

DEPRESSION



DEPRESSION

Richard West

Research Associate, Office of Health Economics



Office of Health Economics
12 Whitehall London SW1A 2DY

No 105 in a series of papers on current health problems published by the Office of Health Economics. Copies are available at £3.00. For previous papers see page 39.

Cover illustration by Luke Fildes ARA, courtesy of Mary Evans Picture Library.

© March 1992. Office of Health Economics.

ISSN 0473 8837

Introduction

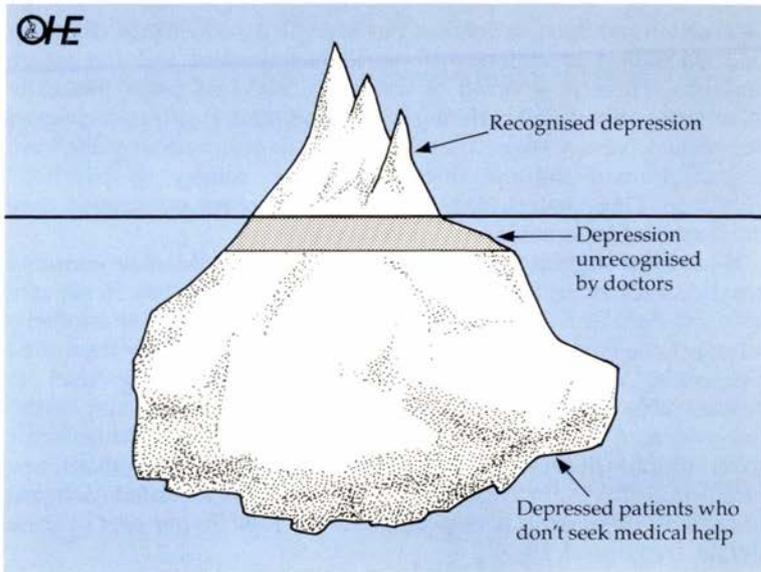
Depression has been defined as the persistent and sustained feeling that the self is worthless, the world meaningless and the future hopeless. There is a world of difference between being generally miserable and sad, and suffering from the psychiatric illness known as depression. Nevertheless, a continuum can be seen to exist going from normal human sadness through neurotic misery to psychotic delusions. This paper deals with the latter two categories rather than the universal experience of 'feeling depressed'.

It has been suggested that clinical depression is the most common emotional disorder, for example, afflicting approximately 50 per cent of North Americans and Western Europeans at one time or another – although the basis for such assertions may derive entirely from their vagueness; any attempts at defining concepts may lead to considerable difficulties. The US National Institute of Mental Health has estimated that 15 per cent of those aged 18 to 74 may be suffering from serious depressive illness in any given year (Gallant and Simpson, 1976). Approximately 4,000 suicides are recorded each year in the UK; depression is responsible for at least 70 per cent of these deaths (Wilkinson, 1989).

There is now perhaps a more sympathetic attitude towards victims of depression with it being viewed as a serious illness rather than something one can just 'snap out of' at will. However, sufferers may still fear being taken for malingerers and feel they are to blame for their condition. The shame they may experience adds to the depression. These factors may help to explain why depression is under-treated, under-recognised and stigmatized. It has been suggested that only one in four cases of depression is actually recognised and treated; hence the notion of 'the iceberg of depression' with only the tip visible as clinically diagnosed depression (see Figure 1). Whilst many depression sufferers do not seek medical care, in some cases doctors fail to diagnose depression in their patients. It has been claimed that GPs miss depression as often as they recognise it (Tylee 1991a). Patients with unrecognised depression have been said to be less severely depressed with more physical illness contributing to their depression (Tylee, 1991a). However, other commentators in this field see diagnosed and missed depression as virtually identical in terms of severity.

We all feel 'down' from time to time and may even say 'I feel depressed', however, for depression to be clinically diagnosed (see Box 1) the symptoms have to be persistent and overwhelming. Haygarth and Branford (1991) suggest at least two consecutive weeks of depressive symptoms are required before clinical depression can be diagnosed. Sufferers will no longer have the capacity to experience enjoyment from events or instances that would normally be

Figure 1 The iceberg of depression



Source: Kelly D (1987)

pleasurable, amusing or gratifying. Many sufferers also experience anxiety and insomnia in addition to their underlying depression. There is a close relationship between anxiety and depression and it is common for the two to occur together. Treatment which influences one often modifies the other. A diagnostic difficulty arises in trying to determine whether the illness is primarily a depressive one with concomitant anxiety or an anxiety neurosis with secondary depression. Agitation may be extreme in primary depressive illnesses, especially in old age, and suicidal feelings should always be looked for. Common symptoms of depression are set out in Table 1.

Masked depression is considered to be present when pain is concentrated in the head, neck, spine, and different joints in such a way that the actual depressive symptoms are difficult to recognise. Masked depression will often be accompanied by anxiety and pain states that may neither be measured objectively or treated by somatic means. Depression and anxiety account for a large proportion of those people who contact the health service because of neurotic syndromes. It has been argued that it takes more time to deal with these complaints than with many communicable diseases. Wright (1991)

BOX 1 Diagnostic criteria for depression

Major depressive episode: at least five of the following symptoms should be present during a two week period. One of the symptoms should be either depressed mood or loss of interest or pleasure.

Symptoms: depressed mood; markedly diminished pleasure in most or all activities; significant weight loss or weight gain when not dieting, or an increase or decrease in appetite; insomnia or hyperinsomnia; psychomotor agitation or retardation; fatigue or loss of energy; feelings of worthlessness or excessive or inappropriate guilt; diminished ability to think or concentrate, or indecisiveness; recurrent thoughts of death, suicidal ideation, suicide attempt or a specific plan for committing suicide.

It should not be possible to establish that an organic factor initiated the disturbance, which is not a normal response to the death of a loved one. There should be no delusions or hallucinations, and the condition is not superimposed on schizophrenia or a similar psychotic disorder.

Seasonal pattern: there is a regular temporal relationship between the onset of an episode of bipolar disorder or recurrent major depression in a particular 60-day period (eg. regular episodes between beginning October and end of November). Full remissions (or a change from depression to mania or hypomania) within a 60-day period (eg. depression absent from mid-February to mid-April). At least three episodes of mood disturbance in three separate years, at least two of the years were consecutive. Seasonal episodes outnumber non-seasonal episodes by more than 3:1.

Bipolar disorder: the most recent episode involves the full symptomatic picture of both manic and major depressive symptoms, intermixed or alternating every few days. Prominent depressive symptoms lasting at least one full day.

Dysthymia (depressive neurosis): depressed mood for most of day, more days than not, for at least two years. While depressed at least two of the following must be present: poor appetite or overeating; insomnia or hyperinsomnia; low energy or fatigue; low self-esteem; poor concentration or difficulty making decisions; feelings of hopelessness.

The patient is never without symptoms for more than two months at a time, over a two year period. The patient has never had a manic episode and the disorder is not superimposed on a chronic psychotic disorder, nor can it be established that an organic factor initiated and maintained the disturbance.

Source: Adapted from American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition (DSM-III-R)

says that up to 40 per cent of his depressed patients present initially with somatic rather than psychological symptoms and often do not act in a depressed manner. Whilst they have depressive features they are masked by a great deal of somatic 'interference'.

Recently, there has been considerable development in the medication available to treat depressive patients. It is claimed that many of the newer treatments offer good efficacy and fewer side-effects than the well established tricyclic antidepressants which are still frequently prescribed in cases of depression. At least the depression sufferer in the 1990s has the prospect of drug treatment

Table 1 Symptoms of depression

<i>Common symptoms of depression</i>	<i>Common somatic symptoms</i>
Loss of energy and interest	Insomnia and early wakening
Sense of extreme fatigue, worthlessness and hopelessness	Constipation
Lack of concentration	Menstrual disorders
Loss of facial expression, outward affection and confidence	Psychosomatic disturbances
Social withdrawal	Aches and pains
Anxiety, agitation, guilt and regret	Asthenia (state of weakness)
Suicidal thoughts	Dramatic changes in appetite leading to weight loss or gain
Lack of care with dress and appearance	Loss of libido
Mental slowness and weepiness	

which may lift their depression. In the pre-World War Two era such patients were simply sedated, nursed and supervised; the post-War period saw the emergence of electro-convulsive therapy (ECT) which transformed the outlook for depressed patients. ECT remained the main treatment for depression until the late 1950s when anti-depressant drugs first became available. Currently research is examining ways to create more selective antidepressants (so that they act more specifically on lifting the depression and do not affect other functions) with fewer side-effects and interactions with diet and other drugs.

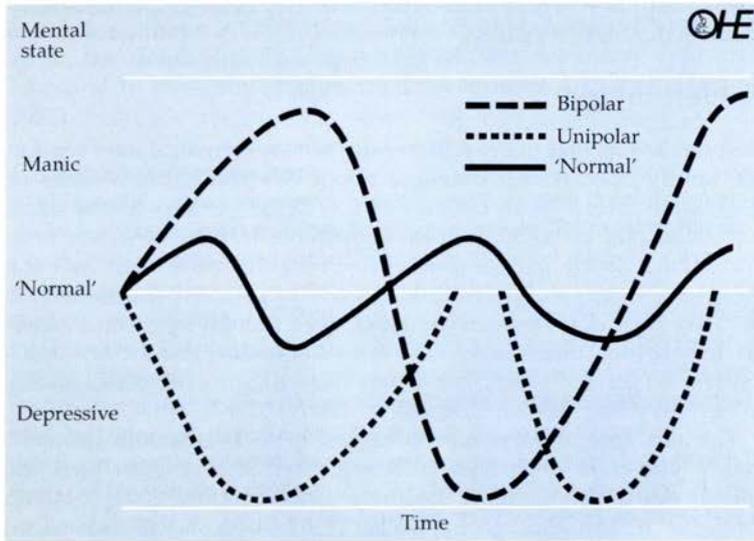
Since depression is such a common and potentially fatal illness, this paper attempts to set out the background to the illness and its social and economic consequences.

