

NEUROLOGY IN PRACTICE

Knowledge, attitudes, and practices of primary care physicians regarding dementia diagnosis and management in the Philippines: A national cross-sectional survey

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Abstract

Background & Objective: Dementia is increasing in low- and middle-income countries, including the Philippines, where underrecognition and limited system capacity may delay diagnosis and constrain care. Primary care physicians are central to early detection and longitudinal management, yet local evidence on preparedness remains limited. The objective of this study was to assess dementia-related knowledge, attitudes, confidence, and clinical practices among primary care physicians in the Philippines, including training needs and cultural perceptions. **Methods:** A nationwide cross-sectional online survey (August 2024–June 2025) was conducted among non-neurology physicians providing primary care using a validated questionnaire. Descriptive statistics summarized responses. Exploratory factor analysis (minimum residual extraction, promax rotation) evaluated the 16-item attitude scale. Spearman correlations assessed associations among knowledge, attitudes, confidence, years in practice, and dementia case exposure. Open-ended responses underwent conventional content analysis. **Results:** Among 275 respondents, the mean knowledge score (maximum 13) was 8.14 ± 2.11 ; 11.3% met the predefined threshold for high knowledge ($\geq 11/13$), although the 13-item checklist showed low internal consistency and item-level findings were more informative than score categories. Attitudes were generally favorable (mean 56.83 ± 6.13), and factor analysis supported a four-factor structure (KMO = 0.801; Bartlett $p < 0.001$), explaining 56.5% of variance. Confidence in managing behavioral and psychological symptoms of dementia was low-to-moderate (mean 2.64 ± 0.84 ; $\alpha = 0.91$). Most physicians primarily referred suspected cases for diagnosis and management (83.1%), whereas 16.9% reported independent diagnosis and management. Among the 42 respondents who provided usable open-ended descriptions of self-management, history/collateral history and functional assessment (78.6%) and cognitive screening tools (59.5%) were most commonly reported, whereas neuroimaging (9.5%) and formal diagnostic criteria (4.8%) were uncommon. Knowledge correlated weakly with attitudes ($\rho = 0.17$, $p < 0.01$). Nearly all respondents reported needing additional training (97.5%), and online delivery was preferred (86.2%). Local terms such as *ulyanin* reflected normalization of dementia as aging and perceived stigma.

Conclusions: Philippine primary care physicians showed supportive attitudes but uneven dementia-related knowledge, limited confidence, and high referral dependence. Findings support skills-based primary care training and system supports to strengthen timely dementia recognition and longitudinal management.

Keywords: Dementia, primary care, knowledge, attitudes and practices, Philippines, physician training

INTRODUCTION

Dementia is a major and growing global public health challenge. An estimated 55 million

people are living with dementia worldwide, with a large proportion residing in low- and middle-income countries (LMICs).¹ Alzheimer

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disease is the most common cause, contributing to approximately 60–70% of cases.² Beyond progressive cognitive and functional decline, dementia imposes substantial societal costs, driven largely by long-term care and informal caregiving.²

The projected increase in dementia prevalence requires coordinated public health action, particularly in LMICs where specialist capacity, financing, and service integration are frequently constrained.¹ In the Philippines, community-based data demonstrate meaningful epidemiologic and economic burden, with substantial household-level costs and high indirect costs borne by families through unpaid caregiving.³ National syntheses further describe persistent gaps in dementia care, including limited local evidence, restricted health financing and coverage, barriers to diagnostics and medications, workforce shortages, and limited caregiver support structures.⁴ Underrecognition and normalization of dementia as part of “normal aging,” together with stigma and delayed help-seeking, remain important obstacles to timely diagnosis and access to care.⁴

Primary care is widely recognized as a critical setting for early detection and longitudinal dementia management, given its role as first-contact care and continuity across the illness trajectory.^{5,6} However, international evidence indicates that primary care clinicians often feel underprepared to diagnose and manage dementia due to limited training, time constraints, uncertainty in applying diagnostic criteria, limited access to specialist support, and inadequate community resources.^{7–10} Local Philippine evidence similarly suggests low physician confidence and persistent misconceptions about dementia as an expected part of aging.¹¹

Diagnostic accuracy evidence further indicates that clinical judgment alone is more specific than sensitive for dementia and should be complemented by structured cognitive assessment and appropriate work-up.^{12,13} In addition, detection rates for mild cognitive impairment (MCI) in primary care appear very low, raising concern that early disease stages may be systematically missed without intentional case-finding and structured pathways.¹⁴

Despite the central role of primary care in dementia care pathways, contemporary Philippine data examining primary care physicians’ dementia-related knowledge, attitudes, confidence, and clinical practices remain limited. This nationwide survey therefore

aimed to assess these domains among Philippine primary care physicians, including diagnostic and referral practices, confidence in managing behavioral and psychological symptoms of dementia, perceived training needs, and cultural perceptions and local terminology surrounding dementia. By generating context-specific evidence, this study seeks to inform targeted educational strategies, strengthen primary care capacity, and support policy development to improve dementia care and outcomes for patients and families.

METHODS

Study design and setting

This nationwide, cross-sectional survey was conducted among primary care physicians in the Philippines from August 15, 2024 to June 30, 2025. Invitations were disseminated through major professional medical organizations, including the Philippine College of Physicians, the Philippine Academy of Family Physicians, as well as through the Association of Municipal Health Officers of the Philippines (AMHOP) and regional societies across Luzon, Visayas, and Mindanao. Data were collected using a secure, web-based questionnaire.

Sample and sampling strategy

The minimum target sample size was estimated using the World Health Organization standard formula at a 95% confidence level and a $\pm 7\%$ margin of error. Using an estimated population of 12,550 primary care physicians and allowing for a 15% non-response rate, the minimum target sample size was calculated at 222 participants. This sample size was intended to support precision of estimates within the study cohort rather than to claim probability-based national representativeness.

A non-probability, purposive sampling strategy with voluntary participation was employed. Eligible participants included non-neurology physicians functioning in a primary care role, defined as first-contact or generalist outpatient care. This included general practitioners, family medicine, internal medicine, and other non-neurology specialists providing primary care services. Although regional recruitment targets were allocated across all 18 administrative regions to promote geographic distribution, participation remained voluntary. Therefore, the resulting cohort is best described

as a nationally distributed sample rather than a nationally representative sample of all primary care physicians in the Philippines. No survey weighting or post-stratification adjustment was applied.

Survey dissemination and participation

The survey link was disseminated through regional health agencies, hospitals, professional societies, and primary care networks across all 18 administrative regions of the Philippines. Institutional representatives were requested to circulate the survey link to eligible physicians within their jurisdictions.

During the data collection period, the online survey platform recorded 703 total form views. A total of 488 respondents initiated the questionnaire, and 275 completed responses met eligibility criteria and were included in the final analysis. Because dissemination occurred through institutional distribution without individual-level tracking of recipients, the exact number of physicians who received the survey link could not be determined. Therefore, a conventional response rate based on the number of invitations sent could not be calculated.

Eligibility criteria

Inclusion criteria included physicians practicing in a primary care role for at least one year and without formal neurology training.

Exclusion criteria included neurologists, physicians with formal neurology subspecialty training, physicians with less than one year of practice, and incomplete or non-consented responses.

Research instrument and data collection

The study utilized a validated, six-part, English-only questionnaire developed by Diep *et al.* (authorization obtained). A pilot study was not necessary due to prior validation and the target population's English proficiency.

