Dementia detection practice among primary care practitioners: A cross-sectional study in Hulu Langat District, Selangor

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ABSTRACT

Introduction: Dementia is a global challenge for healthcare systems, including Malaysia. Despite evidence-based Clinical Practice Guidelines (CPG) for dementia management in primary care, detection is poor. Improving detection rates requires understanding current practice and influencing factors. This study aims to assess the practice of cognitive evaluation among primary care practitioners (PCPs) and its associated factors, as well as its correlation with their knowledge and attitudes towards early dementia diagnosis.

Materials and Methods: A cross-sectional study conducted online, using Google Form™ recruited 207 Medical Officers from 14 public primary health centres, with a response rate of 74%. The Knowledge, Attitude and Practice Questionnaire for Family Physicians (KAPQFP) was used to assess PCPs' knowledge, attitude and practice in dementia care. Items in each domain were scored on a 4-point Likert scale, with scores ranging from 1 to 4. Each domain's mean score was divided by 4 and converted to a scale of 100, with higher scores indicating better knowledge, attitude and practice. Bivariate analyses were conducted to determine the factors associated with cognitive evaluation practice.

Results: The overall mean practice score was 3.53±0.52 (88.3%), which is substantially higher than the mean score for perceived competency and knowledge of 2.46±0.51 (61.5%). The mean score for attitude towards dementia and collaboration with nurses and other healthcare professionals was 3.36±0.49 (84.0%) and 3.43±0.71 (85.8%), respectively. PCPs with prior dementia training showed better practice (p=0.006), as did PCPs with longer primary care work experience (p=0.038). A significant positive association was found between knowledge-practice ((r_s=0.207, p=0.003), attitude towards dementia practice ((r_s=0.478, p<0.001), and attitude towards collaboration with other healthcare professionals-practice (r_s= 0.427, p<0.001). Limited time and inadequate knowledge regarding dementia diagnosis and cognitive evaluation tools were among the reasons cognitive evaluations were not performed.

Conclusion: PCPs demonstrated better practice of cognitive evaluation, as compared to their knowledge and attitude.

Given that their perceived competency and knowledge on dementia diagnosis is low and is positively associated with their practice, it is crucial to implement a comprehensive dementia training to enhance their knowledge and confidence on early detection of cognitive decline and cognitive evaluation in order to achieve better dementia detection in primary care.

INTRODUCTION

Dementia is a syndrome characterised by gradual and progressive decline in cognitive functions beyond what would be expected from natural ageing, making it one of the major causes of disability and dependence worldwide. It is currently the seventh leading cause of death globally with 10 million new cases diagnosed annually.[1] Malaysia reported an 8.5% prevalence of dementia,[2] close to the 10.7% estimated prevalence of Alzheimer's disease in the United States.[3] Given the world's ageing population, local prevalence of dementia is predicted to rise.[4]

Persons living with dementia (PLWD) and their caregivers experience various emotional, physical, financial and social consequences. As dementia progresses, caregivers' quality of life declines considerably.[5,6] Early dementia detection and diagnosis allow PLWD to receive evidence-based treatment and care plans for a better disease outcome and caregivers to receive early access to counseling and support services.[7] The WHO global action plan proposes timely dementia diagnosis and integrating dementia treatment and care into primary care as part of the long-term dementia care system.[8] Nevertheless, dementia remains under-detected in the community.[9,10] Dementia under-detection is a worldwide problem; even in high-income nations with advanced medical technologies, only 20–50% of dementia cases are recorded in primary care.[11]

Prior studies revealed that dementia detection by PCPs is hindered by their inability to recognise early dementia symptoms, limited knowledge, skills and confidence in

