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Mental Disorders in the Community Dwelling Elderly

A thesis presented to the University of Dublin for the degree

of

Doctor of Medicine

by

Michael Kirby

MB BCh BAO DCH DObs MRCGP MRCPsych

This work was carried out in the Department of Psychiatry

and

the Mercer's Institute for Research on Ageing,

St. James's Hospital, Dublin

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To Darina and Katie

Contents

Declaration i

Acknowledgements ii

List of abbreviations iii

Summary iv

Chapter 1: **Introduction**

Mental disorders and older people 1

Mental disorders and older Irish people 3

The course and outcome of mental disorders in older people 6

The detection of mental disorders in older people 9

The treatment of mental disorders in older people 12

Chapter 2: **Aims** 15

Chapter 3: **Methodology** 18

Chapter 4: **The prevalence of mental disorders in a community dwelling elderly population in Dublin** 22

Chapter 5: **Support network distribution and mental disorder in an elderly community in Dublin** 40

Chapter 6: **The frequency of hopelessness and suicidal feelings among older people in Dublin** 58

Chapter 7: **The one year outcome of community based late life depression** 70

Chapter 8: **Chronic depression: dysthymia in the community dwelling elderly** 79

Chapter 9: **The clock drawing test: a brief instrument to aid the detection of dementia in primary care** 92

Chapter 10: **Loud and silent depression: the influence of anxiety symptoms on detection and treatment of late life depression in the community** 106

Chapter 11: **Psychotropic drug treatment in the community dwelling elderly** 113

Chapter 12: **Conclusions** 130

References 136

Appendices

Appendix A: The Mini-Mental State Examination 157

Appendix B: The Sunderland criteria for scoring the CDT 158

Appendix C: The Hamilton Depression Rating Scale 159

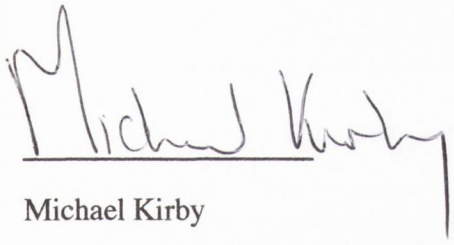
Appendix D: The Support Network Assessment Instrument 163

Appendix E: The Registrar General's classification of social class 164

Appendix F: Life events list 165

Declaration

I declare that the work contained in this thesis is my own, except where credit is given in the acknowledgements section to my colleagues in the Mercer's Institute for Research on Ageing. The project was approved by the Federated Dublin Voluntary Hospitals ethics commitee and all participants gave full and informed consent. This thesis has not been submitted as an exercise for a degree to any other university. I agree that the library of the University of Dublin may lend or copy this thesis on request.



Michael Kirby

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List of abbreviations

GP	General practitioner
DSM	Diagnostic and Statistical Manual of Mental Disorders
DSM-111	Diagnostic and Statistical Manual of Mental Disorders, third edition
DSM-IIIR	Diagnostic and Statistical Manual of Mental Disorders, third edition, revised
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, fourth edition
ICD-10	International Classification of Diseases, tenth revision
CDT	Clock drawing test
GMS	Geriatric Mental State
AGECAT	Automated Geriatric Examination for Computer Assisted Taxonomy
MMSE	Mini-Mental State Examination
SD	Standard deviation
TCA	Tricyclic antidepressant
MAOI	Monoamine oxidase inhibitor
SSRI	Selective serotonin reuptake inhibitor
NARI	Noradrenaline reuptake inhibitor
SNRI	Serotonin and noradrenaline reuptake inhibitor
CSM	Committee on the Safety of Medicines

Summary

Introduction

The elderly population is increasing both in numbers and as a proportion of the overall population. Mental disorders are common among the elderly. Most older people with mental disorders live in the community and attend primary care rather than specialist psychiatric services. Many studies have shown low rates of detection and treatment of mental disorders in the elderly population. There are no published data on the range of mental disorders among the community dwelling elderly in an Irish context. This thesis describes the range of mental disorders among older people in a Dublin community and considers issues which contribute to the detection and treatment of these disorders.

Methodology

Subjects of 65 years and over were identified from the lists of five general practices. All participants were assessed using the GMS semi-structured interview. The GMS data were applied to the AGECAT computerised diagnostic system to generate cases and subcases of mental disorder. GMS-AGECAT also has the facility to record scores on diagnostic clusters other than that of the primary diagnosis and, therefore, provides data on co-occuring disorders or symptoms. Subjects with depression and dementia were recruited following the initial interview for a further assessment. The content of the assessment varied with the different studies, and included the MMSE and CDT as indicators of cognitive function, the HAM-D as a measure of depression severity and to describe symptom profile, and a support network instrument as an indicator of informal support.

Results & conclusions

Mental disorders were present in 15% of older people in this community, with depression and dementia being the most common disorders. The prevalence findings were similar to studies in Liverpool but differed from studies in London and New York,

particularly with regard to functional disorders, and this may reflect a common social and cultural enviroment between Dublin and Liverpool. The Dublin community was characterised by high levels of family and informal community support for the older person.

Low treatment rates for mental disorders were found which are likely to result from varying combinations of lack of detection, difficulties with diagnosis of the primary disorder and a reluctance to treat due to perceptions that depression or cognitive problems were 'normal' events in ageing.

A perception that mental disorders in older people in the community, particularly depression, are transient and inconsequential can hamper efforts to promote the adequate detection and treatment of these disorders. However, depressive disorders among older people in this Dublin community were shown to be associated with prominent feelings of hopelessness and suicidality, and had a high maintenance rate and broad unfavourable outcome over a one year period.

The presentation of late life depressive disorders in the community may also cause detection and treatment difficulties. Depression without anxiety was at a high risk of being missed and appeared to remain 'silent'. In contrast, depression with prominent anxiety appeared to be 'loud' and was more likely to receive treatment. However, the presentation which rendered the depression loud also appeared to result in mis-diagnosis with the anxiety being treated with benzodiazepines rather that the underlying depression receiving treatment. Recognition of these issues with primary care may facilitate improved detection and accurate diagnosis of depression. Improving detection rates of dementia in the community may be facilitated by the use of simple cognitive instruments, such as the CDT which was shown to have satisfactory sensitivity and specificity.

The opportunity for intervention in late life mental disorders exists, particularly for those with longstanding depression who had consulted primary care with symptoms at some stage during the depressive disorder in over four-fifths of cases. However, interventions need to be appropriately chosen for older people, and specifically for older people who are living in the community. A high rate of psychotropic drug use which

was inappropriate to mental state, such as the widespread use of benzodiazepines for individuals without anxiety disorders, was found. The choice of drug was also of concern, with long acting benzodiazepines and antidepressants such as amitriptyline being widely prescribed.

The study of late life mental disorders as they occur in the community, as opposed to specialist settings, is essential to identify the issues which are relevant to the detection and management of the large bulk of mental disorders in older people.

Chapter 1

Introduction

Chapter 1.1

Mental disorders and older people

The world population, in both developed and less-developed countries, is growing and is projected to have increased by over 50% beween 1975 and 2000 (United Nations, 1989). This population growth is not evenly spread across all age groups, with the elderly population increasing in terms of numbers and also as a proportion of the overall population (United Nations, 1989). The mental health implications to this increase in the elderly population are clear in terms of a rise in the number of older people with mental disorders.

Symptoms indicative of psychological or psychiatric distress are common in later life. There is a wide spectrum of symptoms and disorders, varying from mild anxiety symtoms to severe depressive disorders and dementia. There have been conflicting findings on the influence of increasing age on the prevalence of these disorders. While older people may be at risk of developing depressive disorders as a consequence of age related structural and biochemical changes (Post, 1984; Veith & Raskind, 1988) and the psychological losses associated with ageing (Gurland, 1984), many studies have reported a lower prevelence of depressive disorders in those over 65 years than in younger adults (Weissman et al, 1985, 1988 & 1988a; Blazer et al, 1988; Regier et al, 1988). However, there is also evidence of an increase in depressive symptoms which fall short of criteria for depressive disorder (Foster & Reisberg, 1984; Blazer, 1989) with ageing. It has been argued that the diagnostic instruments used in many studies have been developed for use in younger adults and may not be appropriate for use in the elderly and, consequently, much of the significant depressive symptomatology among the elderly may not reach criteria for depressive disorder in some studies (Blazer et al, 1987; Roberts et al, 1997). Increasing age is the most consistent risk factor for dementia and two large meta-analyses of relevant studies (Jorm et al, 1987; Hofman et al, 1991) have found the prevalence rate to double with each additional five years over 60 years. The prevalence of anxiety disorders, including phobic and obsessional disorders, appear to decrease with age (Kramer et al, 1985; Regier et al, 1988 & 1990; Flint, 1994), though milder anxiety symptoms are common in older people (Copeland et al, 1992) and anxiolytic drug use is high (Fichter et al, 1989; Copeland et al, 1992; Skoog et al, 1993). Less attention has been paid to the prevalence of schizophrenia among the community dwelling elderly, partly

due to detection and classification difficulties (Harris & Jeste, 1988). There appears to be a decrease in the prevalence of schizophrenia after the age of 45 years (Regier et al, 1988).

Community based surveys, employing instruments which have been validated for use in the community dwelling elderly, indicate that between 18% and 26% of people over 65 years have a mental disorder (Saunders et al, 1993). Depression has been consistently shown to be the commonest late life mental disorder with a prevalence of 10% to 19%, followed by dementia at 4% to 8%, anxiety disorders at 1% to 2%, with low figures of 0.1% and 0.2% being found for schizophrenia (Saunders et al, 1993).

It is well recognised that mental health problems adversely impact on quality of life and functional ability. The impairment of well-being and functioning, which is directly attributable to depression, has been shown to be comparable or worse than that associated with major chronic medical medical conditions (Wells et al, 1989; Hays et al, 1995). Dementia syndromes impinge significantly on the quality of life of the individual, and their carer, and frequently lead to hospitalisation and institutionalisation (Steele et al, 1990; Absher & Cummings, 1994).

Elderly people with mental health problems frequently do not present their difficulties to any services (Williamson et al, 1964; Weissman et al, 1985; Jack et al, 1988; Bowling, 1990), and few attend psychiatric services (McDonald, 1986). Consequently, it is essential that the study of late life mental disorders is located in the community, if an accurate picture of the entire spectrum of mental disorders among the elderly is to be obtained.

Chapter 1.2

Mental disorders and older Irish people

The worldwide increase in the elderly population is reflected in a substantial increase in the number of older people in Ireland, and in the percentage of the overall population. In the 1991 census for the Republic of Ireland there were 402,900 persons of 65 years and over, representing 11.4% of the general population (Central Statistics Office, 1994). It is estimated that these figures will rise to 520,000, and 14.1%, by year 2011 (Fahey, 1995) which represents an increase of over one quarter. The rise in the over 80 years group is likely to be particularly marked, with a projected increase of almost two-thirds.

The projected increase in the elderly population in Ireland will be accompanied by an increase in the number of older Irish people with mental disorders and, particularly, dementia syndromes in view of the differential increase in the over 80 years group. This highlights the importance of having data on the extent and nature of mental disorders in Irish older people. However, apart from reports derived from this project (Lawlor et al, 1994; Kirby et al, 1997), little data exist on the prevalence of mental disorders among the community dwelling elderly in Ireland. The available Irish data have essentially reported on contacts with psychiatric services, such as the National Psychiatric In-Patient Reporting System (Keogh & Walsh, 1995) and psychiatric case registers such as the Three County Psychiatric Case Register (O'Hare & Walsh, 1987), or on extended care settings (O'Neill et al, 1991). A recent report entitled Mental Disorders in Older Irish People: Incidence, Prevalence and Treatment (Keogh & Roche, 1996) was compiled to draw together the available Irish data. The paucity of community based data required the authors to extrapolate from figures relating to specialist services, according to models such as Goldberg & Huxley's (1980) pathways to care, and to extrapolate from international figures, in order to obtain estimates for the real extent of mental disorders in older people in Ireland. There have been two studies of the prevalence of cognitive impairment in primary care attenders (O'Neill et al, 1988; Irish College of General Practitioners, 1995), though using brief screening instruments such as the Mini Mental State Examination [MMSE] (Folstein et al, 1975) or the Abbreviated Mental Test Score (Thompson & Blessed, 1987), and both studies produced much higher prevalence figures for cognitive impairment than would be predicted for older people in the community. Two community based studies have screened for anxiety and depressive symptoms in older people (O'Connor, 1989; South Eastern Health

Board, 1996) but used either non-specific measures (O'Connor, 1989) or used scales such as the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983), which may not be suitable for use among the community dwelling elderly. Furthermore, a number of these studies remain unpublished (O'Connor, 1989; Irish College of General Practitioners, 1995; South Eastern Health Board, 1996). In contrast to the lack of data on mental disorders among the community dwelling elderly, accurate data on suicide rates among older Irish people are available (Walsh & McCarthy, 1965; Kelleher et al, 1997; National Task Force on Suicide, 1998). There has been no comprehensive study of the range of mental disorders in Irish older people in the community prior to the work presented in this thesis.

Is it necessary to study mental disorders in Irish older people or should it be sufficient to extrapolate from international findings? While most differences in prevalence rates between studies may be explained by different methodologies, even studies which use the same methods have reported some interesting differences. The US-UK diagnostic project (Copeland et al, 1987a) found a higher rate of dementia in New York than in London and the difference has not been adequately explained. Higher depression rates have been found in London and New York than in Liverpool (Saunders et al, 1993), which may be explained by social issues though this is not entirely clear (Copeland et al, 1987a). The type of service available for older people with mental disorders varies between countries. In Ireland, as in the United Kingdom but less so in the United States, primary care is almost invariably the first medical point of contact for the population and tends to be in very close contact with the elderly population who have high consultation rates. Furthermore, there are currently few specialist old age psychiatry services in the Republic of Ireland to which primary care can refer to or liaise with, and therefore the capacity of primary care to detect accurately and treat appropriately late life mental illness may be particularly crucial. However, further development of old age psychiatry services in Ireland is planned and knowledge of the extent and pattern of presentation of mental disorders among the community dwelling elderly in Ireland is important. The social milieu in which older people live may impact both on the development of mental disorders, such as depression (Copeland et al, 1987a), and on the type of services that are most appropriate for older people with mental disorders. The type of informal support available to older people

varies between communities and cultures (Wenger, 1995) and knowledge of the pattern of support available in a community may influence the appropriate mix of formal services for that area (Wenger, 1997).

Chapter 1.3

The course and outcome of mental disorders in older people

The course of late life depression has been studied extensively, though the findings are conflicting. Earlier studies on patients attending specialist services found that depression in old age carried a poor prognosis (Post, 1972; Murphy, 1983) both in terms of persistence and relapse. Later studies (Baldwin & Jolley, 1986; Meats et al, 1991; Hinrichsen & Hernandez, 1993) produced more optimistic figures and suggested that up to 80% of older people have a good response to treatment of a depressive episode and that, while there is a significant risk of relapse, these further episodes can also be treated successfully. The patients in these studies were being treated in specialist settings for DSM major depressive disorder or it's equivalent. However, community based studies (Kivela et al, 1991; Copeland et al, 1992; Kua, 1993) indicate a less favourable outcome for late life depression with only 40% having a good outcome at intervals of between one and five years, even when the 'non-major' depressions are included. Most community based studies are naturalistic, without planned interventions, and conclude that the poor outcome is a consequence of the absence of treatment or inadequate treatment (Copeland et al, 1992; Kua, 1993). The large majority of depressive disorders among the community dwelling elderly are non-major depressions (Pahkala et al, 1995), and this may lead to a belief that community based depression in older people is benign and self-limiting and that specific interventions are not required (Lawlor, 1995). The relatively unfavourable outcome of these community based depressive disorders (Kivela et al, 1991; Copeland et al, 1992; Kua, 1993) suggests that this perception is unfounded.

A further aspect of the course of depression in the elderly is the increased mortality rate associated with late life depression. This has been demonstrated in both specialist settings (Murphy, et al, 1988) and in the community (Copeland et al, 1992; Pulska et al, 1999), and particularly among men in some studies (Murphy et al, 1988). The excess mortality is partly due to the association of depression with physical ill-health (Tylee & Katona, 1996), but some studies have demonstrated an increased mortality rate even when physical illness is controlled for (Murphy et al, 1988; Pulska et al, 1999).

While there are cross national variations, the elderly (particularly men) have either the highest or one of the highest suicide rates of all age groups. In the United States elderly white males have a suicide rate which is five times greater than the national average (Conwell &

Caine, 1991). In Ireland elderly men have the second highest suicide rate, only recently surpassed by men in the 15 to 24 year age group (Kelleher et al, 1997). Suicide in old age has been shown to be closely linked to depression (Lindesay, 1991; Cattell & Jolley, 1995). Similarly, there are particularly strong links in the elderly between deliberate self harm, depression and subsequent suicide (Pierce, 1987). This would suggest that a crucial aspect of the attempt to reduce suicide in the older population is improved detection and treatment of late life depression in the community (Tylee & Katona, 1996).

The prognosis for dementia syndromes raises different issues, as the core cognitive deficits are usually irreversible. However, the identification of reversible or arrestable causes of dementia provides the most immediate rationale for the detection of dementia syndromes in the community. Approximately 11% of clinically diagnosed dementia cases are partially or fully reversible, with depression and drugs being responsible for half the cases, followed by metabolic conditions such as thyoid dysfunction and vitamin B12 deficiency, normal pressure hydrocephalus, subdural haematoma and intracranial neoplasm (Clarfield, 1988). Furthermore, as our knowledge of the pathogenesis of the dementias increase and treatments are developed, the concept of reversible dementia or treatable dementia will expand. There is evidence that control of vascular risk factors such as hypertension and smoking cessation (Meyer et al, 1986) and using an antiplatelet drug can prevent progression in vascular dementia and may even improve cognition. The advent of the cholinesterase inhibitors (Knapp et al, 1994; Rogers et al, 1998; Rosler et al, 1999) has offered the oportunity to alter the course of Alzheimer's disease, even if only modestly and temporarily. The identification of dementia type and the initiation of specific treatment may take place primarily in specialist psychiatric or medical settings, but requires primary care to take the initial essential step of detecting a dementia syndrome in the older person living in the community. Primary care can also influence the course of the dementia through the appropriate treatment of the added disabilities of the psychiatric and behavioural complications, in the context of improving the quality of life of the patient and the carers (Absher & Cummings, 1994) and possibly delaying institutionalisation (Steele et al, 1990).

Schizophrenia with onset in late life is a chronic condition and, while symptoms improve with treatment, long term follow up indicate that mild symptoms frequently persist (Hymas et al, 1989). There has been little written on the course of anxiety disorders in older people in the community, but there is evidence that up to 20% will recover spontaneously (Larkin et al, 1992). There is considerable comorbidity of anxiety with depression in older people and, in this situation, the anxiety frequently resolves with successful treatment of the depression (Flint, 1994).

Chapter 1.4

The detection of mental disorders in older people

Schizophrenia with onset in late life is a chronic condition and, while symptoms improve with treatment, long term follow up indicate that mild symptoms frequently persist (Hymas et al, 1989). There has been little written on the course of anxiety disorders in older people in the community, but there is evidence that up to 20% will recover spontaneously (Larkin et al, 1992). There is considerable comorbidity of anxiety with depression in older people and, in this situation, the anxiety frequently resolves with successful treatment of the depression (Flint, 1994).

Chapter 1.4

The detection of mental disorders in older people

The vast majority of older people with all types of mental disorder are living in the community (Bergmann, 1975; Henderson & Kay, 1984). These disorders, of which depression and dementia predominate, frequently remain undetected (Williamson et al, 1964; McClean, 1987; O'Connor et al, 1988; Bowling, 1990; Llife et al, 1991). Low rates of detection of mental disorders among older people in hospital settings have also been reported (McClean, 1987; Harrison et al, 1990; Koenig et al, 1997).

There are many potential reasons for the low rate of detection of mental disorders among the elderly, which relate both to the older person and to health professionals. Many of these factors also apply to the diagnosis of mental disorders in younger adults, but tend to be particularly relevant in late life. Older people frequently experience physical illness and may suffer from chronic medical problems. The person may not recognise his symptoms as being psychological, and attribute them to physical illness. Even if symptoms are recognised as being psychological in origin, older people may not consider it appropriate to discuss such problems with their general practitioner [GP]. Some of the core symptoms of mental disorders, for example the lack of energy and diminished apetite of depression, overlap with the symptoms of physical illness and may not be identified as being indicative of mental disorder by the health professional in the primary care setting. Somatisation by patients with a depressive disorder (Bridges & Goldberg, 1985) or an anxiety disorder (McDonald, 1973), where physical type symptoms are presented, is common in later life and may further shield the psychological distress from the GP. Atypical presentations of a mental disorder may lead to misdiagnosis of a different mental disorder. Late life depression frequently has comorbid anxiety symptoms and disorders (Ben-Arie et al, 1987; Kua et al, 1996) and may be misdiagnosed as an anxiety disorder, or may present with cognitive symptoms (Philpot & Burns, 1989) and dementia may be diagnosed. Dementia may present with anxiety or depressive symptoms (Reifler et al, 1986; Merriam et al, 1988; Philpot & Burns, 1989) or with psychotic features and, similarly, be misdiagnosed (Philpot & Burns, 1989). Finally, ageist assumptions about older people and their capabilities can act a further barrier to the recognition of late life mental disorders. A preconception that it is normal for the elderly, especially those in the very old age groups, to develop significant cognitive difficulties can lead to health professionals not detecting dementia

syndromes (Mowry & Burvill, 1988). Schizophrenia which has it's onset in late life is also underdiagnosed in the community (Harris & Jeste, 1988). The presentation differs from that of young adult schizophrenia, with better social functioning and more intact personality and premorbid functioning (Craig & Bregman, 1988), and therefore may not come to the attention of primary care as readily.

The classification systems for mental disorders, such as the Diagnostic and Statistical Manual of Mental Disorders, fourth edition [DSM-IV] (American Psychiatric Association, 1994) and the International Classification of Diseases, tenth revision [ICD-10] (World Health Organisation, 1992), may provide difficulties for the detection of functional mental disorders in the community dwelling elderly. The diagnostic categories may not be appropriate for use in older people and, in particular, for older people in the community (Broadhead et al, 1990; Blazer, 1994; Roberts et al, 1997). Psychiatry presents primary care with diagnostic criteria for depression which is appropriate for specialist settings and the severe depressions which are encountered, but which may not be useful in the community. For instance, the large majority of significant depressive disorders among the community dwelling elderly clearly would not meet criteria for DSM-IV major depressive disorder (Blazer, 1994; Beekman et al, 1995a; Roberts et al, 1997). Primary care may be left with the perception that the non-major depressions are unimportant. In a community study of depressed older people, Kivela et al (1989) showed that there was no difference in symptom severity between major depression and the much commoner dysthymia which is described as a chronic mild depression. With regard to paranoid disorders in older people, DSM-IV and ICD-10 do not include the diagnosis of paraphrenia, leaving the majority of non-affective non-organic late life paranoid disorders to be classified as schizophrenia (Howard & Rabbins, 1997) without a distinction from schizophrenia of early life. Many old age psychiatrists are uncomfortable with this (Howard & Rabins, 1997), and it is likely that general practitioners may be particularly reluctant to make a diagnosis of schizophrenia in an elderly person who presents quite differently to a young adult with schizophrenia.

Underlying these barriers to the detection of mental disorders among the community dwelling elderly are education issues, in regard to both public education and the training of

health professionals. The low levels of help-seeking for emotional problems among the elderly (Williamson et al, 1964; Weissman et al, 1985; Jack et al, 1988; Bowling, 1990) highlights the importance of educating the public and the older population, in particular, to enable them to present their mental health problems to relevant health professionals. Psychiatry training for general practitioners is entirely based within the specialist psychiatric service, and often in the in-patient setting, where severe disorders predominate and there is less exposure to the diagnostic difficulties which arise in the community.

Chapter 1.5

The treatment of mental disorders in older people

Recent studies (Livingston et al, 1990; Blanchard et al, 1994; Taylor et al, 1998) have consistently shown that less than 20% of older people with a depressive disorder in primary care receive specific treatment (antidepressant drugs or psychotherapy). The low rate of detection clearly contributes to the low treatment rate. Blanchard et al (1994) showed that when the depressed older people had discussed their emotional problems with the general practitioner, 50% received specific treatment. However, the recognition of a disorder does not automatically imply that treatment will be instituted. In contrast to other studies, MacDonald (1986) found that only 11% of late life depression in primary care was 'missed' but that intervention rarely followed detection. He argued that the undertreatment of late life depression in primary care derived from a reluctance to treat rather than a lack of recognition on the part of GPs.

The reluctance to treat older people with mental disorders, or to refer them to specialist services, may partly be due to a lack of awareness of appropriate treatment options. Community based studies have consistently shown that where pharmacological treatment has been instituted for late life depression, it is much more likely to be symptomatic anxiolytic or hypnotic drugs rather than specific antidepressant treatment (Copeland et al, 1992; Blanchard et al, 1994). There may also be a lack of awareness of the usefulness of both psychological and social interventions, either on their own in the milder depressive disorders or as an adjunct to pharmacotherapy. However, it would appear that GPs' perception of late life depression also contributes to their decision to frequently not institute treatment even when they diagnose a depressive disorder. Depression may be regarded as 'understandable' in the context of the stresses of ageing. Many life events and stressors - such as deteriorating physical health, loss of independence, bereavements, loss of social supports - , which may be associated with an increased risk of mental disorders, are encountered in late life (Gurland, 1984; Mensh, 1984). However, there is also evidence that life stressors may be tolerated better in later life because they are expected and that elderly people are at least as satisfied, and possibly more so, with their life than are younger adults (Gurland, 1984; Blazer, 1989), Unfortunately, primary care frequently places much emphasis on this issue of 'understandability' and elects not to treat many late life depressive disorders which would benefit from specific treatment.

