British Journal of Psychiatry (1991), **159**, 531–541

Phobic Disorders in the Elderly

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Sixty confirmed cases of phobic disorder identified in an urban elderly community sample were compared with 60 controls matched pairwise for age and sex. Cases reported higher rates of specific and non-specific neurotic symptoms, and all were assigned to a diagnostic CATEGO class, compared with seven of the controls. A past history of chronic psychiatric disorder other than phobia was commoner in the cases. Most cases had more than one fear; agoraphobic main fears were predominantly of late onset and associated with moderate to severe social impairment, whereas specific main fears were associated with early onset and minimal social impairment. The onset of agoraphobic fears in old age was attributed by most cases to an episode of physical illness or other traumatic event. Increased rates of palpitations, dyspnoea, giddiness and tinnitus not attributable to anxiety were identified in the cases. Cases did not differ from the controls in socio-economic status, or in the number or quality of current intimate confiding relationships, but they reported higher rates than controls of parental loss before the age of 18 years. Cases reported higher rates of contact with general practitioners, but only one was in contact with psychiatric services at the time of interview. Cases also reported receiving more help in personal care from family members.

Phobic disorders are rare in clinical populations of elderly people. Neurotic disorders account for only a small proportion of psychiatric admissions after the age of 65 years (Office of Population Censuses and Surveys, 1983), and in out-patient and hospital casualty departments, anxiety disorders rarely present after the age of 40 years (Sheehan *et al*, 1981; Thyer *et al*, 1985; Schwartz *et al*, 1987). In primary care, consulting rates for phobias peak at 25–44 years of age and fall steadily to less than one per 1000 patients at risk in those aged 65 years and over (Office of Population Censuses and Surveys, 1974, 1979, 1986).

This is not due simply to low rates of phobic disorders in the general elderly population. Several community surveys have indicated that phobias are in fact one of the commonest psychiatric disorders among the elderly. In the United States Epidemiologic Catchment Area study, the overall one-month prevalence rate of DSM–III phobic disorders in subjects aged 65 years and over was 4.8% (Regier *et al*, 1988). A recent UK survey of an elderly community found that the one-month prevalence rate of phobic disorders (including depressed cases) was 10.0% (Lindesay *et al*, 1989).

It appears that although phobic disorders do occur in the elderly, they do not pass easily through the various 'filters' on the pathway to psychiatric care (Goldberg & Huxley, 1980). It may be that they do not present to the health services (Shapiro *et al*, 1984) or, if they do, they are not recognised for what they are. To what extent are phobic disorders an important cause of hidden morbidity in the elderly? Decisions about the clinical importance of a condition tend to be arbitrary for the common neuroses (Kreitman, 1989), and are based on judgements about factors such as frequency, distress, disturbance of functioning, co-morbidity with other mental and physical disorders, treatability, preventability, and the use of services. Community-based surveys suggest that phobic disorders in the elderly are potentially important by virtue of their frequency, but they provide little other information upon which to make this judgement.

This paper reports the findings of a case-control study of confirmed cases of phobic disorders identified in the Guy's/Age Concern Survey of an urban elderly community sample (Lindesay *et al*, 1989). This study investigates the clinical importance of these disorders, and evaluates the role of socio-economic and psychosocial factors in their aetiology.

Method

The aims of this study were to describe the characteristics and correlates of phobic disorders in the elderly, and to identify possible aetiological factors. In studies of correlates of a disorder, it is important that the case-ascertainment process is as free of error as possible, since false-positive and false-negative cases will confound the findings (Robins, 1985). This problem can be overcome either by excluding mild and borderline cases from the analysis of survey data, or by a clinical follow-up of the screen-positive cases to establish a sample of true positives. In this study, a follow-up case-control design was used.

All the subjects were drawn from the sample of 890 elderly people interviewed for the original survey. The method of this survey is described in detail by Lindesay *et al* (1989).

https://doi.org/10.1192/bjp.159.4.531 Published online by Cambridge University Press

It is a principle of the case-control strategy that the case and control groups must have the same inclusion and exclusion criteria, apart from the presence or absence of the disorder in question (Schwartz & Link, 1989). In this study, subjects scoring three or more on the organic brain syndrome (OBS) scale of the Comprehensive Assessment and Referral Examination (CARE; Gurland *et al*, 1977) in the original survey were excluded from both groups in order to reduce possible recall bias, but the presence of depression (a score of 8 or more on the CARE depression (D) scale in the survey) was not an exclusion criterion from either group.

The cases were drawn primarily from the 89 subjects identified as cases by the survey phobia screen (Ph+). In this study, only subjects scoring 1 or 2 on the Present State Examination (PSE; Wing *et al*, 1974) for situational anxiety, social anxiety or specific anxiety on reinterview were included as cases. All cases therefore met the criteria for PSE-CATEGO syndrome SA (situational anxiety) at the + or ++ level of severity, that is, autonomic anxiety associated with particular situations or objects.

The controls were drawn from the survey subjects screened as non-phobic (Ph−). In view of the substantial sex difference in prevalence estimates of phobic disorders found in the original survey, the control subjects were individually matched to the cases by sex. Furthermore, to ensure that the control subjects had similar 'person-time' experience (exposure opportunity) as the cases, they were also individually matched to the cases by year of birth. Where there was no exact match for year of birth among the controls, a subject of the same sex whose age was closest to the index case was chosen. Controls were not matched on any other variables.

