

Research Article

Stroke Traditional Therapy in the Community in Indonesia

Agianto Agianto*, Ainun Kamilah, and Rismia Agustina

School of Nursing, Faculty of Medicine, Universitas Lambung Mangkurat, Banjarbaru, South Kalimantan, Indonesia

ORCIDAgianto Agianto: <https://orcid.org/0000-0002-4809-7062>

Abstract. Stroke is a major cause of death and disability which must be treated quickly and appropriately. Use of complementary and alternative Medicine is high for stroke patients. The purpose of this study was to explore the use of stroke traditional therapy in the community setting. This study was an ethnographic study, and it aimed to identify social interactions, behaviors, and perceptions. This study involved seven key informants (families of stroke patients), recruited through a purposive sampling technique until data saturation was reached. Participant observation, in-depth interviews, and focus group discussions were employed in this study from December 2018 to February 2019. Data analysis involved content analysis. There were five themes identified in this study: family, traditional healer, neighbors, other people, and friends. The family refers to their spouse, children, nieces/nephews, sons-in-law, siblings, and grandchildren. Other people are also involved such as masseurs, neighbors, parking attendants, pedicab drivers, and friends. People who are involved in stroke traditional therapy should also be able to provide conventional treatments such as medicines, and carry out therapy with physiotherapists.

Corresponding Author: Agianto Agianto; email: agianto@ulm.ac.id

Published: 7 February 2022

Publishing services provided by Knowledge E

© Agianto Agianto et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the IVCN Conference Committee.

Keywords: stroke, community, traditional therapy, ethnography

1. Introduction

Stroke is a cardiovascular disease that causes morbidity and mortality worldwide [1-3]. Stroke symptoms are not only short-term symptoms (such as severe headaches, seizures, impaired eye movements, and agitation), but there are also long-term symptoms (such as hemiplegia, motor and sensory dysfunction, and cognitive impairment), and increase the risk of some secondary diseases such as dementia, insomnia, myocardial infarction, cardiac arrhythmias, and even cardiac arrest [4,5].

Globally, stroke is a leading cause of death and disability [6]. Global Burden of Diseases, Injuries, & Risk Factors Study (GBD) said that the overall of stroke burden remains high [7]. The estimated of risk global stroke for ages 25 years or more in 2016 was 24.9%, and increase from 1990 which was 22.8% [8]. The prevalence of stroke is expected to increase. Stroke remained the second leading cause of death in the world

OPEN ACCESS

after ischemic heart disease, with 5.5 million deaths in 2016. The most frequent stroke incidence was ischemic (84.4%) [9]. Stroke prevalence in Amerika was estimated that there were 500.000 of new people got stroke and 150.000 died [10]. Stroke is the 5th leading cause of death and disability in the United States [11]. In 2016, there were 13.7 million new stroke cases [12]. In developing countries such as Southeast Asia, South Asia and East Asia, stroke is a major health problem [9].

In Indonesia, the prevalence of stroke had increased from 2013 (7%) to 2018 (10.9%) [13]. Stroke is top three as the cause of mortality in Indonesia after cancer and heart disease [14]. When exposed to the initial symptoms of a stroke, treatment needs to be given quickly and precisely to the patient, so the death does not occur. Ideally, stroke patients should get treatment within three hours of the first symptoms being identified [15]. In Indonesia, the arrival of stroke patients to the hospital was averaged around 48.5 hours.

Based on a pilot study, massage was used by Banjarmasin people as a traditional therapy for stroke patients. The using of Complementary and Alternative Medicine (CAM) for stroke patients was high. Massage was the most common type of CAM that used by stroke patients [16]. Used of massage for self-medication in the past four weeks since stroke attack amounted to 26.5% [17]. Vitamins and acupuncture were other types of alternative therapy that are commonly used. About 22.60% of people used more than one alternative therapy [18]. Used of vitamins or supplements for self-medication in the past four weeks of stroke attack amounted to 9.7% [17]. Acupuncture was classified as general and good for the rehabilitation of stroke patients.¹⁹ In Taiwan, the used of acupuncture among stroke patients was well accepted and has increased [20].