The questionnaire sections were: 1. Demographics (professional role, background). 2. Knowledge assessment (13 single-choice questions). 3. Attitudes (16-item five-point Likert scale). 4. Confidence (four-item Likert scale). 5. Practices (closed and open-ended questions on diagnosis/treatment). 6. Training needs and stigma (open-ended questions). (see Appendix).

Data was collected using JotForm. Safeguards,

including unique survey links and real-time response checks, were implemented to minimize errors and prevent duplicate submissions while preserving respondent anonymity.

Statistical analysis

Statistical analyses were performed using JASP version 0.19.3 (JASP Team, 2025). Descriptive statistics summarized participant characteristics and survey responses. Continuous variables were reported as mean $\pm$ standard deviation or median with interquartile range, as appropriate. Categorical variables were presented as frequencies and percentages.

Internal consistency of multi-item scales was assessed using Cronbach's alpha and McDonald's omega, as appropriate. The dimensional structure of the 16-item attitude scale was examined using exploratory factor analysis with minimum residual extraction and promax (oblique) rotation. Sampling adequacy was evaluated using the Kaiser–Meyer–Olkin statistic, and Bartlett's test of sphericity assessed factorability. Factor loadings ≥ 0.40 were considered salient.

Given the ordinal nature of Likert-scale data, Spearman's rank correlation coefficients were computed to examine associations among knowledge, attitude, confidence, years of practice, and number of dementia patients seen in the preceding 12 months. Pairwise deletion was applied for missing data.

For structured multiple-response variables, responses were recoded into binary indicators. Frequencies and percentages were calculated using the relevant denominator for each analysis; therefore, percentages may exceed 100% across categories.

Open-ended responses were analyzed using conventional content analysis. Responses to the open-ended practice questions on dementia diagnosis and treatment were reviewed and grouped into recurring content-based categories. For respondents who indicated in the closed-ended item that they diagnose and manage dementia independently, only usable open-ended responses were included in the coding of diagnostic and treatment practices. Because individual respondents could report more than one approach, categories were coded as non-mutually exclusive binary indicators, and frequencies represent the number of respondents mentioning each category rather than the total number of mentions. Open-ended responses on cultural perceptions and local terminology

were similarly grouped into recurrent themes for descriptive reporting. Initial coding and category development were performed by the primary investigator through iterative review of the responses.

A two-tailed p -value < 0.05 was considered statistically significant.

Ethical consideration

The study strictly adhered to the 1964 Helsinki Declaration and subsequent revisions. Ethical approval was obtained from the Institutional Review Board (IRB) of Makati Medical Center, Makati City, Philippines.

RESULTS

Survey dissemination and participant characteristics

The survey was disseminated through regional health agencies, hospitals, and primary care facilities across the Philippines' 18 administrative regions. Institutional representatives were requested to circulate the survey link to eligible physicians within their respective jurisdictions.

During the data collection period, the online survey platform recorded 703 total form views. Of these, 488 respondents initiated the questionnaire, and 275 completed responses were obtained and included in the final analysis.

This corresponds to a completion rate of 39.1% based on total form views and 56.4% among initiated respondents.

Because recruitment occurred through institutional dissemination without individual-level tracking of recipients, the exact number of physicians who received the survey link could not be determined. Consequently, a conventional response rate based on invitations could not be calculated.

A total of 275 physicians were included in the final analysis. The majority of respondents were aged 25–34 years (41.5%), followed by 35–44 years (37.1%), with fewer participants aged 45 years and above. Female physicians comprised 57.8% of the sample, while 41.1% were male.

In terms of training, approximately half of the respondents reported a postgraduate medical degree with board certification (49.8%), 45.5% had completed residency training, and 3.6% had subspecialty training. Most respondents were general practitioners (45.8%) or trained in family medicine (32.4%), followed by internal

medicine (15.6%). Other specialties collectively accounted for 6.2% of the sample.

Regarding civil status, 57.1% were single and 38.5% were married, while 3.3% did not report their civil status.

Physicians reported practice across multiple healthcare settings. The most common practice setting was Rural Health Unit/City Health Unit (40.7%), followed by Private Clinics/Hospitals (24.7%) and Municipal/City Hospitals (15.3%). Representation was also observed in regional, training, and district hospitals, reflecting participation across primary, secondary, and tertiary levels of care. Respondents were distributed across all administrative regions of the Philippines, with the largest proportions from the National Capital Region (15.3%), Region III–Central Luzon (9.5%), and Region IV–A–CALABARZON (9.1%) (Supplementary Table 1).

Knowledge about dementia

Overall knowledge performance

Among 275 primary healthcare physicians, the mean total dementia knowledge score (maximum = 13) was 8.14 ± 2.11 , with a median score of 8 (IQR = 2.5). Scores ranged from 1 to 13, indicating substantial variability in factual knowledge.

Using predefined knowledge bands:

- High knowledge ($\geq 11/13$): 31 respondents (11.3%)
- Moderate knowledge (6–10/13): 219 respondents (79.6%)
- Low knowledge ($\leq 5/13$): 25 respondents (9.1%)

Thus, most respondents demonstrated moderate factual knowledge, with relatively few achieving high mastery.

Item-level knowledge performance

Item-level accuracy demonstrated considerable variability across the 13 knowledge items (Supplementary Table 2). The highest level of mastery was observed for recognition that delirium can result from infection, dehydration, or medication (95.3%). High accuracy was also noted for identifying depression, medication, or stress as causes of memory loss (85.8%), recognizing sudden confusion with inattention as delirium (78.9%), and identifying impaired

Table 1: Demographic and practice characteristics of respondents (N = 275)

Variable	Category	n (%)
Age group (years)	25–34	114 (41.5)
	35–44	102 (37.1)
	45–54	36 (13.1)
	55–64	19 (6.9)
	65–74	3 (1.1)
	≥75	1 (0.4)
Gender	Female	159 (57.8)
	Male	113 (41.1)
	Prefer not to say	3 (1.1)
Highest training attained*	Postgraduate degree (Medical school + Board passer)	137 (49.8)
	Residency training	125 (45.5)
	Subspecialty training	10 (3.6)
	Missing	3 (1.1)
Specialization	General practitioner	126 (45.8)
	Family medicine	89 (32.4)
	Internal medicine	43 (15.6)
	Other specialties†	17 (6.2)
Civil status	Single	157 (57.1)
	Married	106 (38.5)
	Separated	2 (0.7)
	Divorced/Widowed	1 (0.4)
	Missing	9 (3.3)
Practice setting‡	Rural health unit/City health unit	112 (40.7)
	Private clinic/Hospital	68 (24.7)
	Municipal/City hospital	42 (15.3)
	Regional hospital	28 (10.2)
	Training hospital	22 (8.0)
	District hospital	22 (8.0)
	Medical center	19 (6.9)
	Employee clinic	18 (6.5)
	Provincial hospital	10 (3.6)
	Barangay health station	6 (2.2)

* Percentages for Highest Training are calculated using N = 275; 3 respondents had missing data.

† Other Specialties include Pediatrics (n=5), OB–Gyn (n=3), Psychiatry (n=3), Pathology (n=2), Geriatrics (n=1), Ophthalmology (n=1), Palliative Medicine (n=1), and Surgery (n=1).

‡ Respondents were allowed to select more than one practice setting; totals exceed N.

memory as an early symptom of Alzheimer's disease (71.6%). Awareness that anti-dementia medications may temporarily slow symptom progression was correctly identified by 69.1% of respondents. In contrast, conceptual and preventive domains revealed notable gaps: fewer than half correctly recognized that not all dementias are progressive (47.3%), that

reversible causes of cognitive decline should be ruled out (47.3%), or that heavy alcohol use negatively affects cognition (49.5%). The lowest-performing item concerned the role of a balanced diet in supporting brain function (28.0%). This pattern suggests greater familiarity with clinical manifestations than with preventive and conceptual domains, highlighting gaps that may

Table 2: Knowledge level of respondents (N = 275)

Knowledge level	n (%)
High ($\geq 11/13$)	31 (11.3)
Moderate (6–10/13)	219 (79.6)
Low ($\leq 5/13$)	25 (9.1)

influence early detection and risk modification strategies. These gaps may have implications for preventive counseling and early case recognition in primary care.