This case-control study was the second part of a two-stage investigation, so it was important that screen-negative case-positive subjects were eligible for inclusion as cases, and screen-positive, case-negative subjects for inclusion as controls (Schwartz & Link, 1989). Accordingly, controls who met the study's case criteria for phobic disorder on reinterview were enrolled as cases, and new controls for both the original and the new case were selected. Similarly, screen-positive survey subjects who did not meet the study's case criteria were available for selection as controls.

The interview

The follow-up interviews for this study were conducted by a psychiatrist in the subjects' homes and at their convenience. If an immediate interview was not possible, an appointment was offered. Up to six home visits were made before the attempt at contact was abandoned.

Subjects' psychiatric status in the three months before follow-up was examined using the PSE. This instrument was used in order that generally comparable information about diagnosis and case severity could be obtained from the associated CATEGO and index of definition (ID) algorithms (Wing, 1976). However, the section of the PSE dealing with autonomic anxiety is not very detailed, and in this study it was replaced with an augmented section dealing with phobias developed by Brown *et al* (1985). This includes a check-list of agoraphobic and specific phobic stimuli (see Table 2), and ratings of the severity and avoidance associated with each of the fears present. Standard PSE ratings of autonomic anxiety were also derived from these items, and these were used for case definition, and in the subsequent analyses involving CATEGO and ID. The cases were also asked about their age at the onset of their phobias, and about their recall of any precipitating factors.

The use of diagnostic criteria in recording personal and family psychiatric history data helps to minimise the inevitable under-reporting, and leads to greater sensitivity (Andreasen *et al*, 1977). The overall personal psychiatric histories of subjects were therefore assessed and rated according to the Family History-Research Diagnostic Criteria (FH-RDC) (Endicott *et al*, 1977). These are similar to the criteria used for directly examined subjects (Spitzer *et al*, 1975), but they take into account subjects' inability to provide detailed information about their own or others' past psychiatric disturbance.

Physical health was assessed using a detailed semistructured schedule based on that devised by Murphy & Brown (1980) and adapted for an elderly population. This schedule is designed to assist a medically trained interviewer elicit a full routine geriatric medical history, and includes 20 items about recent symptoms covering all the major physical systems (see Table 4). These symptoms were recorded if they were current, or present less than three months before interview. Symptoms were recorded as present only if their severity was such that the interviewer would not have been surprised had they presented to a general practitioner (whether or not a general practitioner had been consulted by the subject). Where a symptom was present, further inquiry was made to determine whether it was secondary to or associated with subjective anxiety.

Also recorded were occupational class (Office of Population Censuses and Surveys, 1970), household composition (living alone/with others), household tenure (owner occupier/other), and car ownership by household. The occupation determining social class was the last before retirement, either the subject's in the case of men and single women or the spouse's for married and widowed women.

The subjects' view of whether or not they currently had an intimate confiding relationship was elicited using items from the Bedford College Life Events and Difficulties Schedule (Brown & Harris, 1978). An intimacy rating was derived as follows: 'A' indicates a close, confiding relationship with a spouse or other next-of-kin living in the same household; a rating of 'B' or 'C' indicates another sort of confidant, seen regularly but less often; 'D' indicates no confidant.

Subjects were also asked their age at death of or separation from their father and mother. Losses of one or more parents by death or marital separation were recorded as 'early' if they occurred before the age of 18 years.

Subjects were also asked about the nature and frequency of any recent contacts with psychiatric and primary care services. Information about regular contacts with social services and about informal care by relatives was obtained from subjects' responses to the original survey interview.

Statistical analysis

Data were analysed using SPSS/PC+ (1986). In the results, χ^2 tests include Yates' correction, and Mann-Whitney

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tests are corrected for ties. Where appropriate, relative effects were estimated using the Mantel–Haenszel odds ratio, and 95% confidence intervals (CIs) were derived using the standard approximate method (Rothman, 1986). In the matched-pairs analysis of dichotomous variables, χ^2 and P values for odds ratios were derived from McNemar's test for matched proportions with correction for continuity.

Results

Not all the screen-positive cases of phobic disorder identified in the survey were either eligible or willing to be cases in this follow-up study. Three of the 89 Ph+ cases were dead at follow-up, and four were excluded because they had OBS scores of three or more. Of the 82 eligible Ph+ subjects remaining, seven refused to be interviewed and eight could not be contacted, giving a response rate of 82%. At follow-up 14 of the 67 remaining Ph+ subjects interviewed were found to be false positives, most of whom had phobic symptoms but did not meet the case criteria for inclusion in this study. Seven of the 67 Ph− controls interviewed were false negatives. Consequently, 60 cases and 60 controls were identified for inclusion in this study.

The group matching for sex was exact, with 50 women and 10 men in both groups. This sex ratio was similar to that among the Ph+ subjects in the original survey (4.9 : 1). Exact matching for year of birth was not possible, but the age distributions of the two groups were very similar, the mean age (s.d.) being 71.9 (5.1) years for the cases and 71.8 (5.3) years for the controls. This age distribution closely matched that of the survey Ph+ subjects (73.0 (5.7) years). The only sociodemographic difference found between the groups was a lower rate of childlessness in the cases ($\chi^2 = 5.05$; $P < 0.05$).

The mean (s.d.) interval between the initial survey interview and the follow-up interview was 7.9 (4.0) months for the cases and 7.9 (3.5) months for the controls.

