

ORIGINAL ARTICLE

Development of a Valid and Reliable Scale to Assess Knowledge, Attitude and Practice (KAP) on Frailty, Nutrition and Exercise among Malaysian Elderly

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ABSTRACT

Introduction: “Frailty Intervention through Nutrition Education and Exercise (FINE)” program is an educational program, an initiative to ameliorate frailty status among elderly due to the alarming number of frailty cases in Malaysia. The current study aims to develop and determine the validity and reliability of the KAP questionnaire on frailty, nutrition and exercise to assess the effectiveness of the “FINE” program among the Malaysian elderly. **Methods:** The KAP questionnaire was created based on the developed frailty module and education materials. Content and face validity were conducted before the reliability study among five health professionals and 20 elderly, while 79 elderly were involved in a reliability study in three different Projek Perumahan Rakyat (PPR) flats in the Kuala Lumpur area. Data were analysed to determine its internal consistency reliability. **Results:** Six items were removed during content and face validity, two from each domain. All items in the knowledge section were within an acceptable range of difficulty and discrimination following the item analysis. Yet, item-to-total correlation removes one item for attitude and four items for the practice domain. The analysis found that the internal consistency reliability was 0.852, 0.732 and 0.600 for the KAP section, respectively. **Conclusion:** The final version of the KAP questionnaire consisted of (11) knowledge, nine (9) attitudes and six (6) practice items proven to be valid and reliable. Thus, it could be used to assess the effectiveness of the “FINE” program among the Malaysian elderly.

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INTRODUCTION

In recent report of Malaysia's statistic predicts a fast transition of aging population. In 2020, all individual aged 60 years and above defined as elderly in Malaysia is having the prevalence of 10% of its original population (1). Predicted to growth to 15% in 2030, soon qualifies Malaysia as one of the ageing countries in worldwide (2). Frailty in relation to the elderly already became among the most common syndrome. Intimidate the elderly with its vulnerable characteristics such as having chronic health problem, has lost the functional abilities and according to previous study, it can deteriorate further (3). In a recent study in Malaysia, revealed that the alarming prevalence of pre-frail and frail elderly to

be 59.7% and 14.6% respectively (4). As Malaysia is moving toward an ageing nation, hence a precaution step must be taken to avoid further increment of frailty cases in the future that may lead to many unnecessary events.

The “Frailty Intervention through Nutrition Education and Exercise (FINE)” program is an educational intervention program to prevent the transition to frailty status among pre-frail Malaysian elderly (5). As part of the program's assessment, a variable was included; knowledge, attitude and practice (KAP) on frailty, nutrition and exercise. Accordingly, the changes in the score of the KAP questionnaire determine the effectiveness of the program to prevent frailty.

In this context, knowledge can be described as a set of understanding, while attitude is the way a person views something or behaves towards it, and practice is an observable action towards the stimulus (6,7). The KAP

model proposes that increasing a person's knowledge will alter behaviour. In other words, people who are convinced when receiving new knowledge. As a result, they will start practising behavioural change. The KAP survey is used to represent a specific population to collect information regarding what is known, believed and performed regarding a particular topic (8). It is the most prevalent and frequently used study tool in health-seeking behaviour research nowadays.

The health belief model (HBM) is the framework applied in the intervention program in predicting the behavioural changes of the elderly (9). Notably, to assess the patient's motivation to adapt to a health-related behaviour. The HBM elements of the perception of susceptibility, seriousness, benefits, and barriers in this model are infused through the items in the KAP questionnaire. Since there is no current validated and reliable KAP questionnaire toward frailty, nutrition, and exercise, a new KAP questionnaire is developed for such a specific target population. However, an instrument might not measure the aspect intended to measure and may not provide consistent results if there is no validity and reliability study (10). Thus, this study aims to develop and determine the validity and reliability of the KAP questionnaire on frailty, nutrition and exercise to assess the effectiveness of the "FINE" program among the Malaysian elderly.

MATERIALS AND METHODS

Study design

A cross-sectional study was undertaken to develop and analyse the validity and reliability of the KAP questionnaire regarding frailty, nutrition and exercise among the elderly in three PPR flats in the Kuala Lumpur area between February and March 2020. The study protocol was reviewed, and ethical approval was attained from Ethics Committee for Research involving Human Subjects Universiti Putra Malaysia (JKEUPM) (JKEUPM-2019-335). In addition, formal permission had previously been granted by Dewan Bandaraya Kuala Lumpur (DBKL) and the Head Officer of the PPR flats in Kuala Lumpur to undertake the research in PPR flats. During data collection, written informed consent was also obtained from the elderly prior to their participation.

