private apartment / house	15.5	13.2	7.4	7.4
Others	3.3	3.4	4.8	2.5
Working Status				
Working	-	67.7	-	37.0
Nor working	-	32.3	-	63.0
Residential Status				
Singaporeans / Permanent Residents	-	90.9	-	96.3
Foreigners (working in Singapore)	-	8.0	-	3.4
Foreigners (not working in Singapore)	-	1.1	-	0.3

* Singapore Census of Population 1990, Statistical Release 2, Households and Housings. Department of Statistics – This Report shows that there is a strong correlation between the income levels and the type of housing of families in Singapore. Families with progressively higher levels of income are also the families who live in better homes.

3.4 Morbidity Profile

On overall, most visits to primary health care clinics were "sick" visits for which treatment was being sought (89.8%). The remaining 10.2% visits were "well" visits - these included visits for health assessments, pre-employment medical checks, preventive care for females and developmental assessments for children etc. Females had a higher proportion of "well" attendances compared with males (11.2% vs 9.1%). These were mainly visits for antenatal care, family planning etc. Of the three ethnic groups, Malays had the highest percentage (12.5%) of "well" visits, followed by Indians (9.7%) and Chinese (9.3%).

In the private sector, total attendances were made up of 93.2% "sick" visits and 6.8% "well" visits.

For the public sector, "sick" visits accounted for about three-quarters (73.9%) of all attendances while "well" consultations made up a significant one-quarter of visits (26.1%) [$p << 0.01$].

3.4.1 All Outpatients

Table 3.5 shows the overall leading disease conditions for which treatment was sought by patients who attended private and government PHC clinics with a medical complaint. The leading conditions seen were upper respiratory tract infections (36.3%), hypertension (5.9%), arthritic conditions and rheumatism (5.4%), dermatological disorders (5.4%) and diarrhoeal diseases (5.3%). This picture remained fairly unchanged from that in 1988.

Table 3.5
Leading Disease Conditions Among All "Sick Visits"
1988 vs 1993

Percent

Rank	Disease Conditions	1988	1993
1	Upper respiratory tract infections	31.6	36.3
2	Hypertension	6.3	5.9
3	Arthritic conditions and rheumatism	5.7	5.4
4	Dermatological disorders	5.3	5.4
5	Diarrhoeal diseases	4.7	5.3
6	Asthma and Bronchitis	4.0	3.6
7	Diabetes mellitus	3.0	3.2
8	Gastritis	2.4	2.3
9	Conditions of the female genital tract	2.1	1.8
10	Conjunctivitis	1.5	1.4
	Ill-defined conditions	6.6	8.2
	Other disease conditions	26.8	21.2

Note: Figures exclude all "well" visits i.e. health assessment, preventive care, etc.

3.4.2 Analysis by Gender, Ethnic Group and Age

When analysed by gender (Table 3.6), the principal disease conditions for which care was sought by male and female outpatients were generally similar. The main difference was that disorders of the female genital tract was one of the top ten conditions for which females sought care from primary health physicians. Men on the other hand had a relatively high number of visits for sprains. This was not seen among the females.

When analysed by ethnicity (Table 3.7), upper respiratory tract infections was the most common condition once again for which treatment was sought by all three ethnic groups. Of the specific disease conditions, Chinese had proportionately more consultations for hypertension, Malays for asthma and bronchitis and Indians for arthritic conditions and diabetes mellitus.

Table 3.6
Leading Disease Conditions for All "Sick" Visits by Sex
1993

Rank	Male		Female	
	Condition	Percent of Total Attendances	Condition	Percent of Total Attendances
1	Upper respiratory tract infections	37.0	Upper respiratory tract infections	35.6
2	Hypertension	5.9	Hypertension	5.9
3	Diarrhoeal diseases	5.8	Dermatological disorders	5.6
4	Arthritic conditions and rheumatism	5.5	Arthritic conditions and rheumatism	5.4
5	Dermatological disorders	5.1	Diarrhoeal diseases	4.9
6	Asthma and bronchitis	4.2	Disorders of female genital tract	3.5
7	Diabetes mellitus	3.0	Diabetes mellitus	3.3
8	Gastritis	2.2	Asthma and bronchitis	3.0
9	Conjunctivitis	1.4	Gastritis	2.4
10	Sprains	1.0	Conjunctivitis	1.3
	Ill-defined conditions	8.2	Ill-defined conditions	8.1
	Other disease conditions	21.2	Other disease conditions	21.0

Note: Figures exclude all "well" visits i.e. health assessment, preventive care, etc.

Table 3.7
Leading Disease Conditions for All "Sick" Visits by Ethnic Group
1993

Percent

Disease Condition	Chinese	Malays	Indians
Upper respiratory tract infections	37.2	34.9	31.1
Hypertension	6.6	4.1	3.2
Arthritic conditions and rheumatism	4.9	6.9	8.5
Diarrhoeal diseases	5.2	5.9	6.2
Dermatological disorders	5.4	4.8	5.1
Asthma and bronchitis	3.2	5.1	4.8
Diabetes mellitus	3.1	3.3	4.6
Gastritis	2.4	1.6	2.2
Conditions of the female genital tract	1.7	2.2	2.7
Conjunctivitis	1.4	1.4	0.7
Ill-defined conditions	8.0	8.5	9.3
Other disease conditions	20.9	21.3	22.1

Note: Figures exclude all "well" visits i.e. health assessment, preventive care etc

Table 3.8 presents the leading disease conditions seen in the various age groups. Once again upper respiratory tract infections were the most prevalent condition seen in all age groups except the elderly. This was followed by asthma and bronchitis (9.1%) as a distant second among the young (under 15 years old). In the elderly, chronic illnesses such as hypertension, diabetes mellitus, arthritic conditions and rheumatism were the leading conditions for which treatment was sought.

Table 3.8
Leading Disease Conditions for All "Sick" Visits by Age Group
1993

Percent

00 - 04 years		**05 - 14 years**	
Upper respiratory tract infections	53.0%	Upper respiratory tract infections	53.1%
Asthma and bronchitis	7.6%	Asthma and bronchitis	9.1%
Diarrhoeal diseases	6.5%	Diarrhoeal diseases	5.1%
Dermatological disorders	4.9%	Dermatological disorders	3.7%
Perinatal conditions	1.8%	Chicken Pox	2.4%
15 - 24 years		**25 - 44 years**	
Upper respiratory tract infections	42.1%	Upper respiratory tract infections	36.6%
Diarrhoeal diseases	8.9%	Arthritic conditions and rheumatism	6.0%
Dermatological disorders	6.9%	Dermatological disorders	6.0%
Conditions of female genital tract	3.0%	Diarrhoeal diseases	5.5%
Gastritis	2.9%	Conditions of female genital tract	2.9%
45 - 59 years		**60 years and above**	
Upper respiratory tract infections	21.5%	Hypertension	22.3%
Hypertension	17.0%	Diabetes mellitus	13.5%
Arthritic conditions and rheumatism	9.6%	Upper respiratory tract infections	13.2%
Diabetes mellitus	8.1%	Arthritic conditions and rheumatism	11.4%
Dermatological disorders	4.8%	Dermatological disorders	3.9%

Note: Figures exclude all "well" visits i.e. health assessment, preventive care etc.

3.4.3 Private Sector vs Public Sector

Table 3.9 presents the leading disease conditions seen at private GP clinics and the government PHC clinics.

Upper respiratory tract infections continued to be most important condition for which outpatient care was sought in both sectors. This condition accounted for one-third (37.7%) of all visits for treatment at the private GP clinics and one-quarter (27.7%) of attendances at the government PHC clinics.

In the private sector, the second leading condition seen was arthritic conditions and rheumatism (5.6%), followed by diarrhoeal diseases (5.5%), dermatological disorders (5.5%) and hypertension (4.5%). In the public sector, on the other hand, the second most common condition seen was hypertension (14.5%) followed by diabetes mellitus (9.3%), dermatological disorders (4.9%) and arthritic conditions (4.2%), i.e. the more chronic disease conditions which require long term care. These findings corroborated with findings from the 1988 Survey.

Table 3.9
Leading Disease Conditions for "Sick" Visits seen by Sector
1993

Rank	General Practice Clinics		Government Primary Health Care Clinics	
	Condition	% of Total Attendances	Condition	% of Total Attendances
1	Upper respiratory tract infections	37.7	Upper respiratory tract infections	27.7
2	Arthritic conditions and rheumatism	5.6	Hypertension	14.5
3	Diarrhoeal diseases	5.5	Diabetes mellitus	9.3
4	Dermatological disorders	5.4	Dermatological disorders	4.9
5	Hypertension	4.5	Arthritic conditions and rheumatism	4.2
6	Asthma and bronchitis	3.7	Diarrhoeal diseases	4.0
7	Gastritis	2.5	Asthma and bronchitis	2.6
8	Diabetes mellitus	2.1	Conjunctivitis	1.3
9	Conditions of female genital tract	1.9	Gastritis	1.2
10	Conjunctivitis	1.4	Conditions of the female genital tract	1.1
	Ill-defined conditions	8.6	Ill-defined conditions	5.6
	Other disease conditions	21.1	Other disease conditions	23.6

Note: Figures exclude all "well" visits i.e. health assessment, preventive care, etc.

3.5 Medical Certificates (MC) Prescribed

This was a new area covered in the 1993 Survey. The Survey showed that 26% or one in every four outpatients who visited primary health physicians were given Medical Certificates (MC). The MC rate was lower in the public sector than the private sector (19.8% vs 27.3%). This was because the private sector had a higher proportion of working persons (67.5% vs 37.0%). When analysed within the "employees group" itself, it was seen that more MCs were issued to working patients who attended the government clinics compared to private GP clinics (37.6% vs 30.7%).

Males naturally tended to have a higher MC rate than the females (28.1% vs 24.2%) because a higher percentage of the male patients work compared to their female counterparts (68.9% vs 56.5%). For both sectors, the MC rate was highest among persons in the younger sector of the working age population (i.e. age 15 to 24 years).

The diseases for which outpatients were given MCs were almost identical in both the private and public sectors (Table 3.11). Upper respiratory tract infections were the most common cause for which MCs were issued, followed by diarrhoeal diseases, ill-defined conditions and arthritic conditions and rheumatism.

Table 3.10
Medical Certificate Rate by Characteristics of Primary Health Outpatients, by Sector 1993

per 100 persons

Characteristics	General Practice Clinics	Government Primary Health Care Clinics	Overall
Percentage of All Attendances	**27.3**	**19.8**	**26.0**
Sex			
Male	29.3	23.1	28.1
Female	25.6	16.7	24.2
Age			
Under 1 year	1.0	0.2	0.5
1 - 4 years	2.2	0.5	1.8
5 - 14 years	33.6	32.8	33.6
15 - 24 years	47.4	45.2	47.0
25 - 44 years	32.5	32.2	32.4
45 - 59 years	17.6	14.0	16.8
60 years and above	3.6	3.7	3.6
Working status			
Yes	30.7	37.6	31.4
No	20.4	9.3	17.2

Table 3.11
Morbidity Profile of Patients who requested for Medical Certificate 1993

Rank	General Practice Clinics		Government Primary Health Care Clinics	
	Condition	% of Total Medical Certificates	Condition	% of Total Medical Certificates
1	Upper respiratory tract infections	45.7	Upper respiratory tract infections	45.9
2	Diarrhoeal diseases	10.0	Diarrhoeal diseases	10.3
3	Ill-defined conditions	8.6	Ill-defined conditions	8.2
4	Arthritic conditions and rheumatism	5.3	Arthritic conditions and rheumatism	3.8
5	Gastritis	3.2	Dermatological disorders	3.1
6	Dermatological disorders	2.4	Conjunctivitis	2.7
	Other conditions	24.8	Other conditions	26.0

4. DISCUSSION

The 1993 Morbidity Survey of Primary Medical Care in Singapore has provided updated information on the current leading diseases and patient-load managed at primary health level in Singapore. The Survey received a one-third response from private GPs. This was despite a well planned publicity and information programme prior to the Survey. Private GPs who responded were generally representative of all private GPs in the Singapore Medical Council. The one-third response is therefore what can best be expected from a survey methodology based on voluntary response, for a survey on this subject.

