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KNOWLEDGE ON STROKE AMONG MIDDLE AGED ADULT IN A COMMUNITY AT RATUWAMAI, MORANG

Suvekshya Silwal[1], Sapana Khadka [2], Bimala Kumari Sah[3]

ABSTRACT

Stroke is a medical emergency also known as Cerebrovascular Accident (CVA) or "brain attack". Nowadays, this health problem is increasing tremendously day by day in developing country like Nepal.This study follows with an objective to assess the knowledge on stroke among middle aged adult. A descriptive cross-sectional study was used to assess the level of knowledge on stroke among (40-65) years of aged group in a community of Ratuwamai, Morang. Non probability purposive sampling method was used to select respondents where sample size was 117. Semi-structured interview questionnaire was used for data collection and data was analyzed with Statistical Package for Social Science (SPSS) version 16.The study showed that among 117 respondents, 62.1% were above 50 years (Mean±SD = 53.53±7.169), 32.9% had achieved secondary level of education, 97.4% gave correct response as stroke is a brain problem, similarly 100% of respondents reported high risk is above 45years of age, 91.5% identified hypertension leading to stroke, 96.6% thought that sudden onset of dizziness as warning signs of stroke. This study found that overall knowledge regarding stroke was average (65.8%). Relationship of ethnicity (p=0.045) and level of education(p=0.000)were found to be associated with level of knowledge. A widespread awareness program is required to improve the knowledge of community people regarding stroke, which in turn might improve the control of risk factors, early treatment and better outcomes.

Keywords: Stroke, Knowledge, Middle Aged Adult, Community people

1 Ms. Silwal is a Nursing Instructor, Biratnagar Nursing Campus, Morang, TU.

2 Ms. Khadka is RN, School of Medical Science, Dhulikhel Hospital, KU.

3 Ms. Sah is an Assistant Professor, Maharajgunj Nursing Campus, Kathmandu, TU.

INTRODUCTION

Stroke is a medical emergency which occurs when the blood supply to the brain is interrupted or reduced either blocked by clot or burst, as result the brain cells begin to die within minutes depriving brain tissue of oxygen and nutrients.

Stroke or Cerebrovascular disease (CVD) is neurological condition with rapidly increasing burden in many low-and middle income countries. According to World Health Organisation (cited in Ayeshah et al. 2018), stroke is defined as rapidly developing signs of focal (or global) disturbance of cerebral function, leading to death or lasting longer than 24 hours, with no apparent cause other than vascular.

Worldwide, stroke is considered the second leading cause of death, accounting for 11.8% of all deaths in 2013. In the Unites States (US), approximately 795,000 people have stroke every year (Aldayel, Alherbi, Shadid & Zevallos 2017). Each year 800,000 people experience a new or recurrent stroke. Stroke is the fifth leading cause of adult disability and death in the U.S. (NSA 2018). In the world, 80 million people have had a stroke and some 50 million stroke survivors live with some form of permanent disability (WSO 2019). It is leading cause of disability and mortality worldwide. Of the estimated 795, 000 new or recurring strokes that occur in the United States each year, approximately 145, 000 will result in death. For the 6.5 million individuals who survive after stroke and are alive today, nearly half will have moderate to severe neurological deficits. In addition to the personal toll on health, stroke cost the United States an estimated $73.7 billion in 2010 (WSO 2015).

Stroke is one of the leading causes of functional impairments, with 20% of survivors requiring institutional care after 3 months and 15%- 30% being permanently disabled in Asian countries. Patient with multiple risk factors of age group 45-65 years have higher chance of suffering from stroke with their advancing age (Shrestha et al. 2011).

Regarding situation of stroke in the world, Nepal ranks 97th in the world top causes of death with age adjusted standardized death rate of 80.03 per 100,000 population in Nepal, stroke is top 3rd causes of death among top 50 causes of death with 15,450 deaths per 100,000 population in a year (WHO 2017).