Development of questionnaire

The purpose of developing the KAP questionnaire is to evaluate the effectiveness of an education module to prevent frailty that is implemented through frailty education materials in a frailty intervention program called the "FINE" program. This education module, known as the frailty module, was the result of an extensive literature review on available frailty management guidelines (11-13), nutrition and exercise guidelines for the frail (14-16) and the elderly (17,18) in addition to any related frailty intervention studies worldwide (19-23) and local (24). Few frailty education materials

such as slides presentations, flipchart and booklet were developed later based on this frailty module to be used during the program.

The module is comprised of three topics; i) Introduction to Frailty Syndrome ii) Exercise and Frailty Syndrome iii) Nutrition and Frailty Syndrome. In the first topic, the elderly are introduced to the definition and the criteria of the frailty syndrome, the risk factor and the effects of having frailty syndrome and the ways to avoid it through an active lifestyle and consuming a healthy diet. Meanwhile for the second topic, regarding exercise, the type, importance and examples of exercise are included as well as injury prevention during exercises, such as the risk, safety steps and the correct techniques to treat small injuries. Whereas the nutrition in the third topic starts with an introduction on how frailty syndrome is caused by the unintentional weight loss which is one of the criteria of frailty phenotype, the factors that lead to it and the effects on the elderly. Followed by the discussion of 10 tips to prevent frailty through consuming a healthy diet which includes the recommendation of energy, protein intake, micronutrient such as calcium and vitamin D, a high antioxidant diet, intake of a variety of food, the importance of drinking enough water, and food modification as well as the social interaction during food preparation and mealtime that improves the diet intake and importance of good oral health (8).

The KAP questionnaire was developed based on the frailty module applying the participants' mother tongue, the Malay language, consisting of three sections; knowledge, attitude and practice. In the knowledge section, a total of 13 items were developed in the form of multiple-choice questions where only one answer is correct of the four options given. The correct answer is equivalent to one point and zero for an incorrect answer. The minimum possible result for the knowledge section is 0, and the maximum conceivable result is 13. However, the higher the total knowledge score indicates better knowledge of frailty, nutrition and exercise.

For the attitude section, 12 items were developed in the original set of the questionnaire. All items were rated using a 5-point Likert scale which is "strongly disagree", "disagree", "neither agree nor disagree", "agree", and "strongly agree". Points are given in increasing order: one point is given for the answer of "strongly disagree" and five points are given for the answer of "strongly agree" for the 10-positive question. However, the points are given in reverse order in the two negative structured items. The sum of the score will be recorded. The possible range of scores for the attitude section is between 12 and 60. The higher scores in this section reflect a more positive attitude towards frailty, nutrition and exercise.

The last section, the practice section, consists of 12 items in the initial set of the questionnaire. The answer for

each item in this set is given in the form of a frequency scale. The answer options are “never”, “seldom”, “sometimes”, “frequent”, and “very frequent”. One point is allocated for the lowest frequency, while five points are allocated for the highest frequency in the scale for the 10-positive item. The remaining two items are the negative structured items, in which the scoring is reversed. The total points are summed and recorded. In this practice section, the possible minimum score is 12, and the maximum possible score is 60.

As part of the validation process, five experts were randomly selected based on their expertise in the field of community, clinical and geriatric nutrition with one expert from each field and two physiotherapists with exercise expertise among the elderly. They were provided with the frailty education materials as a reference to assess the relevance and representativeness of each item to the content domain (content validity) in the developed instruments. These expert reviewers also needed to rate each item in the KAP as “essential”, “useful but not essential”, or “not necessary” in calculating the content validity ratios (CVR) using Lawshe’s formula: $CVR = (ne - N/2)/(N/2)$, where *ne* is the number of the expert panel that indicates that an item is essential and *N* signifies the total number of the expert panel (25). However, since the number of expert panels is five, only the item that results in at least 0.99 is retained (26).

Face validity was conducted among 20 elderly via an interview in a randomly selected PPR to evaluate the perception of the layperson on the relevance of the item and towards apprehending the questionnaire (27). The questions were read to participants and any puzzling questions or statements, the elderly participants were encouraged to seek clarification for the researcher to explain more understandably (6). This was to ensure that the item was clear and unambiguous (28). The items later would be restructured or altered. Following the revision, the finalised version was utilised throughout the rest of the research.

