Title: Comparing knowledge and attitudes to dementia care in Brazilian and UK GPs to guide future decisions about educational interventions

Authors: Alessandro Ferrari Jacinto PhD[1], Adam Lee Gordon PhD[2,3,4,5], Rajvinder Samra PhD[6], Ana Beatriz Steiner MD[7], Vania Ferreira de Sá Mayoral MD[1], Vanessa de Albuquerque Citero PhD[7]

[1] Department of Internal Medicine, Faculdade de Medicina de Botucatu (FMB), Universidade Estadual Paulista Júlio de Mesquita Filho (Unesp), Botucatu, SP, Brazil

[2] Division of Medical Sciences and Graduate Entry Medicine, University of Nottingham, UK

[3] Derby Teaching Hospitals NHS Foundation Trust, UK

[4] East Midlands Collaboration for Leadership in Applied Health Research and Care, UK

[5] Nottingham Biomedical Research Centre (BRC): Musculoskeletal Disease (MSK) Theme, Nottingham, UK

[6] School of Health, Wellbeing and Social Care, Faculty of Wellbeing, Education & Language Studies, Open University, UK

[7] Psychiatry Department, Escola Paulista de Medicina (EPM), Universidade Federal de São Paulo (Unifesp), São Paulo, SP, Brazil

Corresponding Author:

Assoc Prof Alessandro Jacinto

Email: alessandrojacinto@uol.com.br

Postal address: Disciplina de Geriatria, Departamento de Clínica Médica, Faculdade de Medicina de Botucatu, Universidade Estadual Paulista Júlio de Mesquita Filho (Unesp), Botucatu, SP, Brazil.

Abstract

Background: Dementia training for Brazilian GPs is underdeveloped. We investigated knowledge and attitudes to dementia management amongst Brazilian GPs and compared these with previous UK findings to inform future decisions about how training is structured.

Methods: 115 Brazilian GPs were asked to complete a Portuguese translation of a questionnaire previously used in the UK. This comprised a 14-item multiple-choice knowledge quiz, and a 5-point Likert-scale questionnaire assessing attitudes across 10 dementia management domains. Exploratory factorial analysis was conducted for attitudes.

Results: Attitudes towards dementia demonstrated the same underlying factor structure, "heartsink" and "heartfelt" factors, in Brazil as in previous UK studies, explaining 61.6% of variance in responses. Knowledge scores were negatively correlated with both heartfelt and heartsink factors.

Conclusions: Greater knowledge about dementia was associated with some pessimism about dementia care. The similarity in the structure of attitudes towards dementia management between Brazilian and UK GPs provides a starting point for shared educational approaches targeting attitudes.

Keywords: Primary health care; medical education; dementia; knowledge; attitude

Introduction

The rising prevalence of dementia is a global challenge (Rizzi, Rosset & Roriz-Cruz, 2014) and effective dementia training for healthcare staff constitutes an important part of the response to this around the world (Beard & Bloom, 2015). In many countries, medical supervision of long-term care is the primary responsibility of general practitioners (GPs) and thus, GPs play a major and key role in the care of people with dementia.

A systematic review on the barriers to diagnosis and management of dementia patients in primary care found that GPs internationally reported inadequate dementia training and education (Koch & Iliffe, 2010). This lack of preparation contributed to diagnostic uncertainty and reduced confidence for GPs in making a dementia diagnosis as well as managing dementia symptoms. In this same study, negative attitudes, including therapeutic nihilism on the part of the GP, were identified as a barrier to dementia diagnosis and management with some GPs reporting that making a diagnosis was pointless. These findings reinforce the need to improve knowledge and attitudes towards dementia in primary care internationally.

Such international comparisons are limited by the different approaches adopted to studying GP knowledge and attitudes in different countries. To better understand the similarities and differences between nations regarding GP attitudes to dementia, it is important that similar measures and methodologies are used between countries. To enable such cross-national comparison, the present study set out to survey knowledge and attitudes of GPs in Brazil regarding dementia care and to compare these to findings previously described in the UK by using a consistent approach (Turner et al, 2004). In the previous UK study (Turner et al, 2004) attitudes were found to adopt a factor structure

comprised of two main item sets, which were classified as "heartsink" and "heartfelt" factors. "Heartsink" factors were pessimistic and reflected frustration with dementia care, the fact that dementia patients are a drain on resources, that referral for care is futile because patients don't access resources, and a feeling that primary care has little to offer dementia patients. "Heartfelt" factors showed greater optimism reflecting feelings that doctors could make a difference to dementia care, a feeling that providing a diagnosis enhanced patient care, and a sense that direct communication early in the dementia trajectory was associated with better care.