dementia diagnosis, as well as negative perception and attitude towards early dementia diagnosis.[12-15] These barriers make PCPs hesitant to perform cognitive testing, hence many people with cognitive impairment go undiagnosed.[16] Evaluation of cognitive function is necessary if the patient or family members report memory problems or the PCPs suspect cognitive impairment. As the first point of contact for most older adults in the community, PCPs should be competent in cognitive decline detection, cognitive testing, and dementia diagnosis. Most studies have focused on PCP's knowledge, attitudes, and confidence towards dementia diagnosis.[17-21] However, limited studies explored PCPs' cognitive evaluation practice. Understanding the current practice and its influencing factors is critical to enhance detection and improve primary healthcare system. This study aims to assess the cognitive evaluation practice among PCPs and its associated factors, as well as its correlation with their knowledge and attitudes towards early dementia diagnosis. This study will also explore the reasons for not performing cognitive evaluation. Malaysia lags behind its ASEAN neighbours in having a National Dementia Strategy in which timely diagnosis of dementia is a priority. This information can assist the public health representative in developing an improvement strategy focusing on overcoming the issues related to the dementia under-detection in primary care. Data from this study can be used as a baseline value for future large-scale research to support and expedite a National Dementia Strategy.

MATERIALS AND METHODS

Study Sampling
This cross-sectional study recruited PCPs from 14 public primary healthcare clinics in Hulu Langat district, Selangor from July to September 2022. The inclusion criteria were registered PCPs who manage adult patients aged 60 and above. Those who refused consent were excluded from this study. Universal sampling was used for data collection. The sample size was calculated using a single mean formula based on the mean score of general practitioners' attitudes towards dementia from a prior study conducted in China (22). A minimum sample of 195 participants was needed to reach a precision of 0.05 with a 95% confidence level, with an additional 40% to account for possible non-respondents.

Data Collection
A self-administered online *Google Forms™* questionnaire was used for data collection. First, Medical Officer-in-Charge (MOIC) at each of the 14 public primary healthcare clinics received the questionnaire link. They distributed the link to the PCPs via their respective clinic's group chat. The study's information and purpose were explained in the *Google Forms™* and informed consent was obtained before PCPs proceeded with the questionnaire. Only completed questionnaires can be submitted to minimise data analysis errors. Three reminders were sent, one every 2 weeks, after which no response was considered a non-responder.

Study Instrument
This study used the Knowledge, Attitude and Practice Questionnaire for Family Physicians (KAPQFP) by Genevieve Arsenault-Lapierre.[23] This questionnaire explored the elements of dementia detection, diagnosis and treatment based on the three domains, the PCP's knowledge, attitude and practice (KAP). It is a validated questionnaire with the internal consistency (Cronbach's alpha) of the items within each factor ranged from 0.66 to 0.91. The knowledge domain consisted of 11 items that evaluated the perceived competency and knowledge in dementia diagnosis and care plan. The attitude domain is divided into two parts, with six items assessing the attitude towards dementia care and three items assessing the attitude towards collaboration with nurses and other healthcare professionals. There were seven items in the practice domain that looked at the practice of cognitive evaluation. The questionnaire was adapted to the local healthcare setting for the purpose of this study, i.e., the practice component of the questionnaire was updated to include seven additional questions, while one question in the knowledge section was adapted to the Malaysian setting by replacing the Canadian Consensus Conference on Diagnosis and Treatment of Dementia (CCCDTD) guideline[24] with Malaysian Clinical Practice Guideline (CPG) on Management of Dementia, Third Edition.[25] The additional items assessed the self-reported burden of dementia patients in public primary care practice, choice of cognitive assessment tools used, reasons for not performing cognitive assessment and specialist referral for patients with suspected dementia. These questions had been locally validated by two-panel experts and analysed descriptively, without affecting the questionnaire's scoring. The final questionnaire consisted of 44 items divided into two sections: socio-demographic and knowledge, attitude and practice (KAP).

Scoring for Knowledge, Attitude and Practice Domains
Each item was evaluated using 4-point Likert scale. Participants indicate their level of agreement with each item as follows: 1=Disagree, 2=Somewhat disagree, 3=Somewhat agree, 4=Agree. Reverse coding was used for negative statements. Each item has a minimum score of 1 and a maximum score of 4. The responses "Don't know" and "Not applicable" were excluded from scoring and data analysis. Domain scores were calculated by taking the mean score of each item within the domain. By dividing the mean by a maximum total of 4, these domain scores were converted to a scale of 100. The higher the score, the better the participants' knowledge, attitude and practice.