In recent years, the used of traditional and complementary health care has increased in ASEAN, including in Indonesia [21-23]. Around 30.4% of households utilized traditional health care in 2013 [24]. Currently, the highest prevalence of used of traditional medicine was to treat cancer/malignant tumors (14.4%), arthritis/rheumatism (11.3%), high cholesterol (11.3%), stroke (10.2%), diabetes (9.9%), and kidney disease (9.7%) [17]. One of the things that motivated a person to choose traditional therapy was the desire to protect a family member who has sick [25]. The family will do anything to family member who was sick with providing the traditional therapy to recover stroke patient. The benefits that felt by stroke patients were good blood circulation, being able to sit, being able to walk, feeling comfortable, the body not being stiff, being able to move the paralyzed part, but some of them were also have no effect of change. Herbal medicine is one types of CAM that was used because it has a high safety [26].

Information about traditional therapies for stroke patients was known to patients and families from generation to generation, among families discussion, from other people, and got experience directly from community. However, in the implementation of therapy in stroke patients, patient and family help each other. Traditional therapies performed at home or in a traditional healer place. Patient and family needed money, transportation, and support from other people. Without their help, it was difficult for them to get the traditional therapies that they need. In Indonesia there are no studies that examine the involvement of people in traditional therapy for stroke patients in community care. Thus, it is necessary to conduct a study to explore more deeply about people who involved in traditional therapy in stroke patients in Banjarmasin, Indonesia.

2. Material and Methods

Ethnographic method was used to identify social interactions, behaviors, and perceptions that occur in groups, teams, organizations and communities [27,28] namely to find out, explore and analyze people involved in traditional therapy for stroke patients in the community. The study was conducted at Public Health Center of Cempaka Putih, Banjarmasin, Indonesia from December 2018 to February 2019 by participant observation, in-depth interviews, and FGD using observation and semi-structure interview guidelines. The data analysis used in this study was content analysis including transcripts of case-by-case data, typology, matrix analysis and thematic analysis. This research used trustworthiness such as credibility, transferability, dependability, and confirmability to maintain the quality of this research.

3. Results

3.1. Ethical Clearance

This research has been declared ethical by the Faculty of Medicine Ethics Universitas Lambung Mangkurat with letter No.1057 / KEPK-FK UNLAM / EC / XII / 2018. This study also used informed consent.

3.2. Sample

Key informants in this study were seven people, namely the family of stroke patients in Banjarmasin, Indonesia. Research carried out until the data was saturated. Purposive

sampling was used in selecting key informants based on inclusion and exclusion criteria. The inclusion criteria were: 1) ages 18 years or older, 2) stroke patients with using traditional therapy, 3) people who involved in the care of stroke patients (all types of stroke) at home, 4) had a kinship with stroke sufferers (parents, fathers, mother, husband, child, son-in-law, grandchild), 5) able to use Banjar or Indonesian language, and 6) willing to participate in this study. Exclusion criteria in this study were: 1) had a history of terminal illnesses (such as cancer, HIV/AIDS, kidney failure, heart failure), 2) had a history of substance abuse, 3) had a history of alcoholism and dementia, 4) had hearing problem, and 5) families who were divorced and not living at home with stroke patients during the study.

3.3. Research Procedures

Before conducting research, firstly, researchers met the gate keeper. She was a nurse who responsible the Public Health Nursing (PHN) program. The purpose of involving the gate keeper was to help researchers more easily enter the research site and help to identify the potential key informants. The study began with participant observation, continued with in-depth interviews, and finally the FGD session. Participant observation was carried out to see participant activities related to traditional therapy in order to know the people involved in the therapy. Participant observation activities carried out 2 months. After that, researcher conducted in-depth interviews with families who most often treat stroke patients about an hour at the stroke patient's home. In-depth interviews were conducted until the data obtained was saturated. The data analysis process was carried out case by case to make it easier to synthesize data. After completing the in-depth interview, the FGD was carried out by gathering all key informants who had conducted in-depth interviews in one place (Cempaka Putih health center, Banjarmasin). The FGD was aimed at discussing the people involved in traditional therapy in stroke patients. This activity was carried out for one hour and ten minutes.