Present psychiatric status

Figure 1 shows the PSE syndromes present at either the + or the + + level of severity in the case and control groups, in order of their prevalence rate in the case group. Syndromes absent from both cases and controls have been omitted from Fig. 1, together with situational anxiety, which was present by definition in all of the cases and none of the controls. Worrying and general anxiety were the most significantly elevated syndromes in the cases compared with the controls. Three syndromes associated with depression (SD, OD, ED) were significantly commoner in the cases. Delusional and hallucinatory syndromes in these subjects were not common; they occurred in association with severe depressive disorders in the cases, and as the result of ethnic or religious subcultural beliefs or age-related organic visual impairment in the controls. The mean total PSE score was 8.6 for the cases and 1.5 for the controls ($z = 7.61$; $P < 0.0001$) (Table 1). This difference was due to the differences between the groups in the subscores for specific and non-specific neurotic syndromes.

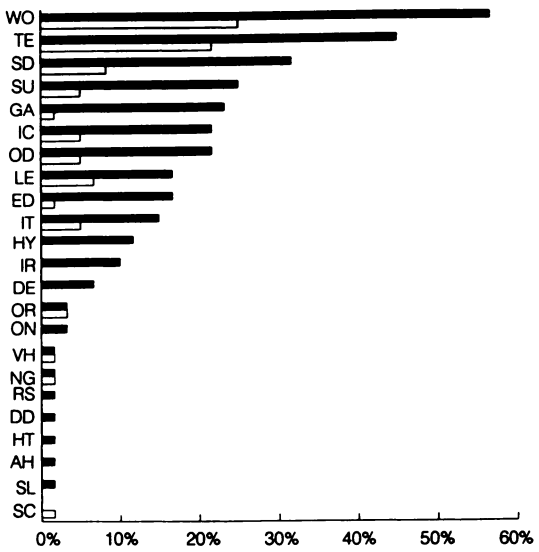


Fig. 1 Percentage of cases (■ , $n = 60$) and controls (□ , $n = 60$) scoring at the syndrome level on PSE/CATEGO items WO (worrying, $P < 0.001$, $\chi^2 = 11.18$), TE (tension, $P < 0.05$, $\chi^2 = 6.34$), SD (simple depression, $P < 0.01$, $\chi^2 = 8.8$), SU (social unease, $P < 0.01$, Fisher's exact test, one tailed), GA (general anxiety, $P < 0.001$, Fisher's exact test, one tailed), IC (loss of interest and concentration, $P < 0.01$, Fisher's exact test, one tailed), OD (somatic symptoms of depression, $P < 0.01$, Fisher's exact test, one tailed), LE (lack of energy), ED (special features of depression, $P < 0.01$, Fisher's exact test, one tailed), IT (irritability), HY (hypochondriasis, $P < 0.01$, Fisher's exact test, one tailed), IR (ideas of reference, $P < 0.05$, Fisher's exact test, one tailed), DE (depersonalisation), OR (organic impairment), ON (obsessional neurosis), VH (visual hallucinations), NG (self-neglect), RS (residual syndrome), DD (depressive delusions and hallucinations), HT (hysteria), AH (auditory hallucinations), SL (slowness), SC (subcultural delusions).

Table 1
Total PSE scores and index of definition of the cases and controls

	Cases ($n = 60$)		Controls ($n = 60$)		P
Mean (s.d.) total PSE score	8.6	(8.4)	1.5	(3.6)	<0.0001
Index of definition: no. (%) of subjects					
1	0	(0.0)	39	(65.0)	<0.001
2	18	(30.0)	13	(21.7)	
3	7	(11.4)	2	(3.3)	
4	11	(18.3)	2	(3.3)	
5	18	(30.0)	3	(5.0)	
6+	6	(10.0)	1	(1.7)	

Table 1 shows the levels of ID derived from the PSE scores of the cases and controls. There was a significant difference between the groups, with 35 of the cases achieving an ID of 4 or more, compared with only 6 of the controls ($\chi^2 = 63.1$; d.f. = 5; $P < 0.001$).

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Table 2
Numbers (%) of cases with particular fears, associated phobic symptoms and main fears in the three months before interview

Fear	Present	Exposure associated with autonomic anxiety	Avoidance	Main fear
Situational				
Public transport	36 (60.0)	16 (26.7)	31(51.7)	2 (3.3)
Crowds	25 (41.7)	17 (28.3)	19 (31.7)	3 (5.0)
Enclosed spaces	21 (35.0)	12 (20.0)	18 (30.0)	7 (11.7)
Walking alone	21 (35.0)	10 (16.7)	13 (21.7)	2 (3.3)
Going away from home	18 (30.0)	8 (13.3)	17 (28.3)	11 (18.3)
Being alone at home	14 (23.3)	1 (1.7)	6 (10.0)	1 (1.7)
Open spaces	4 (6.7)	2 (3.3)	4 (6.7)	0 (0.0)
Other	6 (10.0)	4 (6.7)	5 (8.3)	2 (3.3)
Social				
Public gatherings	8 (13.3)	1 (1.7)	7 (11.7)	0 (0.0)
Eating in public	7 (11.7)	1 (1.7)	5 (8.3)	0 (0.0)
Speaking to groups	5 (8.3)	2 (3.3)	4 (6.7)	0 (0.0)
Person in authority	1 (1.7)	0 (0.0)	1 (1.7)	0 (0.0)
Specific				
Animals/insects	27 (45.0)	11 (18.3)	19 (31.7)	10 (16.7)
Heights	24 (40.0)	12 (20.0)	23 (38.3)	12 (20.0)
Thunderstorms	14 (23.3)	6 (10.0)	0 (0.0)	3 (5.0)
Blood/injury	10 (16.7)	4 (6.7)	6 (10.0)	3 (5.0)
Other	6 (10.0)	5 (8.3)	5 (8.3)	4 (6.7)

All of the cases were assigned one or more diagnostic CATEGO subclasses and classes, whereas only eight of the controls were assigned to equivalent subclasses and seven to equivalent classes. Of the cases, 44 were assigned to CATEGO subclass PN+ and 39 to class A+. CATEGO employs hierarchical diagnostic criteria, and five PN+ cases were eventually classified as N+ ('neurotic depression'). In all, 19 of the cases were classified as depressed (CATEGO N+/D+) compared with four of the controls ($\chi^2 = 10.54$; $P < 0.01$).