Since 1988, all Brazilian citizens have the right to access free health care and Brazil's Unified Health System (UHS) has a legal obligation to provide for all its citizens. Seventy-three percent of Brazilian older people are exclusively cared by the Unified Health System (UHS). Rapid demographic shifts coupled with the pervasive university and medical school focus on illness in hospital settings, and on specialization, has resulted in a failure to educate, recruit and train sufficient generalists in Brazil to deal with the rapidly ageing population (Piterman, Harris, Saddi, Batista & Pego, 2015). In Brazil, family medicine is underrepresented in the curriculum – there may be no family medicine taught at medical school, there is little continuing education for generalists and limited attempts to support continuing professional development in general practice (Blasco et al, 2008). There are a number of differences between primary care education in Brazil and UK. All UK medical students undertake specific placements in primary care and there are specific higher medical training programmes following graduation for those who wish to become GPs. But there are important similarities about the role that GPs play within the healthcare systems in the UK and Brazil, including the mandate to provide free health care to citizens and the role of that GPs as primary gatekeepers to healthcare (Blasco et al, 2008).

This study used adapted versions of UK-developed surveys to measure knowledge and attitudes towards dementia in Brazilian GPs, in order to determine if similar patterns of knowledge and attitudes were seen amongst Brazilian GPs as previously found in the UK (Turner et al, 2004). An understanding of how knowledge and attitudes about dementia amongst Brazilian GPs map onto those of GPs in other countries is relevant when considering whether internationalised approaches to dementia training in primary care can be developed.

Methods

A cross-sectional study of GPs' knowledge and attitudes towards dementia was undertaken in 2017. This used a Brazilian adaptation (Jacinto, Oliveira & Citero, 2015) of a measure used in previous UK research (Turner et al, 2004). The measure included a knowledge quiz with 14 questions, each with five possible answers of which one option was correct and one was "I don't know". Questions covered three knowledge domains (epidemiology, diagnosis and management). Knowledge questions were positively marked, with only the correct answer gaining a point, and both incorrect and "I don't know" scoring zero. The measure also had an attitudes component which comprised 10 statements on management and prognosis in dementia, with answers provided on a 5-point Likert scale ranging from "strongly agree" to "strongly disagree". All respondents were asked to complete a questionnaire on demographics and background. A full version of the measure in English and Brazilian has been published elsewhere (Jacinto, Oliveira & Citero, 2015).

81 GPs from Sao Paolo and 34 from Botucatu were included. Brazilian GPs are organised into Basic Health Units (BHUs), which usually have two GPs working within them. All 41 GPs from all 22 Botucatu BHUs attended a public meeting where they were invited to participate, of which 34 agreed to do so. 10% of Sao Paolo's 451 BHUs (n=45) were selected at random using random number sequence generation, and the two GPs working within each BHU were invited to participate. 9 refused, resulting in 81 respondents. Surveys were conducted by questionnaire which was delivered to the unit manager either in person, or by email, depending on the preference of the GP. All surveys were completed in paper format and returned by post.

Statistical analyses were performed using SPSS 20.0. The means of the knowledge test scores were compared using the Friedman test. Homoscedasticity was verified using the Kolmogorov-Smirnov test and the Levene test.

For the attitudes quiz, scores were restepped to vary from 0 to 100. Suitability for factor analysis was determined using the Kaiser-Meyer-Olkin test and Bartlett's test of Sphericity. Exploratory factorial analysis was conducted using the main component method and VARIMAX orthogonal rotation. Factors with eigenvalues above one were included. Cronbach's Alpha was used to evaluate internal consistency of the items for each factor.

Differences in measurements based upon GP characteristics (gender, age and time from graduation) were explored using the Student t-test and ANOVA. All correlational analyses were conducted using Spearman's rho. The significance level was set at $p < 0.05$.

Results

115/131 GPs responded (response rate 87.8%). Their mean age (±SD) was 35.8 (±11.1) years. 62 (52.9%) were male. 62 (53.9%) had graduated from Medical School less than 5 years previously, with 23 (20%) and 30 (26%) being 6-11 and 12 years post-graduation respectively.

Mean (±SD) knowledge scores were 50.4% (±18.1), 53.5% (±16.9), 48.0% (±22.2) and 52.2% (±31.9) for total, epidemiology, diagnosis and management domains respectively. Gender and time from graduation did not show a relationship with knowledge scores. Time from graduation was negatively correlated with score in the diagnosis domain, with those GPs who had graduated more recently scoring higher (r = -.197; p=0.035).