Classifications

Classifications of depression have been based on the cause, the symptoms or the course of the illness. Categorisations based on the cause are usually divided into either reactive or endogenous depression. Reactive depression arises as a reaction to external stresses (eg. bereavement, redundancy or moving). Endogenous depression occurs when symptoms appear to be independent of environmental causes. Depression classified by cause can also be referred to as primary or secondary depression. Secondary depression refers to depression caused by psychiatric or physical illness and drug or alcohol abuse. Primary depression occurs when the depression itself is the fundamental problem rather than an addition to, or the result of, an existing difficulty.

In classifications based on symptoms depressions are either defined as neurotic or psychotic. This is probably the classification in widest

Diagram 1 A diagrammatic representation of unipolar and bipolar depression



clinical use, despite the fact that the distinction between the two is not always very obvious. Neurotic depression usually follows a distressing experience. There is often a preoccupation with the emotional trauma that preceded the illness. Neurotic depression is not associated with hallucinations or delusions. Psychotic depression is usually a recurrent disorder with severe disturbances of mood including hallucinations, delusions and often a strong tendency towards suicide. In recent times neurotic depression has tended to replace the term reactive and psychotic replaced endogenous, since depression is now usually defined in terms of the symptoms rather than the cause.

Depressions classified by course are termed unipolar or bipolar depressions (Diagram 1 demonstrates the difference between unipolar, bipolar and 'normal' emotions in terms of mood fluctuations). Unipolar depressions occur alone, without associated manic illness. Bipolar disorders consist of alternating or simultaneous episodes of mania and depression (manic-depressive psychosis). An overlap between the two may exist with some defined as unipolars simply because they have not yet experienced a manic episode. These types probably do not differ in their depressive symptoms or response to treatment.

The severity of the depression can be defined as mild, moderate or severe; major and minor depression are also terms used to describe

the severity. These terms can apply to any of the above classifications. In terms of treatment severe depression is more likely to require hospitalisation whereas mild depression may resolve spontaneously within a matter of months.

Epidemiology

Despite the fact that many sufferers do not seek medical intervention UK family doctors still diagnose about two million new cases of depression every year (RCGP/OPCS/DHSS, 1986). It has been suggested that up to 50 per cent of patients seen by GPs may have underlying psychological problems. Probably, more than half the patients with major depressive illness seen by general practitioners do not have their depression recognized, even though their condition is no less severe than those who are diagnosed. 'However, much depression general practitioners may miss, they are reasonably likely to be right when they do diagnose it.' (Harris, 1987).

The incidence of depression is highest in socio-economic groups 1 and 5 with mild depression affecting more women than men; the suicide rate is also higher in the lower socio-economic groups, but no longer so in the highest group. Becker (1964) suggests that depression is more common among middle-class women (class 1) because 'high expectations leave a middle-class woman particularly vulnerable to feelings of guilt, low self-esteem and depression. Since she is less able... to explain her disappointment in terms of social deprivation she does so in terms of personal failure.' However, Brown and Harris (1978) found that working-class women in their survey of 458 women in Camberwell were more commonly depressed than middle-class women. Overall, depression, as represented by treatment statistics, appears to affect about twice as many women as men. However, severe and recurrent depression affects equal proportions of men and women. Reactive depression is thought to be about four times as common as endogenous depression (Sanders, 1984). About a third of patients will only experience one episode of depression in their lives; half will suffer a recurrence within two to five years.

Bipolar depression or manic-depressive psychosis occurs with an incidence of between 0.5 per cent and two per cent of the population per annum, and accounts for about 10 per cent of depressed people. Thus, indicating that there could be anywhere between three and 10 million clinically depressed people in the UK in any given year; suggesting a higher level of overall depression than may have been intimated earlier, this is quite possible as the majority of depressed patients do not seek medical intervention and are therefore not seen by the medical profession, or go undiagnosed when they do consult.

At least half of those having an episode of mania will have no

further episodes of mania (McKenna, 1987). Those with recurring episodes may go years or even decades before a recurrence. Once established an episode of manic-depressive psychosis lasts on average six to nine months. A US National Institute of Mental Health review of 15 studies found that the average age of onset for manic-depressive illness is in the early thirties for both women and men (Tsuang, 1987).

Childhood depression

Childhood depression may be much more common than anyone had previously recognised according to a study from the Nuffield Psychiatry Unit at Newcastle University. Of 300 children referred to the unit aged nine to 16 one-third were found to be suffering from chronic depression (THPRT, 1991). The children were referred because they displayed disruptive behaviour, tendency to truant, or eating difficulties. Anorexia nervosa and other eating disorders, most commonly associated with adolescent girls, have been regarded as a manifestation of depression. Treatment for such disorders is with antidepressants. In 1990 fluoxetine became the only drug officially licensed for use on bulimia.

A childhood depression inventory was developed in the USA in 1981 by Maria Kovacs, a child psychiatrist, for children aged eight to 13. A modified version of this system was employed by the Newcastle study. They found up to the age of 12 more than twice as many boys as girls suffered from depression; but from 13-16 the depressed girls outnumbered boys by more than three to one. A study of Vancouver high school children (aged 13-19) found a prevalence of mild to clinical depression of about 30 per cent. From age 13-15.5 years more boys than girls were depressed. From 15.5-17 years many more females were depressed; this is also true for those aged 17-19, although the excess was almost entirely accounted for by mild depression. They claim that whilst these figures are high they are consistent with findings elsewhere. Of course, it should be noted that these results are not directly comparable to the Nuffield findings because the Nuffield study dealt with disturbed children rather than members of the general adolescent population which was the basis of the Vancouver study.

Increasing incidence of depression?

It has been argued that there is an increasing incidence of depression being experienced currently over that of previous periods. Klerman and Weissman (1989) based this assertion on several factors. Firstly, admission to hospital since 1950 for affective illness has increased when compared with 1920 to 1950 – however, in the past, once admitted, people tended to remain there for the rest of their lives; now

patients tend to come and go more frequently often with the same people being admitted several times (the revolving door scenario). Secondly, the average age of onset has fallen when compared with the pre-World War Two era; evidenced by the fact that more adolescents and young adults are presenting themselves with a greater frequency for treatment of depressive disorders (Klerman, 1976). Thirdly, depression during adolescence has been increasingly noted with higher rates of suicide (attempted and completed) among adolescents being observed. Finally, the fact that depression is now given more attention in the press and professional literature may merely have given an appearance of a growing incidence; or on the other hand it may have highlighted the problem, causing it to be identified more easily and possibly made an admission by the patient more acceptable thereby leading to a situation where more cases come to light. Nevertheless, it is still generally accepted that many sufferers do not seek treatment and women and more affluent people are likely to be over represented in statistics relative to other sections of the population, since they seem to be more prepared to admit to depressive illness, or are in a better position to utilise and seek help.

Aetiology

A number of general aetiological factors have been identified. Hereditary susceptibility to depression has been proposed with affective psychosis, bipolar and unipolar depression all showing familial tendency. However, at least half such cases do not have a familial connection. It has been argued that in manic-depressive psychosis genetic predisposition interacts with ill-defined or unknown environmental influences. Wilkinson (1989) suggests that the risk of a first-degree relative of a bipolar depressed patient also suffering from a bipolar disorder is 20 times greater than for the population as a whole. With respect to unipolar depression the risk is increased by about three fold.

Psychological explanations

Personality types have been suggested to predispose some individuals towards depression. Individuals exhibiting life-long alternating hypomanic or depressive behaviour with few normal periods have been observed to be prone to manic-depressive psychosis. Also the obsessional personality trait with love of orderliness, meticulousness, rigidity and decisiveness, has been claimed to predispose people towards manic-depressive psychosis, although little hard evidence exists to support this (McKenna, 1987).

The notion of loss has often been said to precede almost all depressive episodes. Bereavement, parental separation or more covert

losses such as loss of status or self-esteem may all be factors which lead to depression; although the time lag period between the loss and the depression may be considerable. Ganzini et al (1990) considering the incidence of depression following catastrophic financial loss found that 35 per cent, of a group of duped former employees at the same firm, had BDI (Beck Depression Index) scores of over 11, indicating significant depressive symptomatology; 75 per cent of these named financial loss as the greatest stress in the preceding year and a further 15 per cent alluded to a change in financial status that was stressful¹. Only one in nine of the depressed subjects visited a mental health professional, yet one in seven had considered committing suicide after the loss.

Moore (1991) identified the following features as ones which may precede depression: isolation, major life events (eg. marriage, retirement), moving, bereavement within the last two years, low income, unemployment, low self-esteem, poor communication with spouse or friends, physical illness, psychiatric illness and drugs such as oral contraceptives, alcohol and amphetamines. Felix Brown (1972) has claimed that bereavement and loss are the most common causes of depression, with parental bereavement before the age of 15 leading to an increased risk of adult depression in later life of about double that of controls. A study in Islington found that in depressed patients a loss, of any kind, precipitated the depression in nine out of 10 cases. There has been evidence to suggest that adult male depressives tended to lose mothers and adult females depressives tended to lose fathers when they were children. Childhood bereavement appears to have a significant likelihood of resulting in either childhood or adult forms of depression, however, not all study results are in consensus on this issue. It may be that there are personality, biological and environmental influences interacting to cause clinical depression. This may explain why some people appear to cope with similar events and circumstances to those which seem to precipitate depression in others.