As with depressive disorders, the underdetection of dementia in older people in the community clearly limits the opportunity for intervention. However, the undertreatment of dementing disorders in older people is less easily quantified, because interventions are more variable and less specific. As cognitive enhancing medications, such as cholinesterase inhibitors for Alzheimer's disease (Knapp et al, 1994; Rogers et al, 1998; Rosler et al, 1999), have only recently been licenced in the United Kingdom and Ireland, pharmacological therapeutic interventions are mainly targeted at behavioural and psychiatric symptoms. Behavioural symptoms (agitation, aggression, wandering, disturbance of sleep and eating patterns, urinary incontinence) or psychiatric symptoms (psychosis, depression, anxiety) accompany the cognitive deterioration in up to 80% of people with dementia (Cohen-Mansfield, 1986; Rovner et al, 1986; Swearer et al, 1988). The rates for specific behavioural or psychiatric symptoms in dementia vary greatly, as a consequence of methodological differences between studies. Individual behavioral and psychiatric symptoms in dementia patients rarely occur in isolation, and one study showed that 57% of people with Alzheimer's disease demonstrated mixed psychiatric/behavioral symptoms (Baker et al, 1991). Consequently, behavioral and psychiatric symptoms may not be distinguished from one another (Reisberg et al, 1987; Teri et al, 1988) and even when they are the definitions of particular symptoms or syndromes can vary. For example, in some studies, psychosis can refer to the presence of delusions or hallucinations, whereas in others it can include disorganized behavior secondary to perceptual abnormalities, as in the case of misidentifications. Greater difficulties arise with the characterization of agitated behaviours in dementia, and, furthermore, agitation may occur as an entity itself or may accompany psychiatric symptoms (Colenda & Hamer, 1991). Figures for the presence of depression in dementia has varied from zero to 80% but most studies report rates of approximately 20% for depressive disorders (Burns et al, 1990; Skoog, 1993) and approximately 50% for depressive symptoms (Wragg & Jeste, 1989; Burns et al, 1990). Swearer et al (1988) found psychotic symptoms (delusions or hallucinations) in 22% of individuals with a range of dementia syndromes, while in a study of a large cohort of subjects with Alzheimer's disease[AD], Burns et al (1990) found that 16 per cent had experienced delusions, 13% visual hallucinations

and 10% auditory hallucinations. However, other studies have quoted higher figures for psychosis (Swearer et al, 1988; Cooper et al, 1990; Rosen & Zubenko, 1991; Chen et al, 1991), ranging up to 60%. Less attention has been placed on the occurrence of anxiety, but rates of up to 60% for anxiety symptoms in dementia have been reported (Swearer et al, 1988). There is ample evidence that these non-cognitive disturbances in dementia impact adversely on the well being of both patient and carer and can produce greater burden measures in caregivers than do the cognitive problems (Weinstein et al, 1991; Mangone et al, 1993). The non-cognitive symptoms are potentially amenable to treatment (Reifler et al, 1986; Steele et al, 1990; Fischer et al, 1990) and may result in significant improvement in quality of life of both carer and patient (Absher & Cummings, 1994), and can delay or avoid institutionalisation (Steele et al, 1990).

The treatment of anxiety disorders and symptoms among older people in the community is largely on a pharmacological basis. Primary care has little access to structured cognitive and behavioural therapies, and, as anxiety disorders may be perceived as being the less severe mental disorders in older people, few are referred to specialist services where these interventions are available. As a consequence, benzodiazepine drugs are extensively perscribed to older people in the community (Fichter et al, 1989; Copeland et al, 1992; Skoog et al, 1993). In addition to the dependence potential of benzodiazepines, a possibly greater concern is the risk of adverse effects such as psychomotor and cognitive impairment in older people.

As MacDonald (1986) emphasised in the context of late life depression, it is not sufficient to purely concentrate on improving detection of mental disorders in older people in the community. Treatment issues also need to be addressed with primary care, through appropriate initial training and through continuing medical education on both a formal basis and as part of improved liaison between the psychiatric service and primary care.

Chapter 2

Aims

In chapter one I outlined the background to mental disorders among the community dwelling elderly, and considered the availability of data in an Irish context. This review identified the detection and the treatment of mental disorders in primary care as being of fundamental importance, and guided the formulation of the aims of the project. The focus of the project was on diagnostic and management issues, having first identified the extent of the problem in an Irish community. Therefore, the aims of the project were as follows:

1. To study the prevalence and distribution of mental disorders in a naturalistic study of an Irish community dwelling elderly population.

There is little data available on the range of mental disorders among older people living in the community in Ireland. This study (chapter 4) examines the extent of late life mental disorders in a Dublin community, and makes cross-national comparisons.

2. To determine the distribution of support networks among the community dwelling elderly, and among older people with mental disorders, in a Dublin community.

The pattern of support networks in a community is indicative of the degree and type of everyday informal support available to the elderly. This study (chapter 5) examines the type of informal support available to older people in this Dublin community, and whether it is different for older people with mental disorders.

3. To study the frequency of feelings of hopelessness and suicidality among the community dwelling elderly in Dublin.

There are few published studies of hopelessness and suicidal feelings among the community dwelling elderly, and none in an Irish context. This study (chapter 6) examines the frequency of these feelings in an Irish elderly population, and among those with depressive disorders.

4. To study community based late life depression with particular emphasis on (a) the naturalistic course and chronicity and (b) clinical features.

The large majority of depressive disorders which are encountered among the community dwelling elderly are 'non-major' depressions and differ in their presentation and apparent severity from those encountered in psychiatric settings, and therefore may not be detected. There can also be a perception that such depressive disorders are transient and inconsequential and not warranting detection or intervention. However, many of these community based depressions run a prolonged course. The one year outcome of community based late life depression is considered in chapter 7, chronic 'non-major' depression (dysthymic disorder) in chapter 8, and the clinical presentation of late life depression which impacts on detection and treatment in chapter 10.

5. To evaluate the utility of the clock drawing test [CDT] in the detection of dementia among older people in the community.

Dementia syndromes frequently remain undetected in the community. GPs rarely use cognitive assessment instruments. The CDT may represent a simple and convenient instrument to aid the diagnosis of cognitive impairment in primary care. This study (chapter 9) assesses the sensitivity and specificity of the CDT for the diagnosis of dementia in the community, and with particular emphasis on it's specificity against depression.

6. To examine the extent and appropriateness of psychotropic drug treatment in older people in the community.

Psychotropic drugs are widely used among older people in the community. The appropriateness of psychotropic drug use, with regard to potential side effect profile and to mental state, and is examined in chapter 11.

In this thesis the community dwelling elderly in Dublin are described with regard to the extent of mental disorder, the availability of social support, and the extent of ideas of hopelessness and suicidality (chapters 4 to 6). Findings relating to the course of late life depression are then presented (chapters 7 and 8), followed by studies on the issues of detection and treatment of late life mental disorders in the community (chapters 9 to 11). The final chapter offers conclusions to the project (chapter 12).

Chapter 3

Methodology

The data presented in this thesis derive from the Dublin study of mental disorders among the community dwelling elderly (Kirby et al, 1997). This is a naturalistic study of mental disorders in older people in the Dublin south central area which commenced in 1993 and is on-going. I will describe in detail the basic methodology of the project, which is common to all the subsidiary studies. A further discussion of methodology specific to the individual studies will be presented in the relevant chapters.

The subjects

The project was performed in collaboration with five general practices (two group practices with three general practitioners each and three single handed practices). The general practices were sited within the catchment area of the old age psychiatry service based at St. James's Hospital, and the general practitioners were known to the service. The practices were approached on this basis, and there was no attempt to preselect particular practices within the catchment area. No practice which was invited to partake in the project declined. The general practices served the Dublin south central area, which is close to the centre of Dublin city and has, predominately, a long established older community. The findings on support network distribution and socoieconomic group (chapter 5) indicate a cohesive elderly community with good informal support, and a middle and lower socioeconomic profile.

All individuals of 65 years and over on the practice lists (General Medical Services and private lists) and living in the community were identified, having eliminated any patients known to be deceased or to have moved away but still recorded on the practice lists. Elderly people in nursing homes and long stay hospital beds were not included. Each subject was sent an individually addressed and signed letter explaining the survey and giving a date, and approximate time, on which the interviewers would call. The letter included a contact telephone number and address for further information on the project, to enable an alternative appointment to be made or to make a written or verbal refusal. All individuals, except those who had made a prior refusal, were visited in their homes on the stipulated date and the initial interview was conducted. If there was no answer at an individual's home a note was left and a second letter was sent with another appointment. If no response was got on the second visit, efforts were

made to ascertain if the person was still living at the address through contact with neighbours and further contact with the GP. If this was confirmed, the person was deemed to have refused assessment.

As the study samples were not random population samples, it cannot be automatically assumed that the findings are indicative of the broader Dublin older population. However, as the age and sex profile was similar to Dublin census findings (chapter 4) with, specifically, a representative proportion of 'older old' (those over 75 years), it is likely that the findings provide a reasonable reflection of late life mental disorders in Dublin.

The various studies in this thesis were not all performed concurrently. The prevalence data presented in chapter 4 were collected on the subjects identified from the first three practice lists (seven GPs) and the longitudinal follow up of depression (chapter 7) was performed on the depressed cases identified. The cross-sectional data on the clinical presentation of depression (chapter 10) and the data on psychotropic drug treatment (chapter 11) were collected on subjects from the first five practice lists (nine GPs). The studies on support network distribution (chapter 5), suicidal feelings (chapter 6), dysthymia (chapter 8), and the CDT (chapter 9) and were performed at different stages during the course of the on-going study, and report data on sections of the overall population studied.

The assessments

A baseline screening assessment was performed on all subjects, and was conducted with the Geriatric Mental State (GMS)-Automated Geriatric Examination for Computer Assisted Taxonomy (AGECAT) package (Copeland et al, 1986). Traditional psychiatric classification systems may not be appropriate for the elderly attending primary care and for those who do not even present to their general practitioners (Broadhead et al, 1990; Blazer, 1994). The GMS-AGECAT package has been adapted for use in the community (Copeland et al, 1987a). The GMS (Copeland et al, 1976; Gurland et al, 1976) is a semi-structured interview which was originally developed from the Present State Examination (Wing et al, 1974) to assess organic and functional mental illness in the elderly. The reliability of the GMS has been shown to be satisfactory in a number of studies (Copeland et al, 1976; Henderson et al, 1983). The data

collected by the GMS are applied to the AGECAT computerised diagnostic system (Copeland et al, 1986) to generate standardised diagnoses. AGECAT groups the items of the GMS into 157 symptom components which are then gathered under eight diagnostic 'clusters' . The eight clusters are: organic brain syndrome, schizophrenia, mania, depression divided into undifferentiated, depressive neurosis, and depressive psychosis, obsessional neurosis, hypochondriasis, phobia, and anxiety. Each subject is awarded a score (0 - 5) for each diagnostic cluster which represents the level of confidence of diagnosis for each syndrome. Finally, the levels on the eight clusters are compared with each other on a hierarchial system to produce a principal diagnosis. Scores of 3 or above on a diagnostic cluster have been shown to equate well with what psychiatrists would usually rate as a case (Copeland et al, 1986; Copeland et al, 1988). Subjects with diagnostic confidence levels 1 and 2 are referred to as subcases, and represents a level of symptomatology short of criteria for case level disorder. As each subject is allocated a level of confidence on all eight diagnostic clusters, the presence of symptoms or disorders co-morbid with the principal diagnosis is recorded.

The validity of GMS-AGECAT diagnoses has been tested by comparing them with diagnoses made by psychiatrists and have shown good levels of agreement with Cohen's kappa values of 0.86-0.88 for organic disorders and 0.80-0.86 for depressive disorders (Copeland et al, 1992). GMS-AGECAT generated diagnoses have been compared to those derived from DSM-111 criteria (American Psychiatric Association, 1980) and have demonstrated good agreement for organic disorder against dementia and for depression against major depression and dysthymia (Copeland et al, 1990). There is not close agreement between the individual categories of depressive psychosis and major depression or between depressive neurosis and dysthymia (Copeland et al, 1990). Organic disorder does not differentiate between dementia and acute confusional states, but as the latter are rarely diagnosed in community samples, organic case level almost invariably indicates dementia (Copeland et al, 1987). Validation of AGECAT diagnoses against outcome has also been reported and shown to be satisfactory (Copeland et al, 1992). The consistency of GMS-AGECAT, compared to psychiatrists' diagnoses, makes it particularly suitable for comparative studies (Copeland et al,

1992). The GMS-AGECAT interview was administered by a trained interviewer (a doctor or research nurse).

Further interviews were conducted on sections of the population, depending on the individual study, and are discussed in the methodology of the relevant study. These assessments included a standard psychiatric clinical interview with DSM-IV check lists (American Psychiatric Association, 1994), the Mini-Mental State Examination [MMSE] (Folstein et al, 1975; Appendix A) and the CDT (Sunderland et al, 1989; Appendix B) as further indicators of cognitive function, the Hamilton Depression Rating Scale [HAM-D] (Hamilton, 1967; Appendix C) as a further measure of depressive symptomatology, and a support network assessment instrument (Wenger, 1991; Appendix D).

Data collection, data analysis and writing

The GMS data were entered into the GMS-AGECAT package on an IBM laptop computer, at the time of interview. Other patient related details and scales (such as the HAM-D, MMSE) were recorded on paper. Data analysis was performed with the Microsoft Excel version 4.0 spreadsheet and Data Desk version 4.1 statistical package on a Macintosh Powerbook computer. The thesis was written on Microsoft Word version 6.0.1 on a Macintosh Powerbook.

Chapter 4

The prevalence of mental disorders in a community dwelling elderly population in Dublin

this chapter is based on:

Kirby, M., Radic, A., Bruce, I., Coakley, D., Lawlor, B.A. (1997) Mental disorders among the community-dwelling elderly in Dublin. British Journal of Psychiatry 171, 369-372.

Introduction

The increasing proportion of older people in the Irish population, with a particularly marked rise in the older age groups, has focused attention on the necessity for adequate services for elderly people with mental disorders (Keogh & Roche, 1996) and the development of such services require a knowledge of the extent of late life mental disorders. However, prevalence figures vary greatly depending on the study sample and the methodologies used. A community based population is important as those presenting to health professionals will underestimate rates and may not be representative of the type of mental disorders which are found in the community (Livingston et al, 1990). The sources used include the electoral roll, general practitioner patient lists and door knocking. Standardization of the clinical interview, of criteria for differential diagnosis, and of definition of case level of illness is essential and facilitates comparative studies and, in particular, cross-national comparisons. The GMS-AGECAT package (Copeland et al, 1986) provides such a standardised instrument.

The identification of both cases and subcases of mental disorders provides a more comprehensive picture of the presence of clinically significant psychiatric symptoms among the elderly in the community. The facility to record co-morbid syndromes and symptoms provides further details on the presentation of these disorders, for example the presence of other psychiatric symptoms in dementia.

The aim of this study was to determine the prevalence of mental disorders in an elderly community in Dublin .

Methodology

The methodology has been described in chapter 3. The subjects of this study were identified from the practice lists of three general practices - two group practices with three GPs each and one single handed practice.

Prevalence rates with confidence intervals (binomial exact) were calculated for cases of mental disorders. Differences in proportions were compared using chi-squared (x^2) analysis or with Fisher's exact test (Johnson, 1971) where appropriate. Difference in means were compared with t-tests. Results were considered statistically significant at or below the $p=0.05$ level.

Results

Response rate

Of the 1459 elderly individuals identified, 1232 (84%) consented to interview giving a refusal rate of 16%. Table 1 shows the response rate by 5-year age categories and gender (the age groups above 85 years were collapsed down due to relatively small numbers over 90 years). Those who refused did not differ in mean age or gender from those interviewed. The mean age of those interviewed was 73.7 years with a standard deviation [SD] of 6.5 years, 434 (35.2%) were male and 798 (64.8%) female. The 1991 census for Dublin (Cental Statistics Office, 1994) showed a similar gender (male 37%, female 63%) and age distribution among the elderly as there is in the study population (table 2).

Prevalence rates

Table 3 shows the distribution of AGECAT diagnostic cases. The overall prevalence of AGECAT cases was 16.8% in females and 12.7% in males, with the difference not reaching statistical significance (x^2=3.7; df=1; p=0.06). Case level mental disorder occured with similar frequency among the older old (75 years and over) as the young old (65 to 74 years), (16% v 14.9%; x^2=0.2706, df=1, p=0.6029). There was a significant reduction in the prevalence of functional mental disorders in the older old group compared to the young old (8.7% v 12.9%; x^2=5.129; df=1; p=0.0235). As expected, organic mental disorder is more common in the older age groups and this is considered under the organic disorder section. A further 32.7% of females and 26.7% of males recorded subcase level of mental disorder. Taking cases and subcases together, as an indicator of the entire spectrum of symptoms, females were more likely to have symptoms of mental disorders than were males (49.5% v 39.4%; x^2=11.54, df=1, p=0.0007). There was a lower frequency of combined case and subcase level disorder among the older old than the young old (42.2% v 48.3%; x^2=4.439, df=1, p=0.0.0351).

Depressive disorders

There was no significant gender difference in the rates for total depression cases (x^2=2.3; df=1; p=0.1) or for neurotic depression alone (x^2=3.2; df=1; p=0.07), (table 3). Low numbers prevent meaningful analysis of gender effects for psychotic depression. The prevalence of case level depression was less in the older old than in the young old (7.9% v 11.9%; x^2=4.950, df=1, p=0.0261).

A further 113 subjects (9.2%) consisting of 43 males (9.9%) and 70 (8.8%) females had subcase depression. Combining cases and subcases of depression, there was no difference in the frequency of all depressive symptoms between females and males (20.1% v 18.4%; x^2=0.4686, df=1, p=0.4936). Combined case and subcase depression was less common in the older old than the young old (16% v 21.7%; x^2=6.065, df=1, p=0.0138).

Organic disorder

There was no gender difference in the overall rates of organic cases in this elderly population (x^2=0.0344; df=1; p=0.8529), (table 3). Of the 50 cases, 40 (80%) were at level 3 and 10 (20%) at level 4 or 5, which may represent mild to moderate and severe dementia respectively.

For the purpose of demonstrating the well documented relationship between dementia and increasing age, figure 1 presents the rates for the agebands 65-69, 70-74, 75-79, 80-84, 85+ years (overall rates of 1.8%, 2.3%, 2.2%, 7.9% and 18.9% respectively). The steady increase with age occured in both males (x^2=38.49; df=4; p≤0.0001) and females (x^2=47.24; df=4; p≤0.0001). The prevalence rate for case level organic disorder in all those over 80 years was 11.8%. An additional 33 (2.7%) older people were organic subcases, consisting of 22 females (2.8%) and 11 males (2.5%).

Table 4 shows the distribution of comorbid disorders and symptoms in diagnostic organic cases. Depression was the only comorbid disorder which reached case level, with 3 (6%) of the organic cases having comorbid case level depression. However, if we include all levels of comorbid symptoms, 16 (32%) organic cases also had symptoms of depression or anxiety. Comorbid depressive symptoms were present in 21.2% of female organic cases and

17.6% of male cases (Fisher's exact test, p=1.0000), while comorbid anxiety symptoms occured in 30.3% of female organic cases and 11.8% of male cases (Fisher's exact test, p=0.1811). Comorbid depressive and/or anxiety symptoms occured in 15 of 40 (37.5%) level 3 organic cases [mild/moderate dementia] and 1 of 10 (10%) level 4 and 5 cases [severe dementia], (Fisher's exact test, p=0.1380).

Anxiety and related disorder

Anxiety cases occured with a low frequency of 0.8% but subcase anxiety was present in 13.9% of subjects. Similarly, phobic case level was rare (0.2%) but subcase level was more common (4.4%). For the purpose of examining age and gender effects, anxiety, phobic, obsessional and hypochondriacal neuroses can be grouped together under the single category of anxiety and related disorders. Case level disorder was found in a greater proportion of females than males but the difference falls short of statistical significance (Fishers exact test, p=0.0663). There was a similar frequency in the older old as the young old (0.8% v 1.1%; Fishers exact test, p=0.7742). However, analysis was hindered by low frequencies.

Taking cases and subcases together, as a measure of all degrees of symptoms, 228 (19.3%) older people had anxiety, phobic, obsessional or hypochondriacal symptoms of any level of severity. There was a significantly higher rate of these symptoms among females than males (22.5% v 13.6%; x^2=14.08; df=1; p=0.0002). Anxiety and related symptoms were less common in the older old than the young old (13.7% v 22.9%; x^2=15.86, df=1, p≤0.0001).

Schizophrenia

There were no cases of schizophrenia, but five subcases (0.4%) were identified.

Cross-national comparisons

Table 5 shows the prevalence rates by gender obtained in other AGECAT community studies in Liverpool (Copeland et al, 1987; Saunders et al, 1993), London and New York (Copeland et al, 1987). The London and New York studies excluded all subjects in residential care

(Copeland et al, 1987a), the Liverpool studies excluded the elderly in institutions but included some in community based residential care (Copeland et al, 1987). Random sampling was used in these studies, with the Liverpool MRC-ALPHA study employing an age and sex stratified random sample, unlike the Dublin study. In spite of these methodological differences, the use of the standardised AGECAT diagnostic system allows a reasonable comparison to be made between Dublin and other centres. The prevalence of all cases of mental disorder was lower in Dublin (15.3%) than in the Liverpool (19.2%/17.8%), London (25.8%) or New York (26.1%) studies.

Table 1. Response rate by age and gender.

Age group	Interviewed n (% of age group)	Refused n (%)
Males		
65-69	143 (83)	30 (17)
70-74	136 (89)	17 (11)
75-79	94 (83)	19 (17)
80-84	45 (82)	10 (18)
85+	16 (80)	4 (20)
Total	434 (84)	80 (16)
Females		
65-69	253 (83)	53 (17)
70-74	219 (87)	34 (13)
75-79	132 (82)	29 (18)
80-84	120 (90)	13 (10)
85+	74 (80)	18 (20)
Total	798 (84)	147 (16)
Total population	1232 (84)	227 (16)

Table 2. Distribution of interviewed population by age and gender.

Age group: years	Male n (%)	Female n (%)	Total n (%)	1991 census Dublin %
65-69	143 (32.9)	253 (31.7)	396 (32.1)	33.9
70-74	136 (31.3)	219 (27.4)	355 (28.8)	26.1
75-79	94 (21.7)	132 (16.5)	226 (18.3)	20.1
80-84	45 (10.4)	120 (15.0)	165 (13.4)	12.2
85+	16 (3.7)	74 (9.3)	90 (7.3)	7.7
Total	434 (100)	798 (100)	1232 (100)	100

Percentages are rounded to one decimal point and may not sum to total.

Table 3. Distribution of AGECAT diagnostic cases by gender.

AGECAT diagnostic case	Male n (%)	Female n (%)	Total n (%)	95% CI (%)
Organic	17 (3.9)	33 (4.1)	50 (4.1)	3.0-5.3
Depression				
total	37 (8.5)	90 (11.3)	127 (10.3)	8.7-12.1
psychotic	4 (0.9)	4 (0.5)	8 (0.7)	0.3-1.3
neurotic	33 (7.6)	86 (10.8)	119 (9.7)	8.1-11.4
Anxiety and related disorders				
total	1 (0.2)	11 (1.4)	12 (1.0)	0.5-1.7
anxiety	1 (0.2)	9 (1.1)	10 (0.8)	0.4-1.5
phobic	0	2 (0.3)	2 (0.2)	0.02-0.6
hypochondriacal	0	0	0	0.3*
obsessional	0	0	0	0.3*
Schizophrenia	0	0	0	0.3*
All cases	55 (12.7)	134 (16.8)	189 (15.3)	13.4-17.5

Percentages are rounded to one decimal point and may not sum to total.

95% CI = 95% confidence interval. *one-sided 97.5% confidence interval.

Figure 1. The prevalence of organic disorder by age groups.