Statistical Analysis
All data were analysed using The Statistical Package for Social Science (SPSS) version 28.0. Variables in the study were participants' socio-demography, clinical experience, knowledge, attitude and practice. The cognitive evaluation practice score was used as a study outcome indicator. Data were descriptively presented in frequency (n), percentage (%), mean value with standard deviation (SD) and median value with interquartile range (IQR). The normality test revealed that the outcome variable, the practice score, was not normally distributed. Hence, non-parametric analyses were used to further analyse the data. Mann–Whitney U and Kruskal–Wallis tests were used to compare practice scores across independent variables, and Spearman's correlation coefficient was used to assess the strength of association between scores. The significance level was set at p value < 0.05 (2-sided).

Table I: Characteristics and demographics of study participants (n = 201)

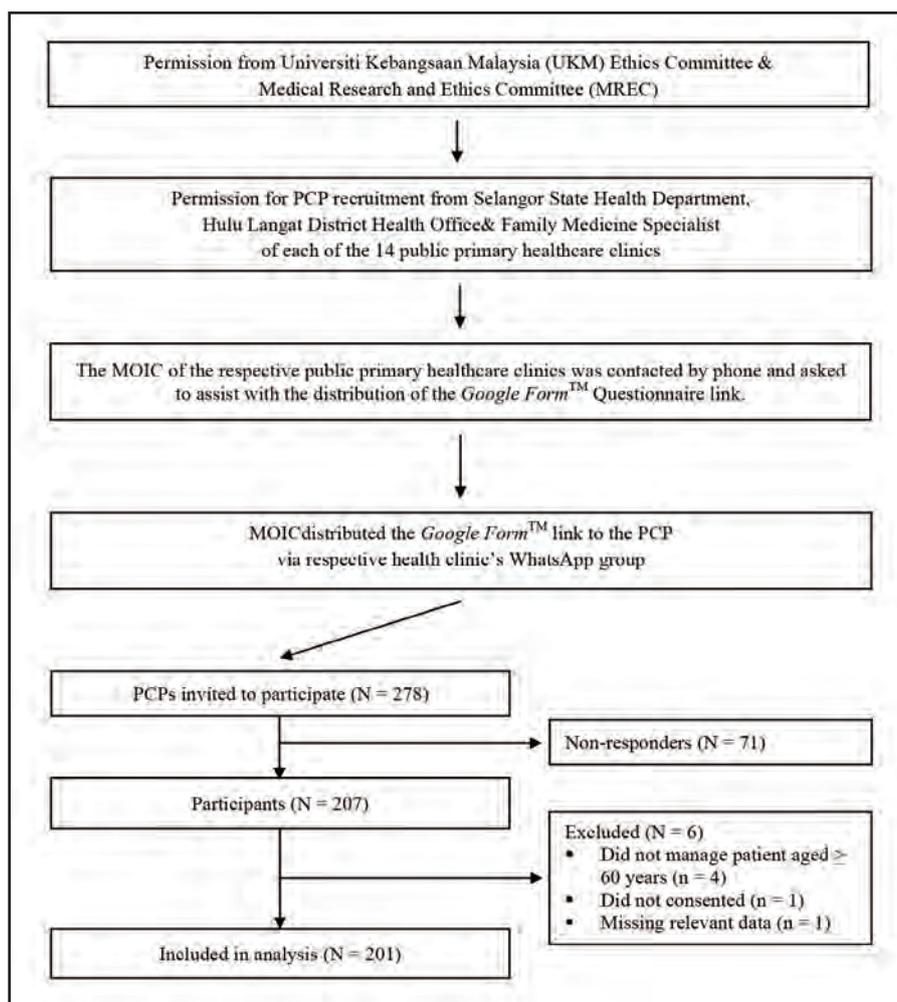| Variables	n (%)
Age (years)	
Median (IQR)	35.0 (4.0)
Gender	
Male	20 (10.0)
Female	181 (90.0)
Ethnicity	
Malay	163 (81.1)
Indian	23 (11.4)
Chinese	13 (6.5)
Bumiputra Sabah/Sarawak	2 (1.0)
Postgraduate qualification in family medicine	
Without postgraduate qualification	173 (86.0)
With postgraduate qualification	28 (14.0)
Duration of practice in primary care (years)	
Median (IQR)	6.0 (6.0)
Clinical experience in geriatric subspecialty	
No	182 (90.5)
Yes	19 (9.5)
Experience with dementia care	
No	144 (71.6)
Yes	57 (28.4)
Dementia training	
No	155 (77.1)
Yes	46 (22.9)