Sampling method and sample size

Locations were randomly selected from a list of PPRs in Kuala Lumpur obtained from Dewan Bandaraya Kuala Lumpur (DBKL). From the list of 31 PPRs, three PPRs were selected using a simple random sampling method. All flats (blocks) from the selected PPR were included in this study. Based on the list name of the elderly retrieved from the committee and Pusat Aktiviti Warga Emas (PAWE) from selected PPR, there are approximately 150 elderly were registered. Hence, a proportionate sampling method was applied for the selection of the participants from the list name of the elderly.

Through this method, the number of participants recruited from each PPR is based on the proportion number of the sample of each PPR from a total number of elderly in the selected 3 PPR. Hence, every elderly from the list

name has an equal chance of being randomly selected in this study. Selected elderly from the selected PPR flats meeting the inclusion criteria were invited to participate in the study. Whereas participants that met at least one of the exclusion criteria were excluded. The inclusion and exclusion criteria were summarized in Table I.

Table I: Inclusion and exclusion criteria of the participants

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> Aged 60 years and above Residing in PPR flats in Kuala Lumpur 	<ul style="list-style-type: none"> Having hearing disabilities Presence of mental illnesses such as dementia & Alzheimer’s disease

In the sample size calculation, a ratio of 10:1 was applied to determine the number of respondents required (29). In other words, the total of items in the questionnaire multiplied by 10 is equivalent to the number of respondents required to participate in the study. Once content validation was completed, a few questions were removed. The knowledge section had the highest number of items in the questionnaire, which was 11. As such, 121 respondents were required for the sample size with the addition of 10% to compensate for non-response due to absence, refusal to reply or death including the compensation for record and recall errors. The completion rate of this study is 65.3%.

Statistical analysis

Statistical analysis was conducted using Microsoft Office Excel 2016 for Windows (Microsoft Corp.) and IBM SPSS Statistics version 25.0 (IBM.). For data description, mean and standard deviation were calculated for continuous data. For categorical data, frequencies and percentages were determined. The selection of items was through item analysis; item difficulty index (IDI) and discrimination index (DI) would be determined for the item in the knowledge section while item-to-total correlation (ITC) for the items in the practice and attitude section (3). This is due to the structure of the question in which the knowledge item is a multiple-choice question with one true answer. The most difficult or the easiest item can be determined and later discarded or revised based on the IDI and DI value. Whereas, the structure of attitude and practice items belong to abstract thinking and behavioural action. Hence, ITC was used to ensure that all the items have a good correlation to contribute to overall test consistency.

The IDI value signifies the proportion of the subjects incorrectly answering the items. By using the following formula: item difficulty index = (number of correct responses to the item/total number of responses), the higher IDI value indicates a lower difficulty level with the acceptable value ranging between 0.20 to 0.90 (30). The DI value indicates the difference between the high (27% top value) and low scorer group (27% below the value) in obtaining the correct responses (31). The DI was calculated using the formula: $DI =$

[(Number of respondents in upper group 27% who answered correctly) – (Number of respondents in lower group 27% who answered correctly)] / (Total number of respondents). The higher the DI value indicates, the better the item can determine the difference (31). However, the DI value of 0.40 is considered excellent, 0.30 – 0.39 is good, 0.2 – 0.29 is fair, 0.00 – 0.20 is poor and less than 0 is majorly flawed (30).

A good item should have IDI and DI values in the appropriate range (6). Similarly, the ITC is to differentiate between the top and low scorer groups and measure the correlation of the item to the overall domain (26). However, the item with a correlation value below 0.20 will be removed (34).

Reliability concerns the extent to whereby the instrument can provide a stable, accurate and consistent result (35) by establishing its internal consistency. To determine the reliability of the questionnaire, the internal consistency of the knowledge was analysed using the Kuder Richardson formula (KR-20), while attitude and practice were analysed using Cronbach's alpha. The value of KR20 or Cronbach's alpha coefficient above 0.5 is deemed acceptable (36). An item will be retained based on the IDI and ID value for the knowledge domain, ITC for attitude and practice domain, and the results of internal consistency reliability. Statistical significance was set at a p-value < 0.05.