The particular fears expressed by the cases are given in Table 2. The four fears associated with the highest rates of autonomic anxiety and/or avoidance in the three months before interview concerned public transport (36 subjects), animals (27), crowds (25), and heights (24). Autonomic anxiety following exposure to a feared situation or object in the three months before interview had occurred in 57 of the cases, and 59 described secondary avoidance (in 19 cases this was generalised). A small number of the controls also had particular situational and specific fears, but only three subjects described any avoidance, and this was not generalised. By definition, no controls had fears associated with autonomic anxiety.

More than one fear was reported by 52 of the cases (mean (s.d.) 4.2 (2.6)). These 52 subjects were asked to identify one 'main fear' and, as Table 2 shows, the four commonest main (or only) fears concerned heights (12 subjects), going away from home (11), animals (10), and enclosed spaces (7). In 28 cases the main fear identified was agoraphobic, and in 32 it was specific. In no case was a social anxiety identified as the main fear.

Of the 28 cases with agoraphobic main fears, 23 had an ID of 4 or more, compared with 12 of the 32 with specific main fears ($\chi^2 = 10.48$; d.f. = 1; $P < 0.01$). Nineteen of the 28 cases with agoraphobic main fears were judged by the interviewer to be moderately or severely socially impaired (PSE item 106), compared with seven of the 32 with specific main fears ($\chi^2 = 13.44$; d.f. = 3; $P < 0.01$).

Onset

In 18 cases, the reported onset of the main fear was after the age of 65 years. Seventeen of the 28 with agoraphobic main fears were of late onset, compared with only one of the 32 specific main fears ($\chi^2 = 8.86$; d.f. = 1; $P < 0.01$), 22 of which had had their onset in childhood (before 18 years).

Overall, 34 cases attributed the main phobia to a particular event (Table 3). The rate of recall associated with agoraphobia was higher than that associated with specific phobias ($\chi^2 = 14.15$; $P < 0.001$). Among subjects who acquired their phobia after the age of 65 years, an episode of physical illness was the commonest event identified as the cause. The illness events reported by the cases included myocardial infarction, fractures, cerebrovascular accident (CVA), the sudden onset of visual impairment, and elective surgical procedures such as transurethral resection of the prostate and hysterectomy. The subject with a late-onset specific phobia (fear of getting into the bath) acquired this in hospital following a CVA. In four cases late-onset agoraphobic fears were attributed to other traumatic exposures (muggings, a fall at home, being trapped in a lift).

Two cases gave a history of panic attacks in association with late-onset agoraphobia and concurrent depression. For two further cases who did not identify any cause for their late-onset fears, it was apparent on interview that their phobic syptoms developed in association with a severe

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Table 3
Attributed cause of phobias by main fear and age at onset: numbers (%) of cases

	Main fear			
	Agoraphobic		Specific	
	onset before 65 years	onset after 65 years	onset before 65 years	onset after 65 years
Physical illness event	1 (9.1)	11 (64.7)	0 (0.0)	0 (0.0)
Other traumatic exposure	3 (27.3)	4 (23.5)	10 (32.3)	1 (100.0)
Other	3 (27.3)	0 (0.0)	1 (3.2)	0 (0.0)
Not known	4 (36.4)	2 (11.8)	20 (64.5)	0 (0.0)
Total	11	17	31	1

depressive disorder. In the other depressed subjects (CATEGO N+/D+), the depression was judged to be secondary to the phobia in five, and in 10 it was not possible to make a judgement.

Among the 42 cases who acquired their main phobia before the age of 65 years, 14 were attributed to traumatic events and four to other experiences, such as chronic stressors and vicarious exposure. The traumatic experiences reported were: accidents and/or entrapment in four cases; heights in three cases; panic in a public place leading to agoraphobia in two cases; thunder in two cases; and one case each of physical illness (myocardial infarct at age 61 years), rats and fire. Chronic stressors were reported as the cause of agoraphobia by three subjects; they were 'travelling to work', 'crime' and 'World War II'. There was one report of a blood/injury phobia after viewing physical trauma on television.

Personal psychiatric history

Overall, 22 of the cases had a positive history of one or more episodes of psychiatric disorder (RDC–FH criteria) other than phobic disorder, compared with nine of the controls ($\chi^2 = 6.26$; $P < 0.05$). As Table 4 shows, the commonest RDC–FH categories identified in the cases were depression in 11 and 'other psychiatric disorder' in 10. Disorders included in the latter category were generalised anxiety, paranoid states, and non-specific reactions to adverse events. None of the controls reported a history of phobic disorder. Past psychiatric disorders were more likely to be chronic (lasting more than one year) in the cases than the controls (Fisher's exact probability (two-tailed) = 0.04). Of the 17 cases with late-onset agoraphobia, 12 also reported one or more long-standing specific fear. In most cases these were mild and non-problematic at the time of interview; PSE criteria were met in only two cases.

Physical health

Table 4 also sets out the current physical symptoms identified in the cases and controls. Within the case group, there was no significant difference ($P < 0.01$) between those with agoraphobia and specific phobias in any of the physical symptoms, and there were no significant sex-specific differences between the cases and controls. Overall, the rates of physical symptoms were higher in the cases than the controls, with nine such symptoms being identified in 18 or more of the cases (Table 4); only joint pain was reported by 18 or more controls. Excluding symptoms judged secondary to or associated with anxiety, the increased rates of palpitations, dyspnoea, giddiness and tinnitus among cases are significant.