Fig. 1: Study flow chart

Table II: Participants' answers on knowledge, attitude and practice questions

Item	Disagree	Likert scale[a], n (%)			Median (IQR)
		Somewhat disagree	Somewhat agree	Agree	
Perceived competency and knowledge in dementia care					
I believe that I have the skills to:					
1) Diagnose dementia.	7 (3.5)	49 (24.4)	93 (46.3)	45 (22.4)	3.0 (1.0)
2) Develop an appropriate care plan for patients with dementia.	16 (8.0)	75 (37.3)	76 (37.8)	24 (11.9)	3.0 (1.0)
3) Educate patients and their families about dementia.	10 (5.0)	48 (23.9)	94 (46.8)	42 (20.9)	3.0 (1.0)
4) Inform patients and family of the diagnosis.	13 (6.5)	47 (23.4)	82 (40.8)	51 (25.4)	3.0 (2.0)
5) I nvolve the caregiver in the diagnosis.	7 (3.5)	33 (16.4)	99 (49.3)	53 (26.4)	3.0 (1.0)
In my day-to-day work:					
1) I know the diagnostic criteria for dementia.	18 (9.0)	57 (28.4)	65 (32.3)	52 (25.9)	3.0 (2.0)
2) I regularly keep up to date on the Malaysian Clinical Practice Guideline (CPG) on Management of Dementia, 2021.	28 (13.9)	64 (31.8)	66 (32.8)	32 (15.9)	2.0 (1.0)
3) I feel comfortable prescribing dementia medications.	70 (34.8)	76 (37.8)	33 (16.4)	12 (6.0)	2.0 (1.0)
4) I refer my patients to a specialist for diagnosing dementia.[b]	9 (4.5)	22 (10.9)	69 (34.3)	101 (50.2)	2.0 (1.0)
5) I refer my patients to a specialist for managing cases of dementia.[b]	4 (2.0)	22 (10.9)	66 (32.8)	109 (54.2)	2.0 (1.0)
6) I think that dementia diagnoses are best left to specialist.[b]	35 (17.4)	56 (27.9)	51 (25.4)	52 (25.9)	2.0 (2.0)
Attitude towards dementia and interprofessional collaboration					
I think that:					
1) Several things can be done to improve the quality of life of a patient with dementia	3 (1.5)	4 (2.0)	60 (29.9)	131 (65.2)	4.0 (1.0)
2) Several things can be done to improve the quality of life of caregivers.	1 (0.5)	6 (3.0)	59 (29.4)	131 (65.2)	4.0 (1.0)
3) An early diagnosis of dementia usually does more harm than good.b	99 (49.3)	40 (19.9)	28 (13.9)	29 (14.4)	4.0 (2.0)
4) The families of patients with dementia prefer knowing the diagnosis as soon as possible.	5 (2.5)	18 (9.0)	72 (35.8)	96 (47.8)	4.0 (1.0)
5) Until we have an effective treatment, diagnosing dementia is not a priority.[b]	79 (39.3)	65 (32.3)	31 (15.4)	23 (11.4)	3.0 (2.0)
6) In presence of symptoms, early diagnosis of dementia is important.	3 (1.5)	7 (3.5)	67 (33.3)	116 (57.7)	4.0 (1.0)
I think that my collaboration with:					
1) The nurse or allied health collaborators in my team is essential to diagnose dementia.	9 (4.5)	15 (7.5)	72 (35.8)	100 (49.8)	4.0 (1.0)
2) The nurse or other allied professionals in my team is essential to develop care plans for patients with dementia.	6 (3.0)	10 (5.0)	66 (32.8)	113 (56.2)	4.0 (1.0)
3) The nurse or allied health collaborators in my team is essential for the management of cases of dementia.	5 (2.5)	11 (5.5)	68 (33.8)	112 (55.7)	4.0 (1.0)
Practice of cognitive evaluation					
I look for the presence of cognitive impairment in my patients when:					
1) They seem to have a short memory.	1 (0.5)	4 (2.0)	61 (30.3)	132 (65.7)	4.0 (1.0)
2) They lose or misplace things.	3 (1.5)	9 (4.5)	62 (30.8)	125 (62.2)	4.0 (1.0)
3) They complain about memory problem.	4 (2.0)	8 (4.0)	50 (24.9)	139 (69.2)	4.0 (1.0)
4) Family members believe that they may have dementia.	2 (1.0)	10 (5.0)	59 (29.4)	127 (63.2)	4.0 (1.0)
5) They mix up their medications.	2 (1.0)	27 (13.4)	75 (37.3)	93 (46.3)	3.0 (1.0)
6) They repeat themselves.	4 (2.0)	17 (8.5)	71 (35.3)	106 (52.7)	4.0 (1.0)
7) Family members report changes in behaviors.	0	6 (3.0)	55 (27.4)	137 (68.2)	4.0 (1.0)