The majority of key informant genders were female, because the stroke patients in this study were more male. People who are often involved in patient care are usually the people closest to their patients, and their life partners [29]. Girls are also more willing to care for patients because women are more concerned with themselves when they were sick. They will also continue to fulfill their obligations to all family members, and maintain the usual roles and responsibilities [30]. The youngest age was 22 years old. The oldest age was 77 years with an average age of 42.29. The families of stroke patients were all Muslim because the majority of Banjarmasin people are Muslim, and

TABLE 1: Table I Demography characteristic of key informants (n=7)

Characteristic	Frequency	Percentage (%)
Gender:		
Male	2	28.57
Female	5	71.43
Age (Min=22, Max=77, Mean=42.29)		
18-28	1	14.29
29-39	3	42.85
40-50	1	14.29
> 50	2	28.57
Religion:		
Moslem	7	100
Marital status:		
Married	6	85.71
Single	1	14.29
Education background		
Elementary	1	14.29
Junior high school	1	14.29
Senior high school	4	57.14
University	1	14.29

traditional therapies based on Islam were quite varied. A study has confirmed that there is a relationship between Islamic religion and the used of traditional and complementary therapies [17]. This may be because of people with strong religiosity hold the trust that is appropriate for traditional and complementary medicine used. They are more interested than drug used [17]. Key informants who were married (85.71%), due to the fact that most families caring for stroke patients had reached the age of marriage. The level of education was distributed to certain levels such as elementary school (14.29%), junior high school (14.29%), high school (57.14%), and university (14.29%).

People who are involved in traditional therapy of stroke in community, Banjarmasin, Indonesia

4. DISCUSSION

4.1. Family

The existence of the family is important from any treatment, in which everyone wants to live in a state of love and accepted by people they know, as well as stroke patients [31]. The family has an important role in maintaining and caring for family members who have

TABLE 2: five themes of people who are involved in traditional therapy of stroke in community, Banjarmasin, Indonesia.

No.	Theme	Data
1.	Family	The wife cares stroke patient in helping to get traditional therapy or taking patients to the traditional therapy's home, and called a masseur to come home so that her husband can have massage. The patient's wife also earns money by selling at the market, while the patient was seen doing chores like washing clothes and drying clothes on the terrace of the second floor of the house (Participant observation, 30 December 2018-27 January 2019) <i>"I (my wife) still take care of him every day such as bathing, walking, defecating and urinating, eating, taking medicine, doing toothbrushes, taking delivery to the massage place, and calling the masseur to come home."</i> (Mrs. NH, 31 years old, 30 January 2019) <i>"I (the husband) took care of all her needs such as eating, drinking, bathing, wiping, giving medicine and picking up a masseur to come home."</i> (Mr. K, 77 years old, 8 February 2019) Children (girls) who care the patient every day provided taking them to traditional therapies, eating, bathing, urinating and defecating. The patient's child sometimes appears to massage the patient on the legs and hands using massage oil (Participant observation, 30 December 2018-27 January 2019). <i>"The child (girl) was at home, her child was willing to help for taking care."</i> (FGD: family group, February 23, 2019) Nephew of the patient usually brought the patient to the masseur's home (Participant observation, 29 December 2018-27 January 2019). <i>"Yesterday, the niece gave the information, she brought to the therapist home."</i> (Mrs. SR, 55 years old, February 4, 2019) <i>"My husband is helping, because my husband is at home, from last December my husband came..."</i> (Mrs. D, 43 years old, February 13, 2019) <i>"Going to the masseur's home using the car with her sister..."</i> (Mrs. D, 34 years old, February 16, 2019) <i>"He (patient) sometimes got money from his family, so if there was money he went to the massage place."</i> (Mr. RR, 22 years old, February 11, 2019)
2.	Traditional healer	The masseur was seen at the patient's home to massage the patient after being called by the patient's wife (Participant observation, 1-27 January 2019) <i>"The masseur massaged her at home and during hospitalized at the hospital."</i> (Mrs. NH, 31 years old, 30 January 2019)
3.	Neighbors	The neighbor provided information and suggest for having a massage (Participant observation, 30 December 2018-27 January 2019). <i>"The neighbor gave me the information, he asked me, have you tried 'ruqyah' (muslim believe for traditional therapy)? You (suggested me) should try it too. He also informed me that the masseur in there was good for stroke patient. We can pick him up to our home for massage."</i> (Mrs. SR, 55 years old, 4 February 2019)
4.	Other people	<i>"There was an appointment with a pedicab driver and he asked him to bring him (stroke patient) to the therapist place because his body was small so he couldn't lift him, and he asked the parking attendant to lift him to becak (traditional transportation) because he was taller than pedicab driver"</i> (Mrs. SR, 55 years old, 4 February 2019)
5.	Friends	<i>"... later, when the leaves to treat my mother (stroke patient) run out, my friend sends and fetches the leaves."</i> (FGD: family group, 23 February 2019)

had a stroke because the family is one of the environmental factors that influence the process of the disease [32]. The results of this study indicate that families who involved in traditional therapy are wives, husbands, children (girls and boys), nieces, sons-in-laws, siblings, and grandchildren.