Table 1 shows the distribution of attitudes amongst respondents. 9/10 variables had communality values of 0.5 or above, so were included in factor analysis, where two sets of items from the attitudes quiz formed an interpretable factor structure which explained 61.6% of the variance in responses. Similar to the previous UK study, we found a factor structure of "heartsink" (initial eigenvalue 4.14; variance explained = 35.36; Cronbach Alpha = 0.76) and "heartfelt" (initial eigenvalue 1.40; variance explained = 26.24; Cronbach Alpha = 0.85) indicating negative and positive attitudes to dementia respectively. Individual items and their relative contributions to the factors are summarized in Table 2. Endorsement of heartfelt or heartsink responses did not show significantly different patterns according to the GP characteristics of age, gender or time from graduation. There was a negative correlation between knowledge quiz scores and both heartfelt and heartsink factors.

Discussion

This study is the first attempt to investigate the relationship between dementia knowledge and attitudes in Brazilian GPs. As is the case with UK GPs, Brazilian GPs' attitudes towards dementia correlated with knowledge scores. We found the same underlying factor structure in attitudes amongst GPs as previously seen in the UK. In both countries, variation in responses was explained by an optimistic attitude towards dealing with dementia patients (heartfelt) and a more pessimistic attitude (heartsink). The reliability of the two factors, and the degree of variance explained, were greater in this Brazilian sample than in the original UK study. This raises the possibility that GPs' attitudes towards dementia may transcend national and cultural borders, with common responses to the challenges of dementia care between nations.

The main strength of this study is the use of a standardised questionnaire which enabled detailed and robust evaluation of knowledge and attitudes and how they correlate. The main limitation relates to the sampling bias that might be inherent because we recruited a set of volunteer respondents who comprise a small proportion of the Brazilian GP workforce. The similarity of the findings between this Brazilian and the previous UK study do, though, provide some face validity to our findings.

The scores for all domains of dementia knowledge amongst Brazilian GPs were lower than in British GPs completing the same questionnaire over a decade ago (Turner et al, 2004) for all domains except epidemiology. Given the increased emphasis on quality dementia care in the UK over the intervening period with a National Dementia Strategy which has focussed, amongst other things, on training and equipping staff in primary care (Banerjee, 2010), we expect that UK GPs would score higher if surveyed now. This makes

these findings a particularly alarming indictment of current Brazilian dementia training. Given that GPs in both Brazil and the UK practice well into their sixth decade, the mean age of respondents was low, meaning that these findings are a marker of recent and current training, rather than indicative of an ageing GP workforce which is out of touch.

Consistent with the UK work, greater knowledge about dementia was associated with less heartsink attitudes. However, greater GP knowledge also associated with being less heartfelt. Heartfelt attitude items reflect optimism that dementia care services can improve people's lives. These findings suggest that GPs who know more do not necessarily feel that it makes a positive difference to people lives. This is in fitting with previous studies in the UK which have identified that GPs can simultaneously have improved attitudes towards dementia and improved confidence in being able to diagnose dementia, whilst feeling demotivated by the low quality and availability support for people with dementia and their carers (Fox et al, 2014; Iliffe et al, 2009). Given the consistency in the association between increased knowledge and decreased optimism in the two countries studied, further international work is required to explore the reasons for such a bleak outlook.

In the present study, greater number of years since graduation was not associated with greater knowledge about dementia. This suggests that experiential learning in the medical workplace may not compensate for poor initial knowledge. This is particularly important in the Brazilian context, where family medicine topics may not form a large part of the medical curriculum and there may be limited or no professional training pathways to becoming a general practitioner (Blasco et al, 2008). The poor knowledge about dementia

identified in this study reinforces the need for greater inclusion of dementia in the undergraduate medical school curriculum.

This study identified that greater knowledge about dementia does not associate with more positive attitudes and this finding is not entirely surprising. Educational interventions that improve knowledge have been reported elsewhere not to result in improved attitudes, whilst empathy-building interventions, which foster affective reactions, can result in positive attitude changes towards older people (Samra, Griffiths, Cox, Conroy & Knight, 2013). Interventions to foster empathy can be additive to traditional knowledge-based approaches and can easily be incorporated into educational programmes (Blasco et al, 2006).

