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Modified Delphi Consensus on Developing Home Care Service Quality Indicator for Stroke Survivor in Yogyakarta, Indonesia

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Keywords: Home care; Modified Delphi; Indicator development; Quality service; Quality of care

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Abstract

BACKGROUND: Assessing the quality of health services provided at home (home care) is a challenge. The formulation of indicators requires open-minded people, who able to formulate several purposes objectively, and play an active role in decision making.

AIM: To test the face validity of the home care quality indicator in stroke patients with the modified Delphi method.

METHODS: Eighty-one indicators generated from previous studies were assessed using 3 processes to get the final results: 1) conducted modified Delphi in two rounds, namely rating or scoring by experts (using median scores); 2) reviewing qualitative suggestions from experts during the Delphi process (using comments from both Delphi rounds); 3) sorting out and correcting the grammar of the appropriate indicator (based on the median score > 7, and no disagreement).

RESULTS: Eighty-seven experts were involved in the first round Delphi and 34 experts in the second round. The experts were home care team selected from health care institutions in Yogyakarta with various professional backgrounds. Delphi process resulted in 67 indicators from 81 indicators which were divided into 10 domains: 1) Personal (2 indicators), 2) Documents (13 indicators), 3) Professionalism development (3 indicators), 4) Supporting facilities (8 indicators), 5) Administrative activities (4 indicators), 6) Health workers interaction with patients and families (15 indicators), 7) Physical conditions (2 indicators), 8) Self-actualization (1 indicator), 9) Psychological condition (5 indicators), 10) Family independent and coping (14 indicators). Selected indicators got to score more than 7 and no disagreement at all.

CONCLUSION: Sixty-seven indicators of the quality of home care, which were generated from modified Delphi consensus, were face validated. Further research could be conducted particularly on the trial process of these indicators at the actual home dwelling service setting.

Introduction

Efforts to assess the quality of health services and indicators that represent the quality assessment are still an extensive discussion until now. The formulation of indicators requires open-minded people, who able to formulate purposes objectively, play an active role in decision making, highly committed to achieving the highest standards of performance and willing to accept the suggestion, to create new ideas and methods [1].

Assessing the quality of health services provided at home (home care) is a challenge because of the many influencing environmental factors. In previous studies, the author has explored the expectations of stroke patients with home care, as a candidate indicator of home-based service outcomes (patient and family centred care) (unpublished articles). Although some previous publications have compiled indicators for home care services, the validity and reliability of the methods used are still low. So in this paper, the author begins the preparation of indicators with the involvement of patients and families besides the literature study, then the list of indicators obtained is requested for assessment by experts with the modified Delphi method.

The first home care quality indicator set (HCQIs) was issued by Inter-RAI, an international research consortium specialised in the development and application of standardised assessment instruments in 1913 [2]. Second generation HCQIs was developed in 2013, introducing several improvement indicators, including a more acceptable risk adjustment strategy and the addition of indicator domains [3]. This instrument proved to be applicable in 30 countries in America and Europe, but no one has mentioned its application, especially in Southeast Asia. It is necessary to develop indicators using recognised methods by minimising bias and taking from valid sources [4].

The main objective of the study was to identify and develop indicators to assess the quality of home care services with stroke home care quality indicators (SHCQI) through the consensus of experts who were able to contribute to the assessment of the quality of home care for stroke patients.

Methods

Eighty-one indicators produced from previous studies were assessed using 3 processes to get the final results: 1) conducted modified Delphi in two rounds, namely rating or scoring by experts (using median scores); 2) reviewing qualitative suggestions from experts during the Delphi process (using comments from both Delphi rounds); 3) sorting out and correcting the grammar of the appropriate indicator (based on the median score > 7, no disagreement). This study has received an ethical clearance letter from the Ethics Committee of the Faculty of Medicine, Public Health and Nursing, Gadjah Mada University.