*"Don't know" and "Not applicable" responses were disregarded for scoring.
[a] Likert scale from 1 (Disagree) to 4 (Agree).
[b]Negative statement

Table III: Inferential relationship between practice scores and its' influencing factors (sociodemography, clinical experience, knowledge

Variables	Median	IQR	Mean rank	Statistical test	p value
Age				0.120[c]	0.088
Gender				0.927[a]	0.354
Male	3.64	0.96	89.83		
Female	3.71	0.93	102.23		
Ethnicity				5.33b	0.070
Malay	3.71	0.71			
Indian	3.00	0.86			
Chinese	3.71	0.86			
Bumiputera Sabah/Sarawak	4.00	0.00			
Postgraduate qualification in Family Medicine				0.893a	0.372
Without postgraduate qualification	3.71	1.00	99.56		
With postgraduate qualification	3.86	0.71	109.89		
Duration of practice in primary care				**0.147c**	**0.038***
Clinical experience in geriatric subspecialty				-0.915a	0.360
Yes	3.71	1.71	89.66		
No	3.71	0.86	102.18		
Experience with dementia care				-0.175[a]	0.861
Yes	3.71	1.00	99.89		
No	3.71	0.86	101.44		
Dementia training				**2.756[a]**	**0.006***
Yes	3.86	0.46	121.28		
No	3.71	1.00	94.98		
Perceived competency and knowledge in dementia care				**0.207c**	**0.003***
Attitudes towards dementia				**0.478c**	**<0.001***
Attitudes towards collaboration with nurses and other health care professionals				**0.427c**	**<0.001***

[a]Mann–Whitney U test and Z value
[b]Kruskal–Wallis test and H value
[c]Spearman correlation test and rho value
*Significant at p <0.05

Table IV: PCPs' practice of cognitive evaluation and specialist referral

Item	Frequency (n)	Percentage (%)
Cognitive evaluation tools used by participants (n = 168).[a]		
Mini Mental State Examination (MMSE)	159	94.6
Mini-Cog	29	17.1
Montreal Cognitive Assessment (MoCA)	22	13.1
Reason for not performing cognitive assessment (n = 33).[a]		
Lack of time to assess the patient	24	72.7
Did not know how to manage a patient with dementia	12	36.4
Did not know what tool to use for cognitive assessment	8	24.2
Physical health problem is more important to manage than cognitive problem	1	3.0
Patient referred to specialist clinic	1	3.0
Specialist referral (n = 164).[a]		
Psychiatrist	86	52.4
Geriatrician	66	40.2
Neurologist	26	15.9
General physician	16	9.8
Geriatric psychiatrist	11	6.7
Family medicine specialist	2	1.2
Psychologist	1	0.6
Memory clinic	1	0.6
Reason for not referring to specialist (n = 37).[a]		
Unsure diagnosis	15	40.5
Did not know where to refer the patient	8	21.6
Lack of time to prepare for the referral	4	10.8
Patient refusal	2	5.4
Patient already under follow-up	2	5.4
Lack of time for proper assessment	1	2.7

[a]Participants were allowed multiple choices.

RESULTS

Characteristics and Socio-demographic Information
The overall response rate was 74% and 201 out of the 278 PCPs approached completed the questionnaire. The participants' median age was 35.0 (IQR 4.0) years. The median duration of primary care practice was 6.0 (IQR 6.0) years. Results showed that only 14% of participants held postgraduate qualifications in family medicine (FM). Table I summarises the population's detailed characteristics.