Internal consistency of the knowledge checklist

The 13-item dementia knowledge checklist demonstrated low internal consistency (McDonald's $\omega = 0.39$, 95% CI 0.29–0.48). The mean inter-item correlation was 0.07, indicating weak shared variance across items (Supplementary Table 3). Corrected item–rest correlations ranged from 0.087 to 0.284 (Supplementary Table 4), with only one item exceeding the conventional adequacy threshold of $r \geq 0.20$. Recognition of depression, medication, or stress as causes of memory loss showed the strongest item contribution ($r = 0.284$), whereas the item on antidepressant use in dementia with comorbid depression demonstrated the weakest ($r = 0.087$).

Deletion of individual items did not meaningfully improve reliability (ω range if item deleted: 0.314–0.417), and no deletion estimate exceeded the overall omega. These findings suggest that the checklist operates as a set of discrete factual indicators rather than a unidimensional construct.

Attitudes toward dementia care

Overall attitude scores

The 16-item attitude scale demonstrated generally favorable views toward dementia care among respondents. The total attitude score ranged from 36 to 80 (possible range: 16–80), with a mean of 56.83 ± 6.13 (N = 275), indicating an overall supportive orientation toward proactive dementia management.

Factor structure of the attitude scale

Exploratory factor analysis (minimum residual extraction, Promax rotation) supported a four-factor structure. Sampling adequacy was good (KMO = 0.801), and Bartlett's test of sphericity was significant ($\chi^2(120) = 2259.40$, $p < .001$), confirming suitability for factor analysis. Parallel analysis indicated retention of four factors, accounting for 56.5% of total variance in the rotated solution (Table 4; Supplementary Table 8).

Factor 1: (Proactive & therapeutic optimism) reflected strong endorsement of early diagnosis, quality-of-life improvement, and the perceived benefits of disclosure (loadings 0.84–0.93).

Factor 2: (Health system engagement) captured support for specialist involvement and structured referral pathways (loadings 0.70–0.89).

Factor 3: (Cultural & resource concerns) represented culturally nuanced views, including traditional medicine and dementia conceptualization (loadings 0.58–0.68).

Factor 4: (Therapeutic nihilism) reflected perceptions of resource burden and limited primary-care roles (loadings 0.47–0.90).

Inter-factor correlations ranged from -0.24 to 0.43 (Supplementary Table 7), indicating related but distinct attitudinal dimensions. Model fit indices suggested acceptable but suboptimal fit (RMSEA = 0.108, 90% CI 0.094–0.122; SRMR = 0.039; CFI = 0.908; TLI = 0.819).

Internal consistency (McDonald's ω) was good for the Proactive Orientation factor, acceptable for the System Orientation factor, and moderate for the Cultural and Therapeutic Nihilism factors, reflecting conceptual heterogeneity across domains. Full rotated loadings are presented in Supplementary Table 5, with the structure matrix shown in Supplementary Table 6.

Table 3: Descriptive statistics of attitude total score (N = 275)

Variable	N	Mean $\pm$ SD	Range
Attitude total score	275	56.83 ± 6.13	36–80

Table 4: Exploratory factor analysis of the 16-item attitude scale (Promax Rotation)

Item (Abridged)	Factor 1 Proactive & therapeutic optimism	Factor 2 Health system engagement	Factor 3 Cultural & resource concerns	Factor 4 Therapeutic nihilism
Improve patients' quality of life	0.93			
Early evaluation and diagnosis	0.93			
Improve carers' quality of life	0.87			
Diagnosis more helpful than harmful	0.84			
Government should play major role		0.89		
Dementia best diagnosed by specialists		0.76		
Structured referral orientation		0.74		
Specialist referral beneficial		0.70		
Traditional medicine role			0.68	
Dementia as disability			0.58	
Dementia drains resources				0.90
Euphemistic disclosure preferred				0.47
Eigenvalue	4.62	3.39	1.55	1.25
Variance Explained (%)	24.0	16.0	8.6	8.0
Cumulative Variance (%)	24.0	40.0	48.6	56.5

Extraction method: minimum residual; rotation: promax (oblique). Pattern loadings ≥ 0.40 are displayed. Items with no loading ≥ 0.40 on any factor (e.g., stigma item, limited primary care role, frustration item, referral barrier item) were retained for conceptual completeness and are presented in Supplementary Table 5.

Confidence in managing behavioral and psychological symptoms of dementia (BPSD)

Overall confidence score

The three-item BPSD confidence scale demonstrated excellent internal consistency (Cronbach's $\alpha = 0.91$). Among 275 respondents, the mean confidence score was 2.64 ± 0.84 (median 2.67, IQR 1.00; range 1.00–5.00). Overall, respondents reported low-to-moderate confidence in identifying, managing, and distinguishing behavioral and psychological symptoms of dementia. The composite confidence score was calculated using the three skills-based items; the non-pharmacologic belief item was analyzed separately.

Item-level confidence in BPSD domains

Self-rated confidence varied across the four BPSD-related items (Table 5).

Self-rated confidence varied across BPSD domains (Table 5). For identifying BPSD, the mean score was 2.72 ± 0.94 , with 24.0% agreeing

or strongly agreeing that they had sufficient skills and 45.5% expressing disagreement. Confidence was lower for managing BPSD (mean 2.55 ± 0.87), with only 14.5% expressing agreement and 51.6% expressing disagreement. Confidence in distinguishing BPSD from other behavioral disturbances was similarly modest (mean 2.65 ± 0.92), with 18.9% agreement and 44.7% disagreement. In contrast, endorsement of non-pharmacologic approaches was stronger (mean 3.48 ± 1.00), with 54.2% agreeing or strongly agreeing that such interventions play a major role in management.

Clinical practices in dementia care

Primary management approach

Of the 275 respondents, 273 (99.3%) provided valid responses regarding their primary management approach when suspecting dementia. Most physicians reported referring patients to another provider for diagnosis and management ($n = 227$, 83.1%), whereas only 46 (16.9%) indicated that they diagnose and

Table 5: Self-rated confidence in BPSD domains (N = 275)

Item	Mean $\pm$ SD	Agree/Strongly agree n (%)	Disagree/Strongly disagree n (%)
Identify BPSD (B1)	2.72 $\pm$ 0.94	66 (24.0)	125 (45.5)
Manage BPSD (B2)	2.55 $\pm$ 0.87	40 (14.5)	142 (51.6)
Distinguish BPSD (B3)	2.65 $\pm$ 0.92	52 (18.9)	123 (44.7)
Non-pharmacologic role (B4)	3.48 $\pm$ 1.00	149 (54.2)	44 (16.0)

manage dementia cases themselves (Table 6). Two respondents did not provide a response and were excluded from the denominator.

Respondents had practiced medicine for a median of 8 years (IQR 8; mean 10.1 ± 8.5 years; range 0–49; n = 274). The median number of patients with dementia seen in the preceding 12 months was 3 (IQR 3; mean 4.5 ± 6.0 ; range 0–55; n = 271) (Table 7). Given the skewed distribution of annual dementia case exposure, median and interquartile range are presented as the primary measures of central tendency.