Results

For Delphi Phase I, the author provided an instrument that contained indicators of the quality of home care services for stroke patients to experts involved in-home care services. The instruments contain 81 indicators. The instruments were filled independently by experts, starting in mid-February 2018 until the end of March 2018. The experts were asked to give a score on the indicator, from numbers 1 to 9 as well as comments on each item. A value of 1-3 means that the indicator had a role and significance that was not/less important to assess the quality of home care services, a value of 4-6 means that the indicator has an important role and significance to assess the quality of home care services, and a value of 7-9 means its indicator has a very important role and significance to assess the quality of home care services. The experts were all health workers at one hospital and two health centers, Yogyakarta, Indonesia as many as 70 experts.

A total of 81 indicators, along with scores given by 70 experts, were included in the excel program, as well as input/suggestions provided by experts. The scores were then analysed by the SPSS program to obtain the median value of each indicator. Only indicators with a median value of 7 to 9 were taken and will be used as potential indicators for Delphi Phase II (appropriate indicators).

For Delphi Phase II, the second version of the indicator list (the result of improvements from Delphi I) was taken to the discussion forum, which was attended by experts once again. The experts were asked to give scores, and comments on indicators with score criteria like in Delphi Phase I. Delphi Phase II emphasised the discussion process between experts so that all agreed on a particular score. If disagreements in giving scores or no agreement were found, then voting or taking the most votes was applied. The total experts involved in Delphi Phase II were 34 experts, from hospitals and health centres in Bantul Regency, Yogyakarta. This expert panel activity is carried out 4 times. These experts represent all health workers, consisting of specialist doctors, general practitioners, nurses, nutritionists, physiotherapists, and others. The expert characteristics of Delphi Phase I and Phase II are presented in Table 1.

Table 1: The expert characteristics of Delphi Phase I (N = 70) and Delphi Phase II (N = 34)

Profession and educational degree	Delphi I		Delphi II	
	n	F (%)	n	F (%)
Midwifery (Diploma 3)	3	4.3	2	5.9
Doctor				
Medical Specialist	3	4.3	1	2.9
General Practicioner	7	10	6	17.6
Postgraduate Master (Family Medicine)	1	1.4	1	2.9
Dentist (Undergraduate)	1	1.4		
Dietician				
Diploma 3	4	5.7	3	8.8
Undergraduate	1	1.4	1	2.9
Nurse				
Diploma 3	33	47.1	8	23.5
Diploma 4	1	1.4	1	2.9
Undergraduate	9	12.9	3	8.8
Health Promotion				
Undergraduate	1	1.4		
Postgraduate Master	2	2.8		
Public Health				
Undergraduate			1	2.9
Postgraduate			2	5.9
Dentist (Diploma 4)	3	4.3	1	2.9
Medical Analyst (Diploma 3)			2	5.9
Sanitarian (Diploma 3)			1	2.9
Psychologist (Postgraduate Master)	1	1.4	1	2.9
Gender				
Male	9	12.9	5	14.7
Female	61	87.1	29	85.3
Age				
Mean (SD)	36.8 (10.9)		37.7 (10.8)	
Median (min-max)	35 (21-60)		36 (23-60)	

Scores from 67 indicators of the second version and qualitative advice from experts were included in the Excel program and data were analysed through the SPSS program to find out the median of each indicator. Indicators with a median value of 7 to 9 (appropriate indicators) will be the final indicator of the quality of home care services for stroke patients. The indicator will be developed into a questionnaire

assessing the quality of home care services for stroke patients.

Most of the experts involved in-home care services were nurses, followed by doctors. Experts involved in Delphi Phase II were the same as experts in Delphi Phase I, but from 70 experts at the beginning only 34 experts were present at this Delphi Phase II, so the characteristics of experts in Delphi II were not much different from the Delphi I. The results of calculation of the median value of each indicator from Delphi I and Delphi II are presented in Table 2.