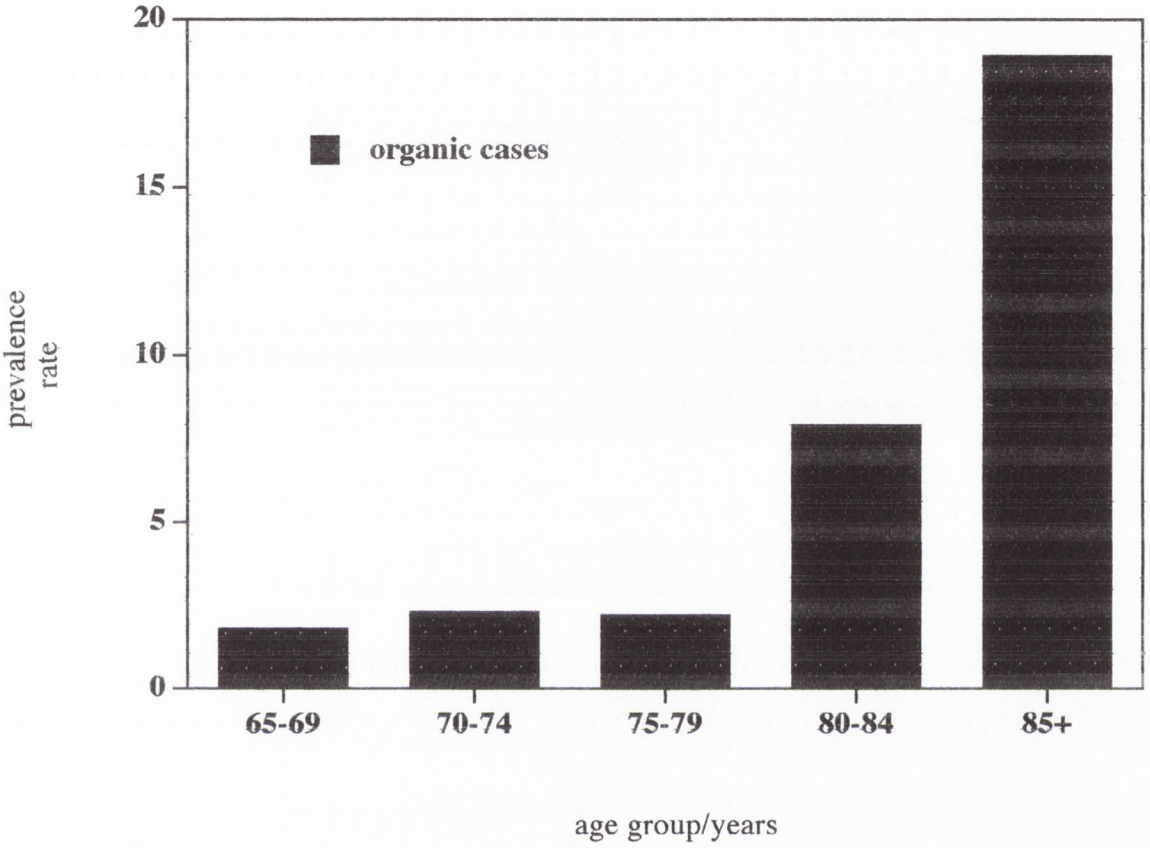


Table 4. Distribution of comorbid disorders and symptoms in organic diagnostic cases (n=50).

Comorbid case/subcase	n (% of all organic cases)
Depression case	3 (6)
Depression subcase	7 (14)
Anxiety subcase	12 (24)
Any comorbid symptoms	16 (32)

Six organic cases had both comorbid depression and anxiety symptoms and hence the numbers do not summate.

Table 5. Prevalence rates of mental disorders in the elderly by gender in other AGECAT studies.

AGECAT diagnostic case	Dublin (n=1232)	Liverpool pilot study (n=1070)	Liverpool MRC-ALPHA (n=5222)	London (n=396)	New York (n=445)
Organic	4.1	5.0	4.7	4.3	8.3
male	*3.9*	*3.6*	*3.2*	*2.2*	*5.7*
female	*4.1*	*6.0*	*5.8*	*5.4*	*10.1*
Depression	10.3	11.5	10.0	19.4	16.2
male	*8.5*	*7.2*	*7.6*	*13.1*	*13.0*
female	*11.3*	*14.3*	*11.6*	*22.8*	*18.3*
Anxiety disorders	1.0	2.4	2.5	2.0	1.4
male	*0.2*	*0.7*	*1.4*	*1.5*	*1.7*
female	*1.4*	*3.5*	*3.2*	*2.3*	*1.1*
Schizophrenia	0.0	0.1	0.2	*	*
male	*0.0*	*0.2*	*0.1*		
female	*0.0*	*0.0*	*0.3*		
All cases	15.3	19.2	17.8	25.8	26.1
male	*12.7*	*11.7*	*12.4*	*16.8*	*20.4*
female	*16.8*	*24.0*	*21.4*	*30.5*	*29.9*

*Figures not reported.

Discussion

Methodological issues

The main limitations of this study are that the population consists solely of the community dwelling elderly, excluding those in institutional care, and it is not a random and age stratified sample. While higher rates for mental disorders may be found among the elderly in institutions and therefore the figures presented may underestimate rates, only five per cent of older people are in residential care (Keogh & Roche, 1996) and consequently the impact should be small. The other studies of prevalences for late life mental disorders, to which references are made, also excluded all or many of those in residential care. The age and gender distribution of the study population is similar to other GMS-AGECAT studies (Copeland et al, 1987). The agebands over 85 years were collapsed down into one group due to small numbers but, at 7.3% of the total elderly population, is similar to other community studies (Copeland et al, 1987; Lobo et al, 1995). The strengths of the study lie in it's primary care base and the clinical relevance for the general practices and the community dwelling elderly population which they serve. Assessments were performed in the subjects' own homes, thereby limiting any detrimental effect on cognitive function of being in unfamiliar surroundings at the time of the interview.

The co-operation of the individual's GP (explained in the introductory letter) and the practice of visiting all subjects, except those who had made prior contact to refuse, maximised the response rate. The refusal rate of 16% compares satisfactorily with that from other community based surveys of mental disorder in the elderly (Copeland et al, 1987; Copeland et al, 1987a; Saunders et al, 1993). The refusals did not differ in age and gender from those interviewed and therefore are unlikely to significantly influence the findings of the study.

Mental disorders

Mental disorders were common in this community dwelling elderly population, being present in 15.3% of those interviewed. The finding that depression and dementia were the most frequently occuring disorders concurs with virtually all other studies. AGECAT case level has

been designated as level three and above for each diagnostic category as this has been found to be what psychiatrists agree to be a case (Copeland et al, 1986). However, what psychiatrists deem to be a case may not necessarily be appropriate for patients in primary care and the facility of AGECAT to record subcases is useful for looking at all symptom levels. Taking cases and subcases together, almost half of the population had symptoms at some level.

Depression

The prevalence rate for depression in this Dublin community is similar to that found in both Liverpool studies but lower than New York and almost half the rate in London. The expectation from the US-UK cross-national diagnostic project, which generated the New York and London figures, was that a higher prevalence of depression would be found in New York as a result of more stressful living conditions, but this was not borne out (Copeland et al, 1987a). A possible factor in the lower prevalence of depression in Dublin than London or New York may be the degree of social support. The elderly in the Dublin population had predominately integrated support networks with considerable support from family and friends, which may not be the case in the larger cities. The distribution of support networks among the elderly in this Dublin population is considered further in chapter 5. The exclusion of elderly in residential care was common, in varying degrees, to all the studies and is unlikely to have had a major influence on comparative figures.

The lack of a statistically significant gender difference for depression prevalence in Dublin differs from other GMS-AGECAT studies where a higher prevalence among females has been consistently described. However, this may be a function of the smaller population size in Dublin, as compared to the Liverpool MRC-ALPHA study for example, which had relatively similar gender prevalences as Dublin.

Within the elderly population there have been conflicting reports of the influence of increasing age on prevalence rates, partly depending on the criteria used for depressive disorder. Studies which have considered major depression alone have tended to find a decrease in prevalence with increasing age over 65 years, with very low rates in the older old (Weissman et al, 1988; Newman 1989), though not invariably (Beekman et al, 1995a). In

contrast most evidence on 'non-major' or'minor' depressive disorders and on depressive symptoms short of criteria for depressive disorder suggest an increase in the older old (Newman & Engel, 1991). As minor depression is more common in the elderly than major depression, the expectation would be that when broad criteria for depressive disorder are employed, an increase in prevalence would be found in the older age groups. Beekman et al (1995) found an increase in the prevalence of combined major and minor depression with increasing age in an elderly population. However, the Dublin data and the Liverpool GMS-AGECAT studies (Saunders et al, 1993), where case level depression included both major and minor depressive disorders, have found a lower prevalence among the older old. This finding may in part be explained by the greater numbers of individuals with dementia in the older agebands who are then effectively removed from consideration for a primary diagnosis of depression in the AGECAT hierarchial diagnostic system as a consequence of the dementia diagnosis. When analyses were repeated with the organic cases excluded, Saunders et al (1993) found the prevalence in the older groups was at a similar level to the young old, and in the Dublin population the lower prevalence among the older old was now short of statistical significance (8.5% v 12.1%; χ=3.695, df=1, p=0.0546). However, the emphasis should be placed less on whether a lower prevalence is found in the older old and more on the absence of a higher rate in the older groups, as evidence to contradict ageist perceptions that depression is understandable or normal with increasing age among the elderly. In some studies which have found an increase in depression rates in the oldest age groups, there has been evidence that the apparent age related effect is attributable to physical health problems and consequent disability rather than being an integral part of the ageing process itself (Roberts et al, 1997).

In addition to cases of depression, a further 9.2% of the elderly individuals in this Dublin population had subcase depression. It is unclear whether subcase depression requires intervention, but it would appear that at least a proportion is clinically significant and Copeland et al (1992) found that those with subcase level depression have a greater risk of developing case level depression in the future than those without any depressive symptomatology. If we include both case and subcase levels of depression, one-fifth of community dwelling elderly had some degree of depressive symptoms. An interesting comparison can also be made

between the prevalence figures for depression in this study with those of the Newcastle study in 1960 (Kay et al, 1964), which was one of the earliest studies to look at late life mental disorders in the community and where a clinical diagnosis was made by the investigating psychiatrists. The rate of 10.3% for case level depression in Dublin is similar to the 10.0% figure for moderate/severe affective disorders in Newcastle and the 19.5% rate for combined case and subcase depression in Dublin approximates to the Newcastle figure of 26.2% for mild to severe affective disorder. The diagnoses in the Newcastle study were made by clinical assessment of the interviewing psychiatrist and suggest that the rates for depression generated by GMS-AGECAT mirrors the clinically significant depressions in older people in the community far more accurately than the low figures produced by studies which employ strict major depression criteria.

Organic disorder

The prevalence rate of organic disorder in this population is similar to that found in other AGECAT studies, particularly in the United Kingdom, which are all closer to the rate of five per cent for moderate to severe dementia found in the original Newcastle studies than the ten per cent rate for mild to severe dementia which is now accepted as having been overinclusive (Kay et al, 1964). The higher rate in New York has not been adequately explained. The absence of a gender difference in Dublin contrasts with other AGECAT studies which have shown an almost two-fold increase in rates for females over males, with the difference resting predominately with a lower rate for females in Dublin. The exclusion of older people in residential care may be a factor, as a greater proportion of elderly females with dementia may enter institutional care than elderly men who may be more likely to have a living spouse carer and hence be more likely to remain at home. However, the Liverpool, London and New York studies also excluded institutionalised elderly to varying degrees and still reported the higher prevalence rate among females. The EURODEM group who pooled and reanalysed twelve European population based surveys which included institutionalised elderly (Hofman et al, 1991) did not find a gender difference.

The consistent finding of a steady rise in prevalence, in both sexes, with increasing age over 65 years is also shown for Dublin. The figure of 11.8% for organic disorder in the over 80 years group falls well short of the often quoted 20% prevalence rate, but is similar to the 12.1% figure for the over 80s in Liverpool (Copeland et al, 1987). The exclusion of institutionalised subjects is responsible for at least part of this discrepancy.

The presence of comorbid anxiety or depressive symptoms in a significant proportion of organic cases (32%) may identify potentially treatable symptoms in a condition where the core problem is essentially irreversible, with consequent improvement in the quality of life of the patient with dementia. This would support the argument for a more aggressive approach to the detection of dementia in the community dwelling elderly. Depression may be more common in early than late dementia (Blazer, 1989; Cooper et al, 1990; Burns et al, 1990), possibly as a consequence of greater insight. Depressive and/or anxiety symptoms were present in almost four out of ten organic cases at level three, compared to one out of ten level four or five cases, but the relatively low numbers limited meaningful analysis.

Anxiety and related disorders

The prevalence of one per cent for all types of anxiety disorders is less than has been found in other AGECAT studies, though is close to the 1.4% in New York and the 1.5% in the Singapore AGECAT study (Kua, 1992). However, anxiety related symptoms were common at subcase level. It has been suggested that elderly people may have a lifestyle that enables them to avoid provoking factors, for example in the context of phobic disorders, and so symptoms may not reach case level (Copeland et al, 1987). The low frequency of case level disorder limits analysis of gender effects but the higher prevalence of all levels of symptoms among females is in keeping with most studies on anxiety (Weissman et al, 1985; Copeland et al, 1987; Regier et al, 1988 & 1990).

Schizophrenia

The absence of any cases of schizophrenia is surprising, though low prevalence rates were found in the Liverpool studies (0.1% and 0.2%). Many elderly individuals who developed

schizophrenia in earlier life, and prior to the advent of community psychiatry, are still in long stay hospital accomadation. It may be that those with paranoid disorders are more likely to refuse assessment. Furthermore, the GMS-AGECAT system may be missing the elderly person with chronic schizophrenic whose positive symptoms have 'burnt out' or the paraphrenic illness with an encapsulated delusional system which is not revealed to the interviewer.

This is the first study to examine the prevalence of the broad range of mental disorders among a community dwelling elderly population in Ireland. The use of the standardised GMS-AGECAT instument allows cross national comparisons to be made and the study contributes to the increasing international literature on the prevalence of mental disorders in the elderly. The study highlights the extent of mental disorders, and of symptoms of lesser severity, which is present in older people in this community. The findings relating to comorbidity in dementia has clinical implications for the treatment and alleviation of potential excess disabilities in dementia. The evidence from other countries suggest that most older people receive no specific treatment for their mental disorders, and I will examine treatment issues in the Irish context in chapters 10 and 11.

Chapter 5

Support network distribution and mental disorder in an elderly community in Dublin

Introduction

Social networks are formed by relationships with others and are the means through which individuals are linked into groups and society. These relationships and consequent social networks are a crucial aspect of the ageing process, and are the source of informal support to the older person in the community. An individual's support network derives from the larger social network, and consists of those who are available to the older person to provide regular emotional support, instrumental help or advice. Support networks are formed by varying combinations of close family members, more distant relatives, friends and neighbours, and typically may average five to seven individuals involved in support (Wenger, 1995). There has been an increasing interest in the support networks of older people as specific entities, as opposed to focusing on particular supportive relationships (Wenger, 1984 & 1989; Bulmer, 1986). The type of support network that an older person has is largely determined by biology (the existence of siblings, children), migration patterns (the availability of family, friends) and the individual's own temperament.

The overall distribution of support networks in an older population describes the degree and pattern of informal support that is available for older people in that community and gives a good picture of the overall social support milieu of the elderly in that community. It has been proposed that the protective strength of support networks in older people is particularly evident in the area of mental health (Wenger, 1997). Social support influences risk of mental health problems after bereavement (Parkes, 1992), and some old age psychiatry out-reach services have targeted socially isolated elderly people (Abraham et al, 1993) on the basis of their increased risk. Furthermore, the overall pattern of informal support available to older people in a community should influence the type and mix of formal support services, including mental health services, which are most appropriate for that community.

The aims of this study were to determine the support network distribution of a community dwelling elderly population in Dublin, and to examine the support networks of that group of older people who have mental disorders.

Methodology

The methodology of the overall project was described in chapter 3. The subjects of this study were 1001 older people assessed during the course of the main project.

The GMS-AGECAT standardised interview (Copeland et al, 1986) was conducted with all subjects. In addition, a support network assessment instrument (Wenger, 1991; Appendix D) was administered to each individual. The instrument consists of eight questions which are answered directly by the elderly person. In the case of those with dementia, information pertaining to the questions was also obtained from an informant and a consensus obtained. Basic socio-demographic details were recorded on all participants. Socio-economic status was assessed on the basis of the Registrar-General's five category scale of social class (Appendix E).

The support network typology

Wenger's support network typology was developed in studies in rural North Wales and subsequently applied to urban communities in Liverpool (Wenger, 1995). The network assessment instrument was derived from detailed interviews focusing on the size, content and function of the support networks of older people and has been shown to demonstrate good consistency with the more extensive interviews (Wenger, 1991). Five different support network types are identified, on the basis of the availability of local close family members to the elderly person, the level of involvement of family, friends and neighbours, and the degree of interaction with the community. The five networks are:

1. *The family dependent network.* Close local family are actively involved with the older person, with few peripheral friends and neighbours. This network is frequently based on a shared household with adult children or siblings, or very near separate households.
2. *The local integrated network.* There is close involvement with local family but also with friends, neighbours and the community. This network tends to be larger than the others.

3. *The local self-contained network.* There are armslength relationships or infrequent contact with at least one relative in the same or adjacent community, often a neice or nephew or sibling rather than an adult child. Childlessness is common. While the older person may receive some help from neighbours there is little other community involvement and the network reflects a household focused lifestyle.

4. *The wider community focused network.* There is usually an absence of local family but active involvement with relatives who live a distance away, such as adult children. The older person tends to have many friends, though a distinction between friends and neighbours is maintained, and is generally involved in voluntary and community organizations. This network may frequently be a middle class adaptation.

5. *The private restricted network.* There is typically either no local family or just a spouse. The older person has few friends, minimal contact with neighbours and little community involvement. This network may include both independent married couples and dependent elderly who are isolated from local involvement.

The support network instrument provides scores on each of the five networks and the highest score indicates the individual's network type. Inevitably there will be some borderline networks where two networks receive the same score. Borderline networks either represent stable borderlines or networks in transition which are usually associated with increasing dependency (Wenger, 1994). Therefore, for the purpose of analysis and comparison with previous studies, borderline cases were recoded to the more dependent type (the most common borderline being family dependent/local integrated, recoded to family dependent). Borderline networks occured for 15% of subjects. A small proportion of people recorded the same score on more than two network types and these were regarded as unclassified. The distribution of support networks varies between different communities and is influenced by many factors including personal attributes (age, gender, marital status, household composition), socio-economic status, migration factors and cultural factors (Wenger, 1995).

The frequencies of the support networks in the population, and among the subjects with mental disorders, are presented. Categorical data are compared using chi-squared (x^2) analysis.

Results

Socio-demographics

The subjects interviewed represented 79% of those identified from the practice lists. The refusals consisted predominately of those who had declined to take part in the overall project, with only 27 of 1028 consecutive people interviewed with GMS-AGECAT declining to complete the social network questionaire. Two thirds (646/1001) of participants were female. The mean age was 74.4 years (SD 6.9), with an the age range of 65 to 98 years, and 430 (43%) were aged 75 years and over. Four (0.4%) subjects belonged to social class one, 95 (9%) to social class two, 382 (38%) to social class three, 348 (35%) to social class four and 172 (17%) to social class five. Four hundred and ninety two individuals (49%) were currently married, 382 (38%) widowed, 14 (1%) separated or divorced, and 113 (11%) single.

Two hundred and ninety two older people (29%) lived alone, 352 (35%) with a spouse alone, 277 (28%) in a household which contained a younger generation relative, and 79 (8%) in one which had a same generation (siblings in most cases) or older generation relative. A greater proportion of the older old than young old lived alone (40% v 21%; x^2=44.6, df=1, p≤ 0.0001). A decrease in the percentage living with a spouse alone (26% v 42%) in the older group was responsible, with similar proportions living in households with younger generation relatives (27% v 29%) and with same or older generation relatives (8% v 8%) as for the young old. Females were more likely than males to be living alone (36% v 17%; x^2=40.1, df=1, p≤ 0.0001), due to a lower frequency of living with a spouse alone (27% v 50%) which would be predicted by the older mean age of the female group (74.8 years, SD 7.2 v 73.7 years, SD 6.2) combined with the longer life expectancy of females.

Support networks

Table 6 shows the support network pattern of this population and the distribution by gender. Support networks which indicate close involvement of local community and/or family predominate, with the unsupportive networks being uncommon. There was no significant gender difference in support network types (x^2=4.0, df=5, p=0.5), with very similar

distributions. The support network pattern among the older old differed from that among those young old (x^2=23.8, df=5, p=0.0002), with a lower frequency of the local integrated network and a higher frequency of the private restricted network (table 7). For the purposes of examining social network distribution according to socio-economic status, the population were divided into those of social class one to three (481/1001, 48%) and those of social class four and five (520/1001, 52%). There was no significant difference in the support network distribution between the higher and lower social classes (x^2=5.7, df=5, p=0.3). Table 8 shows network type according to marital status. It is clear that the main difference in network distribution was in the single group, compared to those who were married or widowed (excluding the separated group due to the small number).

Table 9 compares the support network distribution in this Dublin population with that in communities in Liverpool and North Wales (Wenger, 1995).

Support networks and mental disorders

Table 10 compares the support networks of the elderly with mental disorders and those with no mental disorder. There was a significantly different distribution pattern (x^2=32.4, df=5, p≤0.0001), with a lower frequency of the local integrated network and a higher frequency of the private restricted network.

It might be anticipated that older people with dementia would be likely to need a household based carer to sustain them in the community. However, 13 of the 28 (47%) subjects with dementia who remained in the community were living alone compared to 279/973 (29%) individuals without dementia (x^2=4.2, df=1, p=0.04). Even among the older old, subjects with dementia were as likely to be living alone as those without a dementia (50% v 40%). Those older people who were organic subcases also lived alone with a similar frequency to those without any cognitive impairment (32% v 29%). The low number of organic cases (n=28) and organic subcases (n=31) limit detailed examination of the range of support networks of older people with cognitive impairment who continue to live at home (table 11). However, there would appear to be a shift in the degree of community involvement with the cognitively impaired elderly, as indicated by a decrease in the local integrated network and an

increase in the family dependent and private restricted networks. Combining organic cases and subcases to denote the larger group of older people with any degree of cognitive impairment (n=59), 44% have a local integrated network compared to 63% of those without cognitive impairment, with an increase in the frequencies of the family dependent (34% to 20%) and private restricted (12% to 6%) networks.

The support network pattern of those with case level depression (table 12) was significantly different to that of the non-depressed older population (x^2=21.4, df=5, p=0.0007), with less local integrated networks and more family dependent and private restricted networks.

Table 6. Distribution of support networks in a community dwelling elderly population, according to gender.

Support Network	**Male (n=355)**	**Female (n=646)**	**Total (n=1001)**
Family dependent	71 (20%)	140 (22%)	211 (21%)
Local integrated	223 (63%)	400 (62%)	623 (62%)
Local self contained	25 (7%)	34 (5%)	59 (6%)
Wider community focused	7 (2%)	24 (4%)	31 (3%)
Private restricted	23 (6%)	39 (6%)	62 (6%)
Inconclusive	6 (2%)	9 (1%)	15 (2%)

Table 7. Support network distribution among the young old (65 to 74 years) and the older old (75 years and over).

Support Network	**Young old (n=571)**	**Older old (n=430)**
Family dependent	115 (20%)	96 (22%)
Local integrated	385 (67%)	238 (55%)
Local self contained	29 (5%)	30 (7%)
Wider community focused	14 (2%)	17 (4%)
Private restricted	21 (4%)	41 (10%)
Inconclusive	7 (1%)	8 (2%)

Table 8. Support network distribution by marital status.

Support Network	**Single (n=113)**	**Married (n=492)**	**Widowed (n=382)**	**Separated (n=14)**
Family dependent	24 (21%)	102 (21%)	84 (22%)	1 (7%)
Local integrated	51 (45%)	332 (68%)	232 (61%)	8 (57%)
Local self contained	13 (11%)	24 (5%)	22 (6%)	0
Wider community focused	8 (7%)	13 (3%)	10 (3%)	0
Private restricted	15 (13%)	16 (3%)	27 (7%)	4 (29%)
Inconclusive	2 (2%)	5 (1%)	7 (2%)	1 (7%)

Table 9. A comparison of support network distribution among the community dwelling elderly in Dublin, Liverpool and North Wales.

Support Network	**Dublin (n=1001)**	**Liverpool* (n=4736)**	**North Wales* (n=240)**
Family dependent	211 (21%)	22%	15%
Local integrated	623 (62%)	46%	45%
Local self contained	59 (6%)	11%	9%
Wider community focused	31 (3%)	4%	20%
Private restricted	62 (6%)	12%	7%
Inconclusive	15 (2%)	5%	5%

* percentages only reported for Liverpool and North Wales

Table 10. Support network distribution among the community dwelling elderly with case level mental disorders and without a mental disorder.

Support Network	**Mental disorder (n=150)**	**No mental disorder (n=851)**
Family dependent	37 (25%)	174 (20%)
Local integrated	76 (51%)	547 (64%)
Local self contained	7 (5%)	52 (6%)
Wider community focused	3 (2%)	28 (3%)
Private restricted	20 (13%)	42 (5%)
Inconclusive	7 (4%)	8 (1%)

Table 11. Support network distribution among the community dwelling elderly with case level organic disorder (dementia), subcase organic level, and those without cognitive impairment.

Support Network	**Organic cases (n=28)**	**Organic subcases (n=31)**	**Rest (n=942)**
Family dependent	8 (29%)	12 (39%)	191 (20%)
Local integrated	15 (54%)	11 (36%)	597 (63%)
Local self contained	0	3 (10%)	56 (6%)
Wider community focused	0	1 (3%)	30 (3%)
Private restricted	3 (11%)	4 (13%)	55 (6%)
Inconclusive	2 (7%)	0	13 (1%)

Table 12. Support network distribution among the community dwelling elderly with case level depression and those without.

Support Network	**Depression cases (n=110)**	**Rest (n=891)**
Family dependent	29 (26%)	182 (20%)
Local integrated	53 (48%)	570 (64%)
Local self contained	7 (6%)	52 (6%)
Wider community focused	2 (2%)	29 (3%)
Private restricted	16 (15%)	46 (5%)
Inconclusive	3 (3%)	12 (1%)

Discussion

Methodological issues

This is a naturalistic study which describes the pattern of informal support available to older people in a community based population in Dublin. As a random, age and sex stratified sample was not used, it cannot be assumed that the findings are indicative of the overall support network distribution in Dublin city. Nevertheless, the sex and age distribution was similar to that for the elderly in the 1991 census figures for Dublin (Central Statistics Office, 1994) and it is likely that this population provides a reasonably good representation of the community dwelling elderly in urban Dublin.