Diagnostic approaches among self-managing physicians

Among the 46 respondents who indicated in the closed-ended item that they diagnose and

manage dementia independently, 42 provided usable open-ended responses describing their diagnostic approach. These responses were coded into non-mutually exclusive categories; therefore, percentages exceed 100%.

Among these 42 respondents, the most commonly reported diagnostic approach was history-taking with collateral information and/or functional decline assessment (n = 33, 78.6%). More than half also reported use of brief cognitive screening tools, such as the MMSE, MoCA, or similar bedside memory tests (n = 25, 59.5%). Nearly half described evaluating for reversible or contributing causes of cognitive decline, including depression, thyroid disease, vitamin deficiency, infection, delirium, or medication effects (n = 19, 45.2%). Less commonly mentioned were specialist referral

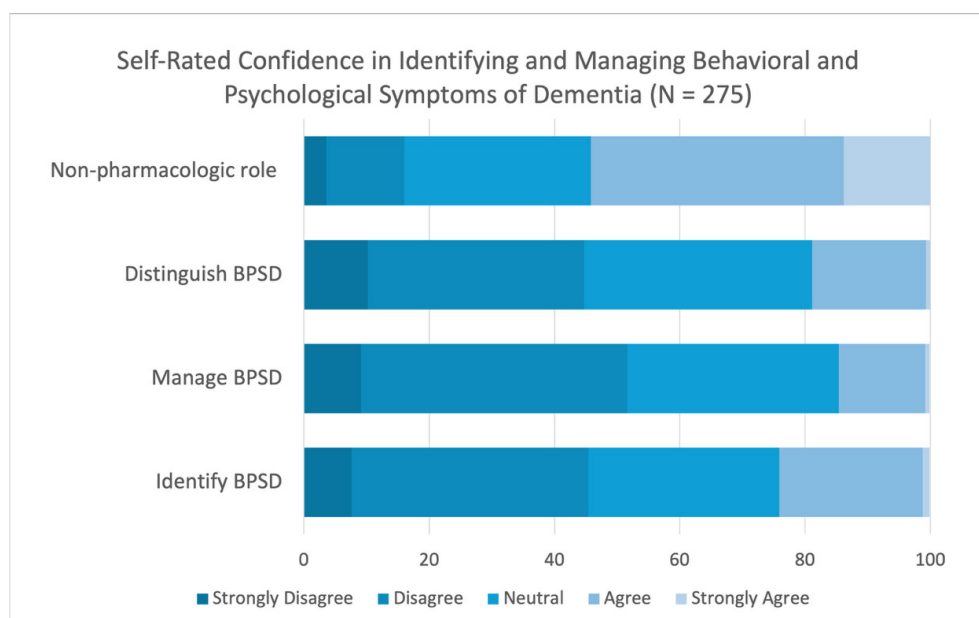


Figure 1. Self-rated confidence of primary care physicians in behavioral and psychological symptoms of dementia domains (N = 275).

Table 6: Primary management approach for suspected dementia (N = 275)

Management approach	n	% (Valid)
Diagnose and manage independently	46	16.9
Refer to another clinician for diagnosis and treatment	227	83.1
Total (valid responses)	273	100.0
Missing	2	—

or confirmatory co-management despite initial self-management (n = 15, 35.7%), physical and/or neurologic examination (n = 8, 19.0%), neuroimaging (n = 4, 9.5%), and explicit use of formal diagnostic frameworks, such as DSM-5 or mhGAP-based criteria (n = 2, 4.8%). Overall, these findings suggest that diagnostic practice among respondents reporting independent management relied mainly on clinical history and brief cognitive screening, with less frequent mention of formal diagnostic criteria or ancillary investigations.

Treatment patterns and non-pharmacologic practices

Among the same 42 respondents who provided usable open-ended responses, treatment practices were also coded into non-mutually exclusive categories (Table 9). Management of comorbidities or general medical optimization was reported by 23 respondents (54.8%), and an equal proportion described non-pharmacologic, psychosocial, or lifestyle-based strategies (23/42, 54.8%). These non-pharmacologic measures included cognitive stimulation, structured routines, sleep hygiene, environmental modification, caregiver education, social engagement, and behavioral approaches.

Pharmacologic treatment or dementia-specific medication was mentioned by 18 respondents (42.9%), most commonly memantine or donepezil/cholinesterase inhibitors. However, 15 respondents (35.7%) also indicated that they would defer medication initiation or further management to a specialist, suggesting that

even among those who reported independent management in the closed-ended item, treatment practices were often shared, selective, or conditional rather than fully autonomous. Overall, the responses suggest that management commonly emphasized supportive and non-pharmacologic strategies, optimization of coexisting medical conditions, and selective use of dementia-specific medications.

Correlational analysis of knowledge, attitude, confidence, and clinical exposure

Spearman's rank correlation analysis was performed to examine associations among knowledge scores, attitude scores, years of practice, annual dementia case exposure, and BPSD confidence scores.

Knowledge scores demonstrated a weak but statistically significant positive correlation with attitude scores ($\rho = 0.17$, $p < 0.01$). Years of practice was also weakly positively correlated with attitude scores ($\rho = 0.14$, $p < 0.05$). No significant associations were observed between knowledge scores and years of practice, dementia case exposure, or BPSD confidence (all $p > 0.05$). Likewise, BPSD confidence scores were not significantly correlated with knowledge, attitude, years of practice, or dementia case exposure. All significant correlations were small in magnitude ($|\rho| \leq 0.17$).

The heatmap (generated above) visually confirms that only small associations were observed, with significant correlations limited to knowledge–attitude and attitude–years of practice.

Table 7: Clinical practice characteristics of respondents (N = 275)

Variable	n	Summary statistics
Years practicing	274	Median 8 (IQR 4–12); Mean 10.1 ± 8.5 ; Range 0–49
Patients with dementia seen in the last 12 months	271	Median 3 (IQR 3); Mean 4.5 ± 6.0 ; Range 0–55

Table 8: Diagnostic approaches among physicians who diagnose and manage dementia independently (N = 42)

Approach	n (%)
History/collateral history and functional decline assessment	33 (78.6)
Cognitive screening tools (MMSE, MoCA, brief memory tests)	25 (59.5)
Evaluation for reversible or contributing causes	19 (45.2)
Specialist referral or confirmatory co-management	15 (35.7)
Physical and/or neurologic examination	8 (19.0)
Neuroimaging	4 (9.5)
Formal diagnostic framework/criteria explicitly cited	2 (4.8)

Multiple diagnostic approaches could be reported.

Perceived training needs and preferences

Need for additional training

A large majority of respondents expressed interest in additional training in dementia care, with 268 of 275 physicians (97.5%) indicating a need for further education (Table 11).

Preferred training topics

When asked about specific training topics, clinically oriented subjects were most frequently selected (Figure 3). The most commonly preferred topics were principles of dementia treatment (82.2%) and diagnostic criteria for dementia (78.9%), followed by communication strategies for patients with dementia (66.9%) and preventive care approaches (63.3%). Other areas of interest included symptomatology (61.5%), psychological foundations of cognition (59.6%), and causes of dementia (52.7%), while epidemiology was selected by 42.9%. Multiple responses were permitted; therefore, percentages exceed 100%.

Preferred training platforms

Regarding training delivery format, online platforms were most preferred (n = 237, 86.2%), followed by face-to-face sessions (n = 140, 50.9%) (Table 12).