Childhood depression

Depression in children was once thought to be extremely rare, if it existed at all. The overwhelming symptom of childhood depression appears to be self-deprecation, where children have low self-esteem. The depression did not appear to be inherited. Bereavement was a common cause; some children suffered greatly when their grand-

¹ Forty-six per cent of the victims lost more than \$40,000 and 14 per cent lost over \$100,000 as investors in a fraudulent bank run by one their trusted friends and a fellow employee at their establishment for over 20 years. Many had placed their entire retirement lump sums into this bank with the promise of high rates of return.

parents died, although their parents rarely realised this. Children with a perfectionist streak were more likely to suffer from depression. Drug treatment was generally not desirable in children and in fact talking to them seemed to be of considerable benefit. Often the depression grew out of an inability to talk to their parents about what was really bothering them. The mother's description of the child's symptoms did not always agree with the child's account. There was generally consensus on issues such as loss of appetite, weeping and insomnia. Less readily observable symptoms such as a sense of emptiness, guilt, unhappy mood and suicidal ideas were reported more often by the child (THPRT, 1991).

Among 97 sexually abused children under the age of 16 referred to the Hospital for Sick Children in London it was found that 26 per cent were clinically depressed. Those children whose abuse was believed were less severely affected by depression than children whose experience of abuse was not believed.

Biological explanations

The neurotransmitters serotonin and noradrenaline have been said to be involved in depressive illness. In patients with psychotic or manic-depressive episodes serotonin uptake is reduced. Noradrenaline also appears to be reduced in depressive illness. Certain drugs which reduce the levels of neurotransmitters in the brain can cause depression; antidepressants work by indirectly boosting neurotransmitter levels.

Physical illness can lead to depression. Neurological diseases such as Parkinson's disease, multiple sclerosis, stroke, epilepsy, dementia, and malignant diseases, kidney disease, infections and the side-effects of drug treatment can all produce depression in their sufferers.

Many women suffer from depressive symptoms around menstruation. This, like post-natal depression, may be caused by hormonal changes. In women major hormonal disturbance is most marked at three times, namely, premenstrual, post-natal and climacteric. It has been argued that oestrogen therapy effectively treats the cyclical depression of premenstrual syndrome (Studd, 1991). This has been offered as evidence that the cause of some depressions is hormonal imbalance.

Levels of cortisol, a hormone produced by the adrenal gland, are increased during depression. Since the adrenal glands are controlled by the pituitary gland which in turn is controlled by the hypothalamus in the brain, and the hypothalamus is also responsible for controlling the levels of the neurotransmitters in the brain, some believe depression may emerge here.

Post-natal depression

Post-natal depression is a term which covers three degrees of depression which occur post-natally: the blues, post-natal depression

and puerperal psychosis². Post-natal depression itself is estimated to affect from five to 22 per cent of mothers. It can take up to three months to develop and is usually of short duration. On average the mother has about a one in seven chance of a recurrence at a subsequent pregnancy. It can have a dramatic impact on marital relationships and impair coping abilities with children. Stein et al (1989) looking into the issue of post-natal depression found unemployment, low income and not having a confidant the most important risk factors. Of these low income and the lack of a confidant were paramount. The risk of post-natal depression was increased by a factor of 3.2 if a low income was present and by 6.1 if there was no confidant present; if both these factors were present then the risk was increased 19 fold over mothers with no risk factors. Richards (1990) reviewing recent literature on post-natal depression says virtually all the studies under review identified a poor relationship between the mother and her partner as an important factor in making the mother more vulnerable to post-natal depression. Poor quality social support and the lack of an available confidant was another factor found by most. Problems associated with infant temperament and behaviour have been found to be related to post-natal depression both as a cause and a consequence of it. In one study the women were assessed prior to the birth of their child to see if they exhibited at least one of the following four factors: poor marital relationship, history of psychiatric illness, high levels of anxiety or lack of a confidant. Those with at least one of these features were, three months after delivery, more likely to be depressed (40 per cent) than those who had none of the risk factors (16 per cent). The overall levels of post-natal depression have been estimated at up to 22 per cent.

Other causes

SAD – seasonal affective disorder – is a depression some people suffer from in winter due to a lack of sunlight. It results from raised levels of melatonin, which is produced in the pineal gland at the base of the brain during the hours of darkness. Elevated levels of melatonin make animals sleep during the winter months by reducing sexual appetite, increasing the desire to eat and causing drowsiness. Bright light hitting the eye has the effect of stopping the production of melatonin. Treatment takes the form of special lights that simulate natural

² The blues affects 50 to 80 per cent of mothers. Whilst disturbing to the mother, the blues are not serious and usually resolve spontaneously. The onset of the blues is usually within days of the birth. Post-natal depression usually starts within six weeks of delivery, but may manifest itself much later. Puerperal psychosis is a severe but rare form of post-natal illness. Manic or depressive symptoms dominate the clinical picture and admission to a psychiatric hospital or unit is required.

daylight (Abas, Murphy 1987). It may be that some physical distresses which appear to occur seasonally in some patients are related to the SAD syndrome, since a weakened mental state may mean people are more susceptible to physical illness.

The relationship between mental state and physical illness is not clearly defined but high levels of stress and anxiety or the onset of depression may cause people to be more vulnerable to physical ailments. The threat of redundancy is thought to be very stressful (Beale and Nethercott, 1985) and a correlation between unemployment and increased rates of consultation with family doctors has been recognised (Griffin, 1991). Thus mental illness, in the form of depression, may involve physical, as well as psychiatric, morbidity which may of course 'mask' the underlying depressive symptoms. It may be that life threatening distresses such as heart attacks and strokes are more likely to occur in people suffering from depression, anxiety or extreme stress than in people who feel more relaxed and contented. Equally physical illness can itself lead to depression in the patient eg. cancer patients and stroke victims have been known to develop depression.

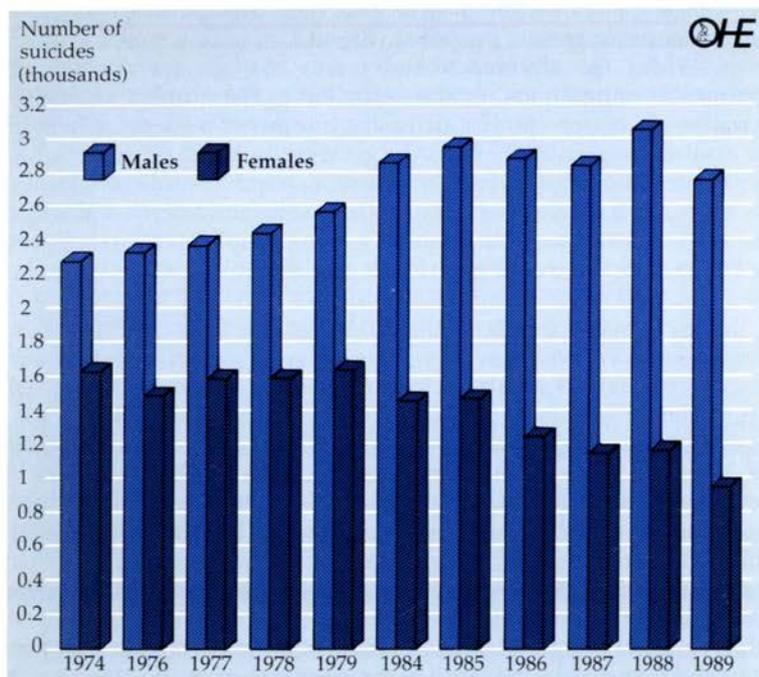
Suicide

In any discussion of suicide a distinction needs to be drawn between completed suicides and 'attempted suicide' or deliberate self-harm (DSH). There is of course an overlap: some people intending only the gesture of deliberate self-harm actually kill themselves; others who seriously intended to take their own life may be rescued in time to live on. Males dominate the completed suicide figures, whereas females dominate in cases of DSH.

The majority of those suffering from depression do not attempt suicide; of those who make the attempt the majority do not actually complete the suicide. Nevertheless, about 70 per cent of suicide victims are thought to be suffering from depression and roughly 15 per cent of depressives eventually commit suicide (Wilkinson, 1989). Antidepressants account for 15 per cent of all deaths from overdoses. Barraclough (1974) estimates that 93 per cent of suicide victims had a diagnosable mental illness; he considers almost two in three to be suffering from depression, about one in six from alcoholism and one in 30 from schizophrenia.

It has been estimated that there are 100,000 cases of deliberate self-harm (DSH) every year; that is, at least 20 cases for every completed suicide (OHE, 1981). Death is not the desired outcome in cases of DSH, rather it is a cry for help or a means of 'getting back' at someone who had upset them.

Figure 2 Recorded suicides in the UK



'being firm and standing on one's own two feet' may produce awful feelings of guilt and unworthiness among depressed people and suicide may appear the only way out. Figure 2 shows the trend in suicidal behaviour from 1974-9 and 1984-9 in the UK³. A rising trend for men can be seen, with over 3,000 male suicides recorded in 1988; for women there is a noticeable fall in suicide over the period. In 1989 there were 2,765 recorded male suicides and 952 female suicides. An interesting trend is the widening gap between male and female suicides. The reasons for the increasing number of male relative to female suicides may include that fact that more women now work and this may reduce the claustrophobic feelings some women may have sensed in the past when they felt trapped at home perhaps with

³ The sociologist, Maxwell Atkinson, says that suicide notes are found in less than one third of suicide cases; many are thought to be destroyed before officials arrive. The remainder rely on a coroners decision as to the cause of death. Coroners develop their own idiosyncratic indicators of intent, often very different to those of fellow coroners. Thus, official suicide statistics should be treated with some caution.

several young children to contend with. The increasing independence of women, many of whom now pursue their own careers, may have helped in giving greater purpose to life and in leading more fulfilling lives. Whilst the aforementioned points may be tentatively put forward as suggestions for the reduction in the number of female suicides, the reasons for the increasing number of male suicides may be even more elusive. Perhaps the growing isolation of modern life with more single people and an increasing trend towards geographic mobility in relation to work may make stable foundations and social networks more difficult to establish leaving people with less support to fall back on in times of great stress or difficulty, causing them to be more inclined towards suicidal intentions.