RESULTS

Sociodemographic characteristics

Table II displays the sociodemographic data of the elderly. A total of 79 elderly with a mean age of 68.1 ± 5.8 participated in this cross-section study, with more females participating ($n = 56$) than males ($n = 23$). The majority of respondents were Malay (64.6%), followed by Indian (26.6%) and Chinese (8.9%). Regarding marital status, the number of married and widow/widower participants was comparable at 44.3% and 48.1%, respectively. The remaining 5.1% were divorced, with only 2.5% single. Despite the highest level of education reported among the participants (i.e., tertiary education), the majority, 41.8% ($n = 33$), completed their education at the primary school level only. Only a few were still working (11.4%), with the remainder not working, were housewives or had already retired.

Content and face validity

Regarding content validation, six items failed to meet the CVR value (< 0.99), two from each domain; thus, they were removed. Based on the comments given by the respondents, some of the knowledge items were relatively easy and straightforward to answer, or the answer given from multiple options was too obvious. Meanwhile, in the attitude and practice domain, a few items did not reflect the domain. However, the items that were reported as difficult to understand were retained

Table II: Sociodemographic characteristics of subjects (n = 79)

Variables	n (%)
Age	68.1 ± 5.8
Gender	
Male	23 (29.1)
Female	56 (70.9)
Ethnicity	
Malay	51 (64.6)
Chinese	7 (8.9)
India	21 (26.6)
Marital status	
Single	2 (2.5)
Married	35 (44.3)
Divorced	4 (5.1)
Widow/Widower	38 (48.1)
Level of education	
No school	12 (15.2)
Religious school	2 (2.5)
Primary school	33 (41.8)
Secondary school	27(34.2)
Tertiary school	5 (6.3)
Occupation status	
Not working/Retired	70 (88.6)
Working	9 (11.4)
Level of education	
No school	12 (15.2)
Religious school	2 (2.5)
Primary school	33 (41.8)
Secondary school	27(34.2)
Tertiary school	5 (6.3)

and rephrased to avoid ambiguity. A few suggestions on the terminologies and wording used in the instrument were also given. Nevertheless, the discussion on the second draft with the expert panel resulted in the further removal of one item in the knowledge domain, given repetitive issues of the item.

Face validation was conducted after the content validation process had been completed. Elderly found that most of the items were lengthy, and some statements were confusing, which unfortunately led the elderly to feel tired and bored while answering the items. Based on the comments received, the items were reconstructed to be more concise without changing the true meaning of the items. There were no complaints about the wording or arrangement of the items. Notably, the final draft of the instrument following the validation process consisted of 11 knowledge, 10 attitude and 10 practice items. The total time spent answering the questionnaire was between 15 to 20 minutes.

Internal consistency reliability

Item analysis was conducted before the analysis of internal consistency reliability. Based on Table III, of the 11 knowledge items, all items met the acceptable range for IDI (0.20 – 0.90). Whereas for the DI, nine items were classified as excellent (≥ 0.40), one item fell under the good category (0.30 – 0.39), and one item was categorised as fair (0.2 – 0.29). No item was reported as poor or majorly flawed. All items have an IDI value above the acceptable range. Hence, no item was removed. In contrast, for ITC, one item from attitude

Table III: The difficulty and discrimination index of the knowledge domain (n = 11)

Item No.	Item	Item Difficulty Index (IDI)	Discrimination Index (DI)
K1	What are the criteria of the frailty syndrome? i) Weakness ii) Irritated iii) Gain weight iv) Not sure	0.53	0.38
K2	Which group has a high risk of getting frailty syndrome? i) Male group ii) Low-income group iii) Married group iv) Not sure	0.25	0.47
K3	What is the effect of having frailty syndrome? i) Poor body odour ii) Dry skin iii) Weak muscle iv) Not sure	0.73	0.62
K4	In which category does brisk walk and jogging fall? i) Flexibility exercise ii) Balance exercise iii) Aerobic exercise iv) Not sure	0.29	0.43
K5	What is the benefit of practising resistance exercise? i) Strengthen the muscle ii) Strengthen the heart iii) Strengthen the joint iv) Not sure	0.34	0.76
K6	Determine the level of exercise intensity if an individual can talk/laugh comfortably while exercising? i) High intensity ii) Moderate intensity iii) Low intensity iv) Not sure	0.27	0.29
K7	What is the effect of unintentional weight loss? i) Blurry vision ii) Muscle mass decline iii) Hearing loss iv) Not sure	0.44	0.71
K8	What is the function of protein towards the body? i) Sharpen the mind ii) Build muscle iii) Better iv) Not sure	0.36	0.62
K9	Which food contains high Calcium? i) Fish ii) Milk iii) Fruit iv) Not sure	0.42	0.76
K10	What is the right way to increase body weight for underweight individuals? i) Choose not to eat if does not have appetite to eat ii) Increase the number of mealtimes iii) Reduce the quantity of food intake iv) Not sure	0.66	0.71
K11	Which type of food is suitable for snacking? i) Fruits ii) Fried food such as banana fritters iii) Cakes iv) Not sure	0.65	0.67

and four items from the practice domain had a value below the recommendation cut off point (0.20); hence, they were removed. The remaining items that have an ITC value above 0.20 proceeded to internal consistency reliability analysis.

