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Dementia Diagnosis and Referral in General Practice: A Representative Survey of Irish General Practitioners

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Abstract

Aims

Most of those with a memory problem or concern over cognition present to their General Practitioner (GP) in the first instance. Despite this, the current diagnostic and referral patterns of Irish GPs remains unclear.

Methods

A survey was distributed to three separate cohorts of GPs (n=692)

Results

Ninety-Five (14%) responded. Most personally diagnose 1-3 (69%; 65/95) or 4-6 (21%; 20/95) patients with dementia per year. Two-thirds (62%; 59/95) refer >80% of those with possible

dementia for further assessment/support, most commonly to support/clarify a diagnosis (71%; 67/95) and most frequently to a geriatrician (79%; 75/95). In half of cases (51%; 48/95), referral is to a professional working as part of an established memory clinic. One-fifth reported receiving dementia-specific postgraduate training (19%; 18/95) and over four-fifths (82%; 78/95) would welcome further training.

Discussion

Further attention to the ongoing establishment of memory clinic services and dedicated referral pathways, as well as increasing emphasis on dementia assessment and diagnosis in medical curricula, is warranted.

Introduction

Dementia is one of the most important age-related illness affecting older adults in Ireland, the prevalence of which is set to increase in the coming decades[1,2]. Whilst many patients with a memory problem present to their GP in the first instance, the current diagnostic and referral practices of Irish GPs remains unclear. Current guidelines and literature (e.g. the Irish National Dementia Strategy) advocate for increasing awareness around the importance of timely diagnosis and appropriate referral in general practice[3-6].

Dementia remains a difficult diagnosis to formulate in the first instance (especially in the busy and time-sensitive general practice environment), requiring exploration of subjective memory complaints, formal cognitive screening tools, an adequate collateral history and numerous investigations. Differentiating normal ageing from dementia, lack of confidence in diagnosis and concerns over the impact of diagnosis are particular difficulties which have been highlighted by previous surveys of GPs[7,8]. Research in the UK has highlighted areas of difficulty in diagnosis including lack of time and support services as well as difficulty in talking with patients about the diagnosis[9].

At present, it is not clear what proportion of patients with a memory problem/cognitive impairment are referred for further evaluation or support, whom they are referred to most often, and what the most common prompts for referral are. The aim of the present study is to answer these questions, adding clarity to the current diagnostic and referral practices of Irish GPs

Methods

Three GP cohorts were invited to participate, in order to be representative of the structure of general practice in Ireland and to capture regional variation in practice and access to services[10]: (i) GPs in the Cork/Kerry region

(n=509), (ii) GPs and GP trainees affiliated with the TCD (Trinity College Dublin) GP Training Scheme (n=79) and (iii) GPs in the Kildare/West Wicklow area (n=104). An e-email was sent to each GP inviting them to participate in the anonymous online survey created online using google forms (google.com/forms). Responses were fully anonymised. A reminder e-mail was distributed one month after the original. The survey was designed by consensus between a consultant geriatrician, an academic GP with a special interest in dementia and a physician with experience in dementia assessment and diagnosis. Following drafting, it was piloted and revised by two other GPs involved in GP training prior to distribution of the final survey.

Routine demographic and practice data was collected. Key themes identified by the research team included: (i) the amount of patients diagnosed in a general practice environment, (ii) the practices of GPs with regard to diagnosing dementia in their practice, (iv) referral patterns of GPs in Ireland and (iv) perceived postgraduate training in dementia assessment and diagnosis. Following this, both open and closed ended questions were designed, with available responses adapted from recent Irish guidelines on dementia diagnosis in general practice[6].

Data was collected from each of the participating cohorts and entered into SPSS V22.0 (IBM, USA) which was used to analyse the responses. Baseline data and responses to the closed-ended questions was analysed as percentages and proportions. For calculations where the representation of participants in subgroups/responses was analysed, a χ^2 statistic was employed. Significance level was considered as $p<0.05$. In order to calculate representativeness of the respondents, demographic data was extracted from the recent report on the structure of general practice in Ireland[10]