Knowledge, Attitude and Practice Mean Scores
The mean score for practice of cognitive evaluation was 3.53±0.52 (88.3%), which was substantially higher than the mean score for perceived competency and knowledge in dementia care of 2.46±0.51 (61.5%). The majority of participants exhibited a positive attitude towards dementia and collaborations with nurses and other health care professionals, with overall mean scores of 3.36±0.49 (84.0%) and 3.43±0.71 (85.8%), respectively.

Perceived Competency and Knowledge in Dementia Care
Table II shows that the items with low scores are those concerning dementia diagnosis and management and whether PCPs stay current on Malaysian Clinical Practice Guideline (CPG) on Management of Dementia with median score 2.0 (IQR 1.0) out of 4.0. Most participants performed poorly in negative statement items in which they prefer referring their patients to specialists for diagnosis and management, and they believe dementia diagnosis is best left to specialists. There was a moderate score for items pertaining to perceived competence in dementia diagnosis with median score 3.0 (IQR 1.0) and family liaison with regards to delivering diagnosis and dementia education with a median score of 3.0 (IQR 2.0) and 3.0 (IQR 1.0), respectively.

Attitude Towards Dementia and Collaboration with Nurses and Other Healthcare Professionals
With respect to attitude towards dementia, majority of participants showed a positive attitude with more than 80% of them disagreed with the negative statement that early dementia diagnosis usually does more harm than good with a median score 4.0 (IQR 2.0) out of 4.0 (Table II). However, over a quarter of participants thought that dementia diagnosis is not a priority until an effective treatment is available, giving a lower median score of 3.0 (IQR 2.0). On the other hand, more than 85% of PCPs agreed that collaboration with nurses and other health care professionals is essential for diagnosing and managing dementia cases with a median score 4.0 (IQR 1.0).

Practice of Cognitive Evaluation
Table II shows that the majority of participants would do a cognitive evaluation on patients who come with symptoms or signs of cognitive impairment, giving the median score of 4.0 (IQR 1.0). However, 14.4% of participants disagreed that they look for cognitive impairment when patients mix up their medications, giving a lower median score of 3.0 (IQR 1.0).10.5% of participants were less likely to perform cognitive evaluation on patients who repeat themselves.

Relationship Between Practice Score and PCPs' Socio-demography, Clinical Experience, Knowledge and Attitude
Table III represents bivariate analysis of participants' practice score across their socio-demography, clinical experience, knowledge and attitude. The practice score was statistically significantly higher among participants with a longer duration of practice in primary care setting (*p*=0.038). Participants who had dementia training had higher practice score than those who did not (median score 3.86 vs 3.71, *p*=0.006). There was a statistically significant positive correlation between knowledge-practice (r_s=0.207, *p*=0.003), attitudes towards dementia practice (r_s = 0.478, *p*<0.001) and attitudes towards collaboration with nurses and other health care professionals-practice (r_s=0.427, *p*< 0.001).

DISCUSSION

In recent years, several countries have recognised the burden of dementia and the challenge of dementia under diagnosis. Some countries have successfully developed dementia strategies and clinical practice guidelines for primary care dementia detection. Malaysia lags behind its ASEAN neighbours in having a National Dementia Strategy in which timely dementia diagnosis is a priority. This study was conducted with the understanding that PCPs are patients' first point of contact, and with the burden of non-communicable disease (NCD), PCPs should be able to understand how dementia will further affect NCD management. Therefore, dementia under-detection in primary care must be addressed.

Practice of Cognitive Evaluation and Specialist Referral
PCPs mean practice score was comparable to their attitude, but however significantly higher than their perceived competency and knowledge in dementia diagnosis and care. There were 14.4% of the PCPs who were less likely to perform cognitive evaluation on patients who mixed up their medications. We postulate that they may not recognise medication confusion as a symptom of cognitive decline and consider other factors that contribute to it, such as polypharmacy and patients' insufficient knowledge regarding their illnesses and prescribed medications.[26]

Similarly, 10.5% of the PCPs were less likely to perform cognitive evaluation on patients who repeat themselves. Our assumption is that they may have mistakenly believed that repetitive speech is a normal part of ageing and nothing can be done.[27] Knowledge in dementia diagnosis is still lacking among the PCPs, which may affect their practice. Measures should be taken to improve PCPs' knowledge on cognitive decline in order to enhance cognitive evaluation and improve dementia detection in primary care.