Cultural perceptions and local terminology

To address the study's objective on cultural factors, an analysis of physicians' open-ended responses found that local understanding of dementia is primarily shaped by non-clinical views on aging and forgetfulness. The most common local term for the condition was *ulyanin* (or *ulianin*), a word for age-related senility mentioned in 41 responses, followed by *malilimutin* (*forgetful*), which was noted in 17 responses. These non-clinical terms reflect prevailing community attitudes, where the most dominant theme, identified in 55 responses, is the perception of dementia as a normal part of aging rather than a medical disease. One physician summarized this view as the community seeing it as just "normal signs of aging". This misconception was accompanied by references

Table 9: Treatment patterns among respondents reporting independent management (N = 42)

Approach	n (%)
Management of comorbidities/general medical optimization	23 (54.8)
Non-pharmacologic/psychosocial/lifestyle strategies	23 (54.8)
Pharmacologic treatment or dementia-specific medication mentioned	18 (42.9)
Referral/deference to specialist for medication initiation or further management	15 (35.7)

Multiple treatment approaches could be reported.

Table 10: Spearman correlation matrix of knowledge, attitude, years of practice, dementia case exposure, and BPSD confidence scores

Variable	Knowledge score	Attitude score	Years practicing	Patients seen	Confidence score
Knowledge score	1.00	0.17**	-0.04	-0.05	0.11
Attitude score	0.17**	1.00	0.14*	-0.10	0.06
Years practicing	-0.04	0.14*	1.00	0.05	-0.05
Patients seen	-0.05	-0.10	0.05	1.00	-0.12
Confidence score	0.11	0.06	-0.05	-0.12	1.00

* $p < 0.05$; ** $p < 0.01$; Spearman's rho reported. Sample size ranged from 274–275 due to missing data.

to stigma and shame ($n = 4$), which physicians reported as contributing to delayed care-seeking. The condition was also described as a family burden (8 mentions), with patients perceived as an “added burden, physical and emotional strain,” sometimes accompanied by reports of neglect and pity (4 mentions).

Barriers to dementia care

Several patterns in the data suggest challenges in dementia care delivery. Confidence scores in identifying, managing, and distinguishing behavioral and psychological symptoms of dementia were generally low to moderate. Among respondents, a substantial proportion preferred referral to specialists rather than independently diagnosing and managing cases.

Formal diagnostic criteria and neuroimaging were infrequently reported as primary diagnostic approaches.

Open-ended responses further reflected perceptions of dementia as part of normal aging in some communities, which may contribute to delayed recognition and care-seeking. Collectively, these findings suggest educational and structural constraints that may hinder timely diagnosis and comprehensive management in primary care settings.

DISCUSSION

This study of 275 primary-care physicians across the Philippines found an uneven pattern of dementia-related knowledge, generally favorable attitudes toward dementia care, but important gaps in clinical confidence and practice. Although

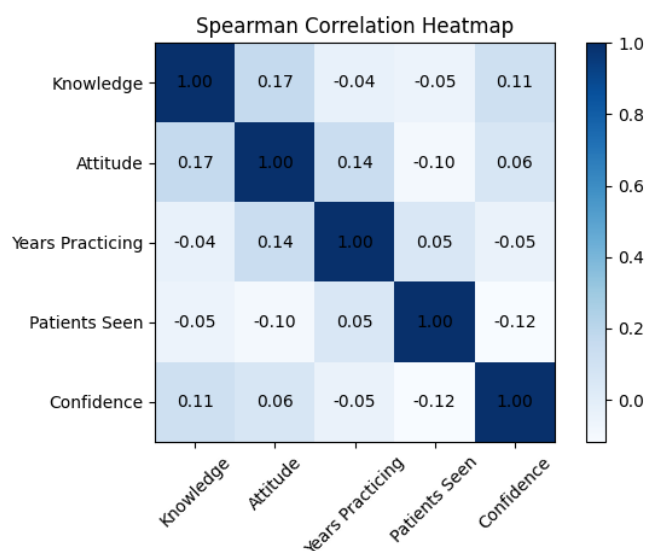


Figure 2. Spearman correlation heatmap illustrating associations among knowledge, attitude, years of practice, dementia case exposure, and BPSD confidence scores.

Table 11: Need for additional training in dementia care (N = 275)

Response	n (%)
Yes	268 (97.5)
No	7 (2.5)

most respondents fell within the prespecified moderate knowledge range (79.6%), with only 11.3% meeting the threshold for high knowledge, these summary categories should be interpreted cautiously because the 13-item knowledge checklist demonstrated low internal consistency and appears to function better as a set of discrete factual indicators than as a unidimensional scale. Accordingly, the item-level findings are more informative than the overall score categories. Respondents showed strong recognition of delirium-related presentations and common clinical causes of memory complaints, but important gaps remained in conceptual and preventive domains. Fewer than half recognized that not all dementias are progressive (47.3%), that reversible causes of cognitive decline should be ruled out (47.3%), or that heavy alcohol use negatively affects cognition (49.5%), and only 28.0% identified a balanced diet as beneficial for brain function. These findings suggest that physicians may be more familiar with common clinical presentations than with the broader

diagnostic reasoning and preventive counseling relevant to early dementia care. Comparable gaps in dementia knowledge have also been reported in other Southeast Asian primary care settings, including Vietnam, where physicians answered just over half of knowledge questions correctly.²²

Attitudes toward dementia care were generally favorable, as reflected by the overall attitude score and the factor structure showing strong support for proactive and therapeutic orientation. Respondents appeared to endorse early evaluation, diagnosis, and efforts to improve quality of life, indicating that negative or fatalistic attitudes were not the main barrier to care in this cohort. This pattern of generally positive attitudes despite uneven knowledge is consistent with reports from Vietnam²² and Beijing,²⁵ where primary care physicians also expressed supportive views toward dementia care while reporting limited preparedness for diagnosis and management. At the same time, the open-ended responses on local terminology and community perceptions suggest that dementia continues to be framed in non-clinical terms. The most frequently cited local term was *ulyanin*, and many respondents described community perceptions of dementia as a normal part of aging rather than a medical condition. This normalization may contribute to delayed recognition, reduced help-seeking, and underprioritization of early assessment.

A notable finding was the gap between

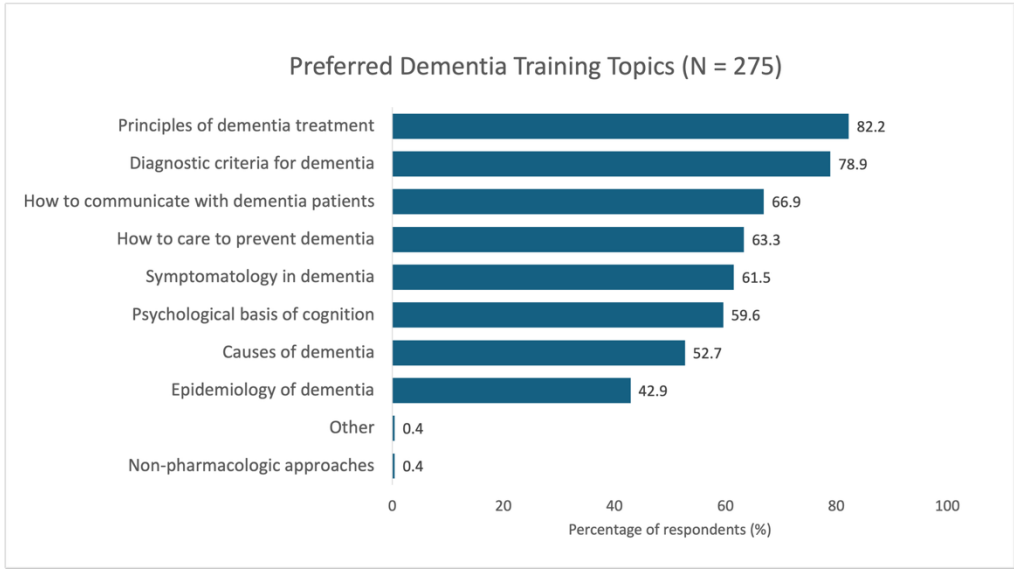


Figure 3. Preferred dementia training topics among respondents (N = 275). Horizontal bar graph showing the proportion of respondents selecting each topic. Multiple responses were permitted.