The use of the social support network typology enabled comparisons to be made between the Dublin community and populations in Liverpool and North Wales (Wenger, 1995). These findings need to be interpreted with some caution due to the different methodologies (naturalistic study in Dublin, random sample in Liverpool/North Wales) but, nonetheless, provide some interesting findings.

The availability of GMS-AGECAT standardised diagnoses on all subjects facilitated examination of support network distribution among those elderly with mental disorders. The cross-sectional design of the study limits explanation of the nature of the relationship between social network type and mental disorders. However, it does permit comment on mental health service issues.

Socio-demographics

The basic demographics indicate a representative older urban population, with two-thirds being female, a wide age spread with a good proportion of the older old, and a predominance of middle and lower socio-economic status. Seventy one per cent of older people were sharing a household with at least one other person, suggesting a high degree of the most basic family support. The household composition in Dublin appears to be particularly influenced by the frequency of younger generation relatives (predominately children) living with the elderly person (28%), which was almost twice that in Liverpool (15%), (Wenger, 1994). The

frequency of younger generation household members increases with age of the older person in Liverpool and, as their sample contains a greater proportion of the older old group than the Dublin study population, this difference is even more pronounced. It is likely that many factors contribute to the relatively high percentage of elderly people having a younger generation relative in their household, and may include the traditionally large Irish family, a culturally based expectation to care for elderly parents, and, possibly, difficulties in the availability of public housing.

Support network distribution

Support network distribution in this Dublin population was characterised by high degrees of close family and local community involvement with the older person. A shift in an individual's support network can occur with increasing age, and when this occurs it tends to be towards a more dependent type network (Wenger, 1990), as a consequence of greater physical or mental impairment. The influence of age on overall support network distribution is reflected in the lower frequency of the independent local integrated network among the older old than the young old. However, the network distribution among the older old was still characterised by considerable family and local community involvement with 77% having either a local integrated or family dependent network. Change in the overall community network distribution with increasing age would be expected to be limited to some extent by deaths and residential admissions from the more dependent networks. The degree of community integration was equally high among both males and females, both in the young old and older old groups, and this contrasts with urban based studies in other countries which have found that men tend to be less integrated into their communities than women (Cornwell, 1984; Wenger, 1995). The support network distribution of older people who never married is different from those who are married or widowed, with a lower frequency of the local integrated network and a higher frequency of the more household focused networks of local self contained and private restricted, and indicate a less socially integrated lifestyle. Marriage would be expected to increase the level of family support through the presence of adult children, but may also extend community contacts through both children and the addition of in-laws (Wenger, 1993).

The local integrated network functions best for the provision of informal support to enable older people live independently in the community, and the family dependent network is most appropriate to help frail or impaired older people remain in the community (Wenger, 1995). Eighty three per cent of older people in Dublin had either a local integrated or family dependent network, which predicts very high levels of informal support available to older people in this Dublin community. This has implications for the provision of services to older people. The high level of informal support available may make it more feasible to maintain older people in their own homes and treat problems at home, with greater use of services such as community nursing, day hospitals and day centres and less necessity for hospital admission or residential extended care for those with lower levels of disability.

Support network distribution in Liverpool (Wenger, 1995) does not differ greatly from that in Dublin, with 68% of older people in Liverpool having either a local integrated or family dependent network. However the local integrated network was less prominent in Liverpool than in Dublin, and Liverpool also had higher frequencies of the more inward looking networks such as local self contained and private restricted, indicating the very high level of community integration among older people in Dublin. The greater proportion of the older age groups in the Liverpool sample partly explains the support network differences, but not fully, as the frequency of the local integrated network among the older old in Dublin (55%) was still higher than that of the Liverpool population. Close involvement with neighbours and the local community is part of the Irish culture, particularly among older people, and may explain the high degree of social integration of this elderly population. The support network distribution in the small North Wales sample does not suggest greater family and community support in this rural area than in the two large cities.

Support networks and mental disorders

Are similar levels of informal support, particularly that provided by non-family, available to those with mental illness? While table 10 shows that those older people who suffer from a mental disorder have a lower degree of community integration than those who are well, the

availability of informal support remains high with 75% having either local integrated or family dependent networks.

Previous studies have shown that older people with dementia who continue to live in the community have greater contact with family and less with friends and neighbours (Levin et al, 1989; Wenger, 1994). The support network distribution of older people with dementia may either be indicative of the types of networks which are best equipped to maintain these people in the community (such as the family dependent network) or the networks which result from the development of cognitive impairment (such as shifts to private restricted or family dependent networks), and possibly a combination of both. The findings in this study were similar to that of Wenger (1994) in Liverpool in that older people with dementia, and those with cognitive impairment short of criteria for dementia diagnosis, had more household focused networks and were less integrated with the local community than those without cognitive impairment. This decrease in the degree of community integration along with the finding that many live alone, suggests that a significant proportion of older people with cognitive impairment may have little family or informal community involvement. Consequently, there may be less opportunity to detect problems at an early stage and access available services. It is essential that primary care services, both general practitioner and public health nursing, maintain a high index of suspicion for cognitive impairment as many of these cognitively impaired older people will not present their difficulties and may have few family or community contacts to act as advocates for them.

It might be predicted that the depressed elderly might be more socially isolated from both the community and their family than those who are not depressed. The lower frequencies of the local integrated and family dependent networks with a higher frequency of the private restricted network would support this prediction. A cross sectional study cannot identify whether diminished social integration is a cause or an effect of the depressive disorder. However, the local integrated network, which predominated in this community, has been shown to be associated with high morale and low levels of isolation, loneliness and depression (Wenger, 1997). It is possible that the high overall level of community informal support available to older people in Dublin may be a factor in the lower rates of depression found

among older people in Dublin (chapter 4) than found in other GMS-AGECAT studies in London and New York where it would be expected that older people would have less close family and community support. In contrast, Dublin and Liverpool have similar rates of late life depression and support network studies from both cities indicate high levels of family and community support.

Support network distribution of the older people in this study population suggests the availability of high levels of informal support from family and the local community. This contradicts the traditional assumption that cities tend to be unsupportive enviroments for the elderly. It may be possible to utilise this high degree of informal support in the delivery of formal services for the elderly, including mental health services, and this may have implications for the appropriate service mix such as a greater emphasis on home based and non-residential services. However, a proportion of older people in the community with mental disorders appear to have low levels of family and community involvement and their mental health problems may go unrecognised. This emphasises the importance of a proactive approach by primary care services to the detection of cognitive impairment and depression, in particular, among the community dwelling elderly.

Chapter 6

The frequency of hopelessness and suicidal feelings among older people in Dublin

this chapter is based on:

Kirby, M., Bruce, I., Radic, A., Coakley, D., Lawlor, B.A. (1997) Hopelessness and suicidal feelings among the community dwelling elderly in Dublin. Irish Journal of Psychological Medicine,14, 124-127.

Introduction

Feelings of hopelessness and suicidal feelings are commonly reported by patients attending psychiatric services (Beck, 1967; Hawley et al, 1991; Asnis et al, 1993) but there is less information on the frequency of such feelings among the general population. The elderly attend mental health services less than younger adults (National Institute of Aging, 1987) and studies on the presence of hopelessness and suicidal feelings among the community dwelling elderly are particularly limited (Dewey et al, 1993; Jorm et al, 1995; Skoog et al, 1996). The elderly, and in particular male elderly, account for a disproportionately high proportion of suicides. The suicide rate for elderly males in Ireland has doubled over the period 1976-1992 (Kelleher et al, 1997) and even allowing for under-reporting in the earlier years this would appear to represent a real increase. There has been no significant change in the suicide rate for elderly females. While hopelessness and suicidal feelings cannot be equated with suicidal acts (Paykel et al, 1974) there is evidence linking hopelessness and suicidal behaviour (Minkoff et al, 1973; Wetzel, 1976). In a study of elderly patients with recurrent major depression, Rifai et al (1994) found higher hopelessness scores in those with a past history of a suicide attempt than in nonattempters. Furthermore, it is accepted clinical practice that suicidal ideation or attempts must be treated particularly seriously in the elderly.

An ageist approach to older people may dismiss hopelessness and suicidal feelings as a normal part of ageing, and 'understandable' in the context of the losses and burdens encountered in late life. Even in the absence of adversity, this perspective can regard a wish to die as 'natural' as the end of life approaches and therefore 'age specific' to an extent. Underlying mental illness, especially depression, may not be considered. This perspective is also relevant to the issues of the right to die and physician assisted suicide. A study of Australian medical practitioners revealed that almost half had been requested by a patient to hasten death and over 90% believed that such a request can be rational (Baume & O'Malley, 1994). Others believe that there has been insufficient emphasis placed on the influence of mental illness, particularly depression, and question the 'rationality' of such requests (Conwell & Caine, 1991). In arguing that most individuals who want to end their life are clinically

depressed, Conwell and Caine (1991) note that "it is from the elderly, who often suffer physical illness as a stressful and painful personal burden, that we hear the most poignantly stated arguments supporting the right to determine the quality of one's life and the time and manner of one's death".

There may be cultural influences in the reporting of hopelessness and suicidal feelings. While elderly males have a higher suicide rate than elderly females, most studies report a higher frequency of suicidal feelings in women (Dewey et al, 1993; Skoog et al, 1996) which may be due to a reluctance among men to admit to such feelings (Allen-Burge et al, 1994; Skoog et al, 1996). There have been no published reports of the frequency of hopelessness and suicidal feelings among older people in Ireland.

The aim of this study was to determine the frequency of feelings relating to hopelessness and suicidality in a community dwelling elderly population in Dublin.

Methodology

The methodology of the main project is described in chapter 3. The findings presented here derive from data obtained from the first two general practices (six GPs) in the overall project. Subjects were interviewed using the GMS-AGECAT instrument. The items in the GMS interview relating to feelings of hopelessness and suicidal feelings, and occurring over the course of the previous month, were identified. The items, which were rated following the relevant question, were:

1. Life not worth living.
2. Future bleak, unbearable, pessimistic or no future.
3. A general feeling of hopelessness, despair.
4. Wish to die.
5. Wish to die for at least 2 weeks in the last month.
6. Planned to do something about killing oneself or had tried.

Those individuals who were AGECAT cases of organic disorder (dementia) were excluded from the analysis because of concerns over the accuracy of the history obtained from them. Psychotropic drug use was recorded for all those interviewed.

The frequencies of suicidal feelings were calculated. Differences in proportions were assessed using chi-square (x^2) analysis and Fisher's exact test (Johnson, 1971), where appropriate. Results were considered statistically significant at or below the $p=0.05$ level.

Results

Nine hundred and thirty five subjects agreed to be interviewed, representing 85% of the individuals identified from practice lists. There was 44 cases of organic disorder (dementia), leaving 891 subjects for analysis.

Table 13 shows the distribution of feelings of hopelessness and suicidal feelings by gender. All feelings of hopelessness and suicidal feelings were expressed with similar frequency by males and females. There was an approximate hierarchy of feelings from 'life not worth living' to the most intense 'suicidal plan or act', which no individual reported. In general, those reporting the more intense feelings also reported the milder feelings.

Table 14 compares the frequency of hopelessness and suicidal feelings among the young old with that among the older old. The only item which had a statistically significant difference between the age groups was 'future bleak', which was reported by less of the older group ($p<0.05$).

Table 15 demonstrates the pattern of suicidal feelings among the depressed subjects and examines the influence of gender. There was no significant gender difference in the presence of suicidal feelings in depression. Similarly, the frequency of suicidal feelings in depression did not vary significantly with age, 69.3% of depressed individuals in young old group and 69.4% of the depressed older old reporting at least one feeling of hopelessness or suicidality.

Table 16 shows the relationship between suicidal feelings in depression and the use of psychotropic drugs. The presence of suicidal feelings in depression was not associated with a greater use of antidepressant medication.

Table 13. Hopelessness and suicidal feelings in the community dwelling elderly, according to gender.

Hopelessness or suicidal item	Male (n=289) n (%)	Female (n=602) n (%)	Total (n=891) n (%)
Life not worth living	46 (15.9%)	92 (15.3%)	138 (15.5%)
Future bleak or no future	20 (6.9%)	37 (6.1%)	57 (6.4%)
General feeling of hopelessness/despair	6 (2.1%)	15 (2.5%)	21 (2.4%)
Wish to die:			
past month:	10 (3.5%)	18 (3.0%)	28 (3.1%)
2 weeks in past month:	1 (0.3%)	1 (0.2%)	2 (0.2%)
Suicidal plan or act	0	0	0
Any feeling of hopelessness/suicidality	48 (16.6%)	103 (17.1%)	151 (16.9%)

Table 14. Hopelessness and suicidal feelings among the young old (65 to 74 years) and the older old (75 years and over).

Hopelessness or suicidal item	young old (n=533) n (%)	older old (n=358) n (%)
Life not worth living	89 (16.7%)	49 (13.7%)
Future bleak	42 (7.9%)	15 (4.2%)
General feeling of hopelessness/despair	15 (2.8%)	6 (1.7%)
Wish to die:		
past month	19 (3.6%)	9 (2.5%)
2 weeks in past month	2 (0.4%)	0
Suicidal plan or act	0	0
Any feeling of hopelessness/suicidality	98 (18.4%)	53 (14.8%)

Table 15. The frequency of hopelessness and suicidal feelings in depressive disorders, and the frequency according to gender.

Hopelessness or suicidal item	Male (n=31) n (%)	Female (n=80) n (%)	Total (n=111) n (%)
Life not worth living	18 (58.1%)	49 (61.3%)	67 (60.4%)
Future bleak	15 (48.4%)	29 (36.3%)	44 (39.6%)
General feeling of hopelessness/despair	6 (19.4%)	12 (15.0%)	18 (16.2%)
Wish to die:			
past month	8 (25.8%)	15 (18.8%)	23 (20.7%)
2 weeks in past month	1 (3.2%)	1 (1.3%)	2 (1.8%)
Suicidal plan or act	0	0	0
Any feeling of hopelessness or suicidal feeling	20 (64.5%)	57 (71.3%)	77 (69.4%)

Table 16. Psychotropic drug use in depression, with and without feelings of hopelessness and suicidality.

	Depressed cases (n=111)	
Psychotropic drug	Hopelessness or suicidal feelings (n=77)	No hopelessness or suicidal feelings (n=34)
Any psychotropic	27 (35.1%)	13 (38.2%)
Antidepressant	11 (14.3%)	7 (20.6%)
Anxiolytic/hypnotic	21 (27.3%)	7 (20.6%)
Neuroleptic	2 (2.6%)	2 (5.9%)

The numbers do not sum to the total psychotropic count as some individuals are taking more than one class of psychotropic drug.

Discussion

Methodological issues

It is important to address some methodological issues relating to this study. Firstly, the response rate could influence the results. Those who feel hopeless and suicidal may be less motivated to agree to interview and may represent a larger proportion of the refusals than the interviewed group. Alternatively, those who have suicidal feelings may display a high level of help seeking behaviour and therefore may be more likely to agree to interview (Skoog et al, 1996). The refusal rate of 15% is relatively low and is unlikely to have influenced the results significantly.

Secondly, the study deals with feelings which were reported and therefore the willingness of subjects to divulge these sensitive feelings is important. The interviewer was not known to the subject prior to assessment and this may have hindered disclosure of these feelings. However, the interviewer was an experienced doctor or nurse and the questions were asked as part of a detailed semi-structured interview which progressed slowly through many other feelings and attitudes before asking about suicidality.

Thirdly, the items relating to hopelessness and suicidality were derived from the GMS interview. This results in some limitations in the interpretation of the findings. For example, it is not possible to identify the degree of active suicidal ideation inherent in the item ' wish to die' . However, the intensity of the feeling (as to whether it was present for 2 weeks in the previous month) and whether it progressed to a suicidal plan or act, can be assessed. An advantage of the group of items examined is the comprehensive information on the degrees of hopelessness reported. Comparability between the few studies of hopelessness and suicidal feelings among the elderly is hampered by the variability in items examined from study to study and also by the different age limits. However, most studies include 'life not worth living', 'wish to die' and 'suicidal act'.

Finally, the items relating to hopelessness and suicidal feelings were part of the GMS data which generated the AGECAT diagnoses. These feelings are among the diagnostic criteria for GMS-AGECAT depression and consequently it would not be valid to explore the

association of these feelings with a diagnosis of depression, as the correlation with depressive disorder may be inflated (Jorm et al, 1995). Other studies attempted to address this problem by reanalysing their data with suicidal feelings excluded from the diagnostic criteria for depression and found that the association of suicidal feelings with depression, which they had previously demonstrated, remained (Jorm et al, 1995; Skoog et al, 1996). However, clinicians might question the logic of excluding feelings of hopelessness and suicidality from the diagnostic criteria for depression.

Results

The intensity of the feelings of hopelessness and suicidality reported by the elderly in this Dublin population was predominately mild, with the more serious suicidal feelings being rare. 'Life not worth living' was the most commonly reported feeling. It may be that this item has less personal impact on the individual (considering 'life' in objective terms) than the possibly more subjective items referring to the subject's future ('future bleak' and 'general hopelessness'). In spite of the variability between studies some comparisons can be made. Dewey et al (1993) examined a random sample of those aged 65 years and over drawn from GP lists in Liverpool and found a higher frequency of the feeling 'wish to die' (4.9%) but a lower frequency of the less intense feeling 'life not worth living' (8.0%). In a population sample of 85 year olds in Gothenburg (Skoog et al, 1996) the feeling 'wish to die' was also more prevalent than in the Dublin population (12.2%) but again the milder feeling 'life not worth living' was reported with a lower frequency (12.8%). In an Australian population sample of people aged 70 years and over Jorm et al (1995) reported a higher frequency for the pervasive wish to die (2.3%) than the equivalent 'wish to die for two weeks in the previous month' in this study. Skoog et al (1996) reported no suicide attempts as was the case in Dublin. The lower frequencies of more intense suicidal feelings in the presence of higher frequencies of milder feelings of hopelessness in the Dublin community may be the result of cultural influences. A possible factor could be the strong religious beliefs which the elderly in Ireland tend to hold and which impose strictures on suicide and suicidal thoughts. It may be permissible to express hopelessness but not to express more active suicidal feelings. Countries

with extreme religous sanctions against suicide tend to report lower suicide rates, but it has been suggested that this may represent under-reporting in the context of the religous and cultural view of suicide rather than a true lower suicide rate (Kelleher et al, 1998)

Other community based studies of suicidal feelings among all age groups have consistently found significantly lower rates among males than females (Schwab et al, 1972; Paykel et al, 1974; Dewey et al, 1993; Skoog et al, 1996), in spite of the higher suicide rate among males. This has been interpreted as resulting from male reticence to admit to such feelings (Skoog et al, 1996). It might have been expected that the Irish elderly male, who traditionally adheres to the conservative male role model, would also be reluctant to disclose these sensitive feelings. However, this does not appear to be the case in the Dublin population with the frequencies of all feelings of hopelessness and suicidality in males and females being very similar.

Negative assumptions about older people and the ageing process might predict that hopelessness and suicidal feelings would increase with age. Schwab et al (1972) and Paykel et al (1974) did not show a higher frequency of suicidal feelings in older people compared to younger adults. In this study hopelessness and suicidal feelings were not more prevalent in the older age groups within the elderly population. The absence of an increase in frequency in the older old argues against the suggestion that hopelessness and suicidal feelings are a normal part of the ageing process.

The perception that late life depression in the community is mild and transient, occurring in the context of life events associated with ageing, was discussed in chapter 1. The finding that almost 70% of the depressed elderly expressed some degree of hopelessness or suicidality suggests that late life depression impacts significantly on the individual's perception of life and the future. It might be anticipated that depressed elderly who report feelings of hopelessness and suicidality would be more likely to be prescribed antidepressant medication than depressed subjects without such feelings. However, this was not the case. The failure of older people to disclose depressive symptoms to their GP (Blanchard et al, 1994) can be a factor in the low use of antidepressants by the elderly with depressive illness. However, the finding that similar proportions of depressed older people with and without suicidal feelings

were taking any psychotropic drug would suggest that depressives with and without suicidal feelings report depressive symptoms with similar frequency. Skoog et al (1996) also found that there was not a greater use of antidepressants among the depressed elderly with suicidal feelings and additionally found a higher frequency of anxiolytic use in depressives with suicidal feelings than those without such feelings. Even among depressed older people with ideas of hopelessness or suicidality, anxiolytic or hypnotic drugs are used more frequently than antidepressants in response to the psychological distress. There is evidence that long term antidepressant treatment can decrease suicide risk in mood disorders (Lancet, 1992) and emphasises the importance of diagnosing depression in those elderly with suicidal feelings and treating them appropriately.

This study provides data on hopelessness and suicidal feelings among the community dwelling elderly in an urban Irish population. Possible cultural effects on the reporting of these feelings are demonstrated, with the lack of a gender influence and the predominance of feelings of mild intensity. Suicidal feelings and completed suicide cannot be assumed to be the same process (Paykel et al, 1974) but the identification of suicidal feelings, the diagnosis of underlying mental disorder and appropriate treatment is, at the very least, one important task in attempting to reduce the disproportionately high suicide rate among the elderly (Conwell & Caine, 1991). While the controversial issue of assisted suicide in the elderly or the rationality of such requests is not addressed directly in this study, the data indicate that hopelessness and a wish to die does not appear to increase with age or be an integral part of ageing, and should not be regarded as an 'age specific' issue.

Chapter 7

The one year outcome of community based late life depression

Introduction

Williamson et al (1964) found that general practitioners were unaware of three-quarters of cases of depression among their elderly patients - on the basis of general practice case notes - and left the longstanding impression that lack of recognition was the major factor in the low treatment rates. However, a contrary view was presented by MacDonald (1986) on the basis of his findings of a very high level of recognition of late life depression in primary care (though often not recorded in case notes) but unaccompanied by treatment or referral. The reluctance to treat even when depression, or at least the psychological distress, is detected would appear to be due to perceptions that depression in older people is largely a mild transient disorder or understandable in the context of ageing. The message from studies which show a very low prevalence of the major depressive syndrome but high rates of 'minor' depression and depressive symptoms short of depressive disorder, as discussed in chapter 1, reinforces the perception that much of late life depression is not serious.

The aim of this study was to examine the naturalistic outcome of late life depressive disorders one year after initial screening.

Methodology

The basic methodology of the project was described in chapter 3. The subjects of this study were the group of 127 older people with GMS-AGECAT case level depression, identified from the prevalence study described in chapter 4. The general practitioner was informed of the all individuals who had case level depression after GMS-AGECAT assessment, and the study team had no further involvement in clinical management. One year after the initial assessment, each depressed subject was contacted again by letter and visited in the same manner as for the initial assessments. Those who were agreeable were reassessed with the GMS-AGECAT interview. Psychotropic drug use at the time of reassessment was recorded by direct inspection, and a drug history during the year since first asessment was obtained from each subject.

The outcome of depressive disorders with co-occuring cognitive impairment was identified as being of interest. True depressive pseudodementia requires an organic case level score in an individual who is a primary diagnostic case of depression (Copeland et al, 1992). However, in order to avoid missing potential subjects with depressive pseudodementia, diagnostic cases of organic disorder with co-occuring case or subcase level on the depression cluster were also reassessed after one year.

Two measures of outcome were assessed: the maintenance rate for depression as indicated by the proportion of depressed subjects who had case level depression at reassessment, and the broader 'unfavourable' outcome consisting of those who were dead or had a case level mental disorder at the one year follow up. Differences in proportions were compared using chi-squared (x^2) analysis. Results were considered statistically significant at or below the p=0.05 level.

Results

The GMS-AGECAT depression cluster is made up of both depressive neurosis and depressive psychosis, with a case of depression being denoted by confidence level of three or above on either. While case level depression (neurosis and psychosis) has been validated against DSM-111 (American Psychiatric Association, 1980) combined major depression and dysthymia with good agreement (Copeland et al, 1990), there is not individual close concordances between depressive psychosis and major depression and between depressive neurosis and dysthymia (Copeland et al, 1990). Therefore, GMS-AGECAT depression confidence levels are more an indicator of severity of depressive symptomatology than reflecting particular DSM depression categories.

Of the 127 depression cases, 97 (76.4%) were depressive neurosis at level three with 22 (17.3%) at level four, and six (4.7%) were depressive psychosis at level three with two (1.5%) at level four. Thirty subjects (23.6%) who had case level depression at first assessment had either moved away (two) or refused reassessment (expressed or implied through no reply after two attempts) one year later. In the case of one individual who refused, the doorstep clinical impression, in conjunction with subsequent discussion with the general practitioner, was of a marked depressive disorder (the subject did not perform the standardised interview and therefore was recorded as a refusal). Table 17 shows the outcome at one year for the remaining 97 subjects. It was confirmed that there were no further deaths among the thirty subjects who were not interviewed, giving an overall death rate of 7.1% over the year. There were no deaths by suicide.

The maintenance rate for depression among those who were interviewed at one year was 47/88 (53.4%). Even if we were to assume that there was no cases of depression among the 30 subjects who refused or had moved away, the minimum rate of depressive disorder among those who were living at one year would be 39.8% (47/118). Fifty nine of the 97 (60.8%) subjects on whom outcome was known had an 'unfavourable' outcome and minimum rate of 'unfavourable' outcome would be 46.5% (59/127), if the 30 surviving subjects who

were not interviewed were assumed to be free of a mental disorder. There was no significant difference in outcome between the sexes or between the young old and older old.