Results

Participant Characteristics

Ninety-five GPs responded (response rate=14%; 52.2% male). Baseline and demographic data (years' experience, doctors per practice, location, and estimated list size) are included in Table 1. Respondents did not significantly differ from the overall demography of general practice in Ireland in terms of sex (χ^2 =.77 p=0.38), practice location (χ^2 =2.5 p=0.29) and number of doctors in each practice (χ^2 = 7.3 p = 0.12)

Practice List and Dementia Diagnosis in General Practice

GPs were asked to estimate the size of their practice list in discrete categories based on previous reports on the structure of general practice in Ireland[10]. Most lists were either between 1,500-2,499 (21.1%: 20/95), 2,500-5,000 (26.3%; 25/95) or >5000 (39%; 37/95) in number. When estimating the percentage of their list >65 years of age, the most common responses were 10-24% (41%; 39/95) or 25-49% (31.6%; 30/95). One fifth (21.1%; 20/95) estimated that there were >50 patients on their list with dementia, whilst the remainder estimated that there were 30-49 patients (22/95;) or 10-29 (39/95) patients with dementia on their list. One tenth (10.5%; 10/95) of GPs estimated that there were <10 patients on their list with dementia. (All included in Table 1)

Years Experience in General Practice	<5 yrs	14.7% (14/95)	Number of Doctors in Each Practice	1	11.6% (11/95)
	5-10 yrs	13.7% (13/95)		2	28.4% (27/95)
	11-20 yrs	23.2% (22/95)		3	10.5% (10/95)
	>20 yrs	48.4% (46/95)		4	25.3% (24/95)
				5	24.2% (23/95)
Practice Location	Urban[a]	48.4% (46/95)	List Size	<1,500	13.7% (13/95)
	Rural[b]	12.6% (12/95)		1,500-2,499	21.1% (20/95)
	Mixed[c]	38.9% (37/95)		2,500-5,000	26.3% (25/95)
				>5,000	39% (37)
Percentage of Practice List >65 Years	<10%	11.6% (11/95)	No of Patients on List with Dementia	<10	10.5% (10/95)
	10-24%	41% (39/95)		10-19	21% (20/95)
	25-49%	31.6% (30/95)		20-29	10% (19/95)
	>50%	3.2% (3.95)		30-39	17.9% (17/95)
				40-49	5.2% (5/95)
				50+	21.1% (20/95)

Table 1. GPs Baseline Data & Practice Populations

[Note: a = small centre of population with >5,000 residents; b = scattered population, few nearby colleagues; c = a mix of a and b]

Most practitioners personally diagnosed one to three patients per year with dementia (69%; 65/95), with the remainder diagnosing between 4-6 (21%; 20/95) or 7+ (4%; 4/95). Six GPs (6%; 6/95) personally diagnose zero patients per year.

Examinations/Investigations Performed	Detailed History	93.7% (89/95)
	Cognitive Assessment Using an Appropriate Tool	91.6% (87/95)
	Collateral History	88.4% (84/95)
	Cardiovascular Examination	66.3% (63/95)
	Neurological Examination	63.2% (60/95)
	Mental State Examination for Depression	67.4% (64/95)
Investigations Organised by GP	Blood Tests e.g. TFTs, Vitamin B12, Folic Acid	94.7% (90/95)
	Chest X-Ray if Clinically Indicated	56.8% (54/95)
	Mid-Stream Urine if Clinically Indicated	67.4% (64/95)
	Referral for Neuroimaging	32.6% (31/95)
Screening Tool Choice	MMSE (Mini-Mental State Examination)	82.1% (78/95)
	MoCA (Montreal Cognitive Assessment)	8.4% (8/95)
	GPCOG (General Practitioners' Assessment of Cognition)	6.3% (6/95)
	Mini-Cog	2.1% (2/95)
	AMTS (Abbreviated Mental Test Score)	1.1% (1/95)

Table 2. Investigations, Examinations and Screening Tool Choice in the Assessment of those with a Memory Problem/Cognitive Impairment
[Note: TFTs = Thyroid Function Tests]

Initial Assessment of Patients with Possible Cognitive Impairment/Dementia

The vast majority of GPs reported obtaining a detailed history (93%; 89/95) and 92% (87/95) reported assessing cognition using an appropriate tool. Nearly all (88%; 84/95) reported obtaining a collateral history from a suitable family member or friend. Two-thirds (66%; 63/95) carry out a cardiovascular examination as routine, with a similar number carrying out a neurological examination (63%; 60/95). Two-thirds reported performing a mental state examination for depression (67%; 64/95). Routinely performing three or less of the above options in the initial assessment was not associated with <10/>10 years' experience (χ^2 =2.5; p=0.11) or diagnosing <3/>3 cases annually (χ^2 = 2.67; p=0.11).