The KR20 value of 0.852, as shown in Table IV, indicates the internal consistency reliability for the knowledge domain. Whereas, for the attitude and practice domains, after the removal of the items with an ITC value less than 0.20, Cronbach's alpha coefficients are 0.738 and 0.600, respectively. All sections fulfilled the minimum acceptable value of internal consistency reliability of at

least 0.500 (36).

DISCUSSION

In the present study, a Malay language 26-items of KAP questionnaire was developed for the "FINE" intervention programs mainly comprised of frailty, nutrition and exercise and was found to be relatively consistent, reliable and valid. The number of items in the KAP questionnaire had a favourable impact on the quality and brevity of the responses. The understandability of the items likely facilitates the completion of the questionnaire by the participants (37). In addition, the

Table IV: Item-to-total correlation (ITC) and internal reliability coefficient of knowledge, attitude and practice domains

Item No.	Item	Item-to-total correlation (ITC)	Reliability coefficient
Knowledge			0.852 ¹
Attitude			0.738 ²
A1	I think it is important to know and learn about frailty syndrome	0.48	
A2	I think I have the risk to get frailty syndrome	0.33	
A3	I believe frailty syndrome caused by ageing	0.36	
A4	I believe that healthy eating won't do any good to the body	0.31	
A5	I will still can be frail even if I exercise	0.18*	
A6	I believe warm-up is important before doing exercise	0.66	
A7	I also think that cooling down should be done after doing exercise	0.35	
A8	I know how to choose the exercise that is appropriate to my current health state	0.56	
A9	I believe that participating in the nutrition education program may help in improving my diet	0.31	
A10	I think it is important to increase daily protein intake	0.50	
Practice			0.600 ²
P1	How frequently do you do your daily work to keep your body active?	0.37	
P2	How frequently do you do flexibility exercises such as stretching your body?	0.11*	
P3	How frequently do you do resistance exercises such as lifting heavy stuff or climbing stairs?	0.32	
P4	How frequently do you do aerobic exercises such as a brisk walk or slow jogging?	0.23	
P5	How frequently do you do balance exercises such as stand with one leg or Tai Chi?	0.31	
P6	Do you take any snacks such as biscuits, fruits and bread in between main meals?	0.20	
P7	Did you consume high protein food such as fish, chicken and egg in every main meal?	0.38	
P8	Did you drink milk (milk flour, UHT, fresh milk) or any kind of milk product (cheese or yogurt)	0.11*	
P9	How frequent did you consume food high in vitamin D as tuna, sardine and mackerel or cereal, yogurt and egg?	0.17*	
P10	Are you frequently do outdoor activities in morning or evening?	- 0.16*	

¹ Kuder-Richarson Formula 20, ² Cronbach's alpha, *Item-to-total correlation (<0.20)

time taken to complete this KAP questionnaire was ideal, between 15 to 20 minutes (40).

To the best of our knowledge, this is the first instrument developed and valid in measuring KAP among the community frail elderly regarding the frailty, nutrition and exercise in Malaysia and worldwide. The intensive literature review discovered limited studies on previous educational frailty intervention programs (38-41) regarding nutrition and exercise. However, none were found to include neither the application of the HBM framework nor measuring the behavioural change through the level of KAP in the intervention program.

However, despite the limited studies found, it is important to recognise that sufficient evidence has proven that health education on KAP is effective in reducing the incidence of numerous health issues. It can help in early detection and formulating strategies to control the rising numbers of frailty in the elderly and planning frailty prevention intervention programs. At the baseline level, it is important to acknowledge that the elderly having insufficient knowledge or practice and poor attitudes regarding frailty should be guided through peer education to enhance or improve the internalisation of their knowledge and practice a healthier lifestyle (42). Thus, the gaps found in the participants' KAP will indirectly help in developing an effective intervention program if addressed appropriately throughout the program.