The Survey showed that females in general, from age 15 years onwards, have higher outpatient attendance rates for primary health care. This is probably because of their visits for obstetric and gynaecological conditions. The Survey, which covered both well and sick visits included visits for antenatal and family planning and other gynaecological reasons. These accounted for the sixth highest reason for outpatient visits by females.

The Survey also showed that private GPs treated a much higher proportion (68%) of working persons than government clinics (37%). This could be related to contracts being awarded by companies to various private GP groups for outpatient treatment of their workers. Furthermore the cheaper consultation fees and medication charged by government clinics and their operations during "office-hours" make these clinics more geared to the needs of the non-working population.

Public sector clinics, though only responsible for about one-fifth (18%) of primary health care patient-load in the country, provided care more to the elderly, the young and the lower socio-economic groups. This is in line with the mission of the primary medical care provision by the public sector.

The morbidity profile of outpatients seeking medical care in Singapore has not changed over the past 5 years. The majority of the visits to private GPs (93.2%) were "sick" visits for which treatment was sought. The disease pattern in the private sector continued to be dominated by upper respiratory tract infections (37.7%) followed by more acute conditions, such as diarrhoea and dermatological conditions and asthma and bronchitis. Chronic conditions such as hypertension and diabetes accounted for 4.5% and 2.1% of private GP visits.

In government clinics, one-quarter of visits were for health promotion, disease prevention and other "well" visits. The disease pattern in public sector had a much higher component of chronic diseases, which is to be expected since these diseases require long-term medication. Charges at government clinics are cheaper than the private sector. It must be noted however that in view of the very much higher primary medical care provision by private GPs, the impact of private GPs on the management of chronic disease is as important as that of government primary health clinics.

The 1993 Survey provided for the first time, information on sick-leave prescribing patterns for outpatients. One-quarter of visits to primary health facilities had medical certificates issued. This is partly in response to the Singapore's labour laws which prevail. Under the Singapore Employment Act, it is compulsory for an employee to produce a medical certificate from a certified medical practitioner if he absents himself from work because of illness.

The 1993 Survey showed that on average, a Singaporean visits his / her family physician five times a year. In Western countries, private GP visits average two to three visits per person per year. This is probably because of the "call-in" sick facility to employees in most Western countries, whereby employees are not required to produce a doctor's sick certificate for absenteeism from work usually for up to 5 to 7 days or so. The availability of such a system reduces patient-load to primary health clinics but at the same time affects productivity, since workers would probably consider this an additional leave entitlement for the year.

Public sector primary medical clinics were shown to manage a significantly higher proportion of "well" visits. This is not unexpected since the public sector is the major provider of preventive care, with most preventive programmes being free or heavily subsidised.

Morbidity surveys are conducted on a regular basis in countries such as the United Kingdom, Japan and the United States. Although the methodologies of these surveys are different from the Singapore survey, broad comparisons of disease patterns and visit rates between the countries can be made. Reports of studies done in the United Kingdom and Japan however are only available for the early 1980s. As such a comparison between Singapore and United States will be carried out, since the latest United States Report was for 1990.

The 1990 U.S. National Ambulatory Medical Care Survey was conducted by the Division of Health Care Statistics of the National Centre for Health Statistics, Centres for Disease Control. This covered a 12 month period. All participating physicians were asked to record information about a sample of their patients' office visits occurring during a randomly assigned one-week reporting period. Information such as the patient's biographic profile, source of payment, reason for visit, physician's diagnoses, diagnostic / screening services, medication therapy and outcome of the visit were collected during the survey. All diagnoses in the study were coded using the ICD-9-CM (Clinical Modification).

The findings of the study showed that in the United States, the average number of visits to primary health physicians is 2.9 visits per person per year. Singapore has a higher rate of 5.2 visits a person a year because as stated earlier, labour laws here dictate that a medical certificate be produced for absenteeism from work for sickness. In most Western countries this usually applies only after the first few specified days of absenteeism from work from illness.

As in Singapore, females in the United States also accounted for a higher proportion of all ambulatory medical care attendances. In the United States, "sick" visits comprised 85.2% and "well" visits 14.8% of all visits to primary health physicians. For Singapore there was a slightly lower proportion of "well" visits, at 89.8% and 10.2% respectively.

The three most common major disease groups seen by the United States primary health physicians were diseases of the respiratory system, diseases of the nervous system and sense organs and diseases of the circulatory system. The leading disease groups in Singapore are quite similar to those in the U.S., with diseases of respiratory system being the most frequent disease group seen, followed by infectious and parasitic diseases and diseases of the circulatory system. The distribution of outpatient attendances by ICD-9 major disease grouping for Singapore in contained in Annex 2.

5. CONCLUSION

The 1993 Survey has shown that general practitioners in Singapore now provide 82% of primary health care, while the government primary health care clinics provide the remaining 18%. This is slightly higher than the 80% provided by private GPs, shown by the 1988 Survey. Private GPs therefore continue to play a key role in primary health care provision for Singaporeans.

With higher numbers of young doctors becoming GPs, the 1993 Survey findings have once again provided valuable input for enhancing the training of these doctors and family physician trainees, to better fulfill their roles. It provides information to help channel their limited resources to the leading conditions identified by the Survey, so as to provide ambulatory care of a high standard early and well. This will reduce progression of these diseases to complications and hospitalisation and is in line with current healthcare policy directions. This will in addition play an important role in helping to improve the health of Singaporeans further.

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Annex 1

Biographic Characteristics of Patients Who Seek Primary Health Care, by Sector, 1993

	General Practice Clinics			Government Primary Health Care Clinics			All Clinics		
	Sick Attendances	Well Attendances	Total Attendances	Sick Attendances	Well Attendances	Total Attendances	Sick Attendances	Well Attendances	Total Attendances
Total	12, 693	925	13,618	2,191	774	2,965	14,884	1,699	16,583
Sex									
Male	5,920	386	6,306	1,099	316	1,415	7,019	702	7,721
Female	6,773	539	7,312	1,092	458	1,550	7,865	997	8,862
Age									
Under 1 year	168	19	187	90	210	300	258	229	487
1 - 4 years	1,101	32	1,133	134	175	309	1,235	207	1,442
5 - 14 years	1,466	30	1,496	217	38	255	1,683	68	1,751
15 - 24 years	2,052	201	2,253	329	60	389	2,381	261	2,642
25 - 44 years	5,024	477	5,501	548	197	745	5,572	674	6,246
45 - 59 years	1,690	95	1,785	416	63	479	2,106	158	2,264
60 years and above	1,192	71	1,263	457	31	488	1,649	102	1,751
Race									
Chinese	9,750	681	10,431	1,499	476	1,975	11,249	1,157	12,406
Malays	1,678	87	1,765	403	213	616	2,081	300	2,381
Indian	848	38	886	226	80	306	1,074	118	1,192
Others	417	119	536	63	5	68	480	124	604

Annex 2

Percentage Distribution of Attendances by Major Disease Group
1993

Major Disease Group	General Practice Clinics	Government Primary Health Care Clinics	Overall
Infectious and parasitic diseases	8.9	5.5	8.3
Neoplasms	0.2	0.1	0.1
Endocrine, nutritional and metabolic diseases and immunity disorders	3.3	8.8	4.2
Diseases of blood and blood-forming organs	0.2	0.2	0.2
Mental disorders	1.3	0.8	1.2
Diseases of the nervous system and sense organs	4.2	3.9	4.2
Diseases of the circulatory system	5.0	12.1	6.2
Diseases of the respiratory system	40.4	23.0	37.4
Diseases of the digestive system	4.3	2.2	3.9
Diseases of the genitourinary system	3.2	1.9	3.0
Complications of pregnancy, childbirth and the puerperium	0.3	0.2	0.3
Diseases of the skin and subcutaneous tissue	5.1	3.6	4.8
Diseases of the musculoskeletal system and connective tissue	5.2	3.1	4.9
Congenital anomalies	0.1	0.2	0.1
Certain conditions originating in the perinatal period	0.0	0.8	0.2
Symptoms, signs and ill-defined conditions	8.0	4.2	7.3
Injury and Poisoning	3.5	3.3	3.5
Supplementary Classification of factors influencing health status and contact with health services	6.8	26.1	10.2

ORIGINAL ARTICLE

VOCATIONAL TRAINING IN GENERAL PRACTICE – THE AUSTRALIAN EXPERIENCE

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INTRODUCTION

In April 1990, a visit was made to the Royal Australian College of General Practitioners to study the General Practice Training Programme and its assessment, as well as post-training continuing medical education for general practitioners in Australia.

Venues visited included the RACGP Training Examination and Assessment Centre and the Victorian Faculty in Melbourne, and the Royal North Shore Hospital in Sydney, where the Clinical Examinations were conducted.

Discussions were held with staff at these various centres on different aspects of training and assessment of General Practice Trainees, as well as the Post-Fellowship Training Programme. In addition, the authors had a first-hand experience in observing the conduct of the clinical segment of the Fellowship of the Royal Australian College of General Practitioners Examination (FRACGP).

The following is a report of the Australian experience in General Practice Vocational Training.

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THE PRIMARY HEALTH CARE SYSTEM IN AUSTRALIA

In Australia, Primary Health Care is provided by General Practitioners, both during and after surgery (clinic) hours. The sizes of practices vary from single-doctor practices to large group practices, where doctors do one or more 'sessions' each week. Surgery hours vary with different practices. Some clinics may be opened till 7 or 8 p.m. in the evening, and seven days a week. Twenty-four hour clinics are also available. These are usually group practices, and are opened from 7 a.m. till 12 midnight, with a doctor on call after midnight. Patients are usually walk-in-patients, as there is no fixed list for each G P.

Non-emergency cases presenting at hospital emergency departments are usually redirected to general practices. Some hospitals have affiliated G P groups, while others triage patients to any G P practice.

The Department of Health is the controlling body which overseas the running of the primary health care system in Australia. Currently, all doctors with recognised medical qualifications and who have completed the compulsory one-year internship are licensed to work as general practitioners. The Government, however, gives recognition to the following categories of doctors as 'General Practitioners', namely:

1. those with the FRACGP
2. those with previous experience, acquired before 1993
3. those with trainees enrolled in their practices.

The names of these doctors are maintained on a 'vocational register' kept by the Department of Health. Doctors on the register are issued a 'provider number', which entitles them to a larger amount of rebate from the Government. They are given a rebate of A$20 per patient, whereas those without 'provider numbers' are granted a rebate of A$17 per patient. When a patient consults a general practitioner, he will be charged a consultation fee, depending on the length of consultation. This fee is variable, depending on the doctor. Typically, consultation fees for common problems may range from A$20 to A$40. Patients need only pay the amount minus the rebate. If, for example, a doctor with a 'provider number' charges A$28 for a consultation for diarrhoea, the patient pays A$8. The rest will be paid for by the Government. The health care cost borne by the Government is partly financed by tax paid by the citizens. Each person contributes between 1-2% of his income for health-related taxation. This will cover outpatient consultations (in the form of rebates), as well as a large proportion of costs incurred in inpatient care. Some doctors 'bulk bill', which means that they only charge the amount equivalent to the rebate, and patients do not need to pay any money for consultations. About 60% of doctors in the state of Victoria provide this facility for their patients.

At the end of the consultation, patients requiring medications are given prescriptions, and they will have to have these filled at the 'chemists' (pharmacies). This will be paid for by the patients. Medications for diarrhoea may cost between A$25-40.