Table 2 provides details relating to the age distribution of suicides in England and Wales. Those over 75 years have the greatest number of suicides per 100,000 population for both men and women; for men 35-44 years, and for women 55-64 years, are the next highest risk age groups.

Earlier it was suggested that the incidence of depression is greatest in both the highest and lowest social classes. This assertion is reflected, at least for the lower social classes, by the relatively high incidence of suicide in social classes four and five demonstrated by Table 3. The figures in Table 3 are standardised mortality ratios; numbers above 100 indicate a relatively high suicide rate, numbers below 100 represent a relatively low rate.

The relatively high suicide rate amongst the lower social classes (ie. four and five) may be the result of chronic depression affecting certain people causing them to 'slide down' the social ladder and eventually commit suicide when they realise they will be trapped in low grade employment for their working lives. Alternatively a history of depression may result in only unemployment or low grade employment being available and the resulting disillusionment may increase the propensity towards suicide. The low grade work itself may lead to a loss of self-esteem and personal dignity causing the individual to feel worthless with little incentive to continue a life which appears to them to be pointless. The above average rates of

Table 2 Age distribution of suicides in 1989 in England and Wales given as absolute numbers and per 100,000 population

Age	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75 plus
Male	0	1	402	563	559	399	329	266	246
	0	-	10.3	14.7	16.0	14.1	13.0	13.3	20.4
Female	0	0	71	130	127	164	159	137	164
	0	0	1.9	3.5	3.6	5.8	6.0	5.5	20.4

Source: World Health Statistics (1990)

Table 3 Male suicides in the UK by social class and age based on SMRs 1970-72 and 1979-83

<i>Age/class</i>	1	2	3NM	3M	4	5
15-24	91	80	97	70	160	208
25-34	80	92	92	72	119	245
35-44	125	81	125	73	113	219
45-54	119	89	126	77	114	171
55-64	124	96	114	88	109	143
All ages	110 (89)	90 (80)	85* (95)	85* (86)	117 (114)	184 (198)

Source: OPCS⁴

*This figure is an average for both class three manual and non-manual. The figures in brackets give the SMRs for all ages (20-64) from 1979-1983.

4 Registrar General's five social classes are as follows: firstly, professionals; secondly, semi-professionals and managerial occupations; thirdly, clerical work (3NM) and highly skilled manual work (3M); fourthly, semi-skilled manual work and finally, unskilled manual labour.

suicide in the highest social class in the early 1970s may be due to so-called 'executive stress' or the rigours of the 'rat-race'. It may also be accounted for by the failure to reach one's aspirations within a chosen profession. The emergence of stress clinics and stress management and the recognition of highly pressurized work may in part explain the fall in suicide among those in class one so that suicides in this social class are now relatively low.

Suicide: an international perspective

Compared with the rest of the world suicide in the UK is relatively low; although it is the third most common cause of death among 15-44 year olds (Wilkinson, 1989). Table 4 shows that England and Wales have the least number of male suicides per 100,000 population – with the exception of Spain – amongst the 12 countries listed. Women in England and Wales are exactly equal with Spain, having a rate of 3.7 suicides per 100,000 population, which is the lowest rate among the 12 countries under consideration. Austria, Denmark, Switzerland and (what was then) the GDR have female rates of about four or five times that of England and Wales. Similarly the male rate, in England and Wales, is about one-third of the above mentioned countries and one-quarter of Finland's rate.

Cross-cultural comparisons of any kind should be made tentatively; this is especially true of the area of suicide. Different meanings and attitudes will be associated with suicide in different cultures. Some societies may be more apt to attempt to cover up suicide while others may be more open to accepting a suicide verdict, hence official statistics will reflect varying degrees of the true rate from country to country.

**Table 4 Death from suicide: an international perspective
(listed in order of the number of male suicides per 100,000
population per annum)**

<i>Country</i>	<i>Gender</i>	<i>Total number</i>	<i>Suicides per 100,000 population</i>
Finland	Male	1,107	46.2
	Female	295	11.6
GDR	Male	2,873	36.1
	Female	1,417	16.3
Austria	Male	1,313	36.1
	Female	585	14.7
Denmark	Male	843	33.3
	Female	493	19.0
Switzerland	Male	1,063	32.8
	Female	450	13.2
France	Male	8,234	30.2
	Female	3,365	11.7
FRG	Male	7,037	23.5
	Female	3,215	10.0
Canada	Male	2,734	21.4
	Female	776	5.9
USA	Male	24,078	20.1
	Female	6,329	5.0
England and Wales	Male	2,765	11.2
	Female	952	3.7
Italy	Male	3,095	11.1
	Female	1,286	4.4
Spain	Male	2,032	10.7
	Female	723	3.7

Source: World Health Statistics Annual (1990)

Suicide among children and adolescents

Previously it was asserted that rates of childhood depression are greater than may have hitherto been assumed. This may suggest that childhood suicide due to depression is also more prevalent than commonly believed. In the UK suicide among those up to 14 years old is very rare with only one reported in 1989; it is much more common among those aged 15-24. In the USA in 1977 suicides among 10-19 year olds rose above 2,000, putting suicide ahead of homicide, making it the second leading cause of death for that age group. More girls attempt suicide than boys, however, completed suicides (ie. where the victim actually dies) are higher among boys by a ratio of about 3 or 4:1. Successful suicide attempts in the USA by youths have increased three fold from the mid-1950s to the mid-1980s. The suicide rate among adolescents (aged 15-19) is now about 11.3 per 100,000 compared with 2.7 in 1950 (CDC, 1991).

With regard to prevention of suicide in children, schools and teachers have a vital role, but it must be one limited to identification of adolescents at risk. It is important for teachers to realise the limitations of their help and to seek professional assistance for the child. Communication with a responsible adult outside the family can be a lifeline for a disturbed young person. Mack and Hickler (1981) say that 'the suicide of a child or an adolescent is a tragedy of virtually unspeakable dimensions, especially for those who loved the young person and must live with the hurt that remains.'

Treatment and Therapy

There are three principal modes of intervention: medical, psychological and social. In practice these elements tend to be combined. Any associated physical illness will also require treatment. It is thought that many medically ill patients suffer from depressive symptoms and some of these from the more serious major depression; depression is said to be common in heart disease and stroke patients. Turning first to medical treatment via the application of antidepressant drugs, there are several categories of medicine which may be used. Tricyclics were the earliest form of antidepressant drug introduced. Monoamine oxidase inhibitors were the next drug therapy to be initiated. Bicyclics and tetracyclics are the other main medicines now also used to treat depression. More recently selective serotonin re-uptake inhibitors (SSRIs) have been launched on the UK market. The major therapeutic aim is pharmacological, to restore the presumed monoamine abnormalities in the brain.

Tricyclic antidepressants – so called because they have a three-ring chemical structure – have usually been the treatment of first choice offered to depression sufferers. Such drugs include imipramine (the original tricyclic), amitriptyline, dothiepin and doxepin. Many have sedative effects so can help to treat sleep disturbance. The antidepressant properties of the parent drug (imipramine) of the tricyclic group was discovered in 1958; prior to this amphetamines were the principal drug used in the treatment of depression. However, with amphetamines, after an initial lift in mood there followed a drop (let-down) and they were widely abused drugs of dependence and thus amphetamines are no longer prescribed. Tricyclics are believed to correct monoamine deficiency in the brain by inhibiting the re-uptake of noradrenaline and serotonin by the presynaptic nerve terminals within the brain. This increases the transmitter levels at the central synapses and produces behavioural stimulation and a clinical antidepressant effect. Tricyclics tend to exhibit typical anticholinergic side-effects such as dry mouth, blurred

vision and constipation⁵. These side-effects can be reduced by beginning with a low initial dose and building it up slowly. The medicines usually take a month to six weeks to achieve their full antidepressant effect. Newer antidepressants can avoid many of these problems but probably have no greater efficacy than the first generation tricyclics.

Livingstone (1990) argues that antidepressants should be reserved for cases of moderate or severe depression. He believes that in mild to moderate mood disturbance, simple counselling with attention to life stresses is all that may be required. Patients on waiting lists for hospital treatment of depression often recover, demonstrating that spontaneous remission is possible, particularly where the illness is mild. He suggests that patients exhibiting features such as early morning wakening, lowered morning mood, weight loss, immobile and expressionless face, guilt, apathy and a family history of depression or suicide are likely to respond to drug treatment. However, Paykel et al (1988) suggest that tricyclic antidepressants can have a true antidepressant effect even on mildly depressed patients; only in the mildest extreme (where there is usually a good outcome without drug treatment) of the relatively mild spectrum which Paykel studied did tricyclics fail to clearly demonstrate an antidepressant effect. Tylee (1991a) suggests that whilst 50 per cent of depressed patients may spontaneously remit within three months, two in three will improve within six weeks when given amitriptyline; since there is no certain way of predicting who will improve spontaneously there is thus little justification for offering no treatment. Chronic physical conditions or social problems can be worsened by having concomitant major depression; often prescribing an antidepressant can improve patient well-being and function even when it seemed unlikely to do so. It may be that in cases of depression caused by premenstrual or post-natal hormonal changes antidepressants should only be prescribed after oestrogen therapy has been tried and failed.