In general, stroke patients who live in the community need professional and continuing care, where this involves caregivers from the closest of patients, namely their spouses [29]. Spouses of stroke survivors often act as primary caregivers, who are responsible for most routine care [33]. The stroke patients in this study were mostly male, so their spouses were most involved in getting traditional therapy. Wives of stroke patients usually care in assisting or taking the patients to traditional therapy, preparing meals, bathing, assisting in defecation and urinating, taking medicine, etc. In addition, the wives also had a role to make a living replacing her husband who suffered a stroke by selling in the market. [20] stated that the stroke patient's family carries out personal hygiene care for stroke patients such as bathing, helping to urinate, and defecating. In addition, the stroke patient's family also helps stroke patients in mobilizing such as moving limbs, tilting left and right, and practicing walking. Some of the families of stroke patients also provide medicines from health professionals and make traditional medicines, namely bay leaf and soursop leaf (cooking water) to reduce the blood pressure of stroke patients [34].

As a result of family member who had a stroke caused a change in role in the family [34]. Other research stated that the majority of informants experienced a change in role in the family, where the wife must replace the husband's role for working to earn money because since a family member has had a stroke greatly affects the economic status of the family [35]. This also happened to the patient's wife in this study, where she had to replace her husband to earn a living due to a stroke. In addition to stroke patients who were female, so the one who was often involved in the treatment of the patient was her husband. The patient's husband helps the patient in feeding, drinking, bathing, wiping, giving medicine, and was always involved in traditional therapies that patients used, and picking up a masseur for coming home.

Stroke patients experienced with disability, and family members who care them must provide emotional and physical support [36-38]. A caregiver must have a commitment during caring for patients, such as being responsible, making patients priority, always providing support, and affection [39]. Not only the spouse of stroke survivors, children (girls) also involved in providing traditional therapy. Children of stroke survivors act as secondary caregiver. The secondary caregiver is tasked with providing support and assisting the primary caregiver's duties both directly and indirectly [33]. The role of children (girls) in caring of stroke patients were escorting to a traditional therapy place, eating, bathing, urinating and defecating, and massaging stroke patients. The family members who care for most stroke patients are girls rather than boys, because most respondents who want to care for their families in the study are girls [32]. In addition

to children (girls), there are also children (boys) who want to care stroke patients. The boy helps in delivering stroke patients to get traditional therapy such as massage, acupuncture, and others. Children are an immediate family as one of the main supports for patients suffering from chronic diseases, including stroke [40].

Families are required to be able to provide as much support as possible in an effort to achieve recovery from stroke sufferers after a stroke attack [40]. The obligation of a child is filial piety with both parents which is realized by caring for parents who are chronically ill [41]. Based on the results of previous studies that women have a greater role in caring for sick families than men because men are responsible for earning a living [42]. Other family members who were involved in traditional therapy were nieces and nephews. They play a role in delivering patients to the masseur's home, provided information, and invited people who provide these therapies to the patient's home. Niece or nephew was one of the family members who involved in the family type, namely extended family. Extended family is a nuclear family plus other family members who are still related by blood, such as grandmother, grandfather, niece, cousins, uncles, aunts, and so on [43]. In this study, the nephew's and niece's role can be seen from participant observation data and in-depth interview data.

One of the tasks of family is to utilize health care facilities for family including professional health services or traditional medicine. The family functions as someone who helps in determining the place of therapy and provide the therapy [43]. Daughter-in-law was also involved in caring of stroke patients, where informal caregivers are people who are not paid or trained by legal entities for people who need care [44]. Daughter-in-law was involved in traditional therapy as a person who brought patients to traditional therapies. Daughter-in-law as an informal caregiver is a person who provides health, financial, social, emotional care and support for sufferers of chronic diseases [45]. Brothers/sisters were also involved in traditional therapy for stroke patients. They play the role of someone who takes the patient to a traditional therapy place, and gives money for the traditional treatment.