THE ORGANISATION OF THE ROYAL AUSTRALIAN COLLEGE OF GENERAL PRACTITIONERS

The RACGP has two 'national' offices, one in Sydney and the other in Melbourne. The Sydney office is the headquarters and is concerned with membership registration and quality assurance. All other College activities are supervised by staff of the National Centre in Melbourne. These include training and education, examination and assessment, audit and accounts. Each section is headed by an Assistant Secretary General or Director. The College Resource Centre and Video Laboratory are also housed in the same premises.

There is a Faculty office in each state, headed by the State Director. Each state faculty is responsible for carrying out the training and assessment programmes. They are also involved in the organisation of the examination and the pre-exam training seminars. Staff members may work full time or part time for the College, and may be medically or non-medically trained, as the job designation requires.

GENERAL PRACTICE TRAINING PROGRAMME IN AUSTRALIA

1. THE TRAINING PROGRAMME

Eligibility

This is a three-year programme. Doctors are eligible to join this programme when they have completed their undergraduate training (which takes six years in Australia) and one year supervised internship (housemanship). It is usual, however, for doctors to apply for a training position after doing one to two years of hospital jobs, that is, about three to four years post-graduation. The number of training positions have been increasing from 564 in 1990 to 830 in 1993. However, as from 1994, only about 600 training positions will be available each year, for the 1,200 locally trained medical graduates and 200 foreign trained doctors registering to practice per year. Due to the shortage of training positions, younger doctors with less than eight years post-graduate experience are given a higher priority in the selection process.

Budget and Staffing

The Federal Government gives a grant of A$23-24 million per year to the College of General Practitioners to run this programme. Allocation of funds for each state depends on the number of trainees in that state. Victoria, for example, is given an allocation of about A$4.5 million.

Policy decisions with regard to the training programme are determined by the College national coordinator (the Assistant Secretary General for Education and Training), but the State Directors will decide how the training programme is run. Hence, there are minor variations in different states.

There is provision for a full time training staff member for every 50 trainees. These staff members are either medically qualified, or have background in education or educational research. Full time staff members organise and conduct centralised training sessions for the trainees. In addition, each trainee is attached to a G P Supervisor when posted to general practices, who will supervise the trainees' day-to day work, as well as conduct weekly sessions with the trainees.

The First Year

During the internship year (HMO1), the postings include three months each of Internal Medicine, General Surgery and Accident & Emergency, with the fourth quarter spent in a speciality of choice. When a doctor becomes a General Practice Trainee, he commences the HMO2 year, which again comprises three three-month blocks of hospital postings, being any three from a list of fourteen specialities, including Obstetrics & Gynaecology, Geriatrics, Paediatrics, Orthopaedics and Rehabilitation. The postings can only be done in hospitals with accredited training posts. Trainees working in training positions in the hospitals are paid a salary by the hospital. Depending on the availability of postings, the trainee may spend the fourth quarter of the HMO2 year in the hospital or in an accredited general practice, as part of his 'Basic GP Term'. Accreditation of general practices is determined by the College Accreditation Council, the members of which will visit the practices as part of the accreditation process.

The Second Year

In the second year of General Practice Training (HMO3), the trainee commences, or completes the rest of the six months of 'Basic G P Term', depending on whether he has done any G P posting in the first year.

During the Basic G P Term, the trainee will work in the practice of his G P Supervisor, who is appointed and accredited by the College. He will be paid a subsidy of A$400 per week from the Government allocated Training Fund, in addition to his salary of between A$650 and A$900 per week. His supervisor will also be paid a teaching allowance of A$165 per week from the same fund to teach him for half day a week. The subject matter of these weekly sessions will be left to the Supervisor and the Trainee, within the framework laid down by the national Training and Education Centre.

During this period, in addition to the weekly half day sessions with the Supervisor, the Trainee will also be released for another half day each week for 'centralised training' at the state or regional training centre. Depending on location and accessibility of the practice, these allocated times may be accumulated into one-day sessions every fortnight or two to three day sessions every four to six weeks. These sessions are conducted by staff members of regional or state education and training centres, as well as 'externals', who may be practising G Ps or invited guest teachers. The format is usually in the form of workshops, talks, simulations and presentations. Again, the content will vary from region to region, depending on local need, but will be within the framework laid down by the national centre.

In the second half of the same year, the Trainee will progress to do a six-month posting termed the 'Advanced G P Term'. The terms and conditions are similar to the Basic G P Term, except that the Trainee is given less supervision. He spends one and a half hours a week with his supervisor, and is released for half a day every fortnight or equivalent for centralised training sessions. His supervisor is also given half the amount of teaching allowance allocated to those teaching during the Basic G P Terms.

The Third Year

In the third year, the trainee commences his 'Subsequent G P Experience'. He will usually work in the General Practice where he would like to work when he has completed his training. He is no longer given any formal training sessions. He is also not given any subsidy. The senior G P in the practice where he works (the G P mentor) need not be someone accredited to be a Supervisor, though the facilities available in the practice must meet the minimum criteria set by the College, and the G P should not be someone of disrepute.

During this year, the trainee may opt for six months of what is termed the 'Special Skills Training Posts', which may be in a rural practice,

inner city or suburban practice. The areas covered include community paediatrics, women's and adolescent health, community psychiatry, occupational health, alcohol and drug related problems, rehabilitation and palliative care, among others.

The Elective Year
During this three-year training period, the Trainee is allowed a maximum of twelve months of leave or elective posting. Many trainees take a year off between the second and third year of posting, some to travel and others to work in special projects or postings. This is because, once the trainees commence full time general practice, there would no longer be much opportunity to take an extended period of leave.

The Rural Training Stream
This is an alternative to the three-year mainstream programme. The total training period is four years, with an additional one year of elective. Trainees undergo the first three years of training as described above. The only difference is that, of the eighteen months of General Practice Terms, at least twelve months must be spent in country practices. In their fourth year, the Advances Rural Skills Year, the trainees will be taught what is termed 'procedural disciplines' in the provincial hospitals, with a rural emphasis. These disciplines include obstetrics, anaesthesia, surgery, aboriginal health, among others.

Doctors who choose to take up Rural Training are given certain privileges, such as selection priority, additional resources in the form of travel and accommodation subsidies, and guaranteed opportunities to do anaesthesia.

At the present moment, plans are afoot for these 'Big "R" Trainees' to be given a different form of accreditation at the end of their training, either in the form of FRACGP (Rural Medicine), or FRACGP with a Diploma in Rural Medicine.

Pre-examination Training Sessions
These are conducted twice a year before the examinations. Trainees are briefed on the format and content of the examination, and given the chance to practice each segment, including the use of manikins for the practical procedures.

The College Resource Centre
The College has a well-stocked library containing both printed materials (books and journals) as well as audio / video tapes at Jolimont. These are available for loan by all members, mainly by mail. The library has recently acquired from the United Kingdom clinical material stored in the form of laser discs, and the viewing of these discs can be done at the library itself.

In addition to the library, there is also a fully equipped studio for the production of video tapes for training purposes, as well as a video-editing laboratory. Videotapes produced by the College are available for sale to interested parties, and a catalogue can be obtained from the resource centre.

2. ASSESSMENT OF TRAINEES

'Formative' and 'Summative' Assessments
This is by two processes, namely 'formative' and 'summative' assessments. The **'summative' assessment** is the FRACGP examination, which the trainee can take at any stage during his training, though in general, many trainees take the written segment during their Basic G P Terms and the clinical segment during their advanced G P Terms.

'Formative' assessment is done continuously throughout the training period. Supervisors of both the hospital and the general practice postings are required to fill in prescribed assessment forms at the end of each posting. These forms will be reviewed by the state education and training officer of the College. Trainees will also be evaluated in an informal manner during the periods of centralised training, when they participate in workshops, simulations and present cases. Their attendance and participation in these sessions are documented. Supervisors are informed if their trainees are deemed to lack proficiency in certain areas, so that they are able to remedy the deficiency. Comments on the special learning needs of each trainee are recorded in his personal file.

External clinical teaching visits (ECTV) constitute a part of formative assessment. A trainee, during the period of his training, will be visited by 'medical educators' (full time training staff of the College)

a total of three to four times. These educators go out to the individual practices, evaluate the work of the trainees, and submit reports independent of the Supervisors. Videotapes of some trainees in consultation are also made, and the tapes examined by the trainer-educators.

The CHECK (or Checkup) Programme

Another facet of formative assessment comes in the form of self-assessment, through computer-directed self-learning programmes. Trainees are given access to this (called the 'Check Programme') through distance learning using computers and modems provided by the College. Much funds and cumbersome logistics are involved in transporting the equipment throughout the country. The College is in the process of converting the Checkup Programme into one which makes use of diskettes instead of the telephone line. The mailing and receiving of diskettes is deemed to be more efficient and cost-saving compared to the old one of interrupted telephone lines, among other problems.

Multiple Choice Questions

When a trainee logs on to the Checkup Programme, he is identified by his own identification number. For practice, he can choose from the menu to go through multiple choice questions classified according to topics. A list of the topics is available on-line, and is also published in booklet form, updated monthly. The questions are in two formats: the single correct answer, and the multiple combinations. When the trainee answers a question in a certain sub-topic correctly, he can move on to another subtopic. Should he answer incorrectly, he will be given another question in the same subtopic. These questions are considered to be in the same 'question set'. The trainee is scored by the number of correct answers in relation to the number of questions attempted in each subtopic. He will then be informed on-line where his strengths or weaknesses are, in each topic attempted. The results of his attempts will also be printed onto a hardcopy at the national Training and Education Centre in Jolimont. This is reviewed by staff at the centre, and the Assistant Secretary General (Education & Training) is kept informed of the trainees' performance and progress. The minimum requirement for each trainee is to complete 200 'question sets' of MCQs every year. The pass mark is 66%.

Computer Diagnostic Problems

In addition to MCQs, trainees are required to attempt what are known as Computer Diagnostic Problems, or CDPs for short. These are problem-solving cases, written in the interactive mode. Each question has four parts: A, B, C and D. The trainee accesses the CDPs in the same manner as they access the MCQs. At the start of each CDP, the trainee will be given a brief history. He is then required to key into the computer what further history he would like to know, choosing a key set of letters from a given list (e.g. 'FAMS' for 'family history'). For each item that the trainee requests, information is given. The trainee works through the 'case, requesting for findings on physical examination and results of investigations. If at any stage the trainee asks too general a question, e.g. 'examination of the cardiovascular system', he will be prompted to narrow his question to a more specific area, for example, the presence or absence of murmurs on examination of the heart.

At various stages of the problem-solving process, the trainee will be asked to give differential diagnosis, his assessment of the patient's problem(s), and his management plan. He is allowed one and a half hours per case, to be completed in his leisure time. The requirement is a minimum of two cases per year. The pass mark is 80% for each case. The trainee's performance on these cases is also documented on-line, and forms part of the formative assessment process.

In the event of conversion to the diskette format, trainees will be sent diskettes containing the CDPs, and will be required to return completed diskettes to the training centre for assessment purposes.

3. ASSESSMENT OF THE TRAINING PROGRAMME

This is an ongoing process, and the responsibility of the Director for Evaluation. The current focus on assessment of 'competence' versus 'performance' has been planned. The College will use the Australian Council of Educational Research (ACER) test to develop an instrument to measure the knowledge, skills and attitude of the trainees at entry and exit points, as well as at various stages of the Training Programme. Between ten and

sixteen 'trained patients' ('patients' trained by staff of the Evaluation Department, each to present with a different set of standard complaints and scenario) are used for selected trainees. These patients are slotted in unannounced, as part of the trainees' daily patient load. The performance of the trainees is scored on standardised recording forms by the 'trained patient'.