Maintenance therapy

There is evidence that a high dosage tricyclic given in the acute stage of a depressive episode, if sustained in the maintenance period, prevents a relapse in most patients. Over three years patients treated in this fashion had a relapse prevented in 80 per cent of cases compared to only 20 per cent for those on a placebo (Guze and Freedman, 1991). It was found that interpersonal psychotherapy⁶ was far less

⁵ There are also less frequent side effects including glaucoma, jaundice, depression of white cell count and convulsions. Cardiac effects can consist of postural hypotension, arrhythmias and tachycardia; cardiotoxicity can be life-threatening in overdose.

⁶ Interpersonal psychotherapy attempts to help the patient change their circumstances and thereby reduce some of the social problems that may provoke or prolong depression.

potent in preventing a relapse than high-dose pharmacotherapy, however, combined psychotherapy and pharmacotherapy may provide the optimum treatment (see Frank et al, 1990). The study concluded that the useful general principle of 'the less drug the better' did not apply to recurrent depression. Indeed, there is a high risk of depression recurring if treatment is stopped too soon; drug treatment should be continued for four to six months after depression has lifted. Frank et al (1990) found that interpersonal psychotherapy (IPT) combined with active imipramine produced the longest depression-free interval compared to four other maintenance therapies. Treatment with imipramine alone was the next most effective form of maintenance therapy followed by IPT alone, IPT plus a placebo and the least effective treatment was a placebo alone. Klerman (1990) also believes that the best long-term strategy is to combine IPT with relatively high doses of tricyclic antidepressants.

Monoamine oxidase inhibitors

Monoamine oxidase inhibitors (MAOIs) are not as commonly used as tricyclics mainly due to their side-effects. MAOIs usually involve hospital referral and are not normally considered unless the depression is severe and incapacitating. The most common of such drugs are phenelzine and tranylcypromine. Often MAOIs are used to treat atypical depressive illnesses with a high incidence of obsessive, phobic and anxiety symptoms. A possible advantage of MAOIs in some types of depression, including atypical, refractory and bipolar, has been noted in some studies. Again there is a four to six week period before the full antidepressant effect is reached since the dose has to be built up slowly. Serious side-effects can arise from interactions with drugs and certain foods, which can lead to a sudden rise in blood pressure which can cause heart failure and death. A warning card must be given out with MAOIs to point out dietary restrictions and drug interactions⁷. Once treatment is no longer necessary it should be withdrawn gradually. It may be that MAOIs have been under-utilised in the past and their place in treatment is now being re-evaluated. New MAOIs with less potential for interaction with tyramine containing foodstuffs are currently undergoing clinical trials; if these are successful MAOIs may play a more prominent role in the treatment of depression in the future.

New antidepressants

Recent antidepressants, selective serotonin re-uptake inhibitors

⁷The MAOIs can also cause trembling, insomnia, sweating, agitation, hallucinations, confusion and convulsions. A fall in blood pressure is usual and dizziness, headaches, inhibited ejaculation, difficulty in passing urine, weakness, dry mouth and skin rashes may occur.

(SSRIs), have been shown to be well tolerated with a low lethality in overdose and relatively free of the side-effects of tricyclic antidepressants. The most common side-effects noted with the use of SSRIs have been nausea and/or vomiting and insomnia; dizziness, somnolence, agitation, headache and tremor can also occur. There are four SSRIs currently available in the UK. Clinical trials have shown SSRIs to be effective antidepressants but with no greater efficacy or a faster onset of action than the tricyclics. SSRIs are thought to be particularly suitable for elderly patients with concomitant physical illness. They are non-sedating which can be a disadvantage since insomnia can be a symptom of depression. Some of the indications for the newer agents are discussed in this section and Table 5 gives Livingstones' and Kelly's proposals for suitable drugs under varying circumstances. Fluoxetine and fluvoxamine have a highly specific action of inhibiting serotonin re-uptake which enables them to be considered where patients are required to take additional drugs that interact with other neurotransmitter systems eg. beta-blockers. They also reduce the suicide risk which is a major hazard with standard tricyclics or MAOIs. Mianserin, a tetracyclic antidepressant, and trazodone may be appropriate where sedation is required; the

Table 5 **Relevant criteria for choosing treatment type**

<i>Patient</i>	<i>Treatment advise</i>
Young and fit	Tricyclic antidepressant eg. amitriptyline, imipramine, dothiepin.
Suicidal inclinations	Lofepamine, trazodone, mianserin or newer serotonin re-uptake inhibitors.
Physical illness eg. hypertension, stroke, coronary artery disease	Avoid older tricyclics. Try instead mianserin, lofepramine, fluvoxamine, fluoxetine.
Epileptic	Most antidepressants can provoke seizures; only viloxazine has anticonvulsant properties.
Pregnant	Avoid antidepressants in first trimester, although no evidence of foetal abnormalities.
Premenstrual tension	Oil of evening primrose, Efamol (available from Health Food shops without prescription). Vitamin B6.
Parkinsonism	Tricyclics may cause intolerable additional anticholinergic side-effects. Avoid Amoxapine. Trazodone, mianserin, fluvoxamine, fluoxetine best.
Older people	Fluoxetine, fluvoxamine, trazodone, lofepramine. ECT safe and effective.

main problem with mianserin is blood dyscrasias (diseased blood). Lofepamine can be useful where a tricyclic which has few anticholinergic side-effects and is less cardiotoxic in overdose is desired. Amoxapine has dopaminergic antagonist properties and is effective in the treatment of depression with psychotic features.

Lithium

Lithium is the lightest known metallic element and is found naturally in the blood. As a drug, lithium is always used in the form of one of its salts eg. lithium carbonate or lithium citrate. Lithium's first medical application came in 1850 as a treatment for gout. However, it was another hundred years before lithium was first used for the treatment of manic-depression when Cade, in Australia in 1949, gave lithium to violent psychiatric patients and noticed a disappearance of symptoms among his manic patients. His rationale for giving lithium to manic-depressives was based on his experiments with guinea pigs. Cade had been injecting them with various chemicals to examine their toxicity and coincidentally he found that guinea pigs injected with lithium became less responsive to stimuli but without becoming sleepy. In the 1950s lithium gained acceptance as treatment for manic-depression. Since, most depressed patients do not have a bipolar illness, only a small proportion of all depressives are prescribed lithium. Both tricyclic antidepressants and lithium have been shown to exert a protective effect against subsequent episodes of depression; although lithium should only be used prophylactically on manic-depressives with repeated episodes. Some manic-depressives have complained that lithium 'takes the edge off everything' blurring life rather than enhancing it. Mogens Schou (1983) offers a cautionary note arguing that 'it is only when lithium is given to carefully selected manic-depressive patients and when the treatment is administered with skill and conscientiousness that its advantages outweigh its disadvantages'.

New developments

A new class of antidepressants – reversible inhibitor of MAO type A (RIMA) – has recently received marketing approval in Australia (Anon, 1991). MAO type A deaminates tyramine, dopamine, noradrenaline, and serotonin. Of the new RIMAs only one has, so far, received marketing approval. It has an onset of action of 8-10 hours and monoamine activity is reinstated within 24 hours of ceasing medication, compared to two weeks with irreversible MAOIs. The treatment can commence immediately on the therapeutic dose. If it does not succeed in lifting depression a new antidepressant treatment can be started the following night rather than having to wait several weeks before trying a new therapy. RIMAs are said to be free from anti-cholinergic and sedative side-effects as well as not requiring food restrictions common when taking MAOIs. The UK market may see the arrival of a RIMA in 1992.

Electro-convulsive therapy

Electro-convulsive therapy (ECT) may be attempted if the illness becomes life threatening or there is a failure to respond to pharmacological therapy. ECT is a specialist, hospital based treatment for depressive illness. Where there are delusions or hallucinations indicating psychotic depression ECT or an anti-psychotic agent is usually advisable. The great advantage of ECT is that it can bring about almost immediate relief with only one or two treatments; although six to eight are more usual. ECT is usually given twice weekly and can be a safe and effective therapy but requires careful patient selection; it is safer than antidepressants in patients with heart disease. In severe cases ECT still has a place and can be dramatically successful; notably in the elderly. It is not the barbaric therapy some critics accuse it of being; in fact in a survey of ECT patients 80 per cent of the sample said it was no worse than going to the dentist. After ECT treatment Tom Swann (1991), a patient, said 'the world instantly became a brighter, vital place... the impossibilities of yesterday became the certainties of tomorrow'.

Safety of antidepressants

Professor Ian Hindmarch, from Surrey University's Robens Institute of Health and Safety, claims that the sedative side-effects of established anti-depressants are an important factor in traffic and industrial accidents. He suggests that low dose amitriptyline slows brake reaction times by twice as much as four units of alcohol, which for many raises blood levels of alcohol over the legal limit for driving. Airline pilots are grounded when they are taking antidepressants but train, bus and car drivers are not. According to Hindmarch, those operating heavy machinery should also be cautious of taking antidepressants and working simultaneously (Hindmarch, 1991).

Cases have been documented where worsening or intensification of depressive symptoms has arisen after treatment with therapeutic doses of antidepressants had been initiated. In each of four cases this included suicidal ideation (Damliyi, Ferguson 1988). However, this problem can be corrected by changing the medication or treatment. Whilst sometimes it took more than one change of drug to create an antidepressant effect, it was always possible, eventually, to discover a suitable alternative. In two cases an SSRI succeeded where tricyclics had failed; in another instance a MAOI worked (after tricyclics had led to a worsening of symptoms); lastly, a course of ECT proved successful after two antidepressants had worsened symptoms. The authors stress that 'this type of reaction to antidepressant medication is uncommon'. It does, however, demonstrate the need to be flexible and experimental towards some atypical patients who may need several treatment alternatives before a successful one is found.