The low number of subjects with an initial diagnosis of depressive psychosis limits separate analysis of the outcome of this small group. The depressive neurosis level three group represents those with the apparent lowest level of symptomatology among depressed cases. However, 38 of the 67 (56.7%) surviving subjects from this group who were reassessed remained cases of depression, and 46 of 73 (63%) had an 'unfavourable' outcome.

Twenty (15.7%) of the 127 depressed subjects were taking an antidepressant drug at first assesssment. Twenty six (29.5%) of the 88 subjects reassessed were taking an antidepressant, with 14 (29.8%) of 47 depressed cases being on an antidepressant. Thirty six (40.9%) of the 88 individuals had been prescribed an antidepressant at some stage during the year between assessments. There was no difference with regard to the likelihood of being a case of depression at the one year follow up, between those who were on an antidepressant at the time of reassessment and those who were not (53.8% v 53.2%; x^2= 0.0028, df=1, p=0.9576) and between those who had taken an antidepressant at some stage during the preceding year and those who had not (50% v 55.8%; x^2=0.2845, df=1, p=0.5937). However, data on dosage and treatment duration were not available.

Depression and cognitive impairment

No subject recorded a diagnosis of true depressive pseudodementia - organic case level score in an individual who is a primary diagnostic case of depression (Copeland et al, 1992). However, three (2.4%) diagnostic depression cases had a subcase score on the organic cluster at initial assessment. After one year, one was dead and one remained a case of depression. The third was the subject who refused assessment but was felt to be depressed on the basis of the clinical impression by the psychiatrist (MK) on the doorstep. One depressed older person became an organic case at one year follow up. This subject did not have any comorbid organic cluster score at initial assessment, and had a MMSE (Folstein et al, 1975) score of 25 out of 30 which fell to 22 on follow up.

Organic diagnostic cases with co-occuring subsidiary depressive symptoms represent dementia with a superimposed depressive disorder or depressive symptoms, but longitudinal data are useful to conclusively exclude a depressive pseudodementia in such cases. Of the 50 subjects with diagnostic case level organic disorder at first assessment, ten (20%) also had scores on the subsidiary depression cluster - three at case level and seven at subcase level. At one year follow up, one had moved and was not reassessed, three had died, four were still organic cases, and two were no longer organic cases - one becoming to a diagnostic case of depression and one a depression subcase.

Table 17. The one year outcome of subjects with case level depression (n=97).

Mental status at one year reassessment	n (% of the 97 subjects)
Deceased	9*
Depression cases	47 (48.5%)
Depression subcases	14 (14.4%)
Anxiety cases	2 (2.1%)
Anxiety subcases	8 (8.2%)
Phobic subcases	2 (2.1%)
Organic case	1 (1%)
Well	14 (14.4%)

*The total number of deaths in the initial group of 127, including refusals, was also nine (7.1%).

Discussion

Methodological issues

A limitation of this study is the relatively high proportion of depressed individuals who were not available for follow up (30.7%), as a result of having died, moved away or declined participation. However, this is an unavoidable problem in all community based studies among older people and is similar to 34.5% attrition rate in a large outcome study of late life mental disorders in Liverpool, though with a longer three year follow up period (Copeland et al, 1992). The follow up data which are presented refer only to a subject's mental state at the time of reassessment (symptomatology over a one month period), and do not assess mental state during the interim period. Therefore, it is not possible to distinguish between a persistent depressive disorder and a relapse following recovery, as is the case in other community based studies (Copeland et al, 1992; Kua 1993; Prince et al, 1998; Pulska et al, 1999). Those older people who are cases of depression at one year follow up represent significant depressive disorders, in terms of persistence or recurrence, and if the one year reassessment introduces error it will be in the direction of an underestimate with some of the recurrent depressive disorders being missed at the time of follow up.

Most community based longitudinal studies are, by neccessity, naturalistic (Copeland et al, 1992; Kua, 1993; Forsell et al, 1994) and do not analyse treatment effects. As accurate data on antidepressant dosage and duration of treatment were not available for this population, this study also restricts comment to the naturalistic outcome of these depressive disorders in an Irish context. The brief descriptive data on antidepressant use are presented primarily to comment on possible study effects on general practitioner prescibing.

One year outcome

The one year outcome for depressive disorders among the community dwelling elderly in Dublin was poor - 60% having the 'unfavourable' outcome of being dead or having case level mental disorder, and over half of those reassessed remaining cases of depression. The rate of depression maintenance and 'unfavourable' outcome was no lower for those with the apparent

mildest degree of depressive disorder (depressive neurosis level three). The longstanding nature of much of these depressive disorders, in itself, indicates the clinical relevance late life depression in the community. In addition, Pulska et al (1999) showed that these persistent or recurrent depressive disorders in the community dwelling elderly are predictors of later mortality, even when physical health, functional abilities, age, sex and smoking status were all controlled for. There is little evidence to support perceptions that these depressive disorders in older people in the community may be transient or trivial.

The findings on late life depression outcome in this Dublin population are in keeping with results from studies among the community dwelling elderly in the United Kingdom. One year outcome studies have demonstrated a depression maintenance rate of 63% in London (Prince et al, 1998), 64% in the Netherlands (Beekman et al, 1995), 46% in the United States (Roberts et al, 1997) and a three year outcome study in Liverpool found that 65% were either dead or had a case level mental disorder at follow up (Copeland et al, 1992).

The rate of antidepressant use among depressed subjects at the follow up assessments was almost twice that at initial assessments, and the comparatively high rate of antidepressant use during the interim year, was likely to be due to the GPs being informed of the individual patients with depression during the course of the study. However, the lack of comprehensive data prevent meaningful comment on the efficacy of antidepressant treatment strategies in this group of depressed older people. However, it is possible that antidepressants are not being used at therapeutic doses and for sufficient durations, as has been demonstrated in other studies of depressed older people (Vanelle et al, 1997).

Depression with cognitive impairment

While there were no individuals who were diagnostic cases of depression with comorbid organic case level - true depressive pseudodementia - , two individuals who had a GMS-AGECAT diagnosis of organic disorder with comorbid depressive symptoms at initial assessment 'recovered' from their organic disorder and may represent depressive pseudodementia. Nevertheless, depressive pseudodementia appears to be rare among the

community dwelling elderly in Dublin and this finding is in keeping with Copeland et al (1992) three year follow up study in Liverpool.

As there were only three depressed cases with milder cognitive impairment (subcase on organic cluster), it is difficult to comment on the outcome of this group of depressed older people. None of the three were known to have progressed to a dementia, but they appeared to have a relatively poor outcome with one dead, one remaining depressed and the third assumed to be still depressed. However, the long term outcome of depressed cases with cognitive impairment requires a longer follow up period and larger numbers. There was no early indication of cognitive impairment in the one depressed individual who was found to be an organic case at follow up, with no comorbid organic cluster score and a MMSE score within the normal range at initial assessment.

The one year follow up data on older depressed individuals in this Dublin population show that these depressive disorders can certainly not be dismissed as short term disturbances and that this applies even at the mildest level of depressive disorder. The task of convincing primary care of the clinical relevance of depressive disorders among older people in the community remains, and is a prerequisite to the longstanding attempts to increase the rate of treatment, in all therapeutic modalities, of late life depression.

Chapter 8

Chronic depression:

Dysthymia in the community dwelling elderly

this chapter is based on:

Kirby, M., Bruce, I., Coakley, D., Lawlor, B.A. (1999) Dysthymia among the community dwelling elderly. International Journal of Geriatric Psychiatry, 14, 440-445.

Introduction

The data on outcome of late life depressive disorders, which were presented in chapter 7, highlight the longstanding nature of much of the depression that is found among older people in the community. The Dublin data, along with other studies (Beekman et al, 1995; Prince et al, 1998), related to the one year outcome but studies with two year (Kennedy et al, 1991) and three year (Copeland et al, 1992) follow up periods have found similar maintenance rates for late life depression in the community. The large majority of these depressive disorders among the community dwelling elderly are clearly non-major depressions. The prevalence of major depression in older people appears to be less than three per cent (Weissman et al, 1988; Pahkala et al, 1995; Beekman et al, 1995) with non major depressions making up the difference to at least the ten per cent figure for depressive disorders among the community dwelling elderly. Pahkala et al (1995) found that over two-thirds of depressive disorders among the communnity dwelling elderly met DSM-III (American Psychiatric Association, 1980) criteria for dysthymic disorder.

The concept of chronic depression has been controversial. Individuals with long standing depressive disorders have been regarded, at times, as suffering from an affective illness, and at other times, a personality disorder. DSM-111 introduced the term 'dysthymia' to describe a chronic depressive state with symptoms of less severity than major depression. However, of more consequence was the inclusion of dysthymia in the affective disorders section implying a conceptual shift as regards aetiology, treatment and prognosis of chronic depressive states. Refinements were made in DSM-111R to create a clearer demarcation between dysthymia and major depression, with a change in symptom criteria and the exclusion of chronic depressive states which emerged from an initial unresolved major depressive episode. Dysthymia was subclassified as early (less than 21 years) or late onset. The DSM-IV field trials produced an alternative criteria set for dysthymia, in an attempt to further delineate the disorder, but this has been placed in the DSM-IV (American Psychiatric Association, 1994) research appendix rather than in the official nomenclature. A diagnosis of dysthymia in DSM-IV (American Psychiatric Association, 1990) currently requires the presence of depressed

mood for at least two years, with two of six additional symptoms (disturbed appetite and sleep, low energy and self-esteem, poor concentration, hopelessness).

Most studies of dysthymia in the literature concentrate on young adult samples. The major findings include the presence of a comorbid axis one disorder in 77% of cases (Weissman et al, 1988a), concomitant personality disorder in up to 85% (Markowitz et al, 1992) and a predominance of early onset (before 21 years) subtype (Klein et al, 1988; Markowitz et al, 1992). Lifetime comorbidity for major depression is common in young adult dysthymia and was present in 68% of cases described by Markowitz et al (1992). The only study which has assessed the clinical features of dysthymic disorder in the elderly found marked differences to those described in young adult dysthymia (Devenand et al, 1994). In this study of 40 elderly individuals with dysthymia who were recruited to a research clinic through media advertisements, only one (2.5%) had an early onset according to DSM-111R (American Psychiatric Association, 1987) criteria, four (10%) patients had a concomitant personality disorder, five (12.5%) had a comorbid axis one disorder and seven (17.5%) had an episode of major depression earlier in the dysthymic illness. Major stressors preceded the onset of dysthymia in 30 (75%) individuals. However, the large majority of elderly depressed individuals either do not present to any service or remain within primary care (MacDonald, 1986) and Devenand et al (1994) point out that the dysthymic patients in their study may not be typical of those residing in the community. Therefore, a community based study is essential to ascertain an accurate picture of dysthymic disorder in the elderly.

The aim of this study is to describe the clinical features of late life dysthymia, as it presents in older people in the community.

Methodology

The methodology of the overall project was described in chapter 3. The subjects of this study were 40 older people living in the community with a diagnosis of dysthymic disorder. Subjects with GMS-AGECAT case level depression at initial screening had a further assessment, if agreeable, using a standard clinical psychiatric interview with DSM-IV (American Psychiatric Association, 1994) checklists to identify those with dysthymic disorder. Those with 'double depression' (major depression at the time of assessment, superimposed on dysthymic disorder) were classified as major depression and not included as dysthymia.

A detailed symptom and course of illness history was obtained to determine the age of onset and duration of dysthymic disorder, the occurence of major stressors immediately preceding the onset of dysthymia, and the presence of previous episodes of major depression. Treatment for depressive symptoms during the course of dysthymia was recorded. Severity of depression and symptom profile was assessed using the 21 item HAM-D (Hamilton, 1967). The MMSE (Folstein et al, 1975) was performed as a measure of cognitive function. DSM-IV (American Psychiatric Association, 1994) checklists were used to establish comorbid axis one and axis two disorders. A collateral history was obtained from an informant, usually a close relative, with particular emphasis on assessment for a comorbid personality disorder. At the end of the interview, a global observer rated assessment of physical impairment, adapted from the Older Americans' Resources and Services [OARS] Multidimensional Functional Assessment Questionnaire (Duke University Center for the Study of Aging and Human Development, 1978) and used in the data set of the Liverpool MRC-ALPHA study (Saunders et al, 1993), was made.

A group of 630 older people, who did not have case level depression (or dementia) on GMS-AGECAT assessment, were used for comparison of physical impairment and as an indicator of the frequency of life stressors. The life event list (Appendix F) contained nine items covering issues of health, bereavement, loss/theft, financial difficulty, house move and a general item on 'any other serious upset', which occured in the preceding two years. It was adapted from The List of Threatening Events (Brugha et al, 1985; Brugha & Cragg, 1990) for

use among the community dwelling elderly and was used in the data set of the Liverpool MRC-ALPHA study (Saunders et al, 1993).

Clinical aspects of dysthymic disorder are described. Categorical data were compared by chi-squared (x^2) analysis, and continuous data by t-tests. Results were considered statistically significant at or below the p=0.05 level.

Results

The mean age of the 40 older people with dysthymia was 74.4 years (SD 6.6, range 65 to 93 years). There were 27 females (68%) and 13 males and the mean number of years of education was 10.6 (SD 1.7). The group of 630 non-depressed older people did not differ from the dysthymic group in age (mean 74.8 years, SD 6.8, range 65 to 98 years), gender (419 females, 67%), or educational status (mean 10.9 years, SD 1.8).

Table 18 describes features of the onset and course of dysthymia. There were only three cases (7.5%) of DSM-IV (American Psychiatric Association, 1994) early onset dysthymia (before 21 years) and only nine (22.5%) had an age at onset of less than 50 years. The most common stressors reported as being associated with the onset of the depressive disorder were bereavement (9/40) and physical illness (6/40). However, major life events would be expected to be common in this age group, and at least one negative life event in the previous two years was reported by 445 (70%) of the non-depressed individuals, with bereavement of a close friend or relative being the most frequently reported event (252/630, 40%).

Of the six individuals with dysthymia and a comorbid axis one disorder, three had generalised anxiety disorder and three had agoraphobia without panic disorder. Two subjects had comorbid dependent personality disorder and two had avoidant personality disorder. Current reported alcohol intake was low with a mean of 2.7 units per week (SD 4.8, range 0 to 20 units) and 18 (45%) were current non drinkers. The reported mean alcohol consumption among the non-depressed group (data in 617 cases) was similar at 3.7 units (SD 7.8, range 0 to 56), ($t=0.795$, $df=653$, $p=0.43$), and 236 (38%) were current non drinkers. Thirty three (83%) elderly with dysthymia were judged to have at least mild physical impairment. In comparison, a significantly lower proportion of the non-depressed group (49%) had some degree of physical impairment ($x^2=17$, $df=1$, $p<0.0001$).

The mean HAM-D score was 14.7 (SD 3.1, range 9 to 22). Anxiety, somatic and functional items were scored with much greater frequency than vegetative items (table 19). The severity of symptoms was usually mild or moderate, rating one or two on the HAM-D items.

With regard to the suicide item, 19 (47.5%) felt that life was not worth living, seven (17.5%) expressed a death wish and three (7.5%) had suicidal ideation. The mean MMSE score of those with dysthymia was 24.9 (SD 3.8), compared to 26.9 (SD 2.7) in the non-depressed group ($t=4.29$, $df=667$, $p \leq 0.001$).

The treatment history during the course of dysthymia is shown in table 20.

Table 18. Onset and course of dysthymia in 40 community dwelling elderly subjects.

Mean age at onset of dysthymia	60.5 years (SD 19)
Mean duration of dysthymia	14 years (SD 17.1)
Stressor associated with onset of dysthymia	26 (65%)
Comorbid axis 1 disorder	6 (15%)
History of a major depressive episode	10 (25%)
during dysthymic disorder	7 (17.5%)
prior to onset of dysthymic disorder	5 (12.5%)
Comorbid personality disorder	4 (10%)
Current alcohol dependence	0
Past history of alcohol dependence	3 (7.5%)

Table 19. The frequency of positive scores on each item of the HAM-D.

Ham-D item	n (%)
Depressed mood	40 (100%)
Anxiety (psychic symptoms)	39 (97.5%)
Work and interests	36 (90%)
General somatic symptoms	36 (90%)
Anxiety (somatic symptoms)	31 (77.5%)
Suicide	29 (72.5%)
Middle insomnia	27 (67.5%)
Hypochondriasis	25 (62.5%)
Initial insomnia	24 (60%)
Late insomnia	24 (60%)
Diurnal variation	23 (57.5%)
morning	11 (27.5%)
evening	12 (30%)
Agitation	19 (47.5%)
Gastrointestinal symptoms	15 (37.5%)
Obsessional symptoms	11 (27.5%)
Guilt	10 (25%)
Retardation	5 (12.5%)
Loss of weight	5 (12.5%)
Loss of libido	3 (7.5%)
Loss of insight	2 (5%)
Derealisation and depersonalisation	1 (2.5%)
Paranoid symptoms	0

Table 20. Treatment history of 40 older people with dysthymia.

Treatment	n (%)
Treatment by GP during dysthymic illness	33 (82.5%)
antidepressant	17 (42.5%)
benzodiazepine alone	12 (30%)
counselling alone	4 (10%)
Currently taking psychotropic drug	23 (57.5%)
antidepressant	9 (22.5%)
benzodiazepine	19 (47.5%)
benzodiazepine alone	14 (35%)
Treatment by psychiatric service during dysthymia	9 (22.5%)
antidepressant	9
Currently attending psychiatric service	3 (7.5%)
antidepressant	3

Discussion

Methodological issues

Studies on young adult dysthymia have included subjects with current 'double depression', primarily because 'pure dysthymia' (dysthymia without current major depression) was rare and, therefore, difficult to study (Devenand et al, 1994). The relatively low rate of major depression comorbidity in the elderly with dysthymia (Devenand et al, 1994) facilitated the study of pure dysthymia and, therefore, the ability to examine clinical features, including symptom profile, without the confounding problem of a superimposed major depressive episode at the time of assessment. This does cause some limitations when comparisons are made with studies on young adult dysthymia as the inclusion of double depression in this study would, for instance, have increased the rate of major depression comorbidity. However, pure dysthymia represents most late life dysthymia and is the most appropriate approach to the study of dysthymia in older people (Devenand et al, 1994).

The classification of chronic depressive disorders requires a detailed history of the onset and course of the illness. Consequently, clinical diagnosis of dysthymia and research studies on dysthymia rely heavily on patients' self-reports, as this study does. While cognitive distortions associated with depression could result in negative retrospective biases, data from a number of studies support the accuracy of self-report historical data in chronic depression (Billings and Moos, 1984; Kandel and Davies, 1986; Beekman et al, 1997). However, personality assessment using self-report methodologies is likely to be influenced by the subject's affective state and especially so in chronic depression. Consequently, informant history, specifically relating to the subject's premorbid functioning, was used to make axis two diagnoses according to DSM-IV (American Psychiatric Association, 1994) criteria. This approach was facilitated by the late onset of dysthymia in most cases, as compared to early onset dysthymia where there is a relatively short period of adolescence and adulthood without the chronic depressive state. However, it is possible that it may have resulted in a lower reported frequency of personality disorder than other studies.

This is not a prevalence study of dysthymia as not all GMS-AGECAT depression cases agreed to the second interview, where the DSM-IV (American Psychiatric Association, 1994) diagnoses were made, and the primary aim was to recruit a group of 40 cases of dysthymia for study of the clinical presentation in late life.

Findings

It is not clear whether the findings which relate to early onset dysthymia can be applied to late onset dysthymia (The WPA Dysthymia Working Group, 1995) and, therefore, the relevance of studies on young adult dysthymics to the elderly may be limited. The findings of this study indicate that dysthymia in the elderly is predominately of late onset, unlike young adult dysthymia (Klein et al, 1988; Markowitz et al, 1992). Many of the stressors which the elderly subjects associated with the onset of dysthymia, such as bereavements and the onset of physical illness, are frequently issues of later life and are less common among young adults. It is not possible to accurately assess the causal influence of reported life stressors in a cross-sectional study, and adverse life events were common in the lives of non depressed older people. However, dysthymia among the community dwelling elderly would appear to have it's origins in later life as opposed to being a persistent state since adolescence or young adulthood, and the stressors which were identified with the onset of dysthymia may indicate potential areas for intervention. The high frequency of superimposed episodes of major depression, and personality disorder comorbidity, appear to adversely affect outcome in young adult dysthymia (Wells et al, 1992; The WPA Dysthymia Working Group, 1995) and contribute to the therapeutic nihilism which the dysthymic diagnosis can generate. In contrast, dysthymia in the community dwelling elderly shows low rates of axes one and two comorbidity and the significant association with physical impairment may present a further opportunity for intervention.

There has been much debate as to whether dysthymia is a distinct clinical entity or merely represents mild, chronic major depression (Weissman et al, 1988). The mean HAM-D score in the Dublin group (14.7), which was similar to that in the Devenand et al (1994) study on late life dysthymia (14.3), was lower than one would expect in major depression with the

item severity scores predominately in the mild to moderate range. However, the symptom breakdown illustrates the predominance of symptoms in the cognitive and functional domains over vegetative symptoms. This reflects similar findings in young adult dysthymia (Shores et al, 1992; Keller et al, 1995) which have led to the alternative criterion set in the appendix of DSM-IV (American Psychiatric Association, 1994), which gives greater prominence to affective and cognitive symptoms than vegetative symptoms. While the different symptom profile is not conclusive evidence of the validity of dysthymia as a distinct disorder, it highlights the utility of the concept of dysthymia as a depressive disorder with a presentation that differs from typical major depression and which otherwise might not be recognised, particularly in primary care. The high positive score on the life not worth living/suicidal feelings item (72.5%) emphasises the impact of dysthymia on the individual's perception of life and the future and, together with the mean duration of 14.3 years, belies the view that dysthymia in the elderly is a minor or low grade disorder.

Only three of the 40 individuals with dysthymia were, at the time of interview, attending the psychiatric services and this highlights the importance of a community, rather than specialist service, based approach to the study of dysthymia in the elderly. While there may not yet be a consensus on the most appropriate interventions in 'non major' depression, there is evidence for the efficacy of antidepressants in dysthymia (Vanelle et al, 1997) and certainly they are to be preferred to benzodiazepines which were most commonly perscribed. Many depressed elderly do not present to primary care, those who do present may not be diagnosed, and even if the diagnosis is made they may not be treated (MacDonald, 1986). However, it would appear that older people with dysthymia do present to their GP during the course of their dysthymic disorder and receive some treatment (82.5%), including antidepressants (42.5%), probably as a consequence of the long duration of the disorder (mean duration of 14 years). In spite of this, only 6 (15%) were currently taking an antidepressant at a potentially therapeutic dose - tricyclic antidepressants at 75 mg per day (Old Age Depression Interest Group, 1993), newer antidepressants according to data sheets. It may be that antidepressant drugs are not being prescribed at adequate doses or for a sufficiently long period to acheive a therapeutic response in these patients. Recent evidence suggests that antidepressant

response in dysthymia may take up to six months and may require higher doses if initial doses are ineffective (Vanelle et al, 1997).

This study replicates many of the findings of Devenand et al (1994) and lends support to his suggestion that dysthymia may be different in the elderly and that "elderly dysthymic patients do not appear to be young dysthymic patients who simply grew older". The value of the study derives from the population used which is representative of the community dwelling elderly as opposed to the small proportion of elderly dysthymics who attend specialist psychiatric clinics. The treatment of these chronic depressive disorders in older people are clearly deserving of greater attention. Therapeutic interventions must be delivered predominately from primary care and the high rate of presentation of symptoms by the elderly person to the GP at some stage of the dysthymic disorder affords such an opportunity for treatment. Community-based interventions, implemented at the level of primary care, have been shown to be effective in late life depression (Blanchard et al, 1995), and further intervention trials on dysthymia among the elderly in primary care, as opposed to merely those attending psychiatric services, are warranted.

Chapter 9

The clock drawing test: A brief instrument to aid the detection of dementia in primary care

Introduction

Dementia frequently remains undiagnosed in primary care (McClean, 1987; O'Connor et al, 1988; Llife et al, 1991). In a community survey of subjects aged 75 years and over, O'Connor et al (1988) demonstrated that 42% of individuals with dementia were not recognised as being demented by their primary care physician and 22% of normal elderly were misdiagnosed as having dementia. Standardised criteria such as those of the DSM-IV (American Psychiatric Association, 1994) or the National Institute of Neurological and Communicative Disorders and Stroke-Alzheimer's Disease and Related Disorders Association [NINCDS-ADRDA] (McKhann et al, 1984) greatly enhance diagnostic accuracy (Boller et al, 1989; Forette et al, 1989) but few primary care physicians use these detailed sets of criteria (Sommerfield et al, 1991). Furthermore, formal neuropsychological testing and neuroimaging are rarely accessible to primary care physicians. In this context, the availability of more pragmatic means for the detection of cognitive impairment in primary care would be welcomed.