Nearly all (95%; 90/95) routinely organise blood rests such as Thyroid Function Tests (TFTs), B12 and Folic Acid. Over half (57%; 54/95) obtain a Chest X-Ray if clinically indicated, whilst just over two-thirds (68%; 64/95) performing a Mid-Stream Urine (MSU) if clinically indicated. Just under one-third (33%; 31/95) organise referral for neuroimaging (Table 2)

What proportion of patients with suspected dementia do you refer for further support?	80-100%	62.1% (59/95)
	60-79%	21% (20/95)
	40-59%	9.5% (9/95)
	<40%	7.4% (7/95)
What is the primary prompt for referral in the majority of cases?	Support or clarify a diagnosis of dementia.	70.5% (67/95)
	Management of behavioural/psychological symptoms	7.37% (7/95)
	To facilitate social support	16.8% (16/95)
Whom do you refer to?	Geriatrician	79% (75/95)
	Old Age Psychiatrist	15.8% (15/95)
Does this specialist work within a memory clinic?	Yes	50.5% (48/95)
	No	32.6% (31/95)
	Unsure	16.8% (16/95)

Table 3. Referral Patterns of GPs in those with Possible Dementia

Screening Tool

The majority (82%; 78/95) use the MMSE (Mini-Mental State Examination). Eight (8%) use the MoCA (Montreal Cognitive Assessment), with six (6%) using the GPCOG (General Practitioners' Assessment of Cognition), two the Mini-Cog (2%) and one (1%) the Abbreviated Mental Test Score (AMTS) routinely (Table 2)

Referral of Patients with Dementia

The majority, 62% (59/95), refer 80-100% of those with a memory problem/probably dementia for further assessment/support and 20 GPs (21%) reported referring 60-79%. Nine respondents (9.5%) referred between 40-59%, with a small minority (7%; 7/95) referring less than two-fifths (<40%). Referral rates >80% were not associated with <10/>10 years' experience, ($\chi^2 = 0$; $p = 1$), diagnosing <3/>3 cases annually ($\chi^2 = 1.7$; $p = 0.19$), low scores on confidence in dementia diagnosis ($\chi^2 = 2.69$; $p = 0.1$) or low belief in the appropriateness of general practice to dementia diagnosis ($\chi^2 = 0.43$; $p = 0.51$)

The most common prompt for referral (71%; 67/95) was to support or clarify a diagnosis of dementia. Less commonly, the primary prompt for referral was to facilitate social support (17%; 16/95) or for the management of behavioural and psychological symptoms of dementia (7%; 7/95).

The majority (79%; 75/95) routinely refer to a geriatrician with the remainder referring to an old age psychiatrist

(16%; 15/95). Just over half (51%; 48/95) reported that the professional they refer to works within a dedicated memory clinic, with the remainder reporting that the professional didn't (33%; 31/95), or that they were unsure as to whether or not this person worked in a memory clinic (17%; 16/95). Referral rates and patterns are included in Table 3.

Have you ever received any dementia specific postgraduate training?	Yes	No			
	18.9% (18/95)	81.1% (77/95)			
	DME	Clinical Posts	ICGP Small Group Learning		
	33.33% (6/18)	11.1% (2/95)	11.1% (2/95)		
Would you welcome further opportunities for dementia specific postgraduate training?	Yes	No	Unsure		
	82.1% (78/95)	9.5% (9/95)	8.42% (8/95)		
In what format would you prefer future training?	Paper Based Guideline	Face-to-Face Workshop	E-Learning	Webinar	Lecture
	19.2% (15/78)	53.8% (42/78)	12.8% (10/78)	5.7% (6/78)	6.4% (5/78)

Table 4. Dementia-Specific Postgraduate Training amongst surveyed GPs
[Note: DME = Diploma in Medicine for the Elderly; ICGP = Irish College of General Practitioners]

Dementia Specific Postgraduate Training

Just under one-fifth (18/95; 19%) have received postgraduate training in dementia assessment/diagnosis with the remainder never having received dementia-specific postgraduate training (77/95; 81%). In those who received training, one-third (33%; 6/18) received this as a Diploma in Medicine for the Elderly (DME), two (11%) received this as part of clinical posts in geriatric medicine, with a further two (11%) obtaining these as part of ICGP small group learning. See Table 4.