The problem of fatal overdoses also needs to be addressed. For example, five to six times the maximal daily dose of imipramine can be lethal, and as mentioned in the suicide section antidepressants account for 15 per cent of all deaths from overdoses. The SSRI antidepressants have a major advantage with no fatalities noted when taken in overdose. A patient survived after ingesting 8,600 mg of fluvoxamine (nearly 30 times the maximum recommended daily dose). The largest known overdose with paroxetine is 850 mg; the patient showed no signs of cardiovascular toxicity or seizure activity and made a full recovery. Trazodone, lofepramine, and to a lesser extent, mianserin, are, like the SSRIs, safer in overdose than the tricyclics. Antidepressants and hypnotics should not be given together as this may exacerbate any behaviour disorders and the hypnotic provides the tool with which to attempt suicide.

Patient compliance

Jamison (1987) suggests that for every patient who complies with their prescribed drug doses there is another one who takes too little, too much or none at all. The problem of non-compliance can lead to a recurrence and intensification of episodes, interpersonal chaos, family disruption, financial crises, marital failure, suicide and violence. Compliance with antidepressants is often poor but can be improved by educating the patient. Patients must realise that antidepressants, firstly, should be taken regularly and will be ineffective if they are used as 'pep pills', secondly, that they are not addictive and can be stopped at any time without withdrawal symptoms and finally, that they have a delay in their action of up to six weeks. With regard to lithium non-compliance was found mostly among those who were young males, experiencing fewer manic-depressive episodes, missing the 'highs', those with a history of grandiose, euphoric manias or with a history of non-compliance. The reasons cited by patients for discontinuing treatment included: side-effects, missing of 'highs', bothered by mood being controlled by medication, felt well, felt less creative or productive and felt depressed. The side-effects referred to most often were weight gain, cognitive impairment, tremor, increased thirst, lethargy and tiredness. Occasionally nausea, vomiting and diarrhoea were also mentioned. Some manic-depressives say there are many positive aspects of their condition, such as creativity and energy, which they feel many doctors ignore and view them as suffering from a disturbing disease without seeing any positive aspects.⁸

⁸ Hershman and Lieb in their book 'The Key to Genius' go as far as suggesting that 'manic-depression is almost indispensable to genius because of the advantages it can supply, and that if there have been geniuses free from manic-depression, they have been a minority'. They cite Newton, Beethoven, Van Gogh and Dickens as examples of manic-depressive geniuses; many of course would refute this theory.

Hospital, psychiatric and psychological therapy

GPs only refer one in 20 of their patients, with psychiatric morbidity, to a hospital based psychiatrist; managing the remaining 95 per cent themselves (Tylee, 1991b). After three months less than 50 per cent of those patients referred are still attending outpatients; about a quarter will receive psychiatric treatment from a GP and a further quarter no treatment at all. The latter category tend to make poor progress. Referral to, or the seeking of advice from, a psychiatrist is usually made for one or more of the following reasons: a suicide risk, failure to eat or drink, treatment resistance, chronic or recurrent depression, suffering a bipolar disorder, for prevention of further episodes, for specialised investigations, or for specialised treatment.

Psychotherapy can be offered along with or as alternative to drug therapy. Oxford University's psychiatry department has recently conducted a study into cognitive behavioural therapy (CBT)⁹ as a means of combating depression. Their findings suggest that this can be a very effective form of therapy with good long-term prospects for sufferers. Proponents of CBT believe it has been held back by a 'penny-wise pound-foolish' attitude; professional time is expensive and drugs seem relatively cheap in comparison. They suggest the long-term success of CBT justifies its use. Support from medical services and family and friends can be equally important. Typically this form of psychotherapy involves 15 to 20 one-hour sessions over several months. Patient selection may be important in determining how successful the treatment will be. CBT appears to be more effective in patients scoring highly on self-control tests (ie. they typically use their own resources in dealing with problems). People with low scores, indicating a fairly passive style of coping, do better with drugs. The purpose of drug therapy combined with psychotherapy is sometimes summed up as, 'pills for symptoms, psychotherapy for problems.' Whatever treatment is chosen, some treatment is almost always better than none.

Community, social and self-help strategies

Community psychiatric nursing services are commonly used for the treatment of depression and anxiety. In 1985 just over 3,000 Community Psychiatric Nurses (CPNs) existed in the UK; projections for the year 2000 are that 12,500 CPNs will be operating (Wilkinson, 1989). GPs are the largest group of doctors referring patients to CPNs. Controlled trials have demonstrated the effectiveness of social workers in the treatment of depression. In fact a confident or good

⁹ Cognitive behavioural therapy (CBT) is a type of psychotherapy which attempts to change certain ways of thinking. Unlike interpersonal psychotherapy which strives to alter circumstances, CBT endeavours to adjust the way the person perceives and reacts to existing situations.

listener of any sort appears to be a crucial resource in overcoming depression. Holden et al (1989) found that 88 per cent of post-natally depressed women who were counselled by a health visitor said that the health visitor had been the most important factor in their recovery.

Social treatment covers all interventions to try to improve a patient's well-being by altering some aspect of their social life. Family therapy may be helpful where family members can learn to communicate better and help each other more. Group therapy also has a place; sufferers can realise that they are not alone and offer mutual encouragement and discussion. Various therapies exist including: occupational therapy, art therapy, movement therapy, music therapy and physiotherapy.

Some self-help strategies can begin dealing with stress. The first priority for a patient is to ensure they are getting enough exercise, a nourishing diet and sufficient sleep. Intake of alcohol, tobacco and non-prescribed drugs should be minimised as they increase stress and are addictive. Exercise should be taken three times a week for about 20 minutes, at a pace keeping you moderately 'puffed' (but not gasping), which is best for stimulating muscles and circulation. Diet should include few fatty foods, especially those containing saturated fats and cholesterol (Wilkinson, 1989).

Summary

Tricyclic antidepressants have been in use since 1958 and have led to an impressive relief from suffering for depressed patients and have also reduced the need for ECT and hospitalisation of sufferers. It would be wrong to suggest that all depression sufferers need drug treatment or that they all need psychotherapy; depending on individual requirements the treatment strategy should be manipulated to give the greatest benefit with minimum risks. At present, the responsible and rational use of drug treatment seems to offer the most promise in this direction; perhaps combined with psychotherapy or some form of counselling. Potter et al (1991) claim that 'the original tricyclic antidepressant agents are still the drugs of choice for most patients with major depressive disorders.' Livingstone (1990) reinforces this point arguing the original tricyclics still have the dominant place in therapy but that newer drugs could be utilised where there is concurrent physical illness or in elderly people unable to tolerate the side-effects of tricyclics. However, Johnson (1991) suggests that SSRIs 'represent a major advance over the older tricyclics in the reduction of toxicity, safety in overdose and patient tolerance. In patients with heart disease and at risk of overdose they are the drug of first choice... This group of drugs is likely to be particularly suited to elderly patients with concomitant physical illness.' Such factors may be responsible for the SSRIs gaining a

growing acceptance among prescribing GPs although it is probably too early for them to have become established since the first ones were only introduced in 1989. Nevertheless they appear to offer efficacy on a level with older tricyclics but have fewer side-effects and most importantly cannot be used as tool with which to commit suicide. The MEREC bulletin (September 1991) says that 'the inclusion of SSRIs in a formulary practice is warranted. However, they are not yet first-line agents in the treatment of depression.' Whilst cost may be an argument against SSRIs their greater tolerability might improve compliance and reduce the risk of a recurrence in this otherwise chronic condition. Livingstone comments, 'whatever the type of depression, there may be a place for further counselling, additional support and behavioural psychotherapy.'

Economic Aspects

Poor well-being and functioning among depressed patients are of policy interest because of societal costs due to loss of productivity and any associated use of health care services. Sir Christopher Booth claimed that 'mental illness is one of the greatest problems besetting the Health Services throughout the developed world, demanding a huge commitment of resources, both financial and emotional' (Booth, 1989). The OPCS Survey of Disability in Great Britain (1985-86) found that in those aged over 16 years depression accounted for five in every 100 disabled people in private households and six in every 100 in communal establishments.

With regard to pharmaceutical costs the SSRIs are significantly more expensive than the older tricyclics (see Table 6). However, it has been suggested that with the older tricyclics compliance rates go down and relapse rates go up and with each relapse costs go up. Thus, some observers believe that the new SSRIs show a lot of promise in being cost effective and improving the quality of life of patients. Benefits, most notably the reduced suicide risk, must not be neglected when considering the relative costs of the medications. If a suicide can be prevented by prescribing SSRIs their extra cost is undoubtedly justified and this must be kept in mind when considering the relative costs of the treatments in Table 6.

In 1989 GPs in Great Britain wrote nearly nine million prescriptions for antidepressant medication. This makes antidepressants the fourth leading prescription item by volume within the central nervous system therapeutic class, however, antidepressants are the largest group by cost. The anti-depressant market was about £55 million in terms of cash sales value in 1990. Tricyclics account for about 60 per cent of this figure. Selective serotonin re-uptake inhibitors are worth just over 20 per cent of the market in terms of cash sales value; SSRI prescribing is becoming more popular and this trend may continue.

Table 6 Maintenance doses and comparative costs of 30 days treatment with some commonly used tricyclics and SSRIs

<i>Drug</i>	<i>Type</i>	<i>Dose</i>	<i>Cost</i>
Amitriptyline	Tricyclic	100 mg	£1.43
Dothiepin	Tricyclic	150 mg (tablet)	£8.17
Dothiepin	Tricyclic	150 mg (capsule)	£9.01
Imipramine	Tricyclic	100 mg	£0.82
Lofepramine	Tricyclic	140 mg	£10.68
Mianserin (Bolvidon)	Tetracyclic	90 mg	£15.72
Mianserin (Norval)	Tetracyclic	90 mg	£17.68
Trazodone	Triazolopyridine derivative	150 mg (tablet)	£10.68
Trazodone	Triazolopyridine derivative	150 mg (capsule)	£16.11
Fluoxetine	SSRI	20 mg	£32.05
Fluvoxamine	SSRI	100 mg	£25.00
Paroxetine	SSRI	20 mg	£33.90
Sertraline	SSRI	50 mg	£28.40

Source: MEREC Bulletin, September 1991.