The clock drawing test (CDT) has been proposed as a quick and simple tool to help in the detection of cognitive impairment in older people. The CDT is predominately a test of visuoconstructive function, though also involves numerical and verbal memory and abstract conceptualisation (Kirk & Kertesz, 1991; Ishiai et al, 1993). As a diagnostic test for dementia, the CDT has produced sensitivities of between 78% and 100% and specificities of 65% to 100% (Sunderland et al, 1989; Wolf-Klein et al, 1989; Tuokko et al, 1992; Mendez et al, 1992; Ben Yehuda et al, 1995; Brodaty & Moore, 1997). Most studies have concentrated on the dementia of Alzheimer's disease [AD]. The studies have almost invariably been sited in specialist settings and may not be representative of the bulk of older people with dementia who remain within primary care services. Furthermore, the majority of CDT studies have compared patients with dementia or AD to 'well' elderly and few have considered late life depression which may also be associated with cognitive deficits and therefore result in a misdiagnosis of dementia in primary care (O'Connor et al, 1988). Two studies which evaluated clock drawing in older people with depression produced conflicting findings. Wolf-Klein et al (1989) reported that depressed older people drew normal clocks, whereas Lee & Lawlor (1995) found that 9 of

20 depressed elderly scored in the abnormal range on the CDT. Both studies recruited their depressed individuals from specialist centres and may not be representative of late life depression in the community.

The MMSE (Folstein et al, 1975) has been the most widely used instrument in the assessment of cognitive function in older people. However, the MMSE has been criticised for it's sensitivity (Glasako et al, 1990), particularly in mild cognitive impairment (Folstein et al, 1985; Tombaugh & McIntyre, 1992), for it's specificity (O'Connor et al, 1989; Hodges et al, 1990) and for it's susceptibility to educational influence (Kluger & Ferris, 1991; Uhlmann & Larson, 1991). Primary care physicians use cognitive assessment instruments, such as the MMSE, infrequently (O'Connor et al, 1988; Sommerfield et al, 1991), in spite of the widespread use of the MMSE in specialist services and reference to it in documentation between such services and primary care. While the MMSE is not time consuming in a specialist setting, it may be considered so in the context of the much shorter primary care consultation. In a study of patients attending a memory clinic, Brodaty & Moore (1997) found the CDT to be superior to the MMSE in screening for Alzheimer's disease. If the CDT has similar sensitivity and specificity as the MMSE in the community setting, it may be more acceptable to the primary care physician and therefore a cognitive assessment tool may be performed on more older people than is currently the case. Alternatively, there may be a rationale for performing both the CDT and the MMSE. The MMSE does not test visuo-constructive ability in detail and therefore may miss some individuals with early dementia who have preserved verbal skills but poor visuo-spatial performance (Moore & Wyke, 1984). The inclusion of both the MMSE and the CDT in cognitive assessment protocols has been suggested (Ferrucci et al, 1996).

There were two aims of this study. Firstly, to examine the sensitivities and specificities of the CDT in the diagnosis of dementia in the community, with particular emphasis on the effect of depression on CDT performance. Secondly, to compare the sensitivities and specificities of the CDT to those of the MMSE.

Methodology

The subjects for this study consisted of 39 older people with GMS-AGECAT organic disorder (dementia), 84 elderly with GMS-AGECAT case level depression and 523 elderly without dementia or depression. Subjects without case level organic disorder or depressive disorder are referred to as 'normal elderly' for the purpose of the results and discussion. Concordance between AGECAT organic disorder and psychiatristrists' diagnosis of dementia has been shown to be good, with a high Cohen's kappa value of 0.88 (Copeland et al, 1986) in the community. The subjects were obtained through screening in the community, as documented in the detailed methodology (chapter 3), and without preselection or attempting to limit any of the groups to a predetermined number.

In addition to the GMS-AGECAT interview, the MMSE and CDT were administered. These additional tests were performed either on the same day or within two weeks of the GMS-AGECAT interview. As the serial sevens and 'WORLD' alternative attention items in the MMSE are not directly comparable the 'WORLD' item (Morris et al, 1988; Mowry & Burvill, 1988) was used in all assessments. A MMSE score of 23 or lower was considered abnormal (Tombaugh & McIntyre, 1992). Each subject was asked to draw a large clock, then to put in the numbers where they should be and, finally, to place the hands to read "ten past eleven". People with a physical disability which would prevent them performing the CDT (such as a hemiplegia or a marked visual defecit) were not included. The clocks were scored by one rater, who was blind to the GMS-AGECAT diagnosis and the MMSE score, using the 10 point Sunderland scale (Sunderland et al, 1989; Appendix B). A CDT score of five or less is abnormal. Figure 2 shows clocks scored as normal according to the Sunderland scale (10 to 6) and figure 3 shows clocks with a low score (5 to 1). Other scoring systems have been described (Shulman et al, 1986 & 1993; Wolf-Klien et al, 1989; Mendez et al, 1992). However, the Sunderland scale is likely to be the simpler to score and may be most appropriate in the context of investigating the CDT as a brief assessment tool for dementia in primary care.

Sensitivities and specificities of the tests are presented. Continuous data are compared with t-tests, where appropriate.

Results

Table 21 shows the mean age, educational status and MMSE scores for the three groups of elderly subjects. Dementia was of mild to moderate severity, as demonstrated by MMSE scores. The mean CDT score among the subjects with organic case level was 4.6 (SD 2.1, range 1 to 9), compared to 7.4 (SD 1.8, range 3 to 10) in the depressed group and 7.5 (SD 1.9, range 1 to 10) among those without either case level organic or depressive disorder ('normal elderly').

Dementia

Figure 4 compares the distribution of clock drawing scores for the organic cases with those of older people without dementia or depression. Twenty nine of 39 subjects with dementia scored in the abnormal range and 424 of 523 subjects without dementia or depression scored in the normal range, giving a sensitivity of 74% and a specificity of 81% for the CDT. The sub-group of elderly without dementia or depression who drew abnormal clocks had a mean MMSE score of 25.5 (SD 3.2) which was lower than the mean MMSE of 27.2 (SD 2.5) for the subjects from this group who drew normal clocks ($p \leq 0.0001$), but still within the normal MMSE range (>23).

Thirty five of the 39 subjects with dementia scored low on the MMSE (<24) and 458 of 523 well elderly scored in the normal range, which yields a sensitivity of 90% and a specificity of 88% for the MMSE.

Dementia and depression

A comparison of clock drawing scores for organic and depressed cases is shown in figure 5. Sixty five of 84 depressed individuals drew a normal clock, giving the CDT in dementia a specificity of 77% when compared to depressed elderly. The 19 depressed individuals who drew abnormal clocks had a lower mean MMSE (24.9, SD 2.3) than the 65 who had drawn normal clocks (26.7, SD 2.3), ($p=0.006$), but still within the normal range (>23).

Seventy four of eighty four depressed subjects had an MMSE score of 24 or greater, yielding a specificity of 88% for the MMSE in distinguishing between dementia and depression.

CDT and MMSE combined

The effect of combining the scores on both the CDT and the MMSE is shown in figure 6. If an abnormal score was required in just one of the two tests (CDT ≤5 *or* MMSE-W ≤23) 37 of 39 organic cases would be detected which would give a sensitivity of 95%. However, 26% of older people without dementia or depression and 30% of depressed subjects would also have a low score on one test, yielding a specificity of 74% for dementia when compared to the 'normal elderly' and 70% when compared to depression. Alternatively, if an abnormal score was required in both tests (CDT ≤5 *and* MMSE-W ≤23) 27 out of 39 organic cases would have scored below this threshold, giving a sensitivity of 69%, but with specificities of 95% against both 'normal' and depressed subjects for the combined tests.

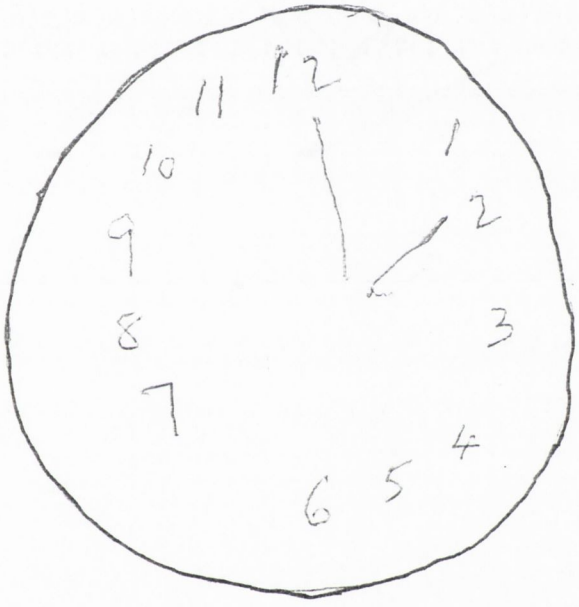
Figure 2. Clocks with CDT scores in the normal range (10 to 6).



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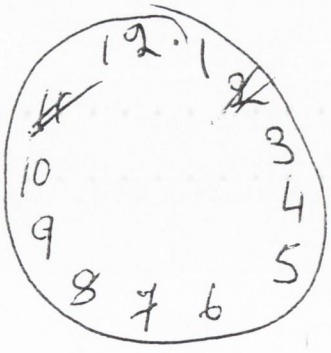
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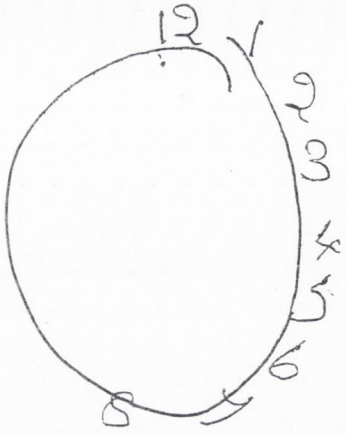


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Figure 3. Clocks with CDT scores in the abnormal range (5 to 1).



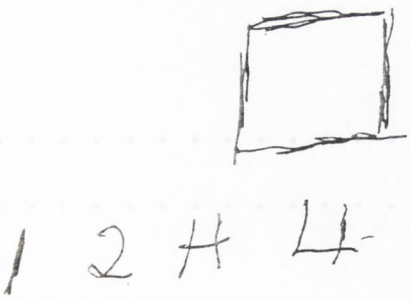
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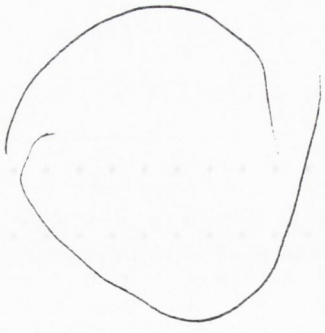
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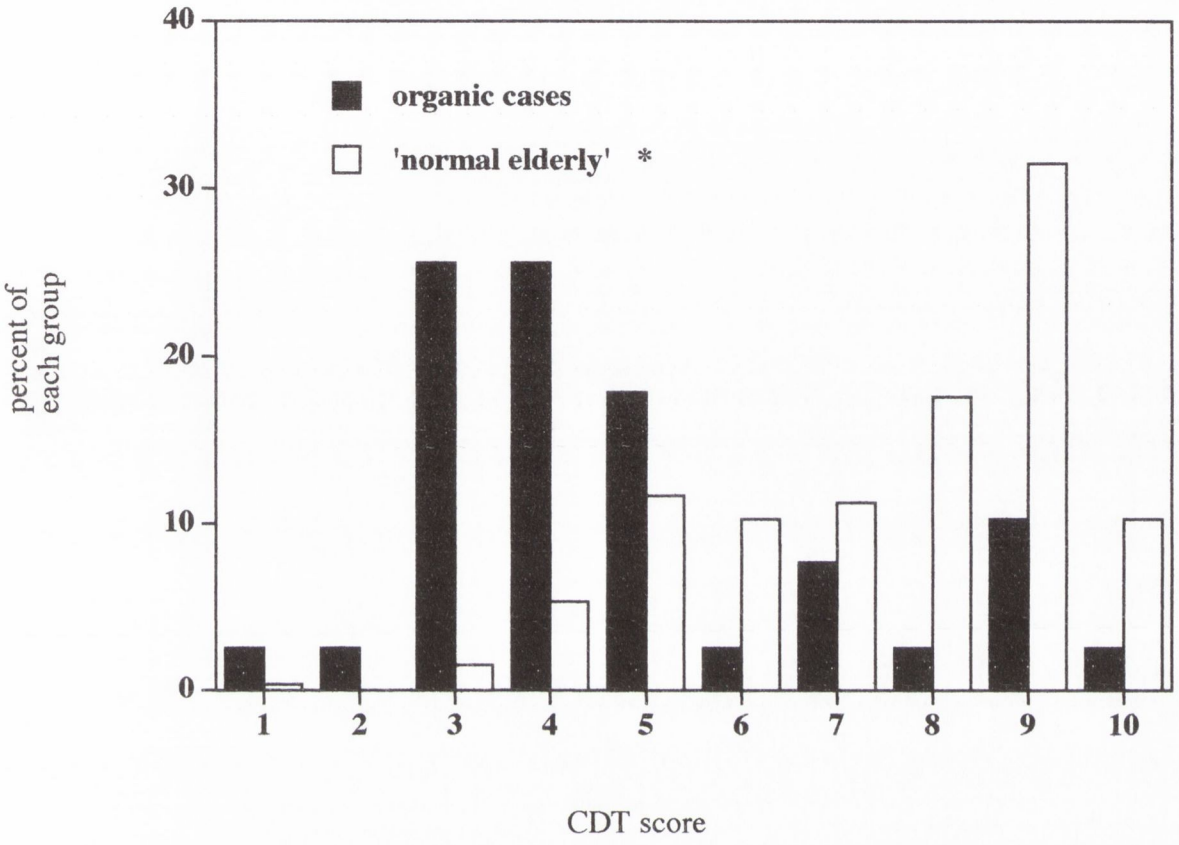


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Table 21. Mean age, educational status, and MMSE for: (i) organic cases, (ii) subjects without dementia or depression ('normal elderly'), and (iii) depressed cases.

	Organic cases (n=39)	Subjects without dementia/depression (n=523)	Depressed cases (n=84)
Age	79.5 (SD 6.8)	74.8 (SD 6.6)	73.5 (SD 5.9)
Years of education	10.8 (SD 1.7)	10.8 (SD 2.2)	10.6 (SD 1.8)
MMSE	18.4 (SD 4.4)	26.9 (SD 2.7)	26.3 (SD 2.4)

Figure 4. CDT scores of organic cases (n=39) and 'normal elderly' (n=523).



* 'normal elderly' refers to those without case level organic disorder or depression.

Figure 5. CDT scores of organic cases (n=39) and depressed cases (n=84).

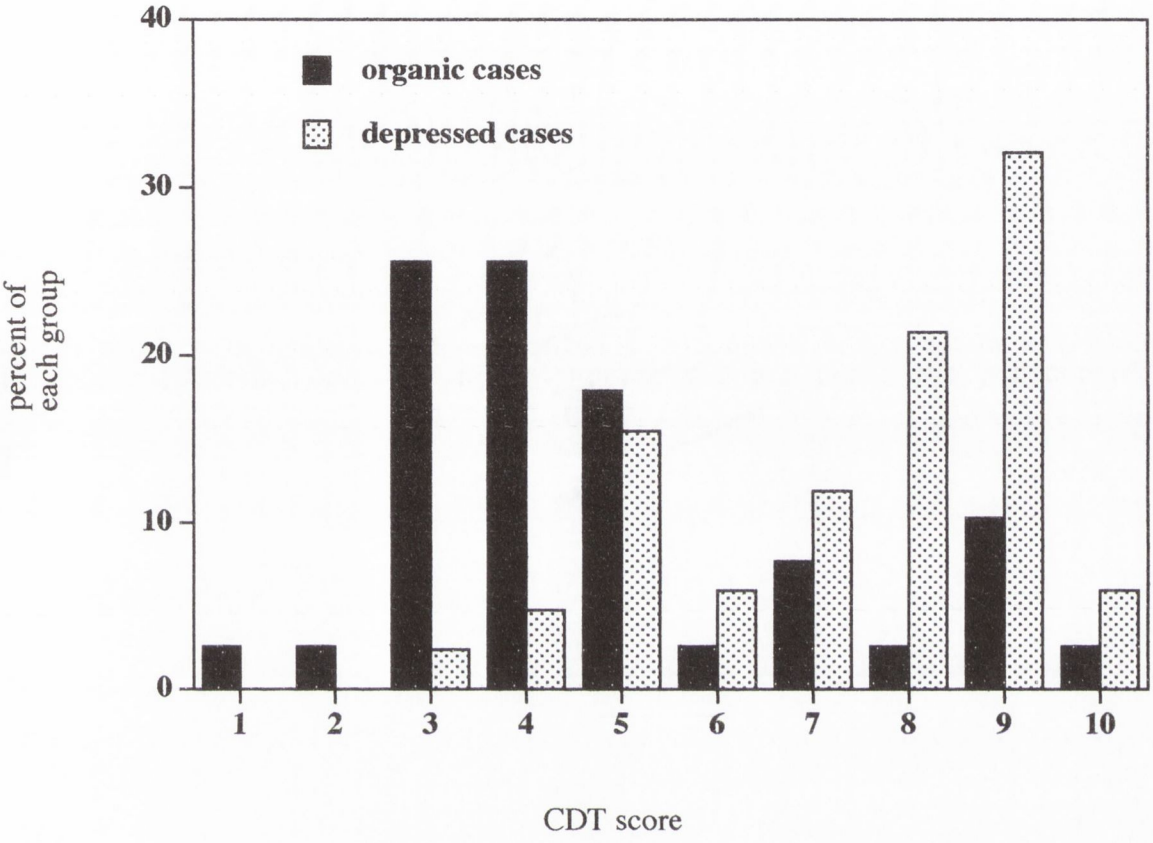
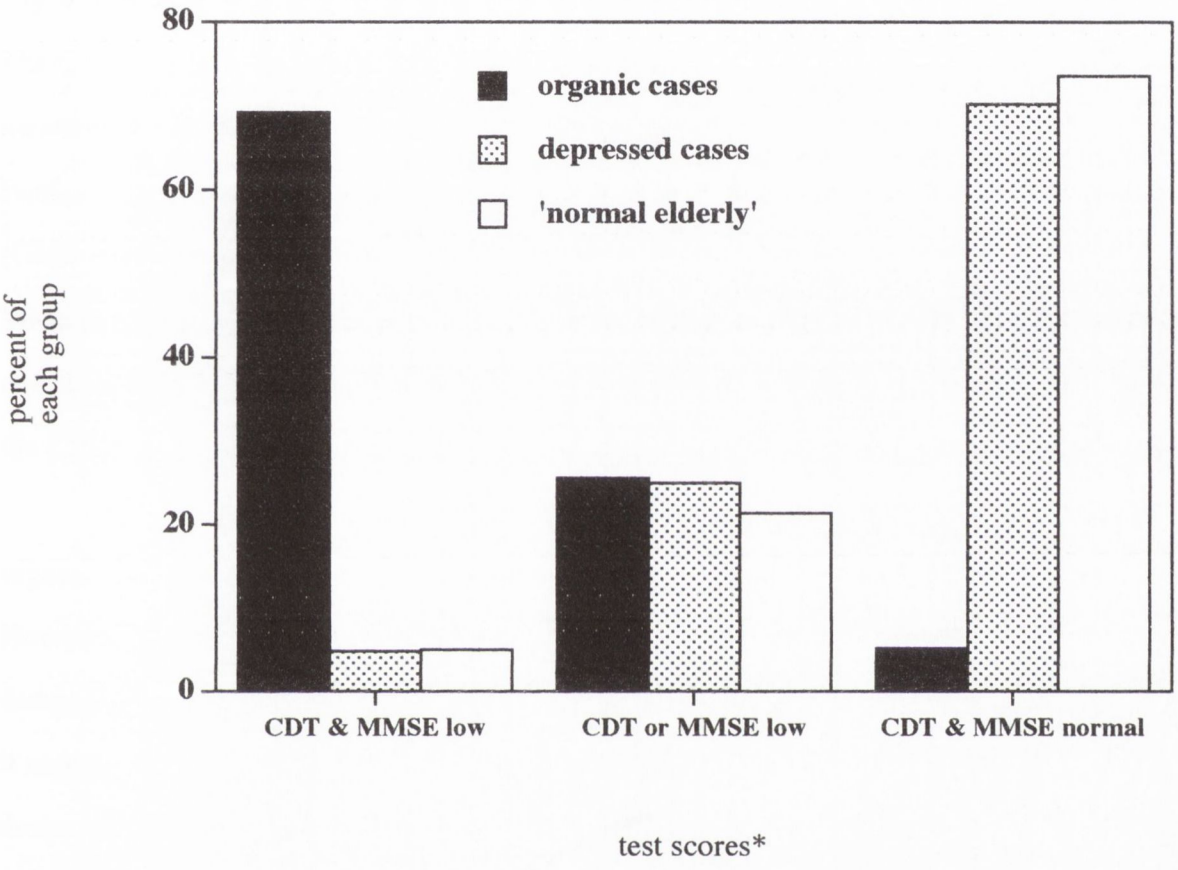


Figure 6. The distribution of combined CDT and MMSE scores in subjects with organic disorder (n=39), depression (n=84) and without either disorder ('normal elderly', n=523).



*CDT & MMSE low refers to a CDT score <6 and a MMSE score <24; CDT or MMSE low refers to one low score only; CDT & MMSE normal refers to normal scores on both tests.

Discussion

Methodological issues

Most studies on the CDT have examined elderly samples attending specialist services, where physicians use many other assessment tools and have expertise in the diagnosis of dementia. The CDT is likely to be more relevant in the primary care context, and therefore the subjects identified from screening in the community may be more appropriate for study of the CDT. Furthermore, dementia syndromes were diagnosed with a standardised assessment instrument (GMS-AGECAT) in this study, and not merely implied from other cognitive tests, such as the MMSE. To my knowledge this is the first primary care based study to examine the sensitivity and specificity of the CDT for the detection of dementia, which also addresses the specificity of the CDT against depression.

A limitation of this study is the lack of diagnosis of dementia type, as GMS-AGECAT organic case level includes Alzheimer's disease, vascular dementia and other dementias. However the most important step for the primary care physician is the initial identification of a dementing disorder, which he may then refer to specialist services for further assessment, and it may be of greater clinical relevance to study the CDT in dementia as a whole than in particular dementing disorders. Severe dementia rarely provides great diagnostic difficulties and the subjects with dementia in this study represent an appropriate group of predominately mild to moderate dementia (mean MMSE 18.4). The individuals with dementia were older than the other two groups but this should not influence the CDT findings as the study which devised the scoring system used here found age not to effect CDT scores (Sunderland et al, 1989). Educational level can influence performance on cognitive tests (Kluger & Ferris, 1991; Uhlmann & Larson, 1991), and the three groups in this study were of similar educational status (table 21).

Findings

The sensitivity of 74% for the detection of dementia and the specificity of 81% against 'normal elderly' are both at the lower end of the range of figures produced by other studies (Shulman et

al, 1986; Sunderland et al, 1989; Wolf-Klein et al, 1989; Tuokko et al, 1992; Mendez et al, 1992; Ben Yehuda et al, 1995; Brodaty et al, 1997). It is likely that the high rates produced by some of the other studies are, at least in part, artificially raised by a degree of preselection of subjects. The control subjects in the studies which reported specificities of 95% to 100% were either active volunteers for a research unit (Mendez et al, 1992; Brodaty & Moore, 1997) or from retirement groups (Sunderland et al, 1989; Tuokko et al, 1992) and were excluded from one study if they had concerns about their memory or had a family history of dementia (Sunderland et al, 1989) and from a second study if they had any history of psychiatric or neurological illness (Tuokko et al, 1992). Therefore, they could be regarded as being 'super controls' and be less likely to have mild or age related cognitive deficits short of dementia. In contrast, the 'normal elderly' in this study included all community dwelling subjects except those with case level depression or dementia. This resulted in a more heterogenous group (for example it included subjects with mild cognitive deficits short of dementia - organic subcases -, and also subjects with anxiety disorders and symptoms) which reflects the clinical situation more accurately. The exclusion of those with subcase organic level from the 'normal elderly' group in this study would have increased the specificity of the CDT to 83%, and the exclusion of those with any psychiatric symptoms would have given a specificity of 85%. Patients with dementia in most of the other studies were recruited from memory clinics (Mendez et al, 1992; Brodaty & Moore, 1997) or other specialist geriatric settings (Wolf-Klein et al, 1989; Sunderland et al, 1989; Tuokko et al, 1992). There would have been an inherent referral bias of subjects who were already suspected of cognitive impairment, which might have influenced sensitivity.

The initial diagnosis of dementia in the community is clearly a different process to the attempt to make accurate antemortem diagnoses of dementia syndromes in specialist settings. However, the two processes are comparable in that they could be regarded as being the basic diagnostic roles of the primary care physician and the specialist respectively, with regard to dementia. In this context, the sensitivity of 74% for the CDT in detecting dementia in this study does not differ greatly from the diagnostic accuracy acheived by specialist clinicians using the wide range of available clinical, neuropsychological and radiological techniques - for

example, 80% for Alzheimer's disease compared to neuropathological diagnosis (McKhann et al, 1984). With regard to the specificity of the CDT, the findings indicate that not all 'normal' (81%) or depressed (77%) elderly draw normal clocks, but that community based depressives do not perform worse on the CDT than the 'normal elderly'. The higher proportion of depressives drawing abnormal clocks (55%) in the Lee & Lawlor study (1995) might be explained by cognitive impairment associated with more severe depressive symptomatology in their group of depressed older people as they were attending a specialist center, though the mean MMSE score was not lower than that of this group of depressed elderly (26.5 vs 26.2). In the community setting, it would appear that depression does not significantly alter the specificity of the CDT.