The areas evaluated include consultation skills, skills in history taking, physical examination, clinical diagnosis, and patient management. A comparison is made between trainees in the Basic, Advanced and Subsequent G P Terms. G P Supervisors are also assessed, and their performance used as the benchmark. The use of standardised complaints by trained patients has been found to give high validity in studies outside Australia.

The information obtained from this study forms the basis for establishing the value of the Training Programme. In addition it is used for the following purposes:

1. development of the training plan
2. development of curriculum for the training programme
3. provide feedback to the medical schools
4. predicting trainee success in vocational training.

THE FELLOWSHIP OF THE ROYAL AUSTRALIAN COLLEGE OF GENERAL PRACTITIONERS (FRACGP)

1. THE FELLOWSHIP EXAMINATION

The 'Philosophy' of The Examination

This is the 'summative' assessment mentioned earlier. At the present stage, there is still debate as to how best the examination can achieve this purpose, which is to determine if a trainee, having completed the prescribed training programme, is *competent* enough to be a 'general practitioner' (i.e. does he / she have the required attitudes and skills). This is because the FRACGP was originally designed for practising general practitioners who wished to update themselves for self-improvement, and was in addition used as a form of assessment of general practice training upon the recommendation of Prof Steve Abrahamson from California.

Much attention is also focused on the degree of objectivity in an examination which inherently has many areas of variability, both in the form of clinical content as well as the examiners. These, and the method of assessment and weightage of each area tested in the examination, are currently under review by the Director of Assessment and his team, and new proposals are made for modification, to suit the changing focus of the examination.

Eligibility for the Examination

All applicants for the FRACGP Examination must be Members or Associates of the College, who are in active general practice or its equivalent.

The examination comprises 8 segments, divided into written and clinical (oral) segments.

Written segments comprise
(1) Multichoice Paper
(2) Computerised Diagnostic Problems (CDP)
(3) Clinical Interpretation Test.
No general practice experience is required before undertaking these segments.

Clinical (oral) segments comprise
(1) Case Commentaries
(2) Practice Assessment
(3) Diagnostic Interviews
(4) Management Interviews
(5) Physical Examination.
One year of general practice experience or its approved part-time equivalent is required before undertaking these segments.

Candidates who meet certain requirements are exempted from one or more segments of the examination, i.e. the CDP, the Multichoice and the Case Commentaries. The details of these requirements are found in the Examination and Assessment Handbook for candidates. General Practice Trainees are required to submit a Log Book, which is a record of their training experience, to the Board of Censors on application to sit for the examination. In each state, the log books are reviewed by designated 'reviewers' twice a year.

In addition to trainees enrolled in the General Practice Training Programme, general practitioners currently in active practice, who meet the entrance requirements of the examination, are also admitted to sit for the examination.

The written and oral segments must be completed within three years, that is, each candidate has a maximum of 6 attempts. Candidates who have failed in any segment is allowed to repeat that segment within the given time frame.

Organisation of the Examination

The examination is held twice a year, and is termed the First or Second Examination of that year. The written segments are held simultaneously, in March and September of each year in nine centres throughout Australia. The clinical (oral) examinations are held separately from the written segments, in seven centres, on different weekends is April and May, and again in September and October.

Candidates appearing for the oral examinations will be examined on all the segments in one day, either Saturday or Sunday, whereas some of the examiners will take candidates on both days. This is because the examiners examine in pairs, and as far as possible, no candidate is examined by the same team of examiners twice. (New South Wales has the largest number of candidates. In Sydney on 16 and 17 April 1994, for example, there were 120 candidates and about 140 examiners). There is a full time coordinator and support staff at each oral examination. Each examiner and candidate is given a schedule with names, timing, room numbers and examination segments. It is the responsibility of each team of examiners to adhere to the time limit strictly so as not to upset to entire time scheduling. Lunch and tea are provided for the examiners, candidates and patients.

Sometime in September / October of each year, an **Examination Seminar** is held, attended by the Director and Chief Examiner of each state and the staff of the Examination Coordinating Centre in Jolimont. During these seminars, the examination questions for the next two examinations in the following year are discussed and finalised. The questions are then prepared by the staff of the Examination Centre and distributed to each state. The detailed time-tabling, the examiners involved as well as the patient list are determined at the state level, and are different in each state.

Each examination will be attended by visiting examiners, who are usually the Chief Censor, the Director of Assessment or Senior Examiners. The visiting examiners will ascertain that the examinations are held according to the format and rules as determined at the National level. They also assess the performance of each examiner, and make recommendations according to their observations.

The Written Segment

The Multichoice Test

This contributes 12% to the overall examination mark. It is a test of knowledge. A total of 200 questions must be completed in three hours. The questions are of two types, namely the Simple Completion (one our of five) and the Multiple Completion (combination of correct answers).

Candidates may choose to sit for this paper on the days fixed for the written examinations, or they can attempt the paper at their places of practice, supervised by their supervisors, who will ensure that the examination is carried out properly, within the given time limit. Currently these are conducted through the network used by the Checkup Programme, but this is being changed to the diskette system. The candidate is given 200 questions chosen at random from the bank of examination questions (which is different from the practice bank). His answers are transmitted electronically via modems to the Examination Centre in Jolimont, and marks awarded according to the number of correct answers. There is no negative marking. Candidates sent diskettes containing examination questions (through their supervisors) will return the diskettes (again through their supervisors), duly completed, for marking.

At the Examination and Assessment Centre in Jolimont, Multichoice questions are stored both electronically, and in the form of punch cards. Each question is categorised according to a complex set of headings, which enables questions in any topic and subtopic, even up to the age group and sex of the patient, to be identified. Classification

if done by a medically trained staff. Selection of questions to make up the examination paper is done by electronic means, and the paper can be printed directly upon completing the selection. Questions for each multichoice paper are selected according to these criteria:

(1) proportion of new and old questions

(2) the year last used if an old question

(3) the degree of difficulty

(4) the answer selection, to ensure a balanced proportion of 'A' to 'E' answers, and

(5) the question category.

The software used has been customised to the needs of the RACGP. As it has been in use for about eight years now, there are certain limitations. The complex classification system does not allow a non-medically trained person to retrieve the questions, as knowledge of the subtopics is needed. These is no facility for 'key word' search, such as for 'malaria', and the retrieval process involves looking through the whole range of questions listed under 'vector-borne diseases'.

Each multichoice question used in an examination will have the degree of difficulty analysed, based on the percentage of correct and incorrect answers, and the 'point bi-serial correlation', which is the correlation between the item (question) score and the total test score. Besides the 'difficulty index', the 'reliability index' and 'discriminating index' are also calculated according to prescribed formulae. Information on these is gathered and recorded every time the question is used, and the performance of candidates in various years can therefore be compared.

Computerised Diagnostic Problems

These serve to measure the candidate's problem-solving ability. The questions given simulate clinical situations, and comprise several parts. Cases may represent any sort of problem likely to be seen in general family practice. The candidate is given some amount of information to start with, e.g. a brief description of the patient and his main complaints. He is then expected to study the available information and decide what to do next. He may request for further history, physical examination and investigation findings. Answers to what is requested by the candidate will be provided, and from the information gathered, the candidate is expected to formulate his diagnosis or differentials, and make decisions about management.

This test can be taken at designated centres with computer terminals and modems, or at the candidates' own places of practice. The same rules as for the multichoice paper apply. The CDP questions used for each candidate is again selected from a bank of such questions different from those the candidates practice on in the Check Programme. This segment of the examination is also in the process of being converted to use of diskettes.

Clinical Interpretation

This segment aims to assess the candidate's ability to interpret visual material, mainly in the form of projection slides, covering areas such as skin lesions, electrocardiograms, X-rays, pictures of fundi, etc. Printed materials, e.g. laboratory reports, are also used. There are a total of 80 questions, to be completed in approximately two and a half hours, depending on the proportion of slides to printed materials used, as the time allowance for printed materials is longer than that for slides.

The Clinical (Oral) Segment

Case Commentaries

Two case commentaries are to be submitted by candidates, describing the management of patients whom the candidates have cared for over a period of time. These are sent to the Examination and Assessment Centre at Jolimont. Candidates may be examined orally on one or more of the commentaries by the Censor-in-Chief or his nominee.

A research project may be submitted instead of one of the two case commentaries. It should be a project conducted in family practice, the protocol of which has had prior approval by the Censor-in-Chief. Few candidates have submitted research projects so far.

Practice Assessment

The main objective of this segment is to determine what is done in the candidate's own practice, and how it is done. Questions asked are based on

material submitted by the candidate, namely

(a) the practice profile

(b) a log diary of 100 consecutive patients.

Candidates can also be asked questions on 'general topics', from a list prepared by examiners. The time allocation for this segment is 25 minutes.

Diagnostic Interviews

There are three interviews in this segment, one 'Long Diagnostic Interview' lasting 30 minutes, and two 'Short (or Standard) Diagnostic Interviews' lasting 15 minutes each. The objectives of these interviews are to assess the candidate's communication skills, attitude and ability to elicit, analyse and evaluate clinical data.

These are simulated consultations. Of the two examiners taking the candidate, one will role play the patient, and gives the history as written in the protocol, depending on the questions asked by the candidate. The second, or observing examiner, will provide the physical examination and investigation findings, when requested by the candidate. The candidate is expected to come to one or more diagnoses, and discuss the management plan with the 'patient'. Great care is taken to match the examiner with the 'patient' that he is to role play, especially with regard to age and sex. The team of two examiners practise the role between themselves before the examination. Some even come dressed in the way the 'patient' would dress. Marking is by consensus.

Standard Consultations are similar in format, except that the time allocation is shorter, and the problems are usually less complex.

Management Interviews

There are two management interviews, each lasting 15 minutes, excluding the two minutes allowed for perusal of the case protocol. These test mainly the candidate's ability to define the patient's problems and organise management strategies, taking into consideration the patient's family and social circumstances, as well as looking for opportunities to provide patient education.

As for the diagnostic interviews, the role of the patient is played by the 'role playing' examiner. Of the two cases, one is usually 'threatening', meaning that the 'patient' or his relative is angry or aggressive. The candidate is expected to exhibit skills to handle such a patient and avert a confrontation. Marking is again by consensus, upon discussion with the 'observing' examiner.

Physical Examination

This is the only segment of the examination that tests the candidate's 'manual skills'. The candidate is required to examine four patients and elicit physical signs. Real patients are used. These are usually patients seen in general practices, who are paid transport allowance and a token of A$10 for their time and cooperation. Most of these patients have developed a very good rapport with their general practitioners over the year, and do not mind 'helping their doctors out'.

Of the four cases, one is a long case, lasting 20 minutes. It usually involves the examination of a system. The candidate records his findings in a standard recording sheet (there is a pre-prepared recording sheet for every system that the candidate may be asked to examine, and candidates are familiarised with these during the pre-examination training sessions), and leaves the room when he has completed this, or when the time limit is up. The two examiners then compare the candidate's recording form with their own, and award marks accordingly. Before admitting the candidate, the examiners are given time to examine the patient, record their findings and discuss the weightage of marks given for the technique of examination, as well as both the positive and relevant negative findings.

In addition to the long case, candidates are required to do two intermediate cases and one minor case, each lasting 8 minutes. These usually involve examination of one particular organ or abnormality, e.g. a lump, the thyroid, the taking of blood pressure. Candidates are again rated on both technique and findings.

In addition to the four cases, candidates are tested on one practical procedure, which is chosen at random by examiners from a given list of practical procedures. Time allowance is 8 minutes. Manikins are used for some of these procedures, which may range from venepuncture and setting up of

intravenous line to intubation and the reading of Ishihara charts. Marks are awarded for correct technique, e.g. the use of gloves, proper disposal of sharps, the depth of the endotracheal tube inserted.