More cases than controls (8 v. 4) were afraid of falling in the absence of support, but this was not significant. There was no association between psychotropic medication and a recent history of falls in these subjects.

Socio-economic and psychosocial factors

Table 5 shows the relationship between phobic disorder and occupational class. The incremental odds ratios provided no evidence for a gradient relating phobic disorder to either

Table 4
Personal psychiatric history (RDC–FH) and current physical symptoms: numbers (%) of cases and controls

	Cases	Controls	*P*
RDC-FH disorder			
None	38 (63.3)	51 (85.0)	<0.05
Depression	11 (18.3)	3 (5.0)	<0.05
Alcoholism	1 (1.7)	0 (0.0)	NS
Other	10 (16.7)	6 (10.0)	NS
Current physical symptoms			
Palpitations	25 (41.7)	6 (10.0)	<0.01
Chest pain	13 (21.7)	5 (8.3)	NS
Ankle oedema	20 (33.3)	10 (16.7)	NS
Dyspnoea	31 (51.7)	8 (13.3)	<0.001
Cough	12 (20.0)	8 (13.3)	NS
Dysphagia	8 (13.3)	0 (0.0)	<0.01
Abdominal pain	17 (28.3)	6 (10.0)	<0.01
Altered bowel habit	24 (40.0)	9 (15.0)	<0.01
Nausea/vomiting	15 (25.0)	6 (10.0)	NS
Incontinence	8 (13.3)	4 (6.7)	NS
Giddiness	22 (36.7)	6 (10.0)	<0.01
Paraesthesia	18 (30.0)	12 (20.0)	NS
Headache	17 (28.3)	9 (15.0)	NS
Faints/blackouts	4 (6.7)	2 (3.3)	NS
Impaired vision	18 (30.0)	11 (18.3)	NS
Impaired hearing	14 (23.3)	14 (23.3)	NS
Tinnitus	10 (16.7)	0 (0.0)	<0.01
Joint swelling	23 (38.3)	11 (18.3)	<0.05
Joint pain	37 (61.7)	28 (46.7)	NS
Falls	5 (8.3)	4 (6.7)	NS

https://doi.org/10.1192/bjp.159.4.531 Published online by Cambridge University Press

Table 5
Association between phobic disorder and occupational class, and between phobic disorder and intimacy

Risk factor	Number of cases	Number of controls	Odds ratio (95% CI) incremental	relative[1]
Occupational class				
III non-manual	10	11	-	1.0 (0.3-3.4)
III manual	38	30	1.4	1.4 (0.5-3.7)
IV/V	10	16	0.5	0.7 (0.2-2.2)
other	2	3	1.0	0.7 (0.1-5.3)
Intimacy				
Total sample				
A	27	23	-	1.0 (0.5-2.2)
B	17	21	0.7	0.7 (0.8-1.6)
C	12	11	1.3	0.9 (0.3-2.5)
D	4	5	0.7	0.7 (0.2-2.8)
Case index of definition 5+				
A	9	8	-	1.0 (0.3-3.8)
B	9	8	1.0	1.0 (0.3-3.8)
C	5	5	0.9	0.9 (0.2-4.2)
D	1	3	0.3	0.3 (0.3-3.4)

1. For occupational class, relative to class III non-manual; for intimacy, relative to A.

higher or lower class. Class III (manual) showed the highest risk relative to the reference class (III non-manual), but the 95% CIs did not suggest that this was a substantial effect. Similarly, matched-pair analysis of the relationship between phobic disorder and the other socio-economic indicators examined did not demonstrate any statistically significant or substantive association: the odds ratio (95% CIs) for phobic disorder associated with household composition was 0.6 (0.3–1.2), with household tenure was 0.8 (0.4–1.9), and with car ownership was 1.2 (0.5–2.4). Within the case group, subjects with agoraphobia and specific phobia did not differ on any of these variables.

The case and control groups did not differ in the number or quality of intimate confiding relationships reported at the time of interview, and there was no evidence of a gradient relating phobic disorder to intimacy (Table 5). Since vulnerability factors such as the nature of relationships increase the risk of only the more severe disorders (Brown, 1981), the 24 cases with an ID of 5 and over were compared with their paired controls (Table 5). Controlling for severity did not demonstrate a substantive association with intimacy, but there was a relationship between phobic disorder and higher rates of intimate relationships in the more severe cases.

Table 6 shows the numbers of cases and controls reporting loss of one or both parents by death or separation before the age of 18 years. Twenty-two of the cases reported the early loss of one or both parents by death, compared with six of the controls. The odds ratio for phobic disorder associated with early loss of one or both parents by death in this sample was 5.0 ($P<0.01$), and this association was due principally to early paternal deaths (odds ratio = 3.5; $P<0.05$). Early parental loss due to divorce and separation was less common in this sample, and there was no association with phobic disorder. In fact, this form of parental loss was commoner in the control group.

Overall, 24 of the cases reported separation from one or both parents by death or marital breakdown in early life, compared with 12 of the controls. The odds ratio for phobic disorder associated with early loss of one or both parents for any reason was 3.0 ($P<0.05$). There was no specific association between phobic disorder and loss of parent by death or marital breakdown.