One of impact of strokes is economic status. They need big cost for treatment including traditional therapy. The family also plays a role in decision making. Another study said that some participants had discussions with family members to make decisions [46]. When the spouse of stroke patient was working, the grandchild of the patient will replace temporarily in caring the stroke patient. The family has a supportive role during the healing and recovery of patients [47]. A patient's healing and recovery will be greatly reduced if family support is not available, so family support is very important for patients to maintain and maximize physical and cognitive recovery [47,48].

4.2. Traditional healer

Traditional healers who were directly involved in this study were masseurs. Some families involved masseurs to do traditional therapy at the patient's home or during hospitalization. Traditional medicine based on local wisdom can improve the standard of living, both in the health of the local community and economically [49].

4.3. Neighbors

In addition to family members, neighbors were also involved in traditional therapy in stroke patients. Neighbors have a role in providing information about stroke management and traditional therapy sites. They suggested this because they had taken therapy and felt the benefits. The results of previous studies showed that all participants received information about recurrent strokes from people around them [46]. Information from someone is usually interesting and easy to understand emotionally, cognitively, and influence a person towards health behavior and treatment choices [45].

4.4. Other people

Apart from family members and neighbors, there were other people who bring stroke patients to the place of therapy. These people were parking attendants and pedicab drivers. Their involvement can be seen from in-depth interview data. The impact of sequelae due to stroke is very diverse and complex. Stroke patients need other people to help them for daily activities including traditional therapy [50].

4.5. Friends

Friends play a role in providing information on traditional therapies which are certainly needed by stroke patients in an effort to cure the disease. In addition, friends also help in providing traditional therapy needed by the families of stroke patients to treat stroke patients. If someone is ready, then it is necessary to start to move to the next circle, namely how a person prepares the support from people around him [51]. Even in older age, someone is still need support. The most important support is coming from family and close friends. The relationship between family and stroke's friends are needed to keep for collaboration among them for a source of inspiration and a source of mental and emotional strength when entering the most beautiful times in a person's life [51].

5. Conclusion

People who are involved in traditional therapy of stroke patients in the community are the family of stroke patients themselves including their spouses, children, nieces/nephews, sons-in-law, siblings, and grandchildren. Other people are also involved such as masseurs, neighbors, parking attendants, pedicab drivers, and friends. It is expected that the families who always care stroke patients everyday can provide conventional treatments such as medicines from doctors, carry out therapies with physiotherapists, and traditional (e.g. massage, acupuncture, and herbal therapy), together so that the recovery of stroke patients can be faster.

Recommendation for further study is experimental study with using intervention for people who involved in traditional therapy in the form of training about what they need to know and what they need to do to help the therapy program for stroke patients.

Acknowledgement

We offer a big thank you to family of stroke and stroke patient itself as well as the health workers at Public Health Center of Cempaka Putih Banjarmasin who supported this research and give more valuable knowledge through this research. Thanks are also addressed to the Dean of the Faculty of Medicine Universitas Lambung Mangkurat for his support in this study.

References

- [1] Roth GA, Johnson C, Abajobir A, et al. Global, regional, and national burden of cardiovascular diseases for 10 causes, 1990 to 2015. *Journal of the American College of Cardiology*. 2017;70(1):1-25.
- [2] Hankey GJ. Stroke. *Lancet*. 2017;389(10069):641-654.
- [3] Feigin VL, Roth GA, Naghavi M, et al. Global burden of stroke and risk factors in 188 countries, during 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *Lancet*. 2016;15(9):913-924.
- [4] Thrift AG, Thayabaranathan T, Howard G, et al. Global stroke statistics. *International Journal Stroke*. 2017;12(1):13-32.
- [5] Ojaghaghagh S, Vahdati SS, Mikaeilpour A, Ramouz A. Comparison of neurological clinical manifestation in patients with hemorrhagic and ischemic stroke. *World Journal Emergency Medicine*. 2017;8(1):34-38.