Table 12: Preferred training platforms (N = 275)

Platform type	n	%
Online platform	237	86.2
Face-to-face	140	50.9

supportive attitudes and actual clinical practice. Most physicians reported referring patients with suspected dementia to another clinician for diagnosis and treatment (83.1%), whereas only 16.9% reported independently diagnosing and managing dementia. This high referral dependence is similar to findings from Vietnam, where referral was also the predominant pattern,²² and to reports from Beijing that many primary care physicians continue to regard dementia care as a specialist domain.²⁵ In the Philippine context, this pattern appears longstanding. A scoping review by Anlacan *et al.* noted that even earlier local data showed a strong preference among primary care physicians to refer suspected dementia cases because of limited confidence in managing them.⁶ This is particularly important in a setting with limited specialist availability, where delayed referral pathways may further impede timely diagnosis and longitudinal care.¹

The correlational findings suggest that greater knowledge and more years in practice were associated only weakly with attitudes, while confidence in managing behavioral and psychological symptoms of dementia (BPSD) was not significantly associated with knowledge, attitudes, years of practice, or dementia case exposure. Knowledge scores showed a weak positive correlation with attitudes ($p = 0.17$, $p < 0.01$), and years in practice also showed a weak positive correlation with attitudes ($p = 0.14$, $p < 0.05$). However, no significant correlations were found between confidence and the other measured variables. These findings suggest that general clinical experience and factual knowledge alone may not be sufficient to build practical confidence in dementia care, and that targeted, skills-based training may be more important than experience alone. This differs somewhat from findings in Malaysia²⁴ and Beijing²⁵ that suggested closer links among knowledge, confidence, and preparedness, but is consistent with the idea that dementia care competence requires structured exposure and practice rather than passive accumulation of years in service.

Among the respondents who reported

independent diagnosis and management, the open-ended responses further illustrated the pragmatic and often limited nature of current dementia care practices. Among the 42 usable responses, the most commonly described diagnostic approaches were history-taking with collateral information and/or functional decline assessment (78.6%) and use of brief cognitive screening tools such as the MMSE or MoCA (59.5%). Evaluation for reversible or contributing causes was reported by 45.2%, whereas neuroimaging (9.5%) and explicit use of formal diagnostic criteria (4.8%) were uncommon. These findings suggest that even among self-managing physicians, diagnostic practice relies largely on clinical history and brief cognitive assessment, with less frequent use of structured criteria or ancillary investigations. This may reflect resource limitations, variable access to diagnostics, and uncertainty regarding the scope of primary care dementia work-up.⁶

Treatment practices showed a similar pattern. Among the same 42 respondents, management of comorbidities or general medical optimization (54.8%) and non-pharmacologic, psychosocial, or lifestyle-based strategies (54.8%) were more commonly described than pharmacologic treatment (42.9%). In addition, 35.7% still indicated referral or deference to a specialist for medication initiation or further management. These findings suggest that even among those who reported independent management on the closed-ended item, actual treatment practices were often selective, shared, or conditional rather than fully autonomous. This is not necessarily inappropriate, but it does underscore the limited practical readiness of primary care physicians to provide comprehensive dementia care without specialist support.

The most pronounced confidence gap involved BPSD. Only 24.0% of respondents agreed that they had sufficient skills to identify BPSD, 18.9% to distinguish BPSD from other behavioral disturbances, and 14.5% to manage BPSD. In contrast, 54.2% agreed that non-pharmacologic interventions play a major role in BPSD care. This pattern suggests that respondents recognize the importance of non-drug approaches but feel underprepared to operationalize them in practice. Similar concerns regarding limited confidence in BPSD management have been reported in Vietnam²² and Beijing,²⁵ making this a particularly important target for primary care education.

The demand for further training was nearly

universal in this study (97.5%), consistent with findings from other Asian primary care settings.²² Respondents most frequently prioritized training on principles of dementia treatment (82.2%) and diagnostic criteria for dementia (78.9%). Online delivery was the most preferred format (86.2%), although face-to-face training was also selected by about half of respondents (50.9%). These findings support the feasibility of scalable, blended, or primarily online continuing professional development strategies tailored to the Philippine primary care context. Educational interventions should focus not only on improving factual knowledge, but also on practical diagnostic reasoning, reversible-cause work-up, BPSD management, caregiver counseling, and clear referral thresholds.

Overall, the findings suggest that dementia care in Philippine primary care is constrained less by overtly negative attitudes than by uneven knowledge, low practical confidence, and a strong tendency toward referral-dependent care. Efforts to strengthen dementia care should therefore move beyond awareness alone and toward structured, skills-based training and systems support that enable primary care physicians to recognize, assess, and longitudinally manage dementia more confidently and consistently.

In conclusion, this nationally distributed cross-sectional survey found that primary care physicians in the Philippines generally held favorable attitudes toward dementia care but had uneven dementia-related knowledge, limited confidence in managing BPSD, and a strong tendency toward referral-based care. Because the 13-item knowledge checklist showed low internal consistency, the item-level findings are more informative than the overall score categories. Taken together, these findings suggest that supportive attitudes alone are insufficient without stronger practical skills and systems support, underscoring the need for targeted primary care training to improve timely dementia recognition and management in the Philippines.

Several limitations should be considered when interpreting these findings. First, the study used a non-probability, voluntary sampling approach; while respondents were nationally distributed across all administrative regions, the sample is not nationally representative of all Philippine primary care physicians, and selection bias is possible. Second, because dissemination occurred through institutional distribution without individual-level tracking, a conventional

response rate based on invitations could not be calculated; completion metrics were based on platform views and survey initiations. Third, key variables were self-reported and may be subject to recall and social desirability bias, particularly regarding diagnostic practices and confidence. Fourth, the cross-sectional design limits causal inference for observed associations. Fifth, the 13-item knowledge checklist demonstrated low internal consistency, suggesting that it functions better as a set of discrete factual indicators rather than a single unidimensional construct. Accordingly, the total knowledge score and score-based categories should be interpreted cautiously. Sixth, the open-ended responses on diagnostic and treatment practices were coded into non-mutually exclusive categories and were available only for a subset of respondents who described self-management, which may not fully capture the breadth or depth of actual clinical practice. Finally, the study did not directly measure diagnostic accuracy, facility-level resources, or patient outcomes, which may influence dementia care practices in primary care.

Based on these findings, several recommendations are proposed to strengthen dementia care in primary care settings in the Philippines. First, scalable continuing professional development programs should be developed, focusing on pragmatic diagnostic pathways appropriate for primary care, including selection and interpretation of brief cognitive assessments, functional assessment, minimum reversible-cause evaluation, and clear referral thresholds. Second, training should prioritize BPSD assessment and management, with emphasis on non-pharmacologic strategies, caregiver counseling, and safety planning, given the low confidence reported in these domains. Third, educational delivery should leverage online platforms, consistent with respondents' preferences, and incorporate case-based and skills-oriented approaches rather than solely didactic content. Fourth, system-level supports are needed alongside training, including standardized referral pathways and improved linkage to available specialist and community resources to facilitate timely evaluation and continuity of care. Fifth, public-facing dementia literacy initiatives should be strengthened to address normalization of dementia as aging and to reduce stigma, which may contribute to delayed help-seeking. Finally, future research should aim for more representative sampling

where feasible and should evaluate real-world diagnostic accuracy and downstream care outcomes, while refining measurement tools to better capture domain-specific dementia knowledge and competency in primary care.