The MMSE was more sensitive (90%) and more specific against both 'normal elderly' (88%) and depressed elderly (88%), emphasising that the CDT cannot be considered to be a better assessment instrument than the MMSE. However the MMSE is a more demanding task for the patient and doctor, and the appropriate role for the CDT may be as a simple and quick assessment tool in primary care.

An alternative role for the CDT may be as an additional test to the MMSE to improve sensitivity or specificity, depending on the clinical situation. If the GP wished to ensure that few or no cases of dementia were missed, a threshold of one low score on either the CDT or the MMSE would have detected 95% of dementia cases, though the specificity would have fallen (74% against 'normal elderly', 70% against depressed elderly). If the GP wanted to limit false diagnoses of dementia, a low score on both tests would have given 95% specificity compared to 'normal' and depressed elderly, though at the expense of sensitivity (69%).

Most previous studies on the CDT have concentrated on patients attending specialist settings rather than the community dwelling elderly in primary care where the CDT may have most potential. It does not represent an alternative to a comprehensive clinical assessment, or a more accurate alternative to the MMSE, but may offer a useful additional tool in the GP's bag - either as a quick assessment instrument in primary care or as a simple extra element to the GP's assessment package.

Chapter 10

Loud and silent depression: The influence of anxiety symptoms on detection and treatment of late life depression in the community

this chapter is based on:

Kirby, M., Denihan, A., Bruce, I., Coakley, D., Lawlor, B.A. (1999) The influence of anxiety symptoms on the treatment of late life depression in primary care: a questionnaire survey. BMJ, 328, 579-580.

Introduction

A low rate of treatment for depressive disorders in late life has been demonstrated since the earliest community based studies (Kay et al, 1964; Williamson et al, 1964) and remains a consistent finding in more recent studies (Livingston et al, 1990; Blanchard et al, 1994; Taylor et al, 1998). Lack of recognition of depressive disorders (Williamson, 1964; Goldberg and Huxley, 1980) contributes to this undertreatment of depression in primary care. When treatment is instituted, benzodiazepines are perscribed with greater frequency than antidepressants, in both the community (Skoog et al, 1993; Wells et al, 1994; Taylor et al, 1998) and in general medical in-patient settings (Koenig et al, 1997). Other studies have shown that prominent anxiety symptoms and syndromes frequently accompany late life depression (Ben-Arie et al, 1987; Kua et al, 1996) and may contribute to the low level of detection of the primary depressive disorder. It has been suggested that this presentation of late life depression may be a factor in the underdetection of the primary depressive disorder and lead to the inappropriate treatment with anxiolytic medication (Ben-Arie et al, 1987), but this has not been specifically examined in a study of older people in the community.

The aim of this study was to examine the symptom pattern of late life depression in the community with regard to the effect on pharmacological treatment in primary care.

Methodology

The methodology was described in chapter 3. The subjects of this study were 180 older people with GMS-AGECAT case level depression. These depressed individuals were identified following screening of older people on the practice lists of five general practices - two group practices with three GPs each and three single handed practices. In addition to the primary diagnosis, GMS-AGECAT also allocated a level of confidence on the other diagnostic clusters (organic, paranoid, mania, obsessional, hypochondriacal, phobic, anxiety) when indicated and, therefore, the presence of symptoms or disorders comorbid with the principal diagnosis of depression was recorded. Current psychotropic drug use was recorded by direct inspection of the medications being used by each person.

The frequencies of psychotropic drug use in depressive disorders were calculated. Differences in proportions were tested for significance ($p \leq 0.05$) using chi-squared (x^2) analysis.

Results

The facility of GMS-AGECAT to identify co-occuring symptoms provided an opportunity to consider the broad symptom pattern of late life depression in the community. The frequency of all co-occuring disorders and symptoms in diagnostic cases of depression is shown in table 22. Many subjects had symptoms on more than one subsidiary cluster, for example the two individuals with co-occuring hypochondriacal symptoms and six of seven with obsessional symptoms also scored on the anxiety or phobic clusters. There were no subjects with true depressive pseudodementia - primary diagnostic cases of depression with comorbid organic case level (Copeland et al, 1992). The symptom pattern of depressive disorder was dominated by the presence of co-occuring anxiety (GMS-AGECAT clusters of anxiety, phobic or obsessional) symptoms, with case level anxiety in 35 (19.4%) depressed subjects and subcase level in 114 (63.3%). Thirty one (17.2%) depressed individuals were free of anxiety.

Eighty one (45%) of the 180 elderly people with case level depression were on a psychotropic drug, with a similar proportion of depressed males and females (46.5% v 41.2%; x^2 =0.4203, df=1, p=0.5168). Sixty two (34.4%) depressed subjects were taking a benzodiazepine, 31 (17.2%) were on antidepressant medication, and 6 (3.3%) were taking a neuroleptic.

Table 23 compares the use of psychotropic drugs in three groups of depressed elderly - those with high levels of anxiety (case level), lower levels of anxiety (subcase level) and no anxiety. There is a significant increase in the use of any psychotropic drug (x^2 =7.813; df=2; p=0.0201), of benzodiazepines (x^2 =7.720; df=2; p=0.0211) and of antidepressants (x^2 =6.173; df=2; p=0.0457), as the degree of anxiety symptomatology rises.

Table 22. The distribution of co-occuring disorders and symptoms in depression diagnostic cases (n=180).

Other GMS-AGECAT clusters (co-occuring disorders/symptoms)	n (% of all depression cases)
no co-occuring symptoms	30 (16.6%)
organic at subcase level	4 (2.2%)
paranoid at subcase level	10 (5.6%)
anxiety at case level	34 (18.9%)
anxiety at subcase level	110 (59.9%)
phobic at case level	1 (0.6%)
phobic at subcase level	26 (14.4%)
obsessional at subcase level	7 (3.9%)
hypochondriacal at case level	1 (0.6%)
hypochondriacal at subcase level	1 (0.6%)

Many depression cases had more than one comorbid case/subcase and hence the numbers do not summate to 180.

Table 23. The frequency of psychotropic drug use in late life depression: (i) case level depression with comorbid anxiety at case level, (ii) case level depression with subcase anxiety, (iii) case level depression without anxiety.

	Depression with case level anxiety (n=35)	Depression with subcase anxiety (n=114)	Depression without anxiety (n=31)
Any psychotropic	21 (60%)	52 (45.6%)	8 (25.8%)
Benzodiazepine	17 (48.6%)	40 (35.1%)	5 (16.1%)
Antidepressant	11 (31.4%)	16 (16.1%)	4 (12.9%)

An individual may be on more than one psychotropic drug.

Discussion

Traditionally, psychiatry places considerable emphasis on the diagnosis of depressive pseudodementia. While the importance of identifying depression in an individual who presents with cognitive impairment is beyond dispute, the syndrome of depressive pseudodementia is largely described in specialist settings and was rare among this community dwelling elderly population. This issue was considered further in chapter 7. In the context of late life depression in the community, the common symptom presentation is depression with co-occuring anxiety symptoms and, therefore, it may be more of benefit to primary care to emphasise the importance of identifying a depressive disorder in older patients who present with prominent anxiety symptoms.

GMS-AGECAT case level depression was originally assigned at the level of symptomatology that psychiatrists recognise as a disorder (Copeland et al, 1986; Copeland et al, 1988) and has subsequently been validated against combined DSM-III major depression and dysthymia with good agreement (Copeland et al, 1990). Therefore, it is reasonable to assume that the bulk of these depressive disorders warrant intervention. However, less than half of the older people with depression in Dublin were taking a psychotropic drug and, where treatment was instituted, the symptoms were targeted with benzodiazepine drugs in most cases. While this has been consistently documented in previous studies (Skoog et al, 1993; Wells et al, 1994; Taylor et al, 1998), the influence of co-occurring anxiety symptoms on the likelihood of late life depression receiving pharmacological treatment in primary care has not been studied. The World Health Organisation Study on Psychological Disorders in Primary Health Care (Sartorius et al, 1996) showed that the presence of comorbid anxiety disorders (generalised anxiety disorder, panic disorder or agoraphobia) with depression increased the chance that depression would be recognised and some treatment offered, but excluded elderly subjects and did not consider the more common situation of depressive disorders with co-occurring anxiety symptoms of less severity than comorbid anxiety disorder.

While late life depression in this Dublin population was undertreated, depression with prominent anxiety did tend to receive some pharmacological intervention. It would appear that

the co-occurring anxiety symptoms rendered the depression 'loud' and attracted the attention of the doctor. It is therefore not surprising that the most common choice of psychotropic drug in the elderly depressed person was a benzodiazepine. In contrast, late life depression with little or no anxiety appears to remain 'silent' with the large majority of these 'silent depressives' receiving no pharmacological treatment. Furthermore, the 'loud' or 'anxious' depressive disorders were also more likely to receive the appropriate treatment with antidepressant drugs than the 'silent' non-anxious depressions.

Much has been written previously about the undertreatment of late life depression in primary care. However, through highlighting the influence which co-occuring anxiety plays in dictating whether a depressed older person receives any treatment - appropriate or otherwise -, we can facilitate the subsequent issue of the appropriate treatment with antidepressants rather than benzodiazepines. In addition, the data also emphasise the importance for primary care physicians to look for depression which is not flagged by anxiety symptoms and is at particular risk of being missed.

Chapter 11

Psychotropic drug treatment in the community dwelling elderly

this chapter is based on:

Kirby, M., Denihan, A., Bruce, I., Radic, A., Coakley, D., Lawlor, B.A. (1999) Benzodiazepine use among the elderly in the community. International Journal of Geriatric Psychiatry, 14, 280-284.

Introduction

Psychotropic drug use has been shown to be greater among the elderly than in younger adults (Landahl, 1987; Fichter et al, 1989; Bowling 1990; Skoog et al, 1993). However, the prescribing can be inappropriate to mental health with many elderly people with treatable mental disorders remaining untreated, and others without mental disorders being exposed to the side effects of psychotropic drugs (Kay et al, 1964; Skoog et al, 1993; Taylor et al, 1998).

Benzodiazepines are the most commonly used psychotropic drugs among older people (Fichter et al, 1989; Skoog et al, 1993). The adverse effects of benzodiazepine drugs include drowsiness, dizziness, ataxia and impairment of psychomotor function, and appear to increase with age (Greenblatt et al, 1989 & 1991; Ray et al, 1992). These side effects of benzodiazepines have been shown to be major risk factors for accidents in the elderly (Neutel et al, 1996). However, benzodiazepines are effective in the alleviation of disabling symptoms such as those of anxiety states (Shader and Greenblatt, 1993) and, clearly, a balance between risk and benefit is required. The greater sedation and degree of psychomotor impairment in the elderly may be due to reduced clearance of the drug, resulting in higher plasma concentrations (Greenblatt et al, 1991). Benzodiazepines with a long duration of action are particularly likely to accumulate and therefore have a greater potential for sedative effects and psychomotor impairment. Older people who are taking benzodiazepines with a long elimination half-life have been shown to have an increased risk of falls (Tinetti et al, 1988; Sorock & Shimkin, 1988), a greater risk of hip fracture (Ray et al, 1989) and an increased chance of being involved in a motor vehicle crash (Hemmelgarn et al, 1997).

Over the past 20 years many new antidepressants have been developed which combine the efficacy of the older tricyclic antidepressants [TCAs] and monoamine oxidase inhibitors [MAOIs] with greater drug tolerability. These newer antidepressants include the selective serotonin reuptake inhibitors [SSRIs], the noradrenaline reuptake inhibitors [NARIs], and the serotonin and noradrenaline reuptake inhibitors [SNRIs], and constitute an increasing proportion of the antidepressants used in primary care (Martin et al, 1997). The improved side effect profile is of particular relevance in older people, who are vulnerable to many of the

adverse effects of the older antidepressants. Concern about potential adverse events with TCAs has been proposed as one of the barriers to the adequate treatment of depression in the community (Woster et al, 1994), particularly among the elderly.

The aims of this section of the project were to examine the pattern of psychotropic drug use among an elderly population in Dublin, and the appropriateness to mental health status.

Methodology

The methodology has been described in detail in chapter 3. The subjects of this study were identified from the practice lists of five general practices - as described in chapter 10 - and the data were collected during the years 1993 to 1997. In addition to the GMS-AGECAT interview, psychotropic drug use was recorded by direct inspection of the medications being currently used by each person. Medications that had been discontinued at any time prior to the interview were not included. A psychotropic drug which was being taken on an 'as required' basis was included, if the person had a supply of the drug (or awaiting a repeat prescription) and said that he/she continued to take it if required. Each benzodiazepine was classified as having a short elimination (≤ 24 hours) or long elimination (>24 hours) half-life (Hemmelgarn et al, 1997). The short acting agents were temazepam, triazolam, alprazolam, flunitrazepam, bromazepam, brotizolam, lormetazepam and lorazepam. The long acting agents were diazepam, flurazepam, nitrazepam, chlordiazepoxide, clorazepate, clobazam and prazepam. Drug dosage was not recorded.

Prevalence rates were calculated for psychotropic drug use. Categorical data were compared by chi-squared (x^2) analysis, and continuous data by t-tests. Results were considered statistically significant at or below the p=0.05 level.

Results

One thousand seven hundred and one individuals were interviewed, representing 80% of those identified from the practice lists, and consisting of 1117 (65.7%) females and 584 (34.3%) males. The mean age was 74.2 years (SD 6.8), with 981 (57.7%) persons under 75 years and 720 (42.3%) persons of 75 years and older. There was no significant difference in age and gender distribution between those who were interviewed and those who refused assessment.

Psychotropic medication was used by 373 (21.9%) individuals, more frequently by females than males (26.7% v 12.8%; x^2 =42.88, df=1, p≤0.0001). The commonest class of psychotropic drug was the benzodiazepines which were used by 295 (17.3%) individuals. Antidepressant drugs were taken by 86 (5.1%) subjects, and lithium by six (0.4%) with five of the six also on a traditional antidepressant drug. Neuroleptic drugs were used by 22 (1.3%) individuals. Eight people were taking a non-benzodiazepine anxiolytic/hypnotic (4 chlormethiazole, 4 zopiclone) and 9 individuals said they were using a "sleeping tablet" but the identity of the drug was not ascertained. Of the 373 individuals on a psychotropic drug, 65 (17.4%) were taking two or more psychotropics and 46 (12.3%) were taking drugs from two or more different psychotropic classes, with the commonest combination being an antidepressant and a benzodiazepine.

Benzodiazepines

Females were twice as likely to be taking a benzodiazepine as males (21.4% v 9.6%; x^2 =37.3, df=1, p≤0.0001). The older old (17.6%) were using benzodiazepines with a similar frequency to the young old (17.1%).

Table 24 lists the individual benzodiazepines in terms of frequency of use among older people in the community. Of the 295 persons on a benzodiazepine drug, 152 (51.5%) were taking one with a long duration of action and the older old (52.8%) were as likely to be taking a long acting agent as the young old (50.6%). The choice of a long half life drug was particularly prominent among the group on benzodiazepines which are typically used as anxiolytics

(diazepam, alprazolam, chlordiazepoxide, bromazepam, lorazepam, clorazepate, clobazam, prazepam) with 99 (77.3%) of 128 individuals taking a long acting benzodiazepine. In contrast, only 67 (35.6%) of the 188 older people on a hypnotic type benzodiazepine (temazepam, flurazepam, nitrazepam, flunitrazepam, lormetazepam, brotizolam) were using a long acting drug.

Fifty two (17.6%) of the 295 individuals on a benzodiazepine were also taking one or more other psychotropic drugs, 24 using another benzodiazepine and 33 using another psychotropic from a different class. With regard to the 152 individuals on long acting benzodiazepines, 37 (24.3%) were taking at least one other psychotropic drug, 18 on more than one benzodiazepine and 24 using another class of psychotropic drug.

Antidepressants

Females were more likely to be taking an antidepressant than males (6.1% v 3.1%; x^2 =7.217, df=1, p=0.0072). There was no difference in antidepressant use between the older old and the young old (4.2% v 5.7%; x^2 =2.056, df=1, p=0.1516).

Table 25 lists the antidepressant drugs used by this elderly population. The most commonly used antidepressant class was the tricyclic and tetracyclic antidepressants, being taken by 59 (68.6%) of the 86 subjects. Twenty five (29.1%) individuals were on a SSRI or a NARI and 7 (8.2%) people were taking an MAOI. The older antidepressants (tricyclic and related drugs or an MAOI) were as likely to be chosen in the older old as in the young old (70% v 73.2%; x^2 =0.1003, df=1, p=0.7514).

Of the 86 people on antidepressants, only 46 (53.5%) were on one antidepressant without concomitant psychotropic medication, 27 (31.4%) were on two psychotropic drugs, a further 12 (14%) were on three psychotropics and one (1.2%) was on five psychotropic medications. In 39 of the 40 subjects who were on other psychotropics in addition to their antidepressant, the medication regime included a drug from a different psychotropic class, most commonly a benzodiazepine.

Neuroleptics

Females and males were taking neuroleptic drugs with similar low frequencies (1.3% v 1.4%), as were the two age groups (older old, 1.0% v young old, 1.5%). Of the 22 individuals on a neuroleptic, the large majority (18/22, 81.8%) were also taking another class of psychotropic which was an antidepressant in most cases (12 subjects). Thioridazine (6/22) was the most common neuroleptic used, followed by haloperidol (5/22) and trifluoperazine (3/22). Two subjects were taking the atypical neuroleptic risperidone.

Psychotropic drugs and mental disorder

Table 26 shows the frequency of psychotropic drug use according to GMS-AGECAT diagnostic category. Predictably there was a higher use of psychotropic medication among those with a current mental disorder than those without (37.9% v 18.9%; x^2=47.72, df=1, p≤0.0001). There was a significantly higher use of psychotropic drugs among females than males without a mental disorder (23.8% v 10.2%; x^2=39.63, df=1, p≤0.0001), but not among those with a current mental disorder (40.3% v 31.5%; x^2=1.749, df p=0.1859).

Benzodiazepines were the most widely used psychotropic drug both in mental disorders and for individuals without a mental disorder. Females without a current mental disorder were more likely to be on a benzodiazepine than males (19.3% v 7.8%; x^2=33.7, df=1, p≤0.0001), but there was no significant gender difference in those with a mental disorder (female, 31.1% v male, 21.9%; x^2=2.2, df=1, p=0.14). There was a particularly high use of long acting benzodiazepines among individuals with case level mental disorder. Of those taking benzodiazepines, there was a higher use of long acting agents among subjects with a mental disorder when compared the rest of the population on benzodiazepines (64.9% v 46.8%; x^2 =7.502, df=1, p=0.0062). Those without a mental disorder included both individuals with symptoms short of criteria for case level illness (subcases, n=549) and those with no symptomatology (the 'well', n=883). Ninety three (10.5%) of the 883 'well' individuals were taking a benzodiazepine, which was predominately a hypnotic type benzodiazepine (71/93, 76.4%).

Psychotropic drugs and depression

The use of psychotropic drugs in depression has been considered in chapter 10, in the context of presentation and detection issues. Depressed females and males were equally likely to receive any pharmacological treatment (46.5% v 41.2%; x^2 =0.4203, df=1, p=0.5168), and to receive specific antidepressant treatment (16.3% v 19.6%; x^2 =0.2841, df=1, p=0.5940). Five of the six depressed subjects who were on a neuroleptic were also taking an antidepressant.

Psychotropic drugs and dementia

The large majority of older people with dementia were not on any psychotropic medication. Of the seven who were taking benzodiazepines, four were on long acting agents.

Psychotropic drug use and anxiety disorders

Those with anxiety disorders had a relatively high rate of psychotropic drug use (61.1%), and predictably benzodiazepines were most fequently used. Of the eight subjects on benzodiazepines, five were anxiolytic type benzodiazepines and seven were taking a long acting drug.

Table 24. The choice of benzodiazepine drugs used in the elderly population.

Benzodiazepine drug	No. of persons taking the drug (% of those on a benzodiazepine n=295)	
Long acting benzodiazepines		
Diazepam	71	(24.1)
Nitrazepam	35	(11.9)
Flurazepam	25	(8.5)
Chlordiazepoxide	17	(5.8)
Clorazepate	5	(1.7)
Clobazam	2	(0.7)
Prazepam	2	(0.7)
Short acting benzodiazepines		
Temazepam	72	(24.4)
Triazolam	33	(11.2)
Alprazolam	20	(6.8)
Flunitrazepam	14	(4.7)
Bromazepam	9	(3.1)
Lormetazepam	5	(1.7)
Brotizolam	5	(1.7)
Lorazepam	5	(1.7)

Table 25. The choice of antidepressant drugs used in the elderly population.

Antidepressant drug	No. of persons taking the drug (% of those on an antidepressant n=86)	
Tricyclic and related antidepressants		
Dothiepin	18	(20.9%)
Amitriptyline	17	(19.8%)
Lofepramine	5	(5.8%)
Nortriptyline	5	(5.8%)
Trazadone	3	(3.5%)
Clomipramine	3	(3.5%)
Trimipramine	3	(3.5%)
Mianserin	2	(2.3%)
Imipramine	1	(1.2%)
Opripramol	1	(1.2%)
Doxepin	1	(1.2%)
SSRI & NARI		
Fluoxetine	13	(15.1%)
Paroxetine	8	(9.3%)
Sertraline	3	(3.5%)
Reboxitine	1	(1.2%)
MAOI		
Tranylcypromine	6	(7.0%)
Phenelzine	1	(1.2%)

Table 26. Psychotropic drug use related to current mental disorder.

Diagnostic category	Any psychotropic n (% of disorder)	Benzodiazepines n (%)	Antidepressants n (%)	Neuroleptics n (%)
Any mental disorder (n=269)	102 (37.9%)	77 (28.6%)	37 (13.8%)	8 (3.0%)
Depression (n=180)	81 (45.0%)	62 (34.4%)	31 (17.2%)	6 (3.3%)
Dementia (n=71)	10 (14.1%)	7 (9.9%)	4 (5.6%)	1 (1.4%)
Anxiety disorder (n=18)	11 (61.1%)	8 (44.4%)	2 (11.1%)	1 (5.6%)
No mental disorder (n=1432)	271 (18.9%)	218 (15.2%)	49 (3.4%)	14 (1.0%)

Some subjects are on more than one psychotropic drug and therefore the sum of benzodiazepine, antidepressant and neuroleptic counts may not equal the total psychtropic count in a row.

Discussion

Methodological issues

There are two main strengths to this study: firstly, the naturalistic design which reports the actual use of psychotropic drugs by older people in the community (rather than relying, for instance, on prescription data) and secondly, the facility to relate drug use with current mental status. The limitations include an absence of data on drug dosage, and whether benzodiazepines were being used for anxiolytic or hypnotic purposes. An approximate distinction between anxiolytics and hypnotics has been made on the basis of the particular benzodiazepine drug used (Taylor et al, 1998). The exclusion of people in residential care should not greatly influence the findings as only 5% of older people in Ireland are in residential care (Keogh & Roche, 1996). Furthermore, the emphasis in this study is on the pattern of psychotropic drug use by the elderly in the community who may continue to lead an independent life (for example, they may be still driving) and whose activities may be particularly affected by adverse drug effects.

Psychotropic drug use

The frequency of psychotropic drug use among this elderly population in Dublin is within the range of findings from studies in other countries, which have shown that between 20% and 30% of older people were taking psychotropic medication in Sweden (Landahl 1987) and in Germany (Fichter et al, 1989). Studies which have examined very old populations have found higher rates, such as 43% by Skoog et al (1993) in an 85 year old population and 48% by Bowling (1990) in subjects of 85 years and over.

In this Dublin population almost four-fifths of those using a psychotropic drug were taking a benzodiazepine, making this class by far the most frequently used psychotropic and therefore deserving of close attention. A recently published study from Liverpool (Taylor et al, 1998) on benzodiazepine use in a community dwelling elderly sample during the years 1989 to 1991 reported a lower prevalence rate of 10.8%, though the figure of 15.8% in the German

sample (Fichter et al, 1989) was similar to the Dublin rate of 17.3%, with no specific rate for benzodiazepine use quoted in the Landahl (1987) study. Antidepressant use in Dublin (5.1%) was similar to that found in the Swedish study (Landahl, 1987) but greater than the 1.4% described by Fichter et al (1989) in Germany and the 3.5% rate in Liverpool (Taylor et al, 1998). Neuroleptic use in Dublin (1.3%) was less than the rates found in Swedish samples (Landahl, 1987; Skoog et al, 1993) which were both above 5%, though close to the 1.8% figure in the study by Fichter et al (1989) in Germany.

Benzodiazepines

While the increasing availability of non benzodiazepine anxiolytic/hypnotics, such as zopiclone, in recent years would be expected to impact on prescribing patterns, benzodiazepines continue to constitute the vast bulk of anxiolytic/hypnotic drugs used.