From these figures it can be deduced that tricyclics still dominate prescriptions for depression, particularly so in terms of volume when one considers the price differential between tricyclics and SSRIs. Thus, in terms of prescriptions less than 1 in 10 depression sufferers are prescribed SSRIs, but this rate appears to be on a rising trend, although the tricyclic market continues to expand suggesting that the prescribing of antidepressants is on the increase in general.

There are nearly 60,000 beds available daily within the NHS in England for mentally ill patients. Depression accounts for about 18 per cent of all admissions to mental illness hospitals. Taking 18 per cent of the total cost for treating mental illness to approximate a cost for treating depression, both as in- and out-patients, gives a figure of about £250 million at 1990 prices¹⁰.

Consultation rates projected from 1981/2 morbidity statistics suggest that there were over three and a half million consultations in England and Wales for depressive disorder (neurotic depression) in 1989. Over two and a half million were from women and just under a million from men. The average cost per consultation has been estimated at £7.68 in 1989. This implies that the total cost for consultations with GPs by depressive patients was approximately £28 million (1989). Since the average depressive patient consults more than twice a year this suggests that just under two million people

10 The total cost of mental health care was £1,192.9 million in 1986/7 (OHE, 1989). Excluding residential and day care mental illness costs and taking 18 per cent of the remainder gives about £206 million. Inflated to 1990 prices, as measured by the RPI, the figure reaches £250 million.

Table 7 The cost of depression to the NHS (1990)

<i>Pharmaceutical costs (£mn)</i>	<i>Hospitalisation costs (£mn)</i>	<i>GP consultation (£mn) (1989)</i>	<i>Total cost (£mn)</i>
£55	£250	£28	£333

actually visited their GP for a depressive disorder. About 10 per cent of patients diagnosed with depressive disorder receive a home visit; these visits are mainly accounted for by the 75 and over age group. Nearly one in 20 depressive patients consulting their GP receive a referral mainly as out-patients but there are some in-patient referrals and some domiciliary consultations.

The cost of depression to the NHS in the UK combining the pharmaceutical costs, direct hospital costs and GP consultation costs is about £333 million; the breakdown of these costs is given in Table 7.

Costs to society, such as losses of productivity because employees are depressed, or sickness absence from work due to depression, increase the total burden of depression significantly beyond the 'narrow' health service costs. This is particularly true for an illness like depression since it tends to have a relatively high incidence among those of working age. Thompson and Pudney (1990) estimated that mental illness cost the nation at least £6,825 million in 1989. This figure covered local authority personal social services (£200 million), sickness and invalidity benefits (£846 million), NHS treatment and care (£2,011 million) and lost production to business and industry (£3,768 million). There were also intangible costs in areas such as marital breakdown, unemployment, crime, and homelessness. Whilst 60 per cent of the diagnosed mentally ill suffer from anxiety, depression and other neuroses the bulk of the costs will be accounted for by the minority suffering from psychotic disorders and acute behavioural and stress disorders who will generally require more intensive treatment and have a higher likelihood of being hospitalised. Patients with senile dementia also involve long stays in hospital.

With regard to post-natal depression, a mother can be rendered unfit for work, since many women now work this could have considerable financial implications for her family and employer. A woman's partner may have to take time off work to care for the mother and family in such circumstances. The financial consequences of course only add to the significant personal problems that post-natal depression will create.

In those instances where depression leads to suicide, as well as the personal tragedy, society often loses a productive member of the

population. Even where suicide is attempted, but not completed, ambulance services and treatment in accident and emergency departments will be required which increases the costs of depression over and above those included in Table 7.

Stoudemire et al (1986) have estimated that the total costs of major depression (as defined by the Diagnostic Inventory Scale) with regard to the US were \$16.3 billion per year. That figure includes both direct and indirect costs. They attempted to estimate the full economic costs of depression in terms of morbidity, mortality, direct treatment costs, indirect costs, years of major activity lost, and years of life lost. Direct costs include physician visits, hospitalisation/institutionalisation, pharmaceutical costs, and travel costs to seek care. Stoudemire et al found that for both males and females a similar pattern existed with a higher degree of morbidity among 25-44 year olds from depression followed respectively by 18-24 year olds and 45-64 year olds. Those over 65 had the lowest rates. Thus, it would appear depression most affected those in their productive working years. They estimated that suicide was responsible for over 16,000 deaths per year among major depressives. With regard to direct costs psychiatrists and psychologists accounted for approximately three times as much as pharmaceutical costs or the costs of home and institutional care. In summary the total direct costs were estimated at \$2.1 billion; the total morbidity costs due to lost production at \$10 billion and the total mortality costs due to lost productivity \$4.2 billion. From their analysis Stoudemire et al conclude that 75 per cent of the total costs of depression to society are not direct treatment costs, but rather costs incurred due to lost social and economic productivity.

Broadhead et al (1990) argue that the work of Stoudemire et al is weakened by the omission of minor depression. There is a high use of health care resources not only among those with diagnosable depressive disorders but also in the 'subsyndromal' group – that is, those with countable symptoms that do not reach a diagnostic threshold. Broadhead et al claim that both major depressed and subsyndromal patients showed a greater degree of disability, more actual days lost from work and an increased frequency of diagnosable anxiety disorders. Minor depression may manifest itself in the form of decreased productivity at work and increased health care utilisation. Major depression accounted for more days missed from work than depressive neurosis (see Box 1) or minor depression with or without mood disturbance; nevertheless, Broadhead believes minor depression should be included in future assessments of the cost of depression since it has a 'potentially great societal impact'.

Depression, thus has a major financial impact on both health care resources directly and indirect effects by leading to absence from work and reduced productivity whilst at work.

Personal and Social Issues

Clearly depression can and will have a dramatic impact on family and personal relationships. Tom Swann (1991), a depression sufferer, says that the depressed patient often becomes self-centred and preoccupied with personal problems that appear to be enormous and insurmountable. Negative thoughts become automatic and to add to this the appearance of persistent diarrhoea is not uncommon. 'One loses touch with reality and becomes swamped in a sea of despair, an ocean of alienation' (GP, September 1991). Under such circumstances family and personal life will be difficult for those that the depressive comes into contact with. The constant air of gloom and misery may even drive other family members into depression.

The presence of a confidant seems to be one of the most important resources that depression sufferers can have in helping to overcome depression. Thus, an understanding partner or friend can be of vital significance to a depressed person, although it will be difficult for the third party to maintain a sympathetic and supportive role the longer the depression continues, since life with a sad, gloomy and self-pitying person will be a strain. However, it may be that unsatisfactory family circumstances led to the depression; in such instances family therapy may be useful so that members can better understand each others point of view.

Loss of libido can be a symptom of depression and this can be very trying for the depressive's partner. The lack of sexual interest may be looked upon as a personal rejection or loss of attractiveness of the partner rather than as part of the depressive condition. It is important for the partners of such people to realise that the cause of the problem is the depression itself rather than some loss of affection or attractiveness towards them.

Depression often effects married women with children, in these instances the situation can be made more difficult with the woman perhaps feeling increasing guilty believing that she is both failing as a wife and a mother. It is important for depression sufferers to seek medical help and thereby assist the recovery process.

Living with a manic-depressive can be particularly demanding; probably more so than with depressives in general. Manic-depressives can be on a 'high' one day being noticeably gregarious, friendly, outrageous and lively then hit a 'low' becoming very depressed. These oscillations from euphoria to deep depression make the affected person unpredictable and difficult. One manic-depressive described the manic phase as being 'on another plane,... as if you've taken a hallucinogenic drug.' However, during a manic phase patients may destroy their marriage, spoil their reputation, or ruin themselves financially. They usually sleep very little, kept awake

by a constant flow of ideas; prominent features of the disorder are elation, easily aroused anger, and increased mental speed. They lack self-criticism and are excessively self-confident. Sexual activity may increase. A combination of violent activity, lowered food intake, and too little sleep may lead to physical illness and exhaustion. The manic-depressive may, however, feel unusually well and not recognise that they are making themselves ill. The considerable internal family strains that can be caused by a manic-depressive can be made more unbearable by the rejection and indignation from outsiders who fail to understand that illness is involved. The indefatigability and lack of inhibitions often lead to unfortunate consequences.

In summary, the depressive should seek medical intervention or a member of the family should do so for them if they are unwilling to admit to depression or seek care for themselves. Partners or relatives and friends should remain supportive and sympathetic even if the depression appears to be persisting. People should refrain from encouraging depressives to 'snap out of it' as this will do no good and may well make the person feel more guilty and depressed.

Conclusion

Depression affects many millions of people in the UK and indeed is a common illness in many parts of the world. For those depressed patients who receive some form of medication the prospects of recovery are favourable. However, many depressed patients either do not seek medical intervention or GPs fail to diagnose the presence of depression when they do consult. GPs need to be made aware of the possibility of depression in their patients even when the patient may consult the doctor for an apparently somatic complaint.

Treatment for depression has continued to evolve and most treated patients can anticipate a full recovery within several weeks of starting a treatment. However, some patients may need to have more than one medication tried before they respond. It is important for GPs to be flexible in their treatment regimens and realise that individual patients may respond differently to alternative medications.