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Supplementary Tables

Supplementary Table 1: Regional Distribution of Respondents (N = 275)

Region of practice/residence	n	%
National Capital Region (NCR)	42	15.3
Region I – Ilocos Region	13	4.7
Region II – Cagayan Valley	12	4.4
Region III – Central Luzon	26	9.5
Region IV-A – CALABARZON	25	9.1
Region IV-B – MIMAROPA	9	3.3
Region V – Bicol Region	12	4.4
Region VI – Western Visayas	17	6.2
Region VII – Central Visayas	16	5.8
Region VIII – Eastern Visayas	10	3.6
Region IX – Zamboanga Peninsula	11	4.0
Region X – Northern Mindanao	11	4.0
Region XI – Davao Region	12	4.4
Region XII – SOCCSKSARGEN	13	4.7
Region XIII – Caraga	11	4.0
Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)	10	3.6
Cordillera Administrative Region (CAR)	11	4.0
Negros Island Region (NIR)	14	5.1
Total	275	100.0

Supplementary Table 2: Item-level accuracy of the 13-item dementia knowledge checklist (N = 275)

Knowledge item (Correct response)	n Correct	% Correct	95% CI
Dementia interferes with everyday life	197	71.6	66.3–76.9
Impaired memory is an early Alzheimer's disease symptom	197	71.6	66.3–76.9
Not all dementias are progressive or incurable	130	47.3	41.4–53.2
Depression, medication or stress can cause memory loss	236	85.8	81.7–89.9
A balanced diet benefits brain function	77	28.0	22.7–33.3
Heavy alcohol intake lowers brain function	136	49.5	43.6–55.4
5–10 % of people ≥ 65 have dementia	169	61.5	55.8–67.3
Reversible causes of cognitive decline should be ruled out	130	47.3	41.4–53.2
Delirium can follow infection, dehydration or medication	262	95.3	92.8–97.8
Post-mortem examination can confirm dementia	57	20.7	15.9–25.5
Acute confusion + inattention is most consistent with delirium	217	78.9	74.1–83.7
Anti-dementia drugs may temporarily slow decline	190	69.1	63.6–74.6
Antidepressants can help when dementia is accompanied by depression	239	86.9	82.9–90.9
Stems abbreviated for presentation; full item wording is provided in the Appendix.			

Supplementary Table 3: Knowledge scale-level reliability

Statistic	Estimate	95% CI
McDonald's ω	0.385	0.288–0.481
Average interitem correlation	0.073	—

Supplementary Table 4: Item–rest correlations and McDonald's ω if item deleted

Knowledge item (Correct response)	Item–rest correlation (r)	ω if item deleted
Dementia interferes with everyday functioning	0.132	0.381
Impaired memory is an early symptom of Alzheimer's disease	0.165	0.346
Not all dementias are progressive or incurable	0.114	0.417
Depression, medication, or stress can cause memory loss	0.284	0.387
A balanced diet supports brain function	0.139	0.395
Heavy alcohol use impairs cognition	0.218	0.339
5–10% of people aged ≥ 65 years have dementia	0.257	0.326
Reversible causes of cognitive decline should be ruled out	0.230	0.343
Delirium can result from infection, dehydration, or medication	0.238	0.397
Post-mortem examination confirms dementia diagnosis	0.176	0.409
Acute confusion with inattention is most consistent with delirium	0.156	0.387
Anti-dementia drugs may temporarily slow progression	0.221	0.314
Antidepressants may help when dementia is accompanied by depression	0.087	0.401
r = corrected item–total (item–rest) correlation. ω = McDonald's omega for total scale ($\omega = 0.39$). Bold indicates highest item–rest correlation.		

Supplementary Table 5: Full rotated factor loadings (Pattern matrix)

Item (abridged)	F1	F2	F3	F4	Uniqueness
Improve patients' QoL	0.932	—	—	—	0.154
Early evaluation	0.929	—	—	—	0.221
Improve carers' QoL	0.867	—	—	—	0.215
Diagnosis helpful	0.840	—	—	—	0.307
Dementia as disability	0.443	-0.554	—	—	0.404
Government role	—	0.885	—	—	0.351
Specialists diagnose	—	0.757	—	—	0.389
Referral orientation	—	0.740	—	—	0.389
Structured referral	—	0.699	—	—	0.465
Traditional medicine	—	—	0.680	—	0.524
Cultural concern item	—	—	0.576	—	0.685
Resource drain	—	—	—	0.901	0.312
Euphemistic disclosure	—	—	—	0.466	0.538
Frustration item	—	—	—	—	0.643
Limited primary care role	—	—	—	—	0.835
Stigma attached	—	—	—	—	0.835
Extraction method: minimum residual; rotation: promax (oblique). All pattern coefficients are shown. Items with no loading ≥ 0.40 on any factor were retained for conceptual completeness.					

Supplementary Table 6: Structure matrix of the 16-item attitude scale (Promax rotation)

Extraction method: Minimum residual; Rotation: Promax (oblique); All loadings shown.				
Item (Abridged)	F1 Proactive & therapeutic optimism	F2 Health system engagement	F3 Cultural & resource concerns	F4 Therapeutic nihilism
Improve patients' quality of life	0.94	0.31	-0.12	-0.05
Early evaluation and diagnosis	0.92	0.28	-0.10	-0.03
Improve carers' quality of life	0.88	0.25	-0.08	-0.04
Diagnosis more helpful than harmful	0.84	0.29	-0.05	-0.06
Government should play major role	0.35	0.88	0.21	0.18
Dementia best diagnosed by specialists	0.24	0.76	0.17	0.20
Structured referral orientation	0.22	0.74	0.19	0.23
Specialist referral beneficial	0.26	0.70	0.16	0.21
Traditional medicine role	-0.12	0.20	0.68	0.24
Dementia as disability	-0.09	-0.55	0.58	0.14
Dementia drains resources	-0.18	0.34	0.22	0.90
Euphemistic disclosure preferred	-0.06	0.28	0.21	0.47
Managing dementia frustrating	-0.14	0.19	0.18	0.36
Limited primary care role	-0.11	0.16	0.12	0.29
Stigma attached to dementia	-0.08	0.12	0.25	0.21
Referral not worthwhile (travel barrier)	-0.05	0.22	0.18	0.34

Supplementary Table 7: Factor correlations matrix

	F1	F2	F3	F4
F1	1.00	0.22	-0.24	-0.06
F2	0.22	1.00	0.32	0.43
F3	-0.24	0.32	1.00	0.35
F4	-0.06	0.43	0.35	1.00

Supplementary Table 8: Parallel analysis output

Factor	Real Eigenvalue	Simulated Mean
1	4.119	0.576
2	2.558	0.354
3	0.688	0.290
4	0.320	0.237
Factors 1–4 retained		

Appendix – Questionnaire

For the primary investigator		
I0	Name	
I1	Email	
I2	Contact Number	
I3	Health Care Institution	
I3	City/Province	
I5	Date Answered	Date.....Month.....Year.....

What is dementia?

Dementia describes a collection of symptoms that are caused by an illness of the brain. It is not just one disease. Dementia affects thinking, behavior and the ability to perform everyday tasks. The way the brain works is affected enough to interfere with the person's normal social or working life. The key feature of dementia is the inability to carry out everyday activities as a consequence of diminished ability to think properly.