Aside from that, in determining the psychometry value of the scale, in total 11 items were removed, six items during the content validity and the remaining during the reliability study. The items removed during the

content analysis were due to the CVR value below the recommended cut of points (< 0.99). Hence, the relativeness and relevance of the items were questioned. Some of these items, as mentioned earlier, were reported as too easy, or the answer options given were too obvious. As such, these items may affect the KAP score and directly influence the success of the intervention program. Thus, these items were removed as recommended by the expert panel.

However, Jackson et al. suggest that a few simple items are needed as an 'ice-breaker' to reduce the participant's apprehension (43). These items are important to illustrate the ease of answering the remaining items (43) and consequently improve the face validity and usefulness of the scale (44,45). On the other hand, items reported as difficult to understand were rephrased to avoid ambiguity and prevent the elderly from giving indecisive answers, such as choosing the 'neutral' option answer. They tended to choose a safe answer due to not understanding what the question was all about. Thus, it may lead to survey bias.

In this case, response style bias might eventuate in which the participant responds to the items without giving much attention and initiate a pattern of answers that do not reflect the true profile of the participant. Previously, Abad et al. recommended including negative items in a test to lessen the response style bias (46,47). However, negative items may be tricky and create a cognitive burden on the elderly. This will make it difficult for the elderly to receive an objective response and easily put off the subject. This issue was initially discussed by Alvarez et al., on why he discouraged the combination of regular and reversed items in a test, given the possibility of bias

introduced by the different cognitive levels (47). Thus, a precautionary step was introduced by minimising the number of negative items incorporated in the questionnaire. However, after the psychometric analysis was completed, only one negative item remained in the final form of the tool.

After removing a further five items during data analysis due to having an ITC value of less than 0.20, the results of the reliability of the KAP questionnaire were acceptable at 0.852, 0.738 and 0.600 for the knowledge, attitude and practice section, respectively. Both the knowledge and attitude section score were above 0.700, indicating that they had good homogeneity among the items (48,49). In contrast, the practice section had the least reliability value compared to the knowledge and attitude section. This could be due to the least number of items making up the practice section that affect the reliability (43,50). Nonetheless, all the sections fulfilled the requirement of the minimum acceptable value (33).

As compared to previous local study by Hiew et al. (2015) on validity and reliability study of the lifestyle consisted of nutrition and physical activity among larger scale (n = 647) of Malaysian adolescents demonstrated a good internal consistency of attitude with acceptable value of knowledge and practice domains (Cronbach's alpha: knowledge = 0.654, attitude = 0.845, practice = 0.636) (6). On the other hand, validation study by Chen, 2013 on the nutrition knowledge, attitude and practice among individual with disabilities reported only a fairly acceptable internal consistencies of knowledge domain but with a good result for attitude and practice domain (Cronbach's alpha: knowledge: 0.59, attitude: 0.73, practice: 0.91) (48).

Several limitations were evident in this study. The first limitation is that the items were generated and validated only in the PPR flats in the Kuala Lumpur area; thus, the questionnaire is affected by the habit or the lifestyle of the elderly in the local population. This initiates the concern on the applicability of the same KAP instruments among other elderly populations having entirely diverse lifestyles. Nevertheless, since Kuala Lumpur is the capital city of Malaysia, it is home to a variety of cultures. To generalise the results to various areas, consideration must be taken into account so that the results can be generalised to the whole country.

Likewise, it is worthy to note that the response rate was low given the sudden outbreak of the coronavirus disease (COVID-19) in March 2020 and the prolonged total lockdown in the country making it physically impossible to collect the data. And due to limited technologies and poor gadget handling by the subjects, it is impracticable to be continued virtually. However, the response rate is above the minimum acceptable value (> 60%) and it should not be the only factor to judge the survey quality and bias (51). Even so, a higher response rate

can reduce the bias. Therefore, as a recommendation, further study is required by incorporating a larger-scale survey to improve the psychometric value by evaluating construct validity and test-retest reliability for the KAP questionnaire.

CONCLUSION

Evidence of the validity and reliability of the developed KAP questionnaire on frailty, nutrition and exercise for the "FINE" program was achieved in this study consisting of 26 items (11 knowledge, nine attitude and six practice items). This short but concise KAP instrument can be easily used in a community setting among the elderly. Thus, it can be employed to investigate the KAP level on frailty, nutrition and exercise of the Malaysian elderly to provide baseline data to evaluate the effectiveness of the "FINE" program (5).

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