PCPs reported time as the most common reason for not performing cognitive evaluation, which is consistent with the findings of Raphael et al. interpretive scope review.[15] Multidisciplinary team involvement may address this issue by assigning a trained staff to perform cognitive evaluation beforehand to reduce PCPs' consultation time. This may require prior structured training and education to ensure that each team member understands their role and responsibilities. Some PCPs in the current study did not assess

cognitive function because they believed physical health was more important. In a systematic review by Aminzadeh and colleagues, several PCPs believed that early diagnosis has minimal therapeutic benefit, and that dementia stigma may have detrimental impact, hence prioritizing physical health over dementia symptoms.[13] Additionally, PCPs also reported that the main barriers to performing cognitive evaluation and referring patients to specialists were uncertainty about the diagnosis and a lack of knowledge regarding dementia management and cognitive evaluation tools. Effective measures are required to tackle the gaps in the PCPs' attitude, knowledge and skills in an effort to acknowledge these issues. While CPG can be a useful tool, nearly half of the PCPs in current study were unaware of the guidelines and may not keep up with its recommendations. Primary care-focused education in the form of academic detailing may provide more contextualised dementia training, which can encourage the implementation of guidelines besides having a positive impact on PCPs' knowledge, confidence and skills.28

Association Between PCPs' Clinical Experience and Practice of Cognitive Evaluation
PCPs with prior dementia training are shown to have a better practice of cognitive evaluation. Consistent with this finding, a study by Lathren et al., had demonstrated that dementia training program markedly improved PCPs' clinical dementia skills and significantly increased the use of cognitive evaluation tools.[29] Dementia training can provide PCPs with the necessary knowledge regarding cognitive impairment and the importance of early dementia diagnosis. Training on the use of cognitive evaluation tools may increase their confidence in their diagnostic skills which could reduce their hesitancy on performing cognitive evaluation. This study also discovered that PCPs with longer work experience in primary care had better cognitive evaluation practice. This tendency may be explained by the fact that when PCPs work longer in primary care, they encounter more elderly patients, which increases their ability to notice cognitive decline in their patients. A practical education intervention may provide them with a better guidance to improve their ability for early dementia detection.[30]

Association Between PCPs' Perceived Competency and Knowledge in Dementia Diagnosis and Practice of Cognitive Evaluation
PCPs in current study reported a higher cognitive evaluation practice score as compared to their perceived competency and knowledge in dementia diagnosis and care plan. Most PCPs believed they could diagnose dementia, involve caregivers, educate, and develop an appropriate care plan, but only less than one-third are confident with these skills. PCPs also demonstrated a lack of confidence in diagnosing and initiating dementia treatment. This could be due to the fact that PCPs in Malaysia not typically managing dementia patients at the primary care level, which is the actual local practice in Malaysia as recommended by the 2021 Malaysian CPG on dementia management, which recommends referring suspected dementia patients to a tertiary centre for further investigations and confirmatory diagnosis.[25] Similar to the conclusion made by Aminzadeh and colleagues in a systemic review, lack of experience in managing dementia patients may make PCPs feel less knowledgeable about the disease, which might reduce their level of competence and

confidence in their ability to recognise and diagnose dementia.[13]

This study had demonstrated that perceived competency and knowledge in dementia diagnosis are positively associated with the practice of cognitive evaluation. Consistent with this finding, a study by Heim et al. revealed that lack of knowledge was the main obstacle to performing cognitive evaluations and that PCPs who participated in dementia education were more likely to perform such evaluations than those who did not. Since PCPs are the first point of contact with elderly patients, it is crucial that they are well-versed in necessary knowledge on cognitive decline and evaluation. Hence, educational programs should provide enough exposure to these areas to improve dementia detection in primary care setting.

Association between PCPs' Attitude towards Dementia and Practice of Cognitive Evaluation
PCPs in the Hulu Langat district have a positive attitude towards dementia, which is also positively associated with their cognitive evaluation practice. There are, however, not many studies that examine the relationship between these two factors. Nevertheless, a few studies have shown a positive association between PCPs' attitude towards dementia and their dementia care skills and management approach after dementia diagnosis.[19,22,31] Geriatric competencies and self-efficacy expectations have been shown to influence PCPs' attitude towards dementia diagnosis.[21] Measures to increase geriatric knowledge and competence among PCPs are essential and should serve as the basis to expedite a national dementia policy.