A. Demographic

A1.	Gender	Male	1
		Female	2
A2.	Age	25-34	1
		35-44	2
		45-54	3
		55-64	4
		65-74	5
		75+	6
A3.	Highest Educational Attainment	Postgraduate degree (Medical School + Board Passer)	1
		Residency Training	2
		Subspecialty Training	3
		Other (specify).....	4
A4.	Specialization	General Practitioner	1
		Internal Medicine	2
		Family Medicine	3
		Geriatrician	4
		Other (specify).....	5
A5.	Region	National Capital Region (NCR)	1
		Region I (Ilocos Region)	2
		Region II (Cagayan Valley)	3
		Region III (Central Luzon)	4
		Region IV-A (CALABARZON)	5
		Region IV-B (MIMAROPA)	6
		Region V (Bicol Region)	7
		Region VI (Western Visayas)	8
		Region VII (Central Visayas)	9
		Region VIII (Eastern Visayas)	10
		Region IX (Zamboanga Peninsula)	11
		Region X (Northern Mindanao)	12
		Region XI (Davao Region)	13
		Region XII (SOCCSKSARGEN)	14
		Region XIII (Caraga)	15
		Bangsamoro Autonomous Region (BARMM)	16
		Cordillera Administrative Region (CAR)	17
		Negros Island Region (NIR)	18
A6.	Civil	Single	1
		Married	2
		Separated	3
		Divorced/Widowed	4

A7.	Workplace	Rural Health Unit/City Health Unit Barangay Health Station Employee Clinic Private Clinic/Hospital District Hospital Municipal/City Hospital Provincial Hospital Regional Hospital Medical Center	1 2 3 4 5 6 7 8 9
A8.	How many years have you practiced as a primary care physician?		
A9.	In the last 12 months, approximately how many people with dementia have you seen for advice or treatment?		
A10.	What are the local names and terms for dementia?		
A11.	What does your community think about people with dementia?		

B. Knowledge of dementia

B1.	What is dementia?		
	A condition involving memory loss that is separate from Alzheimer's Disease	1	
	A decline in mental ability severe enough to interfere with everyday life	2	
	Another word for Alzheimer's	3	
	Not sure	4	
B2.	Which of the following is an early symptom of Alzheimer's disease?		
	Deterioration in communication	1	
	Impaired judgement	2	
	Impaired memory	3	
	Loss of mobility	4	
	Not sure	5	
B3.	Is the following statement true? All types of dementia are progressive and cannot be cured		
	True	1	
	False	2	
	Not sure	3	
B4.	Which of these can cause memory loss?		
	Depression	1	
	Some medications	2	
	Stress	3	
	All of them	4	
	Not sure	5	
B5.	Which of these helps brain functioning in healthy adults?		
	Doing puzzles	1	
	Exercise	2	
	A good balanced diet	3	
	Not sure	4	

B6.	Which of these decreases brain functioning in healthy adults?		
	Smoking	1	
	Drinking coffee	2	
	Lack of socializing with other people	3	
	Drinking a lot of alcohol	4	
	Not sure	5	
B7.	What proportion of people age over 65 are likely to have dementia?		
	2%	1	
	5%-10%	2	
	Not sure	3	
B8.	If you think a person has dementia, they should be evaluated as soon as possible because:		
	Prompt treatment can delay progression	1	
	It is important to rule out and treat reversible diseases	2	
	They should be hospitalized as soon as possible	3	
	Not sure	4	
B9.	Delirium can be caused by:		
	Infection	1	
	Dehydration	2	
	Medication	3	
	All of the above	4	
	Not sure	5	
B10.	Which of these procedures can confirm a diagnosis of dementia?		
	Mini-mental State Exam	1	
	CAT scan of the brain	2	
	Post-mortem	3	
	Not sure	4	
B11.	When a person develops a sudden onset of confusion, disorientation, and inability to sustain attention, this presentation is most consistent with the diagnosis of:		
	Alzheimer's Disease	1	
	Major depression	2	
	Delirium	3	
	Not sure	4	
B12.	Anti-dementia drugs can:		
	Permanently halt the disease	1	
	Temporarily halt the disease in all patients	2	
	Temporarily halt or slow the progression of symptoms in some patients	3	
	Not sure	4	
B13.	IF someone with dementia is also depressed:		
	Anti-depressant drugs can sometimes work	1	
	Sadness is part of the disease and not worth treating	2	
	Antidepressant drugs should not be given	3	
	Not sure	4	

C. Attitude toward dementia

Below are statements about dementia: Please answer whether you strongly disagree, disagree, are unsure, agree or strongly agree with each statement.

C1.	Much can be done to improve the quality of life of carers of people with dementia.				
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
	1	2	3	4	5
C2.	Family members should bring their relatives to the examination to be diagnosed about their relative's dementia as soon as possible				
	1	2	3	4	5
C3.	Much can be done to improve the quality of life of people with dementia				
	1	2	3	4	5
C4.	Providing diagnosis is usually more helpful than harmful				
	1	2	3	4	5
C5.	Dementia is best diagnosed by specialist services				
	1	2	3	4	5
C6.	Patients with dementia can be a drain on resources with little positive outcome				
	1	2	3	4	5
C7.	It is better to talk to the patient about their diagnosis in euphemistic terms				
	1	2	3	4	5
C8.	Managing dementia is more often frustrating than rewarding				
	1	2	3	4	5
C9.	There is little point in referring families to services as they do not want to use them				
	1	2	3	4	5
C10.	The primary care team has a very limited role to play in the care of people with dementia				
	1	2	3	4	5
C11.	There is stigma attached to having a family member with dementia				
	1	2	3	4	5
C12.	Traditional Filipino medicine has a strong role to play in dementia				
	1	2	3	4	5
C13.	Dementia is a disability rather than a syndrome				
	1	2	3	4	5
C14.	The government should play a major role in caring for people with dementia				
	1	2	3	4	5
C15.	It is not worth referring patients to a clinic or hospital as travel is too difficult or expensive				
	1	2	3	4	5
C16.	Memory loss is a normal part of aging, so is not worth treating				
	1	2	3	4	5

D. Practice toward dementia

D1.	If you think that one of your patients might have dementia, do you:	Diagnose and manage their care yourself Refer them to someone else for diagnosis and treatment	1 2	→ D2 → D5	
D2.	How would you make a diagnosis of dementia?				
D3.	What treatment if any would you recommend?				
D4.	What advice/instructions would you give to the patient's carer?				
D5.	I have sufficient skills to identify behavioral and psychological symptoms of dementia				
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
	1	2	3	4	5
D6.	I have sufficient skills to manage behavioral and psychological symptoms of dementia				
	1	2	3	4	5
D7.	I have sufficient skills to distinguish between behavioural and psychological symptoms of dementia and other behavioural disturbance not related to dementia				
	1	2	3	4	5
D8.	I believe that non-pharmacological interventions have a major role in the management of behavioral and psychological symptoms of dementia				
	1	2	3	4	5

E. General questions

E1.	Do you require further training in dementia prevention, diagnosis, treatment and care?	Yes No	1 2	→ E2 → E3
E2.	If Yes, what training would you like, and where should it take place?			
	Psychological basis of attention, memory, intelligence		1	
	Epidemiology of dementia		2	
	Causes of dementia		3	
	Symptomology in dementia		4	
	Diagnostic criteria for dementia		5	
	Principles of dementia treatment		6	
	How to communicate with dementia patients		7	
	How to care to prevent dementia		8	
	Other (specify).....		9	

Thank you for completing the survey!