As part of the physical examination segment, all candidates are examined in the technique of heart-lung resuscitation, using Ambu Man Model C manikin. The time allowance is 5 minutes. A pass in this segment is required of all candidates before they are awarded a pass in the whole examination.

The System of Assessment

The Objectives of the Assessment System
The objectives of assessment are to determine the performance of the candidate in the field of general family practice by assessing his / her behaviour in three domains: cognitive (knowledge, interpretive and problem-solving skills), affective and psychomotor, i.e. knowledge, skills and attitude. And to do this with as much objectivity and validity as possible.

The Table of Specifications
This table is used for the assessment of the candidate's cognitive, affective and psychomotor behaviours, to ensure appropriate emphasis being given to the various clinical competencies and the problems and conditions encountered in general family practice.

The behaviour weightings decided upon are:

Knowledge	14%	Cognitive behaviour 66%
Interpretive skill	18%	
Problem solving	34%	
Affective behaviour	26%	
Psychomotor behaviour	8%	

The tests selected to measure the behaviours are, in accordance, given the following weightings:

Practice Assessment	10%
Case Commentaries	6%
Multichoice	12%
Computerised Diagnostic Problems	11%
Clinical Interpretation	10%
Diagnostic Interviews	24%
Management Interviews	17%
Physical Examination	10%

The behaviour and test weightings are cross tabulated to form the Table of Specifications. The test weightings of each segment are again subdivided into the various behaviours categories where relevant (See sample Table). The marks obtained by a candidate are entered into a Mark Sheet laid out in the format of the Table of Specifications. The College Censors will analyse each candidate's performance with respect to his test scores and behaviour scores, and determine if the candidate finally passes or fails. They are also able to identify the candidate's behavioural strengths and weaknesses in each test. The pass mark is set at 66% for each segment / behaviour.

Proposed Changes
This Table of Specifications, which has evolved through experience in conducting the examination for many years, has been deemed to be too complicated, and proposals to modify the system of assessment are being studied, and may be implemented in 1995.

Under this new system, the existing eight segments of the examination remain as in the present format. The candidate is assessed on the basis of four skills deemed important in general practice. These are:

(a) Cognitive Skills –
Multichoice, Clinical Interpretation, Computer Diagnostic Problems

(b) Consultative Skills –
Diagnostic Interviews, Management Interviews

(c) Physical Examination Skills –
Physical Examination

(d) Practice Skills –
Case Commentary, Practice Assessment

A pass mark of 66% is set for each skill. This is a composite of all the marks obtained in each segment listed under each skill. The exact weightage is still being discussed.

Examiner Training
A great deal of emphasis is placed on examiner training for the FRACGP Examination. This is because the oral examination is conducted in different states, and the panel of examiners is different for each state. Another reason is that a

large number of examiners are used for each oral examination, as each candidate is examined by a team of two examiners, and, as far as possible, a candidate is not examined by the same team of examiners for more than one case / segment. Because of these reasons, validity and consistency of performance of each examiner, and between examiners, are important, in order to achieve objectivity in assessment.

Hence, most examiners 'specialise' in examining only one segment of the examination. When they wish for a change, they have to attend examiner training for the new segment that they intend to examine, and observe other examiners in action before they are allowed to do so.

Examiner training is also for new examiners recently recruited. New examiners are successful candidates from previous examinations, who are able to join only on invitation of the examination panel. Performance in the examination is not the only criterion; personality, attitude and commitment are also important considerations.

Twice a year, before each examination, the examiners meet for a day called the Examiner Training Day. Existing members of the examiner panel are invited to give an update and to conduct the training sessions. Examiners are divided into different groups, those examining in the interviews, and those in the physical examination segments, each headed by a different coordinator. In the interview sessions, for example, the trainee examiners are shown videotapes of 'candidates' who are poor compared to those who are good. The 'candidates' as well as the 'patients' are usually role played by examiners. The trainee examiners are required to grade the candidates' performance, and their grading compared to the 'standardised' grades, as agreed upon by consensus of experienced examiners. If there is a discrepancy between the grades given, this is discussed with the trainee, and the reasons / explanations examined. Trainee examiners are also given the opportunity to role play patients as they would be required to do so in the real examination.

In the physical examination segment, trainee examiners are taught how to give weightage to each segment of the protocol, and how to assess the significance of positive and negative findings for each system examined.

As a matter of quality assurance, all examiners are required to attend such training sessions at least once every two years.

In addition to the training sessions, trainee examiners are slotted into the examination timetable as 'observer examiners'. They play no active role in assessing candidates, but are required to grade the candidates as if they are examining. Their gradings are compared with those of the examiners after each candidate has left the room. If there is a discrepancy, the reasons are discussed.

2. *THE FELLOWSHIP BY ASSESSMENT OPTION*

This provision was made by the College Council for candidates who are not able to take the examination because of various reasons. To date, few candidates have chosen to be awarded a Fellowship by this means, as the process is complicated and involved.

Assessment Requirements

The candidate must be a member of the College, currently in active general practice or equivalent. He should discuss with the College Censor before making a formal application.

For most segments of the examination, 'Assessment Equivalent Alternatives' are available, e.g. a 'practice visit' by the Chief Censor or his representative, in place of the Practice Assessment segment. The candidate is to discuss the options with the Faculty Censor of the state he is in before deciding which alternative to choose. He may, also, elect to do certain segments of the examination in place of the alternatives. Certain segments, for example the physical examination segment, have actually no alternatives. The candidate may then submit his own proposal under the provision of 'unspecified alternatives', and the suitability of his proposal will be discussed by the Censors before a decision is made as to whether this is acceptable. Details of the alternatives can be found in the Handbook for Candidates obtainable from the College Secretariat.

The Mentor
A mentor, appointed by the Faculty Censor, is assigned to each candidate. Mentors are usually members of the Panel of Examiners of that state. Their duties include explanation and guidance to the candidate in the choice of the alternatives. They are not involved in the assessment of the candidate.

THE QUALITY ASSURANCE AND CONTINUING EDUCATION PROGRAMME

1. THE ORGANISATION

The FRACGP is an 'exit qualification'. Candidates who are successful are not required to undergo further suprvised training. They are enrolled on the general practice vocational list, and are entitled to a higher rebate from the Government. Fellows of the RACGP, like other doctors in active general practice, however, are required to keep up to date with the latest developments in medicine, and participate in the Quality Assurance and Continuing Education Programme. The programme was started in 1987, but since 1993, it has become compulsory for all general practitioners in active practice.

The Government gives a grant to the College to run the QA programme, which covers doctors who are members and non-members of the College. The Head Office of the QA programme is in Sydney, under the charge of the National Director, Dr Barbara Bowles. Each state has its own Committee for QA, headed by the Chairman of the Committee. Each doctor is assigned a number, which he quotes each time he participates in an activity. At the end of each year, name list of doctors who have met the requirement for QA & CE is sent to the Department of Health, for the purpose of revision of the vocational register. Satisfactory completion of the Programme is a pre-requisite of being retained on the register, otherwise they will be transferred to the 'inactive list'.

2. THE PROGRAMME

The QA and CE Programme runs in cycles of three years each. The current cycle, or Triennium, started in 1993, and will be completed in 1995. QA & CE activities are grouped into three categories, for which credit points are awarded for participation:

(1) **Practice assessment activities**, which include conducting of management, morbidity and therapeutic surveys in the practice, training of GP Trainees or medical students, accreditation as hospital Visiting Medical Officers, among other activities.

(2) **Category A CME activities**, which include learning from journals or audiotapes, attending talks or courses, participating in the Check programme or doing research. The number of credit points for each activity have been determined by the College.

(3) **Category B CME activities**, which include activities similar to those in Category A, but for which credit points have not been assigned.

A minimum of 150 credit points are required per Triennium, with a minimum of 110 points from Categories 1 and 2, and the rest may be from Category 3. Taking a trainee for the Basic GP term, or being an examiner, for instance, earns 10 credit points each. Attending a talk for an hour usually is credited with 1 point. Besides teaching and examining, medically trained staff working full or part time for the College in other activities (e.g. developing the QA & CE Programme) are not given credit points for these activities.

Exemptions
Doctors who have recently passed the FRACGP or obtained any other postgraduate family medicine diplomas or degrees (e.g. the MMed in Family Medicine) are exempted from the QA & CE Programme for that particular Triennium.

ACKNOWLEDGEMENT

The authors wish to thank Prof S S Ratnam, Director, School of Postgraduate Medical Studies, and Dr Lam Sian Lian, Chairman, Family Medicine Committee, School of Postgraduate Medical Studies, National University of Singapore, for the opportunity to make this study tour to the RACGP.

They also wish to thank the President, Royal Australian College of General Practitioners; Dr

Neil Spike, Director of Assessment, and his staff; Dr Jo Flynn, State Director Victoria, and her staff, and staff of the New South Wales Faculty for their hospitality during the authors's visit.

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DEVELOPING A CORE CURRICULUM IN RESIDENCY / VOCATIONAL TRAINING

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What should be the core curriculum for residency / vocational training for family doctors? This question has been addressed many times before and there are several publications on the subject. Still, there is a need for each region to review the core curriculum relevant to its practitioners, and consequently a Workshop on the subject was held in the Asia Pacific Region.

The Workshop- – held in Manila from 4 - 5 February 1993 – was a joint effort by the Asia Pacific Working Party on Family Medicine Education and the Philippine Society of Teachers of Family Medicine which assumed the major organizing role.

The Asia Pacific Working Party on Education was formed in Bali at the 1990 WONCA Regional Conference with Dr Lindsey Knight from Australia as the Chairman.

The terms of the Working Party were initially to study the feasibility of a common Family Medicine Examination in the Asia Pacific Region following a 1985 study by Dr Clark Monroe.

However, it became clear that curriculum content and teacher training were even more pressing issues. The workshop on core curriculum rapidly took shape after the WONCA Conference in Vancouver in 1992.

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Much of the groundwork was done by Dr Zorayda Leopando from Philippines who was the Host Organising Secretary of the 1993 WONCA Regional Conference.

It was largely thanks to her enthusiasm, as well as the involvement of members of the Asia Pacific Region of WONCA and of the Philippine Society of Teachers of Family Medicine that the Workshop got off the ground.

The Workshop was attended by about 50 participants from every country in the Region but one.

SAINT, SHOPKEEPER, SCIENTIST

In his keynote address, Dr Rajakumar vividly painted the scene in which the family doctor of Asia Pacific Region works and aptly summarized the expectations he meets from patients in the Region, to be – depending on the circumstances – saint, shopkeeper and scientist.

The Region has the fastest growing economy in the world. Societies are rapidly changing and the population growing, as increased life expectancy also means more old people. Urbanisation is rapid, cities are becoming crowded and shanty-towns proliferating. The standard of living of the Region's elite surpasses those of members of the corresponding social class in the West. Educational levels have increased, resulting in improved awareness and higher expectations of medical care, partly due to the impact of modern information technology like the TV and radio. The family is becoming more nuclear but still retains the elaborate network ties of the extended family and remains a reliable source of support in the face of adversity.

FAMILY MEDICINE TRAINING

Resources for training, work demands and standards of care in Family Medicine vary from country to country and even between different parts of the same country. Thus, Family Medicine in the Region continues to develop in the midst of a kaleidoscope of contrasts.