The majority (82%; 78/95) welcomed the idea of further training. Nine GPs (10%) would not welcome further postgraduate training, whilst eight (8%) GPs were unsure as to whether they would welcome further training. Of those who would welcome further training, over half (54%; 42/78) would prefer this as a face-to-face workshop or seminar. One-fifth (19%; 15/78) would prefer a paper based or online guideline to follow, whilst ten GPs (13%) expressed a desire for E-learning. Six (8%) GPs would prefer a webinar format, with five preferring lecture format (6%) (Table 4)

Discussion

This is the first study to characterize the current diagnostic/referral patterns of Irish GPs in patients presenting with dementia. The present study demonstrates that relatively few patients are diagnosed with dementia in general practice annually, with the majority referred on for access to appropriate diagnostic and support services. Previous work a decade ago has estimated that GPs diagnose on average four cases of dementia per year[7]. Whilst the

incidence of dementia has increased, the majority of GPs in the current study diagnosed three or less patients per year. Of note, a small minority diagnosed zero patients per year with dementia. It is important to note that in the current study number of cases diagnosed per year was not associated with confidence in dementia diagnosis or belief in the appropriateness of dementia diagnosis in general practice.

Interestingly, half of the GPs surveyed routinely refer to a professional within a memory clinic. Despite the presence of seventeen dedicated memory clinics in the Republic of Ireland, many areas support large numbers of patients with dementia without the presence of a dedicated memory clinic[11]. Further, the pathways to specialist referral may by unclear. On foot of the present findings, the further establishment and awareness of dedicated memory clinics and appropriate referral pathways as well as access to same should be a key priority in service planning for patients with dementia in Ireland. The present study found that the most popular cognitive assessment tool remains the sMMSE. Use of screening tools such as the General Practitioner Assessment of Cognition (GPCOG), devised for use particularly in general practice, and inclusive of a brief informant component, remains rare. Tools like GPCOG has been well-validated and are specifically designed for the general practice environment which has clear advantages in terms of brevity and perhaps sensitivity, as a recent large study in a primary care environment found[12]. Further work to establish the best tests for screening and diagnosis in the primary care environment are warranted, in addition to increasing awareness amongst practitioners of the merits and limitations of tools available for assessing those with concern over cognition.

Further, the present study reports that the overwhelming majority of GPs report never having received training in the diagnosis of patients with dementia and would welcome the opportunity for further training. In this regard, guidelines should as those published recently by the Irish College of General Practitioners (ICGP) are a welcome addition[6]. Despite relatively few GPs declaring previous training in dementia diagnosis, this number is increased on a survey conducted a decade ago, although an element of response bias may contribute. Further emphasis on dementia diagnosis and appropriate referral may be warranted in postgraduate training.

The low response rate of the present study represents a significant limitation and also introduces an element of response bias. Despite this, our sample was drawn from separate cohorts in three distinct regions, which provides an important reflection on diagnosis and referral practices on a national level. The three cohorts to best represent the structure of general practice of Ireland[10]. Respondents were representative of the structure of Irish general practice. Another limitation may be the reliance on self-reporting of diagnostic behavior (survey methodology). Despite these limitations, the present study adds important insights on the diagnostic and referral practices of Irish GPs in assessing those who may have dementia.

In conclusion, the current study found that most GPs diagnose three or less patients with dementia per year and refer most patients on for further support. Referral is usually to a geriatrician, most often to clarify a diagnosis. Clinical

assessment with direct and collateral history, physical examination and screening tools (particularly the traditional sMMSE) are characteristic of dementia assessment in Irish general practice. Most GPs report having never received postgraduate training on dementia diagnosis and would welcome opportunity for such. Further development of memory clinic services, particularly in areas serving large numbers of patients with dementia without such services is supported by the present study, as in the increasing inclusion of cognitive assessment and dementia diagnosis on postgraduate medical curricula.

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Conflict of Interest

None to Declare

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