In spite of clear evidence that altered pharmacokinetics in the elderly increases the half-life of benzodiazepines (Greenblatt et al, 1989 & 1991) and, therefore, the potential for adverse side-effects, most reports of psychotropic drug use in the elderly deal with benzodiazepines or anxiolytic/hypnotics as a class (Fichter et al, 1989; Ray et al, 1992; Skoog et al, 1993; Leveille et al, 1994) and few report the relative use of short and long acting agents. Ray et al (1989) found that the relative risk of hip fracture was 1.7 for current users of long half-life benzodiazepines, in contrast to that of 1.1 in current users of short half-life benzodiazepines, and Hemmelgarn et al (1997) reported a significantly increased risk of motor vehicle crash associated with the use of long half-life benzodiazepines but not short acting agents, both following initiation of the drug and during continuous use. Over half of the benzodiazepine users in the Dublin population were taking a long acting agent, and this proportion remained unaltered among the older old who may be particularly susceptible to adverse effects. North American data from 1985 showed that one third of elderly benzodiazepine users were receiving long half-life drugs (Ray et al, 1989), and nursing home data reported a similar figure (Beardsley et al, 1989). The Liverpool study (Taylor et al, 1998) did not specifically address the issue of long acting benzodiazepine use, but on the basis of the data given in the paper with regard to benzodiazepine type, 274 of 621 (44%) benzodiazepine

users in the Liverpool sample were taking a long acting agent. Therefore, the proportion of elderly benzodiazepine users in Dublin, and in Liverpool, who are on long acting agents, and consequently exposed to potentially serious side effects, is high, especially in view of the increasing availability of short acting benzodiazepines in the decade since the North American studies. It would appear that the main problem lies in the prescribing of anxiolytic, as opposed to hypnotic, benzodiazepines. The undesirable 'hang-over' effect of long acting hypnotics is frequently highlighted but it may be that the same emphasis has not been given to this issue in the context of daytime benzodiazepine use.

The potential for medication related adverse events is accentuated through psychotropic polypharmacy. The use of more than one psychotropic drug in almost one-quarter of those taking a long acting benzodiazepine in the Dublin population, who are already at a high risk of psychomotor impairment and sedation, is of concern.

Antidepressants

The prescribing of the newer antidepressants, such as the SSRIs, in primary care has been increasing substantially (Martin et al, 1997). However, their use as first line treatments has been controversial with the main issues in the debate being the increased direct costs versus greater tolerability and safety. The importance of minimising side effects in the older population who are particularly vulnerable to the potential adverse effects of the tricyclic antidepressants such as postural hypotension, cardiac arrythmias, urinary retention and confusion, has tipped the balance in favour of the newer antidepressants in the elderly. During the period of this study, the newer antidepressants were only used in a minority of older people prescribed an antidepressant drug and this was also the case among the older old who may be even more vulnerable to the side effects of the tricyclic and related drugs. However, the range of newer antidepressants has been increasing rapidly and it is likely that the proportion of elderly antidepressant users who are on the newer less toxic agents is rising, as has been the case with younger adults (Martin et al, 1997). While the ongoing development of newer antidepressants limits interpretation of the prescribing pattern of these drugs, there has been little change in the available range of tricyclic and related antidepressants. Therefore, it is of concern that the

choice of tricyclic drug was predominately either amitriptyline or dothiepin rather than less toxic alternatives such as lofepramine and nortriptyline.

The use of concomitant psychotropic medication with an antidepressant was common, with almost half (39/86, 45%) antidepressant users also taking a benzodiazepine or a neuroleptic. In addition to a concern about the potential for greater side effects, this polypharmacy practice suggests a symptomatic approach to treatment of depression with hypnotics or anxiolytics being used for the insomnia and anxiety symptoms of the depressive disorder along with the core antidepressant treatment. Clearly, a psychotic or agitated depression may warrant the combination of an antidepressant and a neuroleptic, for example, but these more severe depressive disorders make up a small proportion of the overall bulk of late life depressions in the community.

Neuroleptics

The use of neuroleptic drugs in this Dublin population was low. Of interest was the extremely high rate of psychotropic polypharmacy in neuroleptic users, with over four-fifths taking another class of psychotropic, suggesting that the dominant use of neuroleptics was as adjunctive treatment in disorders such as depression rather than in primary psychotic disorders, such as paraphrenia.

Psychotropic drugs and current mental disorder

GMS-AGECAT diagnoses were available on all subjects. This permitted the examination of issues such as undertreatment and the appropriate or inappropriate use of particular classes of psychotropic drugs in the individual mental disorders.

The widespread use of benzodiazepines is clear from table 26, demonstrating that they were the most commonly used psychotropic across the spectrum of all mental disorders and also in those without a mental disorder, and suggesting that they were being used for the treatment of symptoms of anxiety and insomnia rather than for a particular mental disorder. The Committee on the Safety of Medicines [CSM] (1988) and the Royal College of Psychiatrists (1988) advise that the use of benzodiazepines for the treatment of short term mild anxiety

symptoms or mild sleep problems is inappropriate. It may be interesting to speculate as to why one in ten 'well' individuals were taking a benzodiazepine - does this represent successfully treated anxiety disorders or treatment for isolated sleep disturbance? The finding that over three-quarters were taking a hypnotic type benzodiazepine lends support to the latter explanation. We do not know the nature of this isolated sleep disturbance but it would seem likely that much of this insomnia would not meet the CSM (1988) criteria of severe, disabling and distressing insomnia. Long acting benzodiazepines appeared to be more frequently chosen over short half-life agents for those with case level mental disorders than for the rest of the population, and seven of the eight benzodiazepine users who had case level anxiety were on a long acting agent. This may reflect a perception in primary care that long half-life benzodiazepines are more effective or 'stronger' than short acting agents, possibly due to their greater sedation and psychomotor impairment, and consequently prescribed with greater frequency where symptoms are more severe.

The higher rate of psychotropic drug use (both for benzodiazepines and antidepressants) among females is consistent with findings from other studies of older people (Fichter et al, 1989; Skoog et al, 1993; Taylor et al, 1998). However, when current mental state was considered, the significantly higher use among females in the Dublin population was confined to those without a mental disorder. This may be partly due to a greater willingness among females to disclose psychological symptoms, including less severe psychological symptoms short of criteria for case level mental disorder, to their doctor.

Psychotropic drugs and depression

Consistent with the findings from other studies on the community dwelling elderly (Skoog et al, 1993; Wells et al, 1994) benzodiazepines were the most commonly used psychotropic drug among the depressed elderly in Dublin. This issue has been discussed in greater detail in chapter 10.

Psychotropic drug use and dementia

Psychotropic drugs may be indicated for the behavioural and psychiatric complications of dementia. However, subjects with dementia are likely to be particularly sensitive to the side effects of these drugs, such as confusion due to the anticholinergic effects of tricyclic antidepressants, extra-pyramidal effects of neuroleptics, and sedation, psychomotor impairment and confusion with benzodiazepines. The frequency of psychotropic drug use in dementia was much lower in this Dublin population than the 56.5% rate found by Skoog et al (1993) in Sweden, though the higher age group (85 years in Sweden v mean age of 81years in Dublin) and the inclusion of institutionalised elderly would partly explain the higher figure in Sweden. While judicious use of psychotropics is appropriate in some patients with dementia, and particularly in those with comorbid anxiety or depression, it was reassuring that they were not being used in a widespread fashion.

Psychotropic drugs and anxiety disorders

The CSM (1988) guidelines on benzodiazepine use recommend that severe disabling anxiety constitutes an appropriate use of benzodiazepines, and it was not surprising that benzodiazepines were the most commonly prescribed psychotropic drug in the one per cent of the population with severe (case level) anxiety. Of greater interest is the finding that 123 of the 128 older people on anxiolytic type benzodiazepines did not have a current anxiety disorder. As the recommended duration of benzodiazepine treatment in anxiety states is two to four weeks (CSM, 1988), older people who do not have a current anxiety disorder (assessed over the previous four weeks by GMS-AGECAT) should ideally not be taking anxiolytic benzodiazepines. Other studies (Dunbar et al, 1989; Taylor et al, 1998) have shown that up to 75% of older benzodiazepine users are long term users, with prescribing not being within accepted guidelines.

There is a widespread use of psychotropic drugs in older people, and they remain at the core of treatment for late life mental disorders in the community with the availability of formal psychotherapies being limited in primary care (Beekman et al, 1997). Most emphasis has

traditionally been placed on the undertreatment of late life depression, and these findings highlight this problem in an Irish context. However, the general issue of the appropriateness of psychotropic drug use and choice in the elderly population is also crucial, with older people being particularly vulnerable to the side effects of many psychotropic drugs. The increasing availability of the newer less toxic antidepressants has been a major advance, and it will be important that specialist psychiatry services take a lead in informing primary care colleagues of the benefits for the older population. Nevertheless, benzodiazepines were by far the most commonly used psychotropic drug in the elderly, and their use was frequently inappropriate to mental health status. Studies which have shown the greater risk of hip fracture (Ray et al, 1989) and motor vehicle crash (Hemmelgarn et al, 1997) associated with long half-life benzodiazepines highlight the medical, social and economic consequences of the use of long half-life benzodiazepines among the elderly. This study demonstrates the continued widespread use of long-acting agents, in spite of the availability of many short half-life alternatives. There may be a number of reasons for this perscribing practice including a greater familiarity with the older long acting drugs, a lack of awareness of the greater side effects associated with long acting benzodiazepines in the elderly and, possibly, a perception that short half-life drugs are not as effective. It will be important to address these issues with primary care physicians, who treat the vast majority of the elderly population, in order to maximise the benefits and minimise the risks of psychotropic drug use in older people.

Chapter 12

Conclusions

This thesis presents comprehensive data on the range of mental disorders among the elderly which were not previously available in an Irish context. The importance of Irish based data are demonstrated by evidence of cross-national variations in the prevalence of disorders, such as depression and dementia (Copeland et al, 1987a), culturally determined variations in the social enviroment in which elderly people live (Wenger, 1995), and different models of delivery of services to older people between countries. The vast majority of older people with mental disorders live in the community, attend primary care for their health needs, are diagnosed and treated within primary care, and do not have any contact with specialist services. Therefore, meaningful data on the extent of mental disorders and their pattern of presentation must be community based and relevant to primary care services. Through it's naturalistic design, this project has attempted to describe the range of mental disorders in older people, as they exist in an elderly community in Dublin. The naturalistic design has limitations in terms of prevalence data, in not being a random sample, but has other advantages in describing presentation, diagnostic and treatment issues as they occur in this community. Issues of diagnosis and treatment of mental disorders in older people in the community comprise the main focus of this thesis.

Mental disorders were common in this community dwelling elderly population, with 15% having a case level mental disorder. The projected continuing increase in the older population in Ireland further emphasises the extent of this problem. The rise in the elderly population will be most prominent among the very old age groups, which will result in a disproportionate increase in the overall number of older people with dementia syndromes. The prevalence rates for the range of late life mental disorders in the Dublin community were consistently similar to the rates found in Liverpool (Copeland et al, 1987; Saunders et al, 1993). The cities of Dublin and Liverpool have much in common, which includes a high proportion of people of Irish descent in Liverpool, a similar pattern of family and community support for older people, and a similar type of health service delivery with the emphasis on primary care. These similarities may underpin the comparable findings, and also be a factor in the differences found in other cities such as London and New York, particularly with regard to depression.

The undertreatment of mental disorders in older people in the community has been consisitently demonstrated in studies from other countries, and was also found in this Dublin community. However, low treatment rates derive from a number of factors which include lack of detection (Williamson et al, 1964; O'Connor et al, 1988), misdiagnosis of a different mental disorder, and a decision not to treat even when the problem is detected (MacDonald, 1986). Various authors have attributed the blame predominately to one or other of these factors, but it is more likely that all contribute.

Ageist attitudes can influence the perceived clinical relevance of mental disorders in older people. Such perceptions can dictate that it is 'normal' for older people to have significant cognitive deficits (Gruenberg, 1978; Mowry & Burvill, 1988), and that it is 'understandable' that they would be depressed (Lawlor, 1995) or would feel hopeless and want to die. Depression, which has been shown to affect 10% of this Dublin community, is particularly prone to being dismissed as transient or inconsequential and receive little treatment even when recognised (MacDonald, 1986). The fact that most of these depressions do not meet criteria for major depression (Blazer, 1994; Beekman et al, 1995a; Roberts et al, 1997), which is the main focus of depressive disorders for specialist psychiatry services, further reinforces this perception. However, the data presented in this thesis show that these are clinically relevant disorders, as demonstrated by high one year maintenance rates and broad unfavourable outcome and by the high frequency of symptoms of hopelessness and suicidality in subjects with these depressive disorders. A recent study which showed that it is the chronic aspect of community based late life depression which represents a risk factor for depression associated mortality (Pulska et al, 1999) provides more evidence to refute the perception that these are inconsequential disorders, and a further rationale for active treatment. It is important that efforts are made to convey this message through contact between psychiatry and primary care, and possibly also through public education as older people may not be strong advocates for themselves.

The presentation of these community based late life depressive disorders influenced detection of the depression by primary care in this Dublin community. Anxiety symptoms were particularly prominent in the symptom profile of depression and appeared to be the symptom

which attracted the doctor's attention. Depression without anxiety remained 'silent' and was less likely to be detected. However, these findings also highlighted the other facet of detection - inaccurate diagnosis of a different mental disorder. While depression with prominent anxiety was 'loud' and the psychological distress was more likely to be detected, it appeared to be misdiagnosed as anxiety rather than the primary depressive disorder in most instances and consequently received anxiolytic drugs. Psychiatry needs to be more aware of how most late life depressions present in primary care and provide a more appropriate model of depression, than the traditional emphasis on major depression, in it's interaction with general practice in order to improve the detection of symptoms and the subsequent accurate diagnosis of the primary depressive disorder.

The lack of detection of dementia syndromes in the community has been highlighted by a number of authors (McClean 1987; O'Connor et al, 1988; Llife et al, 1991). The advent of potential cognitive enhancing agents (Knapp et al, 1994; Rogers et al, 1998; Rosler et al, 1999) has provided a further impetus to the diagnosis of dementia in the community, in addition to the existing compelling reasons of patient and family education, legal and care plans and the treatment of added psychiatric symptoms. However, general practitioners rarely use standardised criteria for dementia diagnosis or cognitive assessment instruments (O'Connor et al, 1988; Sommerfield et al, 1991). A brief and easily administered cognitive test with reasonably good sensitivity and specificity would be of considerable value. The CDT has been proposed by many authors as being an appropriate cognitive assessment instrument for primary care, but the studies which have investigated it's utility have been almost entirely specialist service based (Sunderland et al, 1989; Wolf-Klein et al, 1989; Tuokko et al, 1992; Mendez et al, 1992; Ben Yehuda et al, 1995; Brodaty & Moore, 1997). The findings presented here support the use of the CDT as a cognitive assessment instrument in primary care, though with lower sensitivity and specificity rates than found in studies from specialist settings. The CDT is clearly not a panacea for improving the detection rate of dementia in the community, but could have it's greatest influence through being a useful and 'user-friendly' tool in primary care which would encourage an overall proactive approach to detecting dementia syndromes in the community dwelling elderly.

The opportunity for intervention in late life mental disorders exists, through the high contact rate of older peple with primary care. This was highlighted in the context of chronic depression, where individuals had received some form of treatment at some stage in the course of the dysyhymic disorder in more than four-fifths of cases. However, most pharmacological intervention studies on late life depression are hospital based and biased towards major depression (in fact, most exclude non-major depressions). While there is evidence for the efficacy of antidepressants in non-major depressions (Vanelle et al, 1997), and they certainly represent a better option than benzodiazepines, there is a pressing need for primary care based studies of the efficacy of antidepressants in the range of late life depression which is encountered in the community. There is even less data available on non-pharmacological treatments for late life depression in the community, though one study has shown a good outcome for primary care nurse intervention strategies (Blanchard et al, 1995) and further studies on the efficacy of a broad range of psychological and social interventions are warranted. It is essential that the interventions studied would be capable of being implemented in primary care as the study of treatments which are only available in specialist settings, such as many of the formal psychotherapies, would again fall back to the trap of not providing primary care with strategies and approaches which are appropriate for the community at large.

However, the instigation of treatment, even when appropriate for the disorder, is not the final issue in the detection, diagnosis and treatment of late life disorders in the community. Older people are particularly susceptible to adverse effects of psychotropic medication, and the choice of the individual antidepressant or the anxiolytic or hypnotic type may be of much greater importance than in young adults. The increasing availability of less toxic antidepressants has afforded the opportunity of safer prescribing in the elderly. This is a developing field and, therefore, interpretation of the relative use of the older and newer antidepressants in this project (which has probably altered further since the data were collected) is limited. However, the range of TCAs and related antidepressants has not changed and the high use of the TCAs with a propensity for greater side-effects (for example, amitriptyline rather than lofepramine or nortriptyline) suggests that the issue of side-effects may not be given it's due consideration. A possibly greater problem is the frequent use of a long acting agent

when benzodiazepines are being prescribed, in view of their propensity for causing psychomotor and cognitive impairment (Tinetti et al, 1988; Sorock & Shimkin, 1988; Ray et al, 1989; Hemmelgarn et al, 1997). The absence of specialist old age psychiatry services in Ireland until relatively recently may be a factor in these prescribing patterns, with little distinction being made between older and younger adults in terms of psychiatric services and with similar prescribing practices adopted for the elderly as for young adults. The prescribing practices of psychiatric services are likely to be repeated by primary care. The development of specialised old age psychiatry services provide an opportunity to convey to primary care the importance of the careful selection of psychotropic drugs for older people.

The management of mental disorders in older people by the psychiatric services is predominately community based, with the aim of allowing the elderly to remain in the community if possible. The pattern of formal services required is influenced, in part, by the availability of informal supports for older people in the community (Wenger, 1997). The high degree of family support and community integration in the Dublin community studied may facilitate community based interventions and services. Knowledge of the pattern of informal support for older people in a community may be useful in the development of further old age psychiatry services in Ireland. For example, urban and rural based services may find different availability of family and informal community support which may have implications for the feasibility of domiciliary based treatments and the ability to sustain an older person at home at higher levels of disability, and influence the mix of services required.

The work presented in this thesis was conducted entirely in the homes of a large number of older people during the years 1993 to 1998. I have been priveleged to have been allowed such access and such insight into their homes and lives, and to have met so many interesting people. The emphasis in this thesis is on the psychopathology that exists among the elderly in this community and how to improve the detection and treatment of mental disorders. However, the vast majority of individuals did not suffer from any mental disorder and little account has been given of these people. The following message was left by a colleague following a phone call from a 72 year old lady who had received a letter asking her to partake in the study:

"Mrs D.W. phoned. She got a letter from you about calling out on Friday morning. She wouldn't be there on Friday morning as she takes 'an old lady shopping'. She goes to aerobics on Monday and Wednesday mornings and swimming on Tuesday and Thursday mornings. Would an afternoon suit?"

When we caught up with Mrs D.W. she turned out to be well.

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Appendices

Appendix A: Mini-Mental State Examination [MMSE]

Orientation

1.	What is the	Year?	1
		Season?	1
		Date?	1
		Day?	1
		Month?	1
2.	Where are we	Country?	1
		County?	1
		City?	1
		Floor?	1
		Address?	1

Registration

3.	Name three objects, taking one second to say each. Then ask the subject all three after you have said them	3
	Repeat the answers until the patient learns all three	

Attention and calculation

4.	Spell WORLD backwards	5

Recall

5.	Recall of the three objects	3

Language

6.	Name a pencil, watch	2
7.	Repeat, "no ifs, ands or buts"	1
8.	"Take the paper in your right hand, fold it in half and put it on the floor"	3
9.	Get the subject to read and obey "close your eyes"	1
10.	Have the patient write a sentence of his/her choice	1
11.	Have the patient copy intersecting pentagons	1
	Total	/30

Appendix B: The Sunderland criteria for scoring the CDT

10-6. Drawing of clock face with circle and numbers is generally intact

10. Hands are in correct position.
9. Slight errors in placement of the hands.
8. More noticeable errors in the placement of hour and minute hands.
7. Placement of hands is significantly off course.
6. Inappropriate use of clock hands (ie, use of digital display or circling of numbers despite repeated instructions).

5-1. Drawing of clock face with circle and numbers is not intact

5. Crowding of numbers at one end of the clock or reversal of numbers. Hands may still be present in some fashion.
4. Further distortion of number sequence. Integrity of clock face is now gone (numbers missing or placed at the outside of the boundaries of the clock face).
3. Numbers and the clock face no longer obviously connected in the drawing. Hands are not present.
2. Drawing reveals some evidence of instructions being received but only a vague representation of a clock.
1. Either no attempt or an uninterpretable effort is made.

Appendix C: Hamilton Depression Rating Scale [HAM-D]

1. Depressed mood (sadness, hopeless, helpless, worthless)

   (0) absent

   (1) these feeling states indicated only on questioning

   (2) these feeling states spontaneously reported verbally

   (3) communicates these feeling states non-verbally - through facial expression, posture, voice and tendency to weep

   (4) subject reports virtually only these feeling states in his spontaneous verbal and non-verbal communication

2. Feelings of guilt

   (0) absent

   (1) self reproach, feels he/she has let people down

   (2) ideas of guilt

   (3) belief that present illness might be a punishment

   (4) delusions of guilt, with or without hallucinations

3. Suicide

   (0) absent

   (1) feels life is not worth living

   (2) wishes he/she were dead

   (3) suicide ideas or gestures

   (4) serious attempts at suicide

4. Insomnia early

   (0) no difficulty falling asleep

   (1) mild and infrequent

   (2) severe and frequent

5. Insomnia middle.

   (0) no difficulty

(1) mild and infrequent

(2) severe and frequent

6. Insomnia late

(0) no difficulty

(1) mild and infrequent

(2) severe and frequent

7. Work and interests

(0) no difficulty

(1) thoughts and feelings of incapacity, fatigue or weakness related to activities

(2) loss of interest in activity

(3) decrease in actual time spent in activities or decrease in productivity

(4) admitted to hospital because unable to carry on

8. Retardation

(0) normal speech and thought

(1) slight flattening of affect and fixity of expression

(2) monotonous voice, delayed answers, tendency to sit motionless

(3) interview difficult due to retardation

(4) interview impossible; complete stupor

9. Agitation

(0) none

(1) fidgetiness

(2) obvious restlessness, picking at hands and clothes

(3) has to get up during interview because of agitation

(4) patient pacing up and down, picking at face/hair, tearing at clothes

10. Anxiety psychic

(0) absent

(1) subjective tension and irritability

(2) worrying about minor matters

(3) apprehensive attitude apparent in face or speech

(4) fears expressed without questioning

11. Anxiety somatic

(0) absent

(1) mild

(2) moderate

(3) severe

(4) incapacitating

12. Somatic symptoms gastrointestinal

(0) none

(1) loss of appetite

(2) difficulty eating without encouragement; complains of constipation

13. Somatic symptoms general

(0) none

(1) mild fatiguability; diffuse muscle aches or heaviness in limbs or back

(2) tired all the time or more severe aches (any clear-cut symptoms rates 2)

14. Loss of libido

(0) absent; inadequate information

(1) mild

(2) severe

15. Hypochondriasis

(0) not present

(1) trivial or doubtful preoccupation with bodily functions

(2) preoccupation with physical symptoms and thoughts of organic disease

(3) strong conviction of presence of organic disease to explain symptoms

(4) hypochondriacal delusions or hallucinations

16. Loss of weight

(0) no weight loss

(1) slight (greater than 1lb per week when measured)

(2) obvious/severe (greater than 2lb per week when measured)

17. Insight

(0) acknowledges being depressed and ill

(1) acknowledges illness but attributes to physical cause

(2) denies being ill at all

18. Diurnal variation

(record worse in a.m. or p.m.)

(0) none

(1) mild/doubtful

(2) clear

19. Depersonalisation and derealisation

(0) absent; does not understand question

(1) mild

(2) moderate

(3) severe

(4) incapacitating

20. Paranoid symptoms

(0) none

(1) doubtful or trivial suspicions

(2) thoughts that others wish him/her harm

(3) paranoid delusions

(4) hallucinations

21. Obsessional and compulsive symptoms

(0) absent

(1) mild

(2) severe

Appendix D: The support network assessment instrument

Questions

1. How far away, in distance, does your nearest child or other relative live? Do not include spouse.
2. If you have any children, where does your nearest child live?
3. If you have any living sisters or brothers, where does your nearest sister or brother live?
4. How often do you see any of your children or other relatives to speak to?
5. If you have friends in this community/neighbourhood, how often do you have a chat or do something with one of your friends?
6. How often do you see any of your neighbours to have a chat with or do something with?
7. Do you attend any religous meetings?
8. Do you attend meetings of any community/neighbourhood or social groups, such as old people's clubs, lectures or anything like that?

Responses

Questions one to six have six response categories each, categories seven and eight have three response categories.

Scoring

Each network receive a score of zero or one for each question, depending on the response. The network type with the highest score from the eight questions is the individual's network.

Appendix E: Registrar General's classification of social class

Social class	Description	Examples
1	professional	accountant, doctor, lawyer, higher management
2	intermediate	teacher, nurse, middle management
3	skilled non manual	clerical worker, secretary
	skilled manual	carpenter, electrician
4	partly skilled	postman, bus conductor
5	unskilled	labourer, cleaner

Retired and unemployed persons are classified on the basis of their last significant period of employment. Married women are classified according to their husband's occupation.

Appendix F: Life event list

1. Health problem (eg. major physical illness, injury or accident), which has started or significantly worsened in the previous two years

not currently causing disability or distress	1
currently causing disability or distress	2

2-3. Bereavement

death of a close friend or relative other than spouse, in previous two years	1
death of spouse, in previous two years	1

4. Loss/theft of a valuable

loss or robbery of objects of personal or actual value (eg. wedding ring, cherished pet, money equivalent to one week's income), in previous two years	1

5. Other serious upset

other seriously upsetting event, in previous two years	1

6. Financial difficulty

moderate or major financial difficulties which have started or significantly worsened in previous two years	1

7-8. Move or residence

move(s) of residence which has seriously upset the person, in previous two years	1
move which was not upsetting, in previous two years	1

9. Pleasant event

pleasant life event within the previous two years	1