Table 2: Median value and indicator

	Delphi Phase I			Delphi Phase II		
No	Indicators	Median score	Categorize	Naration of indicator modification	Median score	Categorize
1	Officers involved in the home care team:			1. Officers involved in the home care team:		
	a. Medical spesialist	6	*Uncertained*	a. General Practitioner	8.5	*Appropriate*
	b. General Practitioner	7	*Appropriate*	b. Primary Nurse (minimum education Diploma 3 degree)	9	*Appropriate*
	c. Primary Nurse	8	*Appropriate*	c. Physiotherapist	8	*Appropriate*
	d. Physiotherapist	7	*Appropriate*	d. Dietician	8	*Appropriate*
	e. Dietitian	7	*Appropriate*	e. Psychologist	9	*Appropriate*
	f. Psychologist	6.5	*Uncertained*			
	g. Laboratory staff	6	*Uncertained*			
	h. Clergyman	6	*Uncertained*			
2	The home-care team is available 24 hours a day, 7 days a week for consultation via mobile phone	6	*Uncertain*	2. The home-care team conducts home visits within 6 working days and working hours.	8	*Appropriate*
3	The home-care team is available 7 days a week for home visits	6.5	*Uncertain*			
4	Special medical records available for home care patients	7	*Appropriate*	3. Special medical records available for home care patients	9	*Appropriate*
	The form that must be available in medical records:			Form that must be available in medical records:		
5	Assessment form,			4. Assessment form,		
	a. The general condition of patients and families: physical, psychological, social and spirituality	8	*Appropriate*	a. The general condition of patients and families: physical, psychological, social, spirituality and level of knowledge	9	*Appropriate*
	b. Pain	7.5	*Appropriate*	b. Pain	9	*Appropriate*
	c. Decubitus risk	8	*Appropriate*	c. Decubitus risk	9	*Appropriate*
	d. Fall risk	8	*Appropriate*	d. Fall risk	9	*Appropriate*
	e. Caregiver stress level	8	*Appropriate*	e. Caregiver stress level	8.5	*Appropriate*
6	Data analysis form	7	*Appropriate*	5. Data analysis form	9	*Appropriate*
7	Procedure form	7.5	*Appropriate*	6. Procedure form	9	*Appropriate*
8	Form evaluation of patient and family conditions	7	*Appropriate*	7. Form evaluation of patient and family conditions	9	*Appropriate*
9	A summary form of the patient's condition if the patient dies	7	*Appropriate*	8. A summary form of the patient's condition if the patient dies	8.5	*Appropriate*
10	The adverse event reporting form of the treatment performed	7	*Appropriate*	9. The adverse event reporting form of the treatment performed	9	*Appropriate*
11	Available forms of patient and family satisfaction levels for home care services	7	*Appropriate*	10. Available forms of patient and family satisfaction levels for home care services	8.5	*Appropriate*
12	A complaint form for patient or family complaints	7	*Appropriate*	11. There is a complaint form for patient or family complaints	9	*Appropriate*
13	Professional development of home care officers:			12. Professional development of home care officers:		
	Early home care training when accepted as a home care officer	8	*Appropriate*	a. Early home care training when accepted as a home care officer	9	*Appropriate*
14	Scientific activities (seminars, conferences) relating to case management at home care	7	*Appropriate*	b. Scientific activities (seminars, conferences) relating to case management at home care	8.5	*Appropriate*
15	Conduct research for the development of home care programs	6	*Uncertain*			
16	A regular schedule of meetings between home-care members to discuss patient care plans	7	*Appropriate*	13. Regular schedule of meetings between home-care team members at least once a month, to discuss patient care plans	8.5	*Appropriate*
	Supporting facilities in home care			Supporting facilities in home care		
17	Availability of information (leaflets) about home care services	7	*Appropriate*	14. Availability of information (leaflets) about home care services	7.5	*Appropriate*
18	There is room for discussion between home care teams	7	*Appropriate*	15. There is room for discussion between home care teams	8	*Appropriate*
19	Availability of educational media	7	*Appropriate*	16. Availability of educational media/health education, for example, leaflets that are by the care needed by the patient	9	*Appropriate*
20	The minimum equipment that is brought on to the patient's home			17. The minimum equipment that is brought on to the patient's home		