[6] Rajsic S, Gothe H, Borba HH, et al. Economic burden of stroke: A systematic review on post-stroke care. *Eur J Health Econ.* 2018. DOI:10.1007/s10198-018-0984-0

[7] GBD 2015 Neurological Disorders Collaborator Group. Global, regional, and national burden of neurological disorders during 1990–2015: A systematic analysis for the Global Burden of Disease Study 2015. *Lancet Neurology.* 2017;16:877–897.

[8] GBD 2016 Lifetime Risk of Stroke Collaborators. Global, regional, and country-specific lifetime risks of stroke 1990 and 2016. *New England Journal of Medicine.* 2018;379:2429-2437.

[9] Venketasubramanian N, Yoon BW, Pandion J, Navarro JC. Stroke epidemiology in South, East, and South-East Asia: A review. *Journal of Stroke.* 2017;19(3):286-294.

[10] Laily SR. Hubungan karakteristik penderita dan hipertensi dengan kejadian stroke iskemik. *Jurnal Berkala Epidemiologi.* 2017:48-59.

[11] American Stroke Assossiation. *Life after stroke.* 2019.

[12] GBD 2016 Stroke Collaborators. Global, regional, and national burden of stroke, 1990–2016: A systematic analysis for the Global Burden of Disease Study 2016. *Lancet Neurology.* 2019;18:439-458.

[13] Basic Health Research. Badan penelitian dan pengembangan kesehatan kementerian republik Indonesia. Jakarta: Badan Penelitian dan Pengembangan Kesehatan Departemen Kesehatan Republik Indonesia; 2018.

[14] Purnomo S, Nabawiyah S, Makiyah N. Terapi berbasis membaca (reading-based therapy) pada afasia: Literatur review. Abstrack termasuk infark serebral, intracerebral otak mempunyai peran penting dalam hematoma (ICH), Subarachn. 2019;10(1).

[15] Cook LK, Clement SL. Stroke recognition and management: Early identification and treatment are the keys. *The American journal of nursing.* 2011;5:111.

[16] Kadir AA, Hamid AHA, Mohammad M. Pattern of complementary and alternative medicine use among Malaysian stroke survivors: A hospital-based prospective study. *Journal of Traditional and Complementary Medicine.* 2015;5:157-160.

[17] Pengpid S, Peltzer K. Utilization of traditional and complementary medicine in Indonesia: Results of a national survey in 2014-15. *Complementary Therapies in Clinical Practice.* 2018;33:156-163.

[18] Blackmer J, Jefromova L. The use of alternative therapies in the Saskatchewan stroke rehabilitation population. *BMC Complementary and Alternative Medicine.* 2002;2:1-6.

[19] Zhuang L, He J, Zhuang X, Lu L. Quality of reporting on randomized controlled trials of acupuncture for stroke rehabilitation. *BMC Complementary and Alternative Medicine.* 2014;14:1-8.

[20] Weng SW, Chen TL, Yeh CC, et al. An investigation of the use of acupuncture in stroke patients in Taiwan: a national cohort study. *BMC Complementary and Alternative Medicine*. 2016;16(321):1-8.

[21] Ministry of Health. General secretariat. *Indonesia health profile 2013*. Jakarta: Ministry of Health RI; 2014.

[22] Chuthaputti A, Boonterm B. Traditional medicine in ASEAN. Bangkok: Medical Publisher; 2010.

[23] ASEAN Secretariat. Towards harmonization of traditional medicine practices. *e-Health Bulletin*. 2012;2:1-8.

[24] Peltzer K, Pengpid S. Utilization and practice of traditional/complementary/alternative medicine (T/CAM) in Southeast Asian nations (ASEAN) member states. *Studies on Ethno-Medicine*. 2015;9(2):209-218.

[25] Nurhayati L, Widowati L. The use of traditional health care among Indonesian family. *Health Science Journal of Indonesia*. 2017;8(1):30-35.

[26] Dewi AR. Faktor-faktor yang berhubungan dengan pemilihan pengobatan tradisional di Wilayah kerja puskesmas muara siberut kecamatan siberut selatan kabupaten kepulauan mentawai. *Artikel Penelitian Universitas Andalas*; 2012.

[27] Kwon CY, Chung SY, Kim JW. Herbal medicine for post-stroke anxiety: A systematic review and meta-analysis of randomized controlled trials. *Complementary Therapies in Clinical Practice*. 2019.

[28] Atkinson P, Hammersley M. Ethnography: Principles in practice. 3rd ed. New York: Routledge; 2007.