The role of sex as an effect modifier of this association was examined. With regard to early loss of either or both parents for any reason, the ratio of discordant pairs (case exposed : control exposed) among women was 17 : 3 (5.7), compared with 3 : 1 (3.0) among men (Fisher's exact probability (two-tailed) = 1.0), indicating that sex was not a significant effect modifier in this respect. Similarly, no effect modification attributable to subject sex was apparent in relation to either early loss of father (Fisher's exact probability (two-tailed) = 1.0) or mother (Fisher's exact probability (two-tailed) = 0.84) for any reason. Early parental loss was not associated with age of onset of phobic disorder in the cases.

Use of services

Eleven of the cases had received in-patient psychiatric treatment at some time, compared with only one control (Fisher's exact probability (two-tailed) = 0.004). Only two cases had ever received any form of treatment specifically for their phobic disorder, and none had ever received a programme of behaviour therapy for phobic disorder.

At the time of interview, 19 of the cases and seven of the controls had been prescribed some form of psychotropic medication ($\chi^2 = 5.94$; $P<0.05$). The modal class of psychotropic drug prescribed was a benzodiazepine hypnotic in both groups. None of the controls was taking any major or minor tranquillisers during the day. No cases were receiving any other form of treatment for phobia at the time of interview.

https://doi.org/10.1192/bjp.159.4.531 Published online by Cambridge University Press

Table 6
The distribution of cases of phobic disorder in association with early parental loss

	Concordant pairs		Discordant pairs		Odds ratio		
	both	neither	case	control	(95% CI)	χ^2	*P*
Death							
father only	0	42	14	4	3.5 (1.2–9.9)	4.50	<0.05
mother only	0	52	6	2	3.0 (0.7–13.8)	1.13	NS
either or both parents	2	34	20	4	5.0 (1.9–13.1)	9.38	<0.01
Divorce/separation	0	52	2	6	0.3 (0.0–1.5)	1.13	NS
Any loss							
father only	1	37	15	7	2.1 (0.9–5.1)	2.23	NS
mother only	0	51	6	3	2.0 (0.5–7.8)	0.44	NS
either or both parents	6	30	18	6	3.0 (1.3–7.2)	5.04	<0.05

Thirty-three of the cases had been in contact with their general practitioner for some reason in the month before interview, compared with 20 of the controls ($\chi^2 = 4.87$; $P < 0.05$). This difference was due to a higher rate of regular consultations by the cases compared with the controls. Cases did not differ significantly from controls with regard to the frequency of visits from social workers or home-helps in the month before the survey. Twenty-nine cases reported receiving help on one or more care tasks from family members (either in the same household or living separately) in the month before the survey, compared with 17 of the controls ($\chi^2 = 4.27$; $P < 0.05$).

Discussion

This study provides a detailed picture of the characteristics of phobic disorders in an elderly community sample. Before discussing these, however, it is necessary to consider any factors that might affect the extent to which the cases are representative of phobic disorders in this population, and the quality of the matching of age and sex between cases and controls. The cases were drawn primarily from the Ph+ subjects identified in the survey (Lindesay *et al*, 1989), so the possible sources of error and bias at this first stage also apply here. Briefly, the survey sample was broadly representative of the target population, and the identification of phobic cases by the structured schedule was not significantly biased to be over- or underinclusive. Survey Ph+ subjects with a CARE OBS score of three or more were excluded from the follow-up study, so these findings may not be applicable to cognitively impaired elderly people with a phobic disorder. The non-response due to death, refusal and lack of contact in 18% of the Ph+ subjects is another possible source of bias.

The false positives and false negatives identified at follow-up were due in part to the different criteria used to define cases for inclusion in this study. On the one hand these criteria were narrower, since fears had to be actually or potentially accompanied by autonomic symptoms; on the other, the restrictiveness criterion of the survey definition was not applied to instances of phobic avoidance in this study. Other false positives were subjects whose 'fears' were judged on follow-up to be merely proper caution associated with severe disability. Other false negatives were Ph− subjects who had not volunteered their phobias when asked about 'other fears' at the initial interview, but who had responded to the more extensive list of potential phobic stimuli in the current survey schedule. The majority of these phobias concerned heights, and the sufferers were not impaired. Although several months had elapsed between the initial interview and the follow-up in some cases, no subjects were deemed false negative or false positive as a result of having developed or recovered from a phobic disorder between interviews.

Overall, the age distribution and sex ratio of the case group closely resembled those of the Ph+ subjects in the survey. The matching of the cases and controls for age and sex was close, so the potentially confounding effects of these variables in the analyses was adequately controlled.

The characteristics of phobic disorders in the elderly

Subjects in the case group reported a wide range of fears. Many of the commonest fears (of animals, heights, enclosed spaces) were similar to those identified by Agras *et al* (1969) as 'long-lived' in their general adult survey of fears and phobias. In this sample, public transport was one of the fears most commonly associated with autonomic anxiety and avoidance, and journeys away from home were one of the commonest 'main fears'. Travelling was the fear most frequently reported by the original survey sample (Lindesay *et al*, 1989), which suggests this is an important cause of anxiety in the urban elderly.

In most cases, more than one fear was identified. However, if the cases were classed as either agoraphobic or specific according to the nature of the main

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fear, it was apparent that these groups differed in several important respects, supporting the validity of this nosological distinction in this age group. In cases in which the main fear was specific in nature, its onset was usually in childhood or early adult life, and few subjects were more than mildly socially impaired. By contrast, the majority of agoraphobic main fears were of late onset (after 65 years), and many were associated with moderate to severe social impairment. This difference was also reflected in the higher levels of ID 'caseness' in subjects with late-onset fears. Only a few cases in this study could be described as young agoraphobics grown old.