Association Between PCPs' Attitude towards Collaboration with Nurses and Other Healthcare Professionals and Practice of Cognitive Evaluation
PCPs in this study generally demonstrated positive attitude towards interprofessional collaboration, indicating a desire for shared care with nurses and other healthcare professionals in diagnosing and managing dementia. PCPs' attitude has also shown to be positively associated with their practice of cognitive evaluation. Shared care initiatives are best represented by PCPs, nurse practitioners, occupational therapists, pharmacists, social workers, and mental health counsellors, who may help with cognitive assessment to reduce PCPs' consultation time and provide long-term dementia care.[32-34] To succeed, a care pathway must be established so multidisciplinary team members can follow evidence-based clinical practice guidelines and best local practice recommendations and be appropriately guided on their roles and responsibilities. Prince et al. recommend that dementia care pathway should include a basic curriculum as well as in-service training on how to provide dementia care as a team.[35]

STRENGTH AND LIMITATIONS
To the best of our knowledge, this is the first study that assessed the practice of dementia detection among public PCPs in Hulu Langat District. Several limitations were identified. The PCPs' perceived competency and knowledge were scored based on KAPQFP questionnaire designed in

Canadian healthcare setting, to assess their abilities to diagnose and manage dementia in primary healthcare centres. In Malaysian healthcare, however, PCPs serve as gatekeepers to direct patients with suspected dementia to tertiary centres for confirmatory diagnosis and further management. To properly assess PCPs' dementia knowledge and competency, future research should utilise a study tool relevant to Malaysian practice. The survey method did not objectively assess the actual practice of PCPs. Participant observation study methods should be considered in future research to better evaluate the cognitive evaluation practice. Finally, the study sample was limited to public primary healthcare clinics in Hulu Langat district; thus, caution is suggested in generalizing the study findings.

A Malaysian National Dementia Strategy should be expedited to support the development of clinical care pathways between primary care and tertiary centres to improve shared care collaboration among multidisciplinary teams for better dementia detection and patient outcomes. Future research should evaluate the adherence of PCPs to dementia screening practices based on Malaysian CPG on dementia management. It would also be advisable to explore the collaboration of primary healthcare providers with other members of multidisciplinary teams in dementia care once the diagnosis is made, as this is the fundamental role of primary care in long-term dementia management in the community.

CONCLUSION
PCPs in the Hulu Langat District demonstrated better practice of cognitive evaluation, as compared to their knowledge and attitude, with longer primary care working experience and dementia training contribute to a better practice. While PCPs' perceived competency and knowledge of dementia diagnosis, as well as their attitude towards dementia and interprofessional collaboration, are positively associated with their practice, cognitive evaluation is hindered by inadequate knowledge regarding dementia diagnosis and cognitive evaluation tools. More training in these areas is required to increase PCPs' knowledge and confidence in identifying dementia symptoms and committing to cognitive evaluation. Our healthcare system differs from several other countries with established National Dementia Strategies, such as Canada, where healthcare providers may diagnose, treat, and manage dementia in primary care settings. On the other hand, in our setting, primary care is not well-equipped to diagnose and manage dementia due to a lack of resources where further investigations and medications for dementia are only available in tertiary centres. Hence, the strategy to strengthen dementia care in our country at the moment should focus on PCPs' training in enhancing their knowledge and competency in early detection of cognitive decline and cognitive evaluation. We should also aim to upgrade the facilities and support in primary care in the future to cope with the increasing disease burden.

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ETHICAL APPROVAL
Ethical approval was granted from the Medical Research and Ethics Committee of Ministry of Health Malaysia (NMRR-21-02318-MUC) and the Research and Ethics Committee of Universiti Kebangsaan Malaysia (FF-2021-475). Permission was obtained from Selangor State Health Department, Hulu Langat District Health Office and Family Medicine Specialists from the respective public primary healthcare clinics. Permission to use the KAPQFP Questionnaire was obtained from the authors.

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CONFLICT OF INTEREST
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