[29] Reeves S, Kuper A, Hodges BD. Qualitative research methodologies: Ethnography. *BMJ*. 2008;337:1-3.

[30] Ayuningputri N, Maulana H. Persepsi akan tekanan terhadap kesejahteraan psikologis pada pasangan suami-istri dengan stroke. *Jurnal Psikologi Integratif*. 2014;2(2):27-34.

[31] Litman. Konsep keluarga. Kulimijit; 1974. Available from: <http://kulimijit.blogspot.com/diktat-akper-konsep-keluarga.html>

[32] Basic Health Research. Badan penelitian dan pengembangan kesehatan kementerian RI. Jakarta: Badan Litbangkes, Depkes RI; 2007.

[33] Suharni R, Indarwati. Tingkat pengetahuan keluarga dan kesiapan keluarga dalam merawat anggota keluarga yang menderita stroke di Desa Kebak Kramat Karang Anyar. *GASTER*. 2010;7(2):581-592.

[34] Ferrell BR, Mazanec P. Geriatric oncology: Treatment, assessment and management. New York: Springer Dordrecht Heidelberg; 2009.

[35] Fetriyah UH, Firdaus S, Wulan L, Lestari S. Pengalaman keluarga dalam merawat anggota keluarga paska stroke di wilayah kerja puskesmas pekauman banjarmasin. *Dinamika Kesehatan*. 2016;7(1).

[36] Yuniarsih W. Pengalaman caregiver keluarga dalam konteks asuhana keperawatan pasien stroke tahap paska akut di RSUP Fatmawati [thesis]. Universitas Indonesia; 2010.

[37] Akosile CO, Okoye EC, Nwankwo MJ, Akosile CO, Mbada CE. Quality of life and it's correlates in caregivers of stroke survivors from Nigerian population. Springer Science: Quality Life Research. 2011;20(9):1379-1384.

[38] Agianto, Nuntaboot K. The supportive care needs of stroke caregiver during hospital stay at ulin general hospital south Kalimantan Indonesia. *Journal of Nursing Science & Health*. 2013;36(3):136-148.

[39] Agianto, Setiawan H. Supportive care needs pada keluarga pasien stroke. *Dunia Keperawatan*. 2016;5(2):127-134.

[40] Williams LA. Whatever it takes: Informal caregiving dynamics in blood & marrow transplantation. *Oncology Nursing Forum*. 2007;34(2):379-387.

[41] Sarafino EP. *Health psychology*. 6th ed. New York: John Willey & Sons, Inc.; 2008.

[42] Setiawati B. Kesabaran anak dalam merawat orang tua yang sakit kronis [thesis]. Universitas Muhammadiyah Surakarta; 2009.

[43] Fitriani E. Pola kebiasaan makan penderita hipertensi lanjut usia pada orang Minangkabau di Jakarta [thesis]. Universitas Indonesia; 2005.

[44] Friedman MM. Keperawatan keluarga: Teori dan praktik. Jakarta: EGC; 2010.

[45] Hung et al. Factors associated with strain in informal caregivers of stroke patients. 2012.

[46] Thompson VLS, Cavazos-Rehg P, Jupka K. Evidential preferences: Cultural appropriateness strategies in health communications. *Health Education Research*. 2008;23:549-559.

[47] Ratnasari N. Gambaran keluarga dalam memutuskan tindakan kesehatan pada keluarga dengan stroke berulang di Wilayah Kerja Puskesmas Ciputat Timur [Thesis, Program Studi Ilmu Keperawatan]. Universitas Islam Negeri Syarif Hidayatullah; 2014.

[48] Agianto, Nuntaboot K. Role and function of family in care of patients with stroke in community. *Dunia Keperawatan*. 2018;6(2):134-143.

[49] Wurtiningsih B. Dukungan keluarga pada pasien stroke di ruang saraf RSUP Dr. Kariadi Semarang. *Medica Hospitalia*. 2012;1(1).

[50] World Health Organization. Traditional Medicine. Geneva: World Health Organization; 2013.

[51] Wirawan RP. Rehabilitasi stroke pada pelayanan kesehatan primer. Majalah Kedokteran Indonesia. 2009;59(2).

[52] Sembel R. Persiapan menuju pensiun bahagia. 2008. Available from: <http://sinarharapanjaya.com>