In addition to phobic anxiety, the cases also had higher rates of other specific and non-specific neurotic symptoms than the controls, in particular those associated with generalised anxiety and depression. This confirms the finding of the original survey that approximately a third of cases of phobic disorder are also depressed; the hierarchical CATEGO classification assigned a diagnosis of depression (D+ or N+) to 19 of the 60 cases. However, the hierarchical assumptions of classifications such as CATEGO, in which depression takes precedence over anxiety disorders, were not supported by this study, since in only four cases was the phobic disorder judged by the interviewing psychiatrist to be secondary to a concurrent episode of depression. By contrast, concurrent depression was judged secondary to the phobic disorder in six cases.

The association between phobic disorder and depression is complex and incompletely understood. While this study suggests that most phobic disorders in the elderly are not secondary to depression apparent at the time of interview, it is possible that anxiety symptoms may have arisen during a past episode of depression, and then persisted after it resolved (Blazer *et al*, 1989). The increased history of depression in the cases compared with the controls would be consistent with this possibility, but the temporal association between depressive episodes and the onset of phobias was not examined.

Not surprisingly, cases with late-onset phobias were more likely to recall the circumstances surrounding the onset of their fears. In most instances, the late-onset agoraphobics attributed their fears to episodes of physical illness or other traumatic events such as falls and muggings. Only two of these late-onset cases gave a history of associated panic symptoms, which does not support the notion that agoraphobia is a conditioned reaction to sudden unexplained panic attacks (Tearnan *et al*, 1984). However, this view has been challenged, since agoraphobia without a history of panic symptoms has been reported in epidemiological studies of general adult community populations (Weissman *et al*, 1986). While it is possible that the absence of any history of panic symptoms associated with late-onset agoraphobia in these subjects is due to recall bias, misattribution of symptoms or marked avoidance, the evidence from this study suggests that other experiences, notably episodes of physical illness, are the major precipitants of agoraphobia in the elderly. If so, then the identification and rehabilitation of elderly medical and surgical patients at risk may be an effective preventive strategy. Features such as a history of specific fears, generalised anxiety or depression may be useful indicators of vulnerability.

For the most part, elderly subjects with early-onset phobias who recalled the onset of their phobia attributed it to similar experiences to those reported by younger groups: that is, onset following traumatic exposure to specific stimuli (heights, animals, enclosed spaces), panic in a public place, or in association with a non-specific chronic stressor (Snaith, 1968).

Physical symptoms

Although the physical symptoms in this study were rated by a medically trained interviewer and met a clinical criterion of severity, it should be borne in mind that these ratings were based largely on the subjects' self-report. They were not confirmed by physical examination, laboratory tests, or collaborative history from medical records. Ideally, in studies of this sort the assessments of physical and psychiatric status should be carried out by separate investigators; in this instance, however, both were assessed by the same individual, and this may be a source of bias.

With regard to physical symptoms, the findings of this study differ somewhat from those of the original survey (Lindesay, 1990). For example, specific phobias identified in the survey were not associated with an excess of physical health problems, but in this study the rates of certain physical symptoms and diagnoses were increased in cases with primarily specific fears. These differences may be due to the different case criteria employed, or they may reflect the different methods used to assess physical health. This study did confirm the survey finding that cardiovascular and respiratory symptoms were associated with phobic disorder.

There are several possible explanations for the association between phobic disorder and physical illness in the elderly: for example, somatic anxiety symptoms, hypochondriasis, physical illness as a threatening event, physical illness as a factor increasing vulnerability to other threats, or physical illness as the result of anxiety-related physiological changes or behaviour. In the general adult population, the

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association between physical morbidity and anxiety disorders appears to develop more rapidly than that between physical morbidity and other psychiatric disorders (Wells *et al*, 1989), indicating that the causal mechanisms involved are relatively direct and immediate, such as somatic anxiety symptoms, or the development of a phobic disorder following a physical health event. However, in the elderly it is likely that the more indirect and delayed causal mechanisms are also important, since they will have had greater opportunity to express themselves in this age group than they would in younger adults. In this study, there was evidence for both direct, immediate causes, such as somatic anxiety, hypochondriasis and the attribution of late-onset agoraphobia to the experience of physical health events, and for more indirect, remote associations, such as the impact of anxiety-related behaviour. The increased rate of dyspnoea not attributable to anxiety in the cases may be the result of their smoking history, since phobic anxiety is commoner in smokers than non-smokers in younger adults (Haines *et al*, 1970.

The association between phobic disorder and indicators of inner-ear dysfunction such as tinnitus and giddiness in this elderly sample is interesting, since it recalls the early idea of agoraphobia as a condition with a specific organic cause. In 1870 Benedikt described the condition of *Platzschwindel* or dizziness in public places associated with anxiety. More recently, Marks (1981) has also described agoraphobic syndromes in association with dysfunction of the vestibulo-ocular and righting reflexes in middle-aged and elderly subjects.

It is also possible that the observed relationship between phobic disorder and physical morbidity in the elderly is due in part to their both being associated with other factors, such as social class or depression. Socio-economic status was not controlled in this study, but there was no difference between the case and control groups on this variable, indicating that it did not contribute to the increased physical ill-health in the cases. With regard to depression, however, there was extensive co-morbidity with phobic disorder in this sample, and a strong association between depression and physical ill-health was demonstrated in the original survey (Lindesay, 1990). There is a complex interaction between anxiety, depression, and physical morbidity in the elderly, and some of the association between physical ill-health and depression is probably mediated by concurrent anxiety (Wells *et al*, 1989). Clinicians need to be alert to the possibility that phobic disorders may aggravate and complicate more clinically conspicuous physical and psychiatric disorders in their elderly patients.