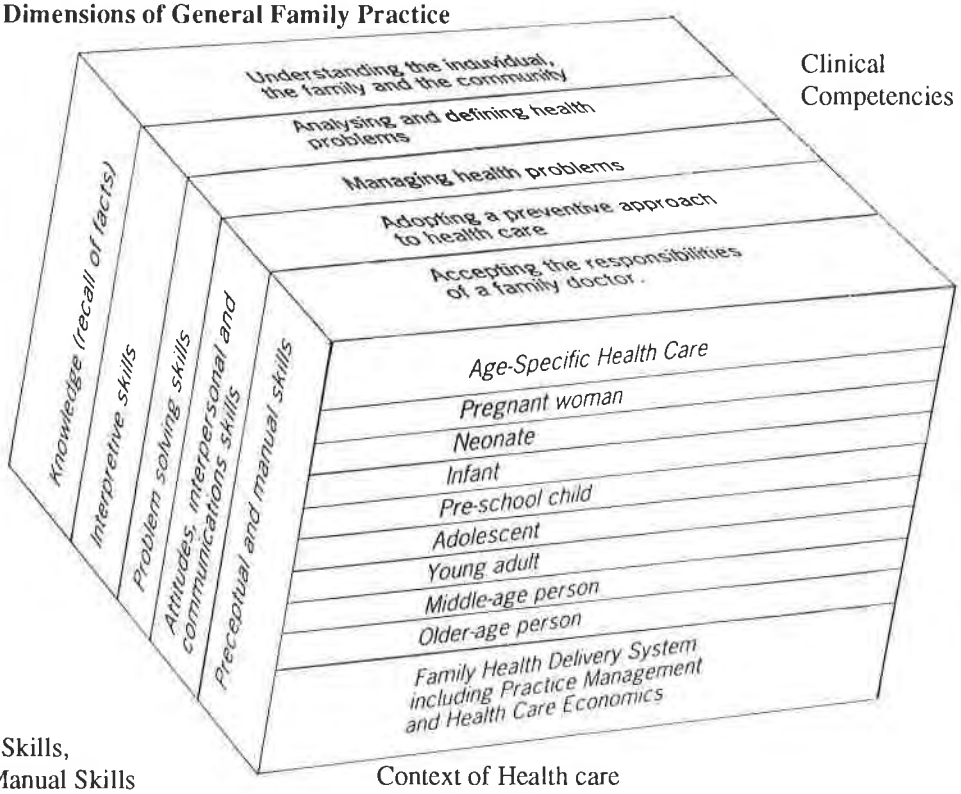
In the workshop, the discussion focused on five aspects of training:
(1) curriculum objectives
(2) curriculum content
(3) the teaching sector
(4) duration and methods, and
(5) assessment of training

Australia, the Region's most senior member as far as Family Medicine is concerned, had much to offer the workshop participants. Professor Wes Fabb spoke about contemporary concepts of curriculum development, drawing the participants' attention to a paper by Dr Wayne Weston on the foundations of a curriculum for postgraduate education in Family Medicine. A holistic approach regards learning as a process of sharing and the discovery of personal meaning: knowledge is something a person constructs or negotiates with others. The curriculum is planned col laboratively by both teachers and students to create learning environments that challenge them to reflect deeply and critically on their own experiences and the unique meanings their actions have for themselves and others. It is not enough to focus our attention on behavioural outcomes. We must also pay equal attention to the learning environment and the relationship between teachers and learners.

CURRICULUM: OBJECTIVES AND CONTENT

With minor modifications the workshop adopted the six objectives of the Australian College of General Practitioners. The Workshop also adopted the concept of the three-dimensional curriculum content of the Australian College (Fig 1).

Figure 1:
The Three Dimensions of General Family Practice



TEACHING SETTING, DURATION AND METHODS

The Workshop confirmed the need for both the hospital and the practice (preceptoral setting) in the training of the family doctor, as stated at the 1990 Conference in Bali. There may also be a need for a rural, third setting, depending on the population and health needs of the country.

At the present time there is considerable variation in the duration of training in the Asia Pacific Region. The Workshop felt that a desirable target standard would be three years, with one year in hospital and two years in the practice (preceptorship), or alternatively three years with one year in hospital, one year in practice (preceptorship) and another year in practice independently. Another alternative is two years in hospital and one year in the practice (preceptorship).

Family medicine should ideally be taught / learnt using a mix of teaching and learning methods. In the hospital training phase, the methods will include:
(1) self-directed learning
(2) ward rounds
(3) presentations
(4) tutorials and case studies.

In the practice setting, the learning / teaching methods will include:
(1) ad hoc consultations
(2) regular contact time, and
(3) small group teaching.

ASSESSMENT OF TRAINING

Training should be assessed using both formative and summative assessment methods. Formative assessment should be both subjective (self-evaluation by the trainee using an instrument such as the confidence checklist of subjects to be mastered) and objective, using an instrument such as the Manchester Scale. Video recording of consultations is being tested in UK and may turn out to be a good method of formative and summative assessment in places where such resources are available. Patient satisfaction can also be assessed using objective formative assessment. Summative assessment should test cognitive knowledge, psychomotor skills and professional attitudes. This will include written papers, clinical examination (using real or simulated patients) and case commentaries.

THE NEXT STEPS

The positive outcome of the workshop has encouraged the organisers to publish the proceedings of the workshop for wider circulation. Also, it has stimulated the idea of other workshops. A workshop on teaching strategies is being planned for 1995 in Macau, just after the 1995 WONCA meeting in Hongkong. The ideas of a self-learning package and a workshop on teacher effectiveness are also being considered.

FAMILY PLANNING

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FAMILY PLANNING METHODS

Family Planning methods may be classified into:

- Methods not requiring medical supervision
  - Safe period (rhythm or calendar method)
  - Coitus interruptus
  - Male condoms, Femidom and Spermicide
- Methods requiring medical supervision
  - Oral contraceptive pill
    - combined oral contraceptive pill (COC)
    - variable dose combined pill
    - progesterone only pill (POP)
    - post-coital ('morning after') pill
  - Injectable steroids
  - Implants
  - Intra Uterine Contraceptive Device (IUCD)
  - Diaphragms and caps
- Permanent methods (sterilisation)
  - tubal ligation
  - vasectomy

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ORAL CONTRACEPTIVES

COMBINED ORAL CONTRACEPTIVES (COC)

Failure rate: 0.2 to 1 pregnancy per 100 women years.

Indications

General:
Most suitable for healthy, young, sexually active, non-smoking, motivated, compliant individuals.

Special indications:
dysmenorrhoea, irregular cycles, premenstrual tension, menorrhagia, endometriosis, functional ovarian cyst.

For low risk women, low dose COC can be continued beyond 40 years of age (total duration of use 15 - 20 years). After 40 years of age the individual needs to reassessed for risk and if still of low risk, she can continue COC to menopause.

Contraindications to combined oral contraceptives

Absolute contraindications
Conditions that increase the risk of cardiovascular disease and those where liver function is compromised constitute the main contraindications to COCs. See Table 1. Conditions made worse by oestrogen are also contraindications.

The use of any systemic contraceptive is contraindicated in the following situations:

- pregnancy cannot be excluded
- undiagnosed abnormal genital tract bleeding
- allergic reaction
- anxiety of the user, unresolved despite counselling.

Relative contraindications

To ensure the safest possible outcome to OC use, risk factors for cardiovascular disease have to taken into consideration.

These risks are:

- *Smoking*, especially in women over 35 years.

- *Hypertension:* severe hypertension constitutes an absolute contraindication to COCs. History of pregnancy-induced hypertension dies not relate to risk of developing OC induced hypertension.

- *Diabetes:* although short term use of low dose oestrogen / progestogen preparations in uncomplicated diabetes is an option, for long term use an alternative method should be sought. Barrier methods would be the reversible methods of choice, ideally followed by sterilisation when the family is complete.

- *Family history:* a history of venous thrombosis in a first degree relative under 40 years of age or ischaemic heart disease under 45 years is an indication for screening the prospective user for hyperlipidaemia and / or coagulopathy.

- *Obesity* is a recognised independent risk factor for cardiovascular disease. Considered on its own, obesity is a weak risk factor, but it may increase the relative risk of such conditions as hypertension, diabetes, and hyperlipidaemia – especially a high LDL to HDL cholesterol ratio. The degree of obesity also matters: whilst a weight of 20 - 50% above the desired average may constitute a relative risk, obesity of over 50% is a contraindication to the combined pill. Gross obesity also increases the risk of deep vein thrombosis.

Table 1: Absolute Contraindications to the COC

1. Cardiovascular
- history of thromboembolism (arterial or venous)
- any condition predisposing to thrombosis (known coagulopathy, immobolisation)
- severe hypertension
- ischaemic heart disease or angina
- conditions suggesting cerebral ischaemia, e.g. transient cerebral ischaemia, focal migraine, severe migraine

2. Hepatic dysfunction
- acute liver disease / active hepatitis (COC may be used 3 - 6 months after liver function returns to normal)
- history of cholestatic jaundice of pregnancy
- congenital disorders such as Dubin-Johnson and Rotor syndrome
- liver tumours

3. Hormone dependent neoplasia

e.g. mammary or genital carcinoma

4. History of serious conditions affected by sex steroids
- porphyria
- herpes
- haemolytic-uraemia syndrome

5. Multiple risk factors for circulatory disease
- cigarette smoking
- hypertension
- obesity
- diabetes mellitus
- family history of arterial or venous disease

Source: A Kubba and J Guillebaud. British Medical Bulletin, Jan 1993; 49:1:147.

Medical conditions requiring special consideration

- *Gallstones*
  The use of OCs accelerates the clinical presentation of gallstones but does not initiate the condition. COCs are therefore better avoided in women with pre-existing gallbladder disease, but can be given after cholecystectomy.

- *Epilepsy*
  COCs do not induce epilepsy. As most anti-convulsants, except sodium valproate, induce hepatic microsomal enzymes and reduce the biovailability of oral steroids, epileptic women taking anti-convulsants should start with a 50 µg pill and progress to higher doses if they experience breakthrough bleeding, and should take the pill on a "tricycle" basis, eliminating 2 out of 3 pill free periods.

- *Valvular heart disease*
  The combined pill is a relative contraindication, especially when there is pulmonary hypertension or risk of mural thrombi.

- *Oligomenorrhoea / Amenorrhoea*
  These conditions should be investigated before COCs are prescribed. Depending on the outcome of the investigations oral contraceptives may or may not be contraindicated.

Important drug interactions with COC

Drugs which may decrease contraceptive effect

- Anti convulsants:
  phenobarbitone, phenytoin, primidone, carbamazepine, ethosuximide
  - choose COC with higher oestrogen content (see above).

- Antibiotics:
  short courses of broad spectrum antibiotics (especially ampicillin and tetracyclines)
  - use additional contraception while these antibiotics are in use.

- Antibiotics:
  rifampicin
  - use alternative contraception.

- Antibiotics:
  tetracycline low dose long term use for acne
  - not a problem for COC, a 50 mcg ethinyl-estradiol pill can always be used; a POP will be unaffected by this type of interaction.

- Hypnotic:
  Chloral hydrate, dichloraphenazone, glutethimide
  - avoid these drugs in OC users.

- Miscellaneous:
  chlorpromazine, meprobamate, griseofulvin and spironolactone
  - use alternative therapy or use additional contraception during short term treatment or use 50 mcg ethinyl-estradiol pill.

Drugs which may increase contraceptive effect

- Ascorbic acid:
  applies to only mega doses (0.5 - 1g daily)
  - effectively results in the patient taking a high oestrogen OC; no effect on the progestogen.

- Co-trimoxazole
  - this is not a problem, if only a short course is given to a low-dose OC user.

Choice of preparation

All patients should be adequately screened (see checklist - Annex 1) for possible contraindications and counselled for possible side-effects before starting on COC.

The choice depends primarily on the progestogen component, although the dose of oestrogen and cost should also be considered. Table 2 shows COCs listed according to progestogen component. All have 21 tablets per cycle to be given with a 7-day break between cycles. Each may be given on a Tricycle regimen - take 3 packets continuously followed by one week break, thus reducing the breaks to 4 per year.