	a. Sphygmomanometer and stethoscope	8	*Appropriate*	a. Sphygmomanometer and stethoscope	9	*Appropriate*
	b. Weight Scales	5	*Uncertain*	b. Penlight	9	*Appropriate*
	c. Pen light	7	*Appropriate*	c. Reflex Hammer	8	*Appropriate*
	Administrative activities for implementing home care:			Administrative activities for implementing home care:		
21	The home care team visits the patient's home according to the agreed schedule	8	*Appropriate*	18. The home care team visits the patient's home according to the agreed schedule	9	*Appropriate*
22	Clinical audits are part of a quality improvement program	7	*Appropriate*	19. Clinical audits are part of a quality improvement program	6	*Uncertain*
23	All adverse events are reported and documented in medical records	8	*Appropriate*	20. All adverse events are reported and documented in medical records	8.5	*Appropriate*
24	The process of managing patient or family complaints is documented	7	*Appropriate*	21. The process of managing patient or family complaints is documented	8.5	*Appropriate*
25	The officer fills out the medical record each home care visit	7	*Appropriate*	22. The officer fills out the medical record every time a home care visit	9	*Appropriate*
26	The clinical summary of the patient is filled in a medical record after the patient has quit the homecare program or dies	7	*Appropriate*	23. The clinical summary of the patient is filled in at RM after the patient has quit the homecare program or dies	8	*Appropriate*
	Officer interaction with patients and families:			Officer interaction with patients and families:		
27	Health workers ask complaints and desires of patients and families	8	*Appropriate*	24. Health workers ask complaints and desires of patients and families	8	*Appropriate*
28	Health workers check vital signs	8	*Appropriate*	25. Health workers check vital signs	9	*Appropriate*
29	Health workers review/evaluate patient pain	8	*Appropriate*	26. Health workers review/evaluate patient pain	9	*Appropriate*
30	Health workers assess/evaluate the risk of decubitus/pressure sores in patients	8	*Appropriate*	27. Health workers assess/evaluate the risk of decubitus/pressure sores in patients	9	*Appropriate*
31	Health workers assess/evaluate the risk of falling in patients	8	*Appropriate*	28. Health workers assess/evaluate the risk of falling in patients	9	*Appropriate*
32	Health workers check the physical condition of patients and families	8	*Appropriate*	29. Health workers check the physical condition of patients and families	9	*Appropriate*
33	Health workers review / evaluate the psychological condition of the patient	7	*Appropriate*	30. Health workers review / evaluate the psychological condition of the patient	9	*Appropriate*
34	Health workers review / evaluate the social conditions of patients and families	7	*Appropriate*	31. Health workers review / evaluate the social, economic and cultural conditions of patients and families	7.5	*Appropriate*
35	Health workers review / evaluate patient and family spirituality	7	*Appropriate*	32. Health workers review / evaluate patient and family spirituality	7	*Appropriate*
36	Doctors review the medication that patients receive regularly	8	*Appropriate*	33. Doctors review the medication that patients receive regularly	9	*Appropriate*
37	Health workers measure the patient's weight	6	*Uncertain*			
38	Health workers assess the independence of patients with the Barthel Index	7	*Appropriate*	34. Health workers assess the independence of patients with the Barthel Index	9	*Appropriate*
39	Health workers convey conditions and plans for nursing to families and patients clearly and language that is easy to understand and friendly	8	*Appropriate*	35. Health workers convey conditions and plans for nursing to families and patients clearly and language that is easy to understand and friendly	9	*Appropriate*
40	Health workers provide opportunities for patients and families to consult	8	*Appropriate*	36. Health workers provide opportunities for patients and families to consult	9	*Appropriate*
				37. Health workers give medical procedure according to a problem found (based on data analysis results)	9	*Appropriate*
	Fulfilling the needs of daily activities / ADL:					