Socio-economic and psychosocial factors

This study did not find any evidence of an association between phobic disorder and the various indicators of socio-economic status in the elderly, and in this respect it is consistent with most other studies of neuroses in old age (Bergmann, 1971; Kay & Bergmann, 1980; Gurland & Cross, 1982). There are two factors which might be acting to obscure associations in this study. First, the social range of elderly people represented in this urban sample is relatively narrow, in that it contained no subjects from occupational classes I and II. Second, in view of the number of subjects, the statistical power of this study is not great, and it is possible that moderate effects will not have been detectable at the conventional levels of significance (the type II error). However, statistical power is only one index of precision in study design (Rothman, 1986); in this analysis, the equal proportions and pairwise matching of cases and controls confer a high level of efficiency, and this is reflected in the 95% confidence intervals of the odds ratios reported here. These support the conclusion that socio-economic factors are not substantial risk factors for phobic disorder, since in every instance they included the null point (1.0), and in the case of occupational class there was no evidence of a gradient of risk.

The lack of association between phobic disorder and intimate confiding relationships in this elderly sample agrees with findings in younger anxious subjects (Finlay-Jones, 1989). This is in contrast to depression, where absence of a confiding relationship has been found to be a significant vulnerability factor at all ages (Brown & Harris, 1978; Murphy, 1982). In the elderly, this association has been attributed to a long-standing incapacity for intimacy (Murphy, 1986). The absence of an equivalent association between phobic disorders and intimate relationships in this study suggests that this particular personal predisposition does not contribute to the aetiology of phobic disorder in the elderly. However, it should be borne in mind that this was a study of established cases, and it is possible that their current capacity or opportunity for intimate relationships may have altered as a result of the phobic disorder.

There is a hint that the severe cases had more intimate relationships. The cases were more likely to have living children than the controls in this sample, so it may be that the presence of close relationships act to maintain phobic avoidance. However, in a community study of elderly women in New Zealand, Walton *et al* (1990) found that phobic subjects were less likely to have families of their own. Further research is required to clarify this issue.

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There was a statistically significant association between phobic disorder and early parental loss due to death or separation in this study. Parental loss in the cases was not associated with age of onset of the phobia, so this association is not due to any survival effect (Neyman's bias). Recall bias due to the phobic disorder is also unlikely with this particular item of retrospective data. Few studies have examined the developmental antecedents of phobic disorders in any detail, but there is some evidence from clinical and community studies indicating that early parental loss is a significant factor (Faravelli *et al*, 1985; Finlay-Jones, 1989; Tweed *et al*, 1989).

Parental divorce/separation was not associated with phobic disorder in this study of elderly subjects, but this may be a reflection of generational differences, since death was a much commoner cause of parental loss when today's elderly were young than it is now. In particular, World War I and the great influenza epidemic of 1918/19 were responsible for the deaths of large numbers of young adults. Children are now much more likely to experience parental divorce or separation than death (Tennant *et al*, 1982).

There was a statistically significant association between phobic disorder and early loss of father. Other studies have hinted at this association; in an early case-record study (Webster, 1953) the fathers of female agoraphobics were reported as being more often absent from the parental home than the fathers of other patient groups. Similarly, in the study by Finlay-Jones (1989) there was a suggestion that the vulnerability conferred by parental divorce was associated with paternal departure. However, Tweed *et al* (1989) found that the only association with loss of a specific parent was between early maternal death and agoraphobia with panic disorder. The present study may indicate a vulnerability to phobia in old age following early paternal death. Alternatively, since there was also an excess of early paternal over early maternal deaths in the control group, it is possible that this association in the cases is the result of some general factor increasing the likelihood of exposure of this cohort of elderly subjects to early paternal death, such as World War I.

If early experiences do confer a vulnerability to the subsequent development of phobic disorder, then this study suggests that this vulnerability persists across the life-span. There is some evidence for an association between separation anxiety in childhood and agoraphobia with panic attacks in adult life, so it may be that the vulnerability to phobic anxiety predisposes to different forms of disorder at different times of life, in response to age-specific threats. This study suggests that in old age, the most salient threats in this respect are episodes of physical illness.

Use of services

Only a minority of elderly people with phobic disorders received any form of psychiatric or psychological treatment. For those who were in receipt of such treatment, it took the form of psychotropic medication (usually a benzodiazepine tranquilliser or hypnotic), and was not appropriate for the management of their phobic symptoms. For most, this treatment was administered in primary care; only one subject was in contact with psychiatric services at the time of interview. Over half the subjects had contacted their general practitioners in the month before interview; either phobic disorders in the elderly are not recognised in primary care, or they are not thought by general practitioners to require any treatment beyond psychotropic medication.

This study supports Bergmann's statement (1971) that an increased need for social support is an important expression of neurosis in old age. Elderly people with phobic disorders did not receive higher levels of formal support from home-helps, but they did make greater demands for care on their family.

Conclusions

The findings of this study indicate that a substantial proportion of phobic disorders in the elderly are clinically important, and deserve more attention from the health and social services than they currently enjoy. The majority of those who suffer significant distress and disability have a late-onset agoraphobia following an episode of physical illness or similar traumatic experience. None is receiving any appropriate treatment for their phobic disorder, despite increased rates of contact with the primary care services. Since effective behavioural treatments are available, clinicians should aim to be more alert to these disorders in their elderly patients.

Acknowledgements

This study was funded by the Gatsby Charitable Foundation and the Special Trustees of Guy's Hospital. I should also like to thank David Marshall, Elaine Murphy and Richard O'Flynn for their assistance.

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