Table 2: Combined Oral Contraceptive Preparations

Preparation	Progestin	(mcg)	Oestrogen	(mcg)
Ovran	LNG	250	EE	50
Eugyon 50	LNG	250	EE	50
Eugyon 30	LNG	250	EE	30
Ovran 30	LNG	250	EE	30
Nordette*	LNG	150	EE	30
Microgynon*	LNG	150	EE	30
Ovranette	LNG	150	EE	30
Trinordiol, Triquilar*				
- Day 1 - 6	LNG	50	EE	30
- Day 7 - 11	LNG	75	EE	40
- Day 12 - 21	LNG	125	EE	30
Marvelon	Desogestrel	150	EE	30
Mercilon	Desogestrel	150	EE	20
Gynera	Gestodene	75	EE	30
Minulet	Gestodene	75	EE	30
Norinyl-1	Norethisterone	1000	Mestranol	50
Brevinor	Norethisterone	500	EE	35
Anovlar	Norethisterone acetate	4000	EE	50
Gynovlar	Norethisterone acetate	3000	EE	50
Norlestrin	Norethisterone acetate	2500	EE	50
Minovlar	Norethisterone acetate	1000	EE	50
Loestrin 30	Norethisterone acetate	1500	EE	30
Ovulen 50	Ethynodiol diacetate	1000	EE	50
Demulen 50	Ethynodiol diacetate	500	EE	50
Conova 30	Ethynodiol diacetate	2000	EE	30
Minilyn	Lynestrenol	2500	EE	50

Key: LNG = L-Norgestrel, EE = Ethinyl estradiol, (*) = preparations available in government polyclinics.

Desogestrel-containing COCs (Marvelon, Mercilon) are useful for women with acne or hirsutism, because of their anti-androgenic properties.

Gestodene-containing COCs (Gynera, Minulet) are useful for women who have experienced breakthrough bleeding on other preparations, since cycle control is particularly good.

Norethisterone and levonergestrel-containing COCs: Pills containing low-dose norethiseterone (Brevinor) or levonorgestrel (Ovranette, Microgynon 30, Nordette) have been in use for many years and are cheaper than the newer COCs. However, they do not control the cycle as well as preparations containing the newer progestogens. A triphasic preparation (Trinordiol, Triquilar, Trinovum) remains useful for controlling bleeding where monophasic preparations have failed.

Starting COC

Table 3 shows the timing and precautions to take. COC takes 7 days to reach the protective level. Other means of contraception are needed in the meantime.

Table 3: Starting Combined Oral Contraceptives

Situation	Start	Extra Precaution*
Menstruating	5th day of menses	Yes
Menstruating	1st day of menses	No
Post partum		
- No lactation	Early in 4th week	No
- Lactation	Advise other method	Yes
Post abortion / miscarriage	Same day	No
Change brand, same low dose CP	7 days break	No
Change brand, high to low dose	No break	No
Change from POP to COC	First day of period	No

* for first cycle of use

Follow up

Blood Pressure : 3 months, 6 months, yearly
Weight : 3 months, 6 months, yearly
New Risk Factors : review at age 30, 35, 40, 45 and yearly thereafter
Pap smear
Breast examination

Patient education

Common problems and concerns

1. *Missed pills*
   - A missed pill is defined as one taken later than 12 hours after the usual time. With such a duration of pill free period, it takes 7 days of pill taking to regain contraceptive effect.
   - If 1 pill is omitted <12 hours – Take the forgotten pill straight away, take the next one at the usual time, no extra protection is needed.
   - If omission >12 hours – Take the forgotten pill as soon as it is remembered and return to normal pill taking, but use extra protection (condom) for the next 7 days.

- If there are >7 pills left, instruct the patient to continue the usual cycle of pill taking.

- If there are <7 pills left, continue with the next packet continuously without a break. She would not have her period till 7 days after the second cycle.

2. *The forgetful patient*
   - Use a single phasic pill.
   - Advise how to handle missed pills.
   - Try the tricycle regimen.
   - Change to less effort-dependent methods like the IUCD.

3. *Amenorrhoea*
   Common - 1% of cycles of the Pill are amenorrhoeic.
   Check for:
   - Compliance
   - Drug interaction, diarrhoea, vomiting that may indicate contraceptive failure
   - Pregnancy.

   If two cycles of amenorrhoea occur, discontinue COC and change to non-hormonal methods and watch. Consider restarting on a triphasic or COC with higher oestrogen once menses return.

   "Post-pill Amenorrhoea" - Amenorrhoea of >6 months following discontinuation of COC. Investigate as in any case of amenorrhoea.

4. *Breakthrough bleeding (BTB)*
   - This is very common in the initial cycles if low-dose COCs are chosen — pre-warning is helpful
   - Check compliance
   - Irregular bleeding is more likely to be unrelated to COC. Investigate if it persists after stopping COC
   - Second choice COC for bleeding side effects: If BTB is unacceptable or persists beyond two cycles, despite good compliance (and in the absence of a lesion in the cervix), use a triphasic pill or change to a COC with more progestagen or oestrogen content (See Table 2).

5. *Minor side effects*
   - Nausea, dizziness, premenstrual tension and irritability, cyclical weight gain, vaginal discharge (no infection), breast tenderness
     - these symptoms indicate relative oestrogen excess
     - treat with progestagen-dominant COC such as Leostrin 30, Conova 30, Eugynon 30.
   - Dryness of vagina, sustained weight gain, loss of libido, lassitude, acne, seborrhoea, hirsutism:
     - these symptoms and conditions indicate relative progestagen excess
     - treat with oestrogen-dominant COC, such as Brevinor, Trinordiol or Marvelon.

6. *High blood pressure*
   Monitor all cases on COC at starting, 3 months, 6 months, yearly. It is common to have small rise in BP < 5 mm. In low risk (for cardiovascular risk factors) patients this is of no concern. If the pressure is 160/95 mmHg or higher, discontinue COC.

7. *Migraine headache*
   COC is contraindicated in:
   - Focal migraine
   - Severe and sustained headache
   - First migraine attack while on COC
   - Concurrent use of ergotamine.

8. *Common concerns of the CP users*
   - Does COC impair fertility?
     No, not in terms of long-term fertility rate. However, there is definite delay of 2 - 3 months or longer in getting pregnant after stopping the pill.

   - Does one need a break after several years of pill taking?
     No, reversibility of CP is not dependent on duration of COC usage.

   - Can one plan for a baby straight away after stopping CP?
     Yes, there is no evidence of residual foetal risk to ex-COC users. Ultrasound scanning can overcome the problem of uncertain gestational age.

   - Are cancer risks increased with taking COC pills?
     The cancer risks are not high. There is a reduction of ovarian cancer but a slight increased risk of breast cancer and cervical

cancer. However the degree of risk is hard to calculate because of other risk factors operating at the same time (e.g., smoking, number of sexual partners and age at first intercourse).

Surgery and COCs

- Minor surgery including laparascopy does not warrant interruption of OC use.

- Any major surgery, especially abdominal operations and even minor surgery which immobilises the lower limbs, carries a risk of thromboembolism. COCs should be discontinued at least 4 weeks before operation. They can be restarted at the first menstruation after operation but not earlier than 2 weeks and only if the patients is fully mobile. A progestagen-only method is suitable to cover the peri-operative period. One protocol is to give a depot injection of medroxyprogesterone acetate (Depo-provera) at the time of stopping the pill and then to resume the pill any time after the operation.

PROGESTAGEN ONLY PILL (POP)

Failure: 0.3 to 5 per 100 women years (age, motivation dependent).

Acts mainly on cervical mucus, endometrium

- May result in very irregular cycles
- Need to be very regular in taking the pill
- Risk of ectopic pregnancy, ovarian cyst.

Indications

- Older women
  - especially above age 35 in smokers and above age 45 in non-smokers
- Diabetes mellitus
  - as an alternative to barrier methods and sterilisation
- Hypertension
  - as an alternative to COC
- Migraine, including focal varieties
- Postpartum and breast feeding
- Sickle cell disease
- Documented hypersensitivity to oestrogens.

Preparations

Table 4 shows the POP preparations available. There is no real basis on which to make a choice as to which POP to use. It is mainly the doctor's preference (and the woman's). It is suggested that the least amount of administered progestagen gets into the breast milk if a levonorgestrel preparation is used.

Table 4: POP Preparations

Preparation	Progestagen per tablet	Progestagen	Number of tablets
Noriday	350 µg	Norethisterone	28
Micronor	350 µg	Norethisterone	28
Femulen	500 µg	Ethynodiol diacetate	28
Neogest	75 µg	Norgestrel	35
Microval	30 µg	Levonorgestrel	35
Norgeston	30 µg	Levonorgestrel	35

Source: Ann McPherson. Women's Problems is General Practice 2nd ed. 1988:144.

Starting POP

The starting routines for POP are shown in Table 5. Note that POPs are taken continuously without a break, unlike COCs.

Table 5: Starting routines for POPs

Situation	Start	Extra Precaution
Menstruating	1st day of menses	No
Post partum		
- No lactation	Any time before 4th week	No
- Lactation	Usually 7 - 42 days after delivery	No
Post abortion / Miscarriage	Same day	No
Change from COC to POP	Instant switch	No

Source: Ann McPherson. Women's Problems in General Practice 2nd ed. 1988:144.

INJECTABLE CONTRACEPTIVES

There are two preparations

a) Depo-provera
b) Noristerat (8 weekly)

Selection of patients

- Patients should be below 45 years old and have at least two children.

- Patients should be informed that Depo-Provera may upset their menstrual cycle, and may cause spotting, intermenstrual bleeding and amenorrhoea. If patients are not prepared to accept these side effects, they should be dissuaded from using this method.

- During the first month, patients should be protected by another contraceptive method, e.g. condoms and spermicide.

Medical History

A careful medical history is taken to exclude:

- malignancy of breast or genital organs
- abnormal vaginal bleeding of unknown cause
- thrombo-embolic disease
- liver disease or dysfunction
- suspected pregnancy.

General physical examination:

- recording of BP and body weight
- testing of urine for sugar
- palpation of breasts, pelvic examination including a Pap smear.

Dosage and Method of Administration

- Each injection of 150 mg of Depo-Provera in a volume of 3 ml is administered by deep intra-muscular injection into the gluteal muscle every 3 months.

- To ensure that the patient is not pregnant, the first injection is given during the first 5 days after the onset of a normal menstrual period between the 4th and 6th week postpartum.

- Subsequent injections are given at 3 monthly intervals.

Management of Side Effects

- Patients should be instructed to return at any time for excessive or prolonged bleeding or any untoward side effects.

- After a few months, some patients on Depo-Provera may experience complete amenorrhoea for long period of time. For such patients, a urine test to rule out pregnancy may need to be done before giving the next injection.

INTRA-UTERINE CONTRACEPTIVE DEVICE (IUCD)

Indicated for the less motivated patients and women not medically suited for, or preferring not to use, hormonal steroids.

Mode of Action: it prevents implantation of embryo

Failure rate : 3 in 100 women years

The standard type available is the Multi-load copper 250 suitable for uterine length sounded between 6 and 9 cm. IUCDs to fit shorter length uteri are not available routinely in clinics. Women with uterine cavities sounded larger or smaller than average may need further investigation before IUCD insertion. Other types of IUCD commonly available include the Copper T, the Nova T and the Lippes loop.

Contraindications

Absolute

- Active pelvic infection (acute or subacute), including known or suspected gonorrhoea or chlamydia
- Known or suspected pregnancy
- Undiagnosed genital bleeding
- Genital malignancy.

Relative

- Multiple sex partners or strong likelihood that the woman will have multiple partners during the time that IUCD is in place
- Multiple sex partners by partner of IUCD user
- Difficult to obtain emergency treatment should complications occur
- Recent or recurrent pelvic infection, postpartum endometritis, or septic abortion within the past 3 months
- Acute or purulent cervicitis - treat first
- Menstrual bleeding disorders not yet definitely diagnosed
- History of ectopic pregnancy or conditions that predispose a woman to it
- Single episode of pelvic infection if patient desires subsequent pregnancy
- Impaired response to infection (AIDS, diabetes, corticosteroid treatment, etc)
- Blood coagulation disorders.