41	The patient can carry out activities on the bed, such as moving from a lying position, tilting right and left, and positioning the body when in bed.	7.5	*Appropriate*	38. The patient's ability/independence to carry out daily activities / ADL increases	8.5	*Appropriate*
42	The patient can walk in a flat place; if they use a wheelchair, they are still used	7	*Appropriate*			
43	Patients can walk the stairs	6	*Uncertain*			
44	The patient can carry out activities in small rooms such as using a washroom or bedpan or urinal, walking to and from the bathroom, cleaning the bathroom after using/flushing the toilet, changing diapers and arranging all the equipment needed.	7	*Appropriate*			
45	The patient can wear and take off the clothes	7	*Appropriate*			
46	The patient can control micturition	7	*Appropriate*			
47	The patient can control defecation	7	*Appropriate*			
48	The patient can self-care, such as combing hair, brushing teeth, shaving facial hair, dressing up, washing hands and face	7	*Appropriate*			
49	The patient can bath and wash the whole body	7	*Appropriate*			
50	The patient can take a meal by his/her self; regardless of the eat technique including tube feeding	7	*Appropriate*			
51	The patient takes medicine according to the prescription by the Doctor	7.5	*Appropriate*			
52	The patient controls or follows up the medical condition according to the schedule	8	*Appropriate*			
53	The home-care patient does not acquire complications in the following:			39. The home-care patient does not acquire complications as follows:		
	a. Pneumonia	7	*Appropriate*	a. Pneumonia	6.5	*Uncertain*
	b. Urinary tract infection	7	*Appropriate*	b. Urinary tract infection	6.5	*Uncertain*
	c. Post-stroke pain	7	*Appropriate*	c. Post-stroke pain	7	*Appropriate*
	d. Deep vein thrombosis	7	*Appropriate*	d. Deep vein thrombosis e. Hemiparesis	6	*Uncertain*
	The home care-patient performs the following social activities according to his/her capability			The home care-patient performs the following social activities according to his/her capability	4	*Uncertain*
54	The patient can re-perform his/her most favourite hobby	7	*Appropriate*	40. The patient can re-perform his/her most favourite hobby	4	*Uncertain*
55	The patient can carry out the activity in the community	7	*Appropriate*	41. The patient can re-perform his/her most favourite hobby	5.5	*Uncertain*
56	The patient can gather and play with children or grandchildren	7	*Appropriate*	42. The patient can gather and play with children or grandchildren	7	*Appropriate*
57	The patient can visit relative's house	6.5	*Uncertain*	43. The patient can gather and play with children or grandchildren	5	*Uncertain*
58	The patient can perform praying	7	*Appropriate*	44. The patient can perform praying on the bed or in other places	9	*Appropriate*
	The psychological status of the home care-patient should be:			The psychological status of the home care-patient should be:		
59	The patient expresses happiness to live his/her life	7	*Appropriate*	45. The patient expresses happiness to live his/her life	7.5	*Appropriate*
60	The patient expresses expecting live long	7	*Appropriate*	46. The patient expresses expecting live long	7.5	*Appropriate*
61	The patient expresses a strong belief to heal	7	*Appropriate*	47. The patient expresses a strong belief to heal	7.5	*Appropriate*
62	The patient expresses having a harmonic relationship with the other family members	7	*Appropriate*	48. The patient expresses having a harmonic relationship with the other family members	7	*Appropriate*