Whilst various methods of treatment are available, the use of drug treatment combined with psychotherapy appears to be the most effective method of treating depression; the rationale for this combination is often referred to as 'pills for symptoms, psychotherapy for problems'. The presence of a confidant also seems to be of vital importance in ameliorating depression. Community and social support may also help in the recovery process.

Many observers still see tricyclics as the therapy of first choice, regardless of their risks of suicide. Selective serotonin reuptake inhibitors may continue to be prescribed in an increasing number of

cases and should be used where the patient is perceived to be a possible suicide risk. A new class of antidepressant, reversible inhibitor of MAO type A (RIMA), appears to be where the latest developments in depression drug therapy are emerging. These more sophisticated and selective MAOIs may lead to the emergence of a more prominent role for MAOI treatments in cases of depression.

Whilst potentially most depression sufferers can be treated successfully there are clearly still very many people who suffer unnecessarily with depression. Others around them also suffer unnecessarily; these include family members as well as employers who may suffer as result of a loss of productivity on the part of the depressive. As Copeland (1987) said, 'Could not the neglect (of depression) in otherwise developed countries be described as a twentieth century scandal?'

Support groups offering help and advice include the following:

The Association for Post-natal Illness
25 Jerdan Place
Fulham, London SW6 1BE
Telephone 071-386 0868

The Manic Depression Fellowship
13 Rosslyn Road
Twickenham, Middlesex TW1 2AR
Telephone 081-892 2811

MIND (National Association for Mental Health)
22 Harley Street
London W1N 2ED
Telephone 071-637 0741

The Mental Health Foundation
8 Hallam Street
London W1N 6DH
Telephone 071-580 0145

Fellowship of Depressives Anonymous
36 Chesnut Avenue
Beverley, North Humberside HU17 9QU
Telephone 0482-8606619

Depressives Associated
PO Box 5
Castletown, Portland
Dorset DT5 1BQ

References

- Abas M, Murphy D (1987). Seasonal affective disorder: the miseries of the long dark nights? *Br med J* 1987; 295: 1504.
- American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders – revised*. Washington DC: American Psychiatric Association.
- Anon (1991). New class of anti-depressants. *The Australian Journal of Pharmacy* 1991; 72: 784-5.
- Barraclough B M (1974). *British J Psychiatry* 124: 526-30.
- Beale N and Nethercott S (1985). *J R Coll Gen Pract* 35; 510-14.
- Becker E (1964). *The Revolution in Psychiatry*. New York: The Free Press.
- Booth C C (1989). *Holes in Therapy*. OHE, London.
- Broadhead W E, Blazer D G, George L K, Tse C K (1990). Depression, Disability Days, and Days Lost From Work in a Prospective Epidemiologic Survey. *JAMA* 1990; 264: 2524-28.
- Brown G W, Harris T (1978). *The Social Origins of Depression*. Tavistock Publications.
- Brown F (1972). Depression and Childhood Bereavement. In: *Depressive States in Childhood and Adolescence*. (Ed) Ansell A L. Stockholm: Almqvist and Wiksell 1972.
- CDC (1991). Attempted Suicide Among High School Students – United States, 1990. *JAMA* 1991; 266: 1911.
- Copeland J R M (1987). Prevalence of depressive illness in the elderly community. In: *The Presentation of Depression: Current Approaches*. (Ed) Freeling P, Downey L J, Malkin J C (1987). RCGP, London.
- Damliyi N F, Ferguson J M (1988). Paradoxical Worsening of Depressive Symptomatology Caused by Antidepressants. *J Clin Psychopharmacol* 1988; 8: 347-9.
- Frank E, Kupfler D J, Perel J M et al (1990). Three-Year Outcomes for Maintenance Therapies in Recurrent Depression. *Arch Gen Psychiatry* 1990; 47: 1093-99.
- Gallant D M, Simpson G M (Ed) (1976). *Depression: behavioural, biochemical, diagnostic and treatment concepts*. SP Medical and Science Books: USA.
- Ganzini L, McFarland B H, Cutler D (1990). Prevalence of Mental Disorders after Catastrophic Financial Loss. *J Ment Nerv Dis* 1990; 178: 680-5.
- Griffin J P (1991). Factors Affecting Medicine Usage and Rates of Consultation. In: *Factors Influencing Clinical Decisions in General Practice*. OHE, London.
- Guze B H, Freedman D X (1991). *Psychiatry*. *JAMA* 1991; 265: 3164-5.
- Harris C M (1987). Prevalence of depressive illness in general practice attenders. In: *The Presentation of Depression: Current Approaches*. (Ed) Freeling P, Downey L J, Malkin J C. RCGP, London.
- Haygarth L, Branford D (1991). Depression and Its Treatment. *Pharm J* 246: 426-8.
- Hershman D J, Lieb J (1988). *The Key to Genius*. Protheus Books: New York.
- Hindmarch J, Kerr J S, Sherwood N (1991). The effects of alcohol and other drugs on psychomotor performance and cognitive function. *Alcohol and Alcoholism* 1991; 26(1): 71-79.

Holden J M, Sagovsky R, Cox J L (1989). Counselling in a general practice setting: controlled study of health visitor intervention in treatment of postnatal depression. *Br med J* 1989; 298: 223-6.

Jamison K R (1987). Compliance with Medication. In: (Ed) Johnson F N (1987). *Depression and Mania: modern lithium therapy*. IRL Press, Ltd: Oxford.

Johnson D (1991). The 5HT reuptake inhibitors: what place in therapy? *Prescriber*; November 1991.

Kelly D (1987). First and second generation antidepressants. In: (Ed) Kelly D, France R (1987). *A Practical Handbook For The Treatment of Depression*. Parthenon Publishing Group, New Jersey.

Klerman G L (1976). Age and Clinical Depression: Today's Youth in the Twenty-First Century. *J Of Gerontology* 1976; 31(3): 318-323.

Klerman G L, Weissman M M (1989). Increasing Rates of Depression. *JAMA* 1989; 261: 2229-2235.

Klerman G L (1990). Treatment of Recurrent Unipolar Depressive Disorder. *Arch Gen Psychiat* 1990; 47: 1158-62.

Livingstone M (1990). Tricyclic and Newer Antidepressants. *Prescribers' Journal* 30: 139-47.

Mack J E, Hickler H (1981). *Vivienne: The Life and Suicide of an Adolescent Girl*. Little, Brown and Company: Boston/Toronto.

McKenna P J (1987). Depression. In: (Ed) Johnson F N (1987). *Depression and Mania: modern lithium therapy*. IRL Press, Ltd: Oxford.

MEREC Bulletin: Medicines Resources Centre (1991). 5-hydroxytryptamine reuptake inhibitors. *MeReC* 1991; 2: 29-32.

Moore P (1991). Identifying those at risk of depression and suicide. *Pulse* 51; 24: 60.

OHE (1989). *Mental Health in the 1990s: From Custody to Care?* OHE, London.

Paykel E S, Freeling P, Hollyman J A (1988). Are Tricyclic Antidepressants Useful for Mild Depression? A Placebo Controlled Trial. *Pharmacopsychiat* 1988; 21: 15-18.

Potter W Z, Rudorfer M V, Manji H (1991). The Pharmacologic Treatment of Depression. *New Eng J Med* 1991; 325: 633-42.

RCGP/OPCS/DHSS (1986). *Morbidity Statistics in General Practice 1981/2*. HMSO, London.

Richards J P (1990). Postnatal depression: a review of the literature. *Br J Gen Pract* 1990; 40: 472-6.

Sanders D (1984). *Women and Depression: A Practical Self-help Guide*. Sheldon Press: London.

Schou M (1983). *Lithium Treatment of Manic-Depressive Illness: A Practical Guide* (2nd Edition).

Stein A, Cooper P J, Campbell E A et al (1989). Social adversity and perinatal complications: their relation to postnatal depression. *Br med J* 1989; 298: 1073-4.

Stoudemire A, Frank R, Hedemark N, Kamlet M, Blazer D (1986). The Economic Burden of Depression. *Gen Hosp Psychiat* 1986; 8: 387-94.

- Studd J (1991). What is the relationship between oestrogens and depression? MIMS Magazine, September 1991; 18(17): 32-3.
- Swann T (1991). Keep the 'black dog' on a lithium leash (GP Top 100: Depression). General Practitioner, September 1991.
- Thompson D and Pudney M (1990). Mental Illness: The Fundamental Facts. The Mental Health Foundation: London.
- THPRT (1991). Depression in Childhood. The Health Promotion Research Trust, 1991.
- Tsuang M T, Lyons M J (1987). Manic-Depressive Illness. In: (Ed) Johnson F N (1987). Depression and Mania: modern lithium therapy. IRL Press, Ltd: Oxford.
- Tylee A (1991a). Recognising depression. The Practitioner, September 1991; 235: 669-672.
- Tylee A (1991b). Psychological medicine. The Practitioner, September 1991; 235: 667.
- Weissman M M (1986). Being Young and Female: Risk Factors for Major Depression. In: Suicide and Depression Among Adolescents and Young Adults. (Ed) Klerman G L (1986). American Psychiatric Press, Inc.
- Wilkinson D G (1989). Depression: Recognition and Treatment in General Practice. Radcliffe Medical Press: Oxford.
- Wright A (1991). Foreword. In: Achievable Depression Management in General Practice. MIMS Magazine, 1991.

Office of Health Economics

The Office of Health Economics was founded in 1962 by the Association of the British Pharmaceutical Industry. Its terms of reference are:

To undertake research on the economic aspects of medical care.

To investigate other health and social problems.

To collect data from other countries.

To publish results, data and conclusions relevant to the above.

The Office of Health Economics welcomes financial support and discussions on research problems with any persons or bodies interested in its work.