Other contraindications

- Endometriosis
- Leiomyomata
- Endometrial polyps

- Congenital uterine abnormalities or fibroids that prevent proper placement
- Anaemia.

Screening suitability of patient for IUCD
Use checklist (Annex 2) to screen suitability of patient.

Precautions to take before insertion
- Investigate and correct anaemia
- Get a written consent.

It is important to ensure the following:
- Patient is not pregnant. It is often inserted during or just after menstruation, but can be done at any time of her cycle, as long as pregnancy is excluded.

- Usually is inserted at 6 weeks post-partum provided patient has had no sexual intercourse and is not pregnant.

- Insert 2 weeks after termination of pregnancy to avoid infection. However, it is possible to insert IUCD at the end of a termination procedure in hospital.

- Inform patient of side effects, complications and level of protection against pregnancy.

Tips on inserting an IUCD
- ALWAYS CAREFULLY READ THE MANUFACTURER'S INSTRUCTIONS FOR THE SPECIFIC IUCD YOU ARE INSERTING.

- Explain the procedure to the patient to help her relax.

- Perform a careful bimanual examination to rule out pregnancy and active pelvic infection and to ascertain the position of the uterus.

- To prevent perforation of uterus the angle between uterine axis and cervical canal must be straightened and never use excessive force in advancing the uterine sound or the insertor. *This is the most important instruction for the new doctor.* (When the track of IUCD perforations is located, it is almost always at 90 degrees to the axis of the fundus. Perforations occur most often in retroflexed uteri that were not diagnosed before the IUCD was inserted.

- Exercise caution when inserting IUCD for nulliparous woman who are more likely to experience vasovagal attacks and postinsertion pain. This will require immediate removal of the IUCD.

Removal of IUCD
Removal is easier at the time of menstruation.
- Prepare the vulva, insert the speculum and cleanse the cervix. To facilitate removal, a tenaculum should always be used to straighten the uterine axis, thereby also minimising the risk of side arm breakages.

- Use forceps to grasp both threads of the IUCD as near to the exit from the external os as possible.

- Using steady downward traction with the tenaculum to straighten the uterine axis, the IUCD should be able to be easily withdrawn from the uterus. No excessive force must be used.

- If the device cannot be withdrawn by normal force or if a fragment has remained behind, diagnostic steps should be taken to exclude perforation or embedding.

Complications

Immediate complications at insertion
- Vasovagal reaction (syncope, cervical shock) with, very rarely, a generalised epileptiform attack or cardiac arrest.
  Treatment
  - 1/V atropine sulphate 0.6 to 1.2 mg diluted in sterile water
  - check pulse and BP
  - give oxygen.

- Perforation
  This usually occurs or begins at insertion. It may be accompanied by sudden pain and / or bleeding or it may be symptomless.

Later complications
- Pelvic infection
  This occurs usually within the first 4 months after insertion. When pelvic inflammatory disease is present, remove the IUCD and treat it aggressively (Metronidazole 200 mg tds and Amoxycillin 500 mg tds for 14 days).

- Increased menstrual bleeding
  It is normal that periods become slightly longer and heavier than previously.

- Dysmenorrhoea
  Pain is usually increased for the first few cycles only, but may be persistently severe in nulliparous women.

- Intermenstrual spotting
  This may occur with all IUCD devices. Pain and bleeding may occur following removal.

- Pregnancy
  Pregnancy rate varies from 1-5%. When diagnosed, the IUCD should be removed. There is 20% risk of aborting the pregnancy by removal but if left in place there is 50% risk of spontaneous abortion, usually in the first trimester. There is an increased risk of infection.

- Expulsion

- Ectopic pregnancy
  Unlike other contraceptive methods, the IUCD does not protect against ectopic pregnancy. When evaluating pelvic pain in an IUCD user, it is essential to rule out the possibility of ectopic pregnancy.

- Tubal infertility
  There is a higher risk especially with nulliparous women who use an IUCD.

Missing IUCD strings

Sometimes the strings may be fished gently from the cervical canal with narrow forceps, failing which the woman should be referred for localisation of the IUCD by ultrasound.

References

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3. Kubba A & Guillebaud J. COC acceptability and effective use. British Medical Bulletin Jan 1993; 49:1:147.

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Annex 1

CHECKLIST FOR STARTING ORAL CONTRACEPTIVE PILL / DEPO-PROVERA

(Use the checklist before starting and re-starting a patient)
(Mark "–" if normal, "+" in red if abnormal)

Name:
BC No:
Date
LMP (date)

EXAMINATION
- Weight
- BP
- Urine albumin
- Urine sugar / Blood sugar
- Skin: Jaundice / Pallor / Acne / Pigment
- Legs: Varicose veins / Oedema
- Heart / Lungs
- Breasts
- VE / Pap Smear
- Others

MEDICAL HISTORY / SYMPTOMS
- Jaundice / Liver disease / Hep B carrier
- Growth / Cancer / Nipple discharge
- Mental depression
- Excess Menses / Abnormal vaginal bleeding
- Leg pain / swelling
- Severe chest pain
- Severe headaches
- Exertional breathlessness
- Smoking
- Current medication
- Drug allergy
- Others

FAMILY HISTORY
- Hypertension
- Diabetes
- IHD / Stroke <50 years age
- Gallstones
- Breast cancer

PAST OBSTETRIC HISTORY
- Hypertension
- Gestational diabetes
- Skin: Jaundice / Pruritus
- Abnormal pregnancy / foetus

PROBLEMS WITH PREVIOUS FP METHODS

REMARKS

Annex 2

CHECKLIST FOR STARTING PATIENT ON IUCD

(Use the checklist before starting and re-starting IUCD)
(Mark "–" if normal "+" in red if abnormal)

Name:
BC No:
Date
Date last delivery / abortion
Parity
FP intention: Spacing / limiting

MENSTRUAL HISTORY
- LMP (date)
- LMP normality
- Cycle / Duration
- Flow / Pain

GYNAECOLOGICAL HISTORY
- Abnormal vaginal bleeding
- Abnormal vaginal discharge
- Uterine abnormality / Growth
- PH of ectopic pregnancy
- Genital infection / Septic abortion
- Others

FAMILY HISTORY
- Valvular heart disease
- Diabetes mellitus
- Anaemia
- Recurrent urinary tract infection
- Bleeding tendency
- Copper allergy
- Others

MEDICAL EXAMINATION/INVESTIGATIONS
- Hb
- Heart
- VE: Uterine axis
  - Cavity size
  - Others

COUNSELLING
- What is IUCD?
- Minor side effects
- Whether high risk for STD
- Major side effects

CONSENT: Upon my request for the insertion of IUCD, the use, effectiveness and possible side effects of IUCD have been explained fully to me. I hereby give my consent for the insertion of IUCD for me.

Inserted by:
(Signature)

WORLD HEALTH ORGANIZATION PUBLICATIONS

NEW BOOK ANNOUNCEMENT

CHALLENGES IN REPRODUCTIVE HEALTH RESEARCH
UNDP / UNFPA / WHO / World Bank Special
Programme of Research, Development and
Research Training in Human Reproduction
Biennial Report 1992 - 1993
edited by J Khanna, P F A Van Look, and P D Griffin
1994, 202 pages
ISBN 92 4 156170 X

This forward-looking report explores the lines of research needed to meet the urgent — and growing — demand for improved methods of fertility regulation. Arguing that the currently available contraceptive "hardware" may not be able to meet the heightened needs and expectations of all users, the book calls for a second contraceptive revolution that utilizes the powerful tools of molecular biology to develop a range of safer, more affordable, and more effective methods. To this end, the report documents the nature and extent of unmet needs in all areas of reproductive health, discusses future trends, and identifies priority problems that can be solved through carefully targeted research.

Throughout the report, recommendations are guided by an approach to reproductive health that moves away from an almost exclusive concern with reducing fertility rates and gives greater attention to the promotion of reproductive health and well-being, particularly as perceived by the women themselves. Although emphasis is placed on exciting advances in the development of new technologies, the report also considers the need for research on the social and behavioural determinants of contraceptive use and on factors influencing the quality of family planning services.

The report has two parts. The first features six invited papers offering an overview of future research needs in each of the main areas affecting reproductive health. Background information is provided in the first paper, which briefly reviews the emergence of the concept of reproductive health. The second paper reviews current problems confronting fertility regulation research and outlines the challenges that lie ahead. These range from the need to develop contraceptive methods that protect against sexually transmitted diseases, through the formulation of standardized national and international guidelines on the prescription of contraceptives and on screening procedures that can help minimize side-effects, to the provision of better epidemiological data as a basis for sound policy decisions.

Other papers discuss future contraceptive needs as perceived by women's health advocates, and consider what current research can realistically be expected to produce in the near future, including several new technologies that are likely to influence contraceptive practice by the turn of the century. New products discussed include long-acting implantable and injectable contraceptives, vaccines, vaginal rings, post-ovulatory methods, a once-a-month menses inducer, improved intrauterine devices, new methods of male sterilization, new barrier methods, and advances in natural family planning. Part I concludes with a discussion of the steps needed to launch a second contraceptive revolution, followed by a review of the threat to reproductive health posed by the major sexually transmitted diseases.

Chapters in the second part report the main activities of the UNDP / UNFPA / WHO / World Bank Special Programme of Research, Development and Research Training in Human Reproduction during the 1992 - 1993 biennium. Areas of activity covered include social and epidemiological research, the development and assessment of new fertility regulation technologies, research on users' needs for fertility regulation and the capability of services to meet these needs, and support to national research efforts.

GUIDELINES FOR AUTHORS
THE SINGAPORE FAMILY PHYSICIAN

Authors are invited to submit material for publication in the Singapore Family Physician on the understanding that the work is original and that it has not been submitted or published elsewhere.

The following types of articles may be suitable for publication: case reports, original research work, audits of patient care, protocols for patient or practice management and review articles.

PRESENTATION OF THE MANUSCRIPT

The whole paper

* Normally the text should not exceed 2000 words and the number of illustrations should not exceed eight.

  Type throughout in upper and lower case, using double spacing, with three centimetre margins all round. Number every page on the upper right hand corner, beginning with the title page as

  1. Make all necessary corrections before submitting the final typescript.
     Headings and subheadings may be used in the text. Indicate the former by capitals, the latter in upper and lower case underlined.

     Arrange the manuscript in this order: (1) title page, (2) summary, (3) text, (4) references (5) tables, and (6) illustrations.

* Send three copies of all elements of the article: summary, text, references, tables and illustrations. The author should retain a personal copy.

The title page

* The title should be short and clear.

* Include on the title page first name, qualifications, present appointments, type and place of practice of each contributor.

* Include name, address and telephone number of the author to whom correspondence should be sent.

* Insert at the bottom: name and address of institution from which the work originated.

The summary

* The summary should describe why the article was written and give the main argument or findings.

* Limit words as follows: 100 words for major articles; 50 words for case reports.

* Add at end of summary: an alphabet listing of up to 8 keywords which are useful for article indexing and retrieval.

The text

The text should have the following sequence:

* Introduction: State clearly the purpose of the article.

* Materials and methods: Describe the selection of the subjects clearly. Give references to established methods, including statistical methods; provide references and brief descriptions of methods that have been published but are not well known. Describe new or substantially modified methods, giving reasons for using them and evaluate their limitations. Include numbers of observations and the statistical significance of the findings where appropriate.

  Drugs must be referred to generically; all the usual trade names may be included in parentheses. Dosages should be quoted in metric units.

  Laboratory values should be in SI units with traditional unit in parentheses.

  Do not use patient's names, initials or hospital numbers.

* Results: Present results in logical sequence in the text, tables and illustrations.