63	The patient expresses accepting his/her medical condition	8	*Appropriate*	49. The patient expresses accepting his/her medical condition	8	*Appropriate*
64	The patient expresses no regret in his/her medical condition	7	*Appropriate*	50. The patient expresses no regret in his/her medical condition	7.5	*Appropriate*
65	The patient expresses no fear or worry in his/her medical condition	7	*Appropriate*	51. The patient expresses no fear or worry in his/her medical condition	7.5	*Appropriate*
66	The patient expresses the capability to hold anger	7	*Appropriate*	52. The patient expresses the capability to hold anger	7.5	*Appropriate*
67	The patient expresses committing no stress	7	*Appropriate*	53. The patient expresses committing no stress	7.5	*Appropriate*
68	The patient expresses committing no depression	7	*Appropriate*	54. The patient expresses committing no depression	7.5	*Appropriate*
69	The patient expresses being happier to outhouse activity than in-house activity	7	*Appropriate*	55. The patient expresses being happier to outhouse activity than in-house activity	8	*Appropriate*
70	The patient expresses no inferior feeling in his/her medical condition	7	*Appropriate*	56. The patient expresses no inferior feeling in his/her medical condition	8	*Appropriate*
71	The family asks/consult to the health worker about:			57. The family asks/consult to the health worker about:		
	a. The patient's diet	8	*Appropriate*	a. The patient's diet	9	*Appropriate*
	b. At home-training procedure	8	*Appropriate*	b. At home-training procedure	9	*Appropriate*
	c. The patient's medicines	8	*Appropriate*	c. The patient's medicines	9	*Appropriate*
	d. Follow up schedule	8	*Appropriate*	d. Follow up schedule	9	*Appropriate*
	e. The problems/burden carried out	8	*Appropriate*	e. The problems/burden carried out	7	*Appropriate*
	Role of the family in taking care of the patient at home			At-home role of the family in looking after the patient at home		
72	The family reminds the patient to take medicines	8	*Appropriate*	58. The family reminds the patient to take medicines	9	*Appropriate*
73	The family reminds the patient about follow up schedule	8	*Appropriate*	59. The family reminds the patient about follow up schedule	9	*Appropriate*
74	The family accompanies the patient during follow up	8	*Appropriate*	60. The family accompanies the patient during follow up	9	*Appropriate*
75	The family prepares the allowed food for the patient	8	*Appropriate*	61. The family prepares the allowed food for the patient	9	*Appropriate*
76	The family helps ROM training at home	8	*Appropriate*	62. The family helps ROM training at home	8.5	*Appropriate*
77	The family encourages the patient	8	*Appropriate*	63. The family encourages the patient	9	*Appropriate*
78	The family accompanies and listens to the patient's talk or complaint	8	*Appropriate*	64. The family accompanies and listens to the patient's talk or complaint	8	*Appropriate*
	To reduce the psychological burden, the family needs to do some of the following acts:			To reduce the psychological burden, the family needs to do some of the following acts:		
79	The family shares the feeling or problems to the other member, such as children, relatives	7	*Appropriate*	65. The family shares the feeling or problems to the other member, such as children, relatives	8	*Appropriate*
80	The family takes recreation	7	*Appropriate*	66. The family takes recreation	7	*Appropriate*
81	The family checks up to the medical condition to the health service	8	*Appropriate*	67. The family checks up to the medical condition to the health service	8.5	*Appropriate*