Cross-national comparisons are useful because they provide a means by which countries can learn from each others' approaches to common problems. We have already described the significant resource invested in the UK in recent years as part of the National Dementia Strategy (Banerjee, 2010). Revisiting the previous work around attitudes to dementia among GPs in the UK would allow consideration of whether the association between knowledge and attitudes has changed in response to this policy-level intervention. If an improvement is seen, and a reason for such improvement identified, this could provide precedent around which interventions to improve the situation in Brazil could be based. If similarities between the countries are persistent, despite the intervening period in the UK, then it would imply that the policy level approach taken in the UK is not the way to modify the attitudes of frontline primary care doctors. Contrasting attitudes and knowledge cross-nationally has the potential to inform commonalities in the nature of the problem and its resolution. In the UK, Iliffe et al (2015) reported that a tailored

educational intervention to improve case identification and dementia management in primary care, customised to the individual practices and their identified needs of students, surprisingly showed no change to practice. Those authors argued that inadequate social care and specialist support affects under-recognition of dementia in UK primary care and changes to practice will require a whole-systems approach to remove obstacles and barriers to care in conjunction with GP dementia education and training. Given the commonality in the patterns of attitudes seen amongst GPs across both countries of increased knowledge and decreased optimism, it is plausible that primary care practitioners in both contexts are affected by barriers to adequate support and dementia care which affect their attitudes to dementia diagnosis and management. There is an opportunity for shared educational approaches focussing, for example, on educational interventions that also address wider whole-systems factors in the identification and management of dementia, which in turn may improve attitudes towards dementia. Given that continuing professional development is underdeveloped in Brazilian primary care, there is space to develop novel approaches to education about dementia in Brazil which, if an international view is adopted to the outset, may then be reproduced in other settings around the world.

Conflict of interest

The authors declare that they have no conflict of interests.

Author Contributions

AFJ, VAC, ABS and VFSM conceived the work, wrote the initial protocol and collected the data. VAC conducted all statistical analyses. RS and ALG reviewed the statistical analyses and suggested modifications to the statistical analysis plan which were subsequently included in the protocol. AFJ and VAC produced the initial draft, which RS

and ALG substantially edited to bring an international perspective. All authors reviewed and approved the final manuscript.

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Table 1. Brazilian general practitioners' attitudes towards dementia: percentage distribution of answers

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
1. Much can be done to improve the quality of life of careers of people with dementia	24.3	47.8	24.3	2.6	.9
2. Families would rather be told about their relative's dementia as soon as possible	14.8	32.2	46.1	4.3	2.6
3. Much can be done to improve the quality of life of people with dementia	23.5	40.0	28.7	7.0	.9
4. Providing diagnosis is usually more helpful than harmful	13.9	40.0	36.5	7.8	1.7
5. Dementia is best diagnosed by specialist services	3.5	17.4	41.7	21.7	15.7
6. Patients with dementia can be a drain on resources with little positive outcome	.9	14.8	26.1	32.2	26.1
7. It is better to talk to the patient in euphemistic terms	2.6	22.6	6.1	34.8	33.9
8. Managing dementia is more often frustrating than rewarding	3.5	14.8	17.4	22.6	41.7
9. There is little point in referring families to services as they do not want to use them	0.9	15.7	13.0	20.9	49.6
10. The primary care team has a very limited role to play in the care of people with dementia	6.1	22.6	20	8.7	42.6

Table 2. Composition of heartfelt and heartsink factors and correlation with general practitioner characteristics

VARIABLE	ROTATED FACTOR LOADING	
"HEARTSINK" VARIABLES		
"Managing dementia is more often frustrating than rewarding"	**0.847**	
"There is little point in referring families to services as they do not want to use them"	**0.801**	
"It is better to talk to the patient in euphemistic terms"	**0.757**	
"Patients with dementia can be a drain on resources with little positive outcome"	**0.718**	
"The primary care team has a very limited role to play in the care of people with dementia"	**0.716**	
"HEARTFELT" VARIABLES		
"Much can be done to improve the quality of life of people with dementia"	**0.767**	
"Families would rather be told about their relative's dementia as soon as possible"	**0.758**	
"Providing diagnosis is usually more helpful than harmful"	**0.743**	
"Much can be done to improve the quality of life of careers of people with dementia"	**0.673**	
KNOWLEDGE TEST SCORES	**FACTOR**	
	HEARTFELT	**HEARTSINK**
Total score	$r= -0.317$ (p=0.001)	$r= -0.229$ (p=0.014)
Epidemiology score	$r= -0.086$ (p=0.361)	$r= 0.034$ (p=0.722)
Diagnosis score	$r= -0.399$ (p=0.001)	$r= -0.370$ (p=0.001)
Management score	$r= -0.095$ (p=0.314)	$r= 0.011$ (p=0.909)