Based on Table 2, we can observe that there are 10 indicators determined by the professionals as uncertain (median < 7) as the instruments for assessing the quality of home care services. Therefore they were eliminated from the list. Based on the expert's suggestion on the appropriate indicators, we revised the order of the sentences, add items for the indicator, and merge several indicators into one indicator item which was considered more proper. The result of the indicators revision was presented in the column of the modified indicators sentences. The next processes were grammar improvement of the appropriate indicators, the addition of 2 new indicators, and merge of 12 indicators about daily living activities, based on the expert's suggestions or inputs. At the end of Delphi Phase I, we obtained 67 indicators. Then the expert in an expert panel discussed and reassessed these 67 items. The discussion resulted in 54 appropriate indicators for home care quality (Table 3).

Discussion

The achievement on an indicator implies the quality of service. According to the quality management theory of Donabedian, the quality of service required three aspects: structure, process, and output [5].

Table 3: List of the face validity indicators according to Delphi Phase II

Category	Domain	No	Face validity Indicators
Structure	Personal	1	The Health Officers included in a home care team:
			a. General Physician
			b. Nurse in charge of a patient with a minimum education of Diploma 3
			c. Medical rehabilitation staff
			d. Nutritionist
			e. Psychologist
		2	Home care team carries out home visit corresponding to the agreement between the team and the patient
	Documents	3	Availability of home care complementary forms inside the patient's medical record
			Home-care complementary forms inside the medical record
		4	Form of assessment,
			a. General condition of the patient: physical, psychological, social, spiritual, and knowledge level
			b. The general condition of the family: knowledge level and assets/resources map in the family
			c. Pain
			d. Risk of decubitus
			e. Risk of fall
			f. The stress level of the family and the family caregiver
		5	Form of data analysis
		6	Form of the treatment record
		7	Form of evaluation/development of the patient and the family condition
		8	Form of patient condition resume if the patient died
			The other complementary forms and separated from the medical record:
		9	Form of adverse events reporting
		10	Form of satisfaction level of the patient and the family toward the home care service
		11	Form of the patient or the family complaints
	Professionalism	12	Professional development for the home caregiver:
			a. Briefing/orientation about home care in the first days becoming home care officer
			b. Scientific activities (seminar, conference) related to the home care case management
		13	Regular inter-home care team member schedules and coordination forums to discuss the patient plan of care
	Facilities		Supporting facilities for home care:
		14	Availability of information (leaflet) about home care service
		15	Availability of discussion room for home care team member
		16	Availability of education media/health education, including leaflet suitable to the care needed by the patient
		17	Minimum instruments availability during a home visit
			a. Sphygmomanometer and stethoscope
			b. Measuring band
			c. Penlight
			d. Reflex hammer
			e. Minor surgery set
Process	Administration process		Administrative activities during home care implementation:
		18	All adverse events are reported and recorded in the medical record
		19	Documentation of the maintenance process of the patient and the family complaints
		20	The officer fills out the medical record each home care visit
		21	The patient's clinical resume fulfilled in the medical record after the patient discontinues the service or died
	Interaction process		Interaction between the officer and the patient and the family:
		22	The health officer asks the desires or complaints of the patient and the family
		23	The health officer examines the vital signs
		24	The health officer assesses/evaluates the patient pain
		25	The health officer assesses/evaluates the risk of decubitus/wounds in the patient
		26	The health officer assesses/evaluates the risk of fall in the patient
		27	The health officer examines the physical status of the patient
		28	The health officer assesses/evaluates the psychological status of the patient and the family
		29	The health officer assesses/evaluates the social, economic, cultural status of the patient and the family
		30	The health officer assesses/evaluates the spiritual status of the patient and the family
		31	The doctor regularly reevaluates the medicines received by the patient
		32	The health officer assesses the nutritional status of the patient
		33	The health officer assesses/evaluates the level of independence of the patient and the family
		34	The health office delivers the care status and plans to the family and the patient in clear, detail, hospitable, and understandable sentences
		35	The health officer opens a session for the patient and family to consult
		36	The health officer gives the care according to the factual problems (based on the data analysis result)
Output	Physical well-being	37	The capability/independence of the patient to perform a daily living activity is not declined
		38	The home care patient does not complicate the following condition:
			a. Post stroke pain
	Self-actualisation		Socially, the home care patient performs the following activities according to his/her capability:
		39	The patient is sociable with the children or grandchildren
	Psychological state	40	The patient can pray
			The psychological status of the home care patient includes the following condition:
		41	The patient expresses sincerely and patiently accepting his/her medical condition
		42	The patient has a real motivation in life
		43	The patient expresses the harmonic relationship between the patient and the family members
		44	The patient feels glad during outhouse activity and does not expect to be alone
	Family independent and coping	45	The family consults to the health officer about:
			a. The patient's diet
			b. The home training procedure
			c. The medicines are taken by the patient
			d. The follow-up schedule of the patient
			e. The problems/burdens acquired
			The role of the family at home:
		46	The family reminds the patient of the time to take medicine
		47	The family reminds and accompanies the patient to health check
		48	The family prepares the allowed foods for the patient
		49	The family helps the patient doing ROM (range of motion) training at home
		50	The family encourages the patient
		51	The family accompanies and listens to the patient's talk and complaint
			To reduce the mental burden, the family can do these following acts:
		52	The family shares the problems to the other members, such as children, relatives
		53	The family takes recreation
		54	The family checks up to the medical condition to the health service

An approach to the structure and process founded by Donebedian turned out to be one of the references mostly used to assess the service quality. It was proven by Kajonius's research which compared between a nursing home and home care. There were 35 indicators used in this survey. The indicators of structure used were the costs per elderly, the staffing, and the training; the indicators of the process which were studied included the respect, information, influence (allowing the autonomy). The number of elderlies who expressed respect was larger in the elderly acquiring home care than a nursing home. There was no component of structure correlated significantly to the satisfaction of the elderlies (correlation test showed 0 to weak correlation), while all components of process correlated significantly to the satisfaction of the elderlies (correlation test showed a moderate to strong correlation) [6].

The indicators establishment in this study utilised the modified Delphi consensus, which had been recognised as a valid method [7]. The modified Delphi method, also known as the RAND/UCLA Appropriateness Method (RAM), initially aimed to ensure the effectiveness of a health intervention given to patients and to be the main instrument in assessing the accuracy and inaccuracy of a medical or surgical procedure, but currently its use is broader for all health fields. RAM emphasises the determination of indicators based on the degree of benefits and losses that the patient will receive (appropriateness).

The other method conducted by Scaccabarozzi studied on the assessment of end of life service quality in a home palliative care using the method of Rasch analysis. This identified 5 indicators easy to use by the health care providers: "interview with the caregivers, sustainable training for the medical and nursing staffs, intervention by multidisciplinary specialists, psychological support to the patient and family, supply of medicines at home) and identified 3 problematic indicators (the availability of regulation on local network of palliative care as the reference, the needs on the care in most of the problematic patients who needed high-intensity care, and the percentage of cancer patient died at home) [8]. This method of analysis was able to reveal which indicators could be achieved and which indicators that needed extra efforts to be achieved. The analysed indicators in this study were mostly indicators of process. The patient's expectation to die at home was assumed as an unsuccessful indicator. It correlated to the operational and organisational aspect which correlated to the inability to develop a structure which can ensure comprehension between the governmental pathway and the care continuity.

The other method to assess the service quality was Outcome Assessment and Information Set (OASIS), which was used to measure the quality and plan of home care in the US. This instrument had a lower to moderate validity and reliability value, as well as the implementation in measuring outcome or outcome-based quality improvement was debatable [9].

First set of indicators of home care quality (HCQIs) was established by Inter-RAI (The Resident Assessment Instrument). The advantages of interRAI HCQIs use included more standardised items of assessment, a more comprehensive set of indicators, and a better capacity to provide group measuring from the different HCQI compared to individual measuring. These were useful to provide a complete evaluation of the service quality. HCQI second generation consisted of 23 indicators that included 8 functional indicators, 10 clinical indicators, 5 social and medication indicators [3].

The quality in the health service standards and indicators recommended in United States of America and Australia included effectiveness, efficiency, safety and risk, timeliness, equity, and person and family-centred care, which offered advantage and guideline to achieve optimal health status for elderly, as well as to optimize transitional care from hospital to home.

Allen studied the quality indicator of outcome in transitional care (post-discharge care) for older people and their caregivers transferring from hospital to home. Indicator of outcome included effectiveness (based on evidence and given to the right patient), efficiency (effective care, time, cost, and resource), timeline (on time), safety and risk (a care that carried out lower risk and no harm), equity (a fair care for everyone), person and family-centred care and experience (respecting expectation, value, objective of the patient and family, inviting the patient and family in decision making) [10].

A critical review on evidence needed expertise from the people who understood the matter of evidence-based medicine, in another hand an assessment on quality on stroke patient home care needed people who concerned in-home care service and neurology [11]. Therefore, we convincedly stated that indicators resulted from this process were appropriate and valid. The indicators could be a minimum criterion with consideration on evidence, synthesis and critical process.

In conclusion, the modified Delphi process enabled the elimination of an initial list of 81 candidate indicators to the final list of 54 candidate indicators. This process was involving 70 experts from different professional backgrounds. The final list of candidate indicators will be useful as a guide to identifying the quality service of stroke survivors at home dwelling care.

This research recommended further research to test the feasibility of the established criteria, including a test on content validity, construct validity, and instrument reliability. The outcome from the established indicators needed a high consistency. Hence the analysis of the correlation between

indicators scores obtained by the trial of indicators implementation could be able to strengthen the validity of the indicators.

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