Based on disability-adjusted life years, stroke is one of the major causes of death and is among the top five diseases in Nepal. The age of stroke patients in Nepal is between 59 and 62 years, where male affected more

frequently and ischemic stroke is more common (63%) than hemorrhagic stroke (37%) (Shaik et al. 2012).

Globally, Stroke is raising problem where as Nepal is also facing challenges related to stroke which includes lack of specialist and stroke care unit. Some of the studies suggest, knowledge regarding stroke is poor in people of Nepal (Chandra et al. 2019).

MATERIALS AND METHODS

Descriptive cross-sectional study was used to assess the knowledge on stroke among middle aged in a community at Ratuwamai-6 of Morang district in the Koshi Zone of South-Eastern Nepal which had a population of 11,079. The study period was from July 2018 to January 2019. The study population included age group of 40-65 years. Non probability purposive sampling method was used to select respondents. Semi-structured interview questionnaire was used to obtain information by interviewing face to face for each respondents. It consists of two parts: Part 1- Socio-Demographic Information of Middle aged Adult, Part 2-Questionnaire regarding Knowledge on Stroke. Data was entered and analyzed by using Statistical Package for Social Science (SPSS) version 16. Descriptive analysis frequencies, percentage and mean were used to assess the level of knowledge and the inferential analysis Chi-square was used to find out association of knowledge with selected demographic variables. Knowledge score was calculated on the basis of 20 multiple response questions where each correct answer carried 1 mark. Altogether, total score consisted of 40 marks which were then converted into percentage. Poor knowledge: less than 50%, Average knowledge: 50-75% and Good knowledge: more than 75% marks.

RESULTS AND DISCUSSION

Demographic profile

Table 1 shows that majority of respondent belonged to Brahmin/ Chhetri which supports of Census (2011) i.e. 28.8% Brahmin/Chhetri and Janajati 26.8%. In the present study 25.6% of the respondent had achieved secondary education which is supported by the study conducted on Knowledge and Perception of Stroke: a Population Based Survey in Uganda which indicated 39.5% had achieved secondary level of education (Nakibuuka et al. 2014).

Table 1: Demographic information of middle aged adult (n=117)

Variables	Frequency(f)	Percentage (%)
Age (in years)		
≤ 45	17	14.5
46-50	26	22.2
51-55	25	21.4
56-60	22	18.8
> 60	27	23.1
Mean±SD=53.53±7.196		
Sex		
Male	55	47
Female	62	53
Ethnicity#		
Brahmin/Chhetri	92	78.6
Janajati	25	21.4
Occupation		
Farming	101	86.3
Service	7	6.0
Business	7	6.0
Daily wages	2	1.7
Education		
Illiterate	26	22.2
Literate	91	77.8
Level of education* (n=91)		
Informal	27	29.7
Primary	23	25.3
Secondary	30	32.9
Higher secondary	11	12.1
Monthly income (NRs.)		
< 10,000	31	26.5
11,000-20,000	82	70.1
21,000-30,000	2	1.7
> 30,000	2	1.7

Similarly in Table 1, the study indicates 86.6% of respondents were involved in farming which is supported by the Agriculture Census Nepal (2011) as there shown more than 81% involved in agriculture. Regarding income in the conducted study, most of the respondents had monthly income of NRs 11,000-20,000 which is contradictory with the study conducted on Awareness of University Students towards Strokes: A Cross-Sectional Study in Bangladesh which showed 44,057 taka (NRs.34,152.71) per

month (Alam et al. 2017). It might be due to the low qualification and types of occupation followed by respondents that most of them were involved in farming as their main source of income.

Table 2: Knowledge on stroke among middle aged adult (n=117)

Variables	Frequency(f)	Percentage (%)
Meaning of stroke		
Brain problem	114	97.4
Heart problem	3	2.6
Source of information*		
Friends	98	83.8
Television	79	67.5
Family member	77	65.8
Health personnel	67	57.3
Newspaper	23	19.7
Radio	21	17.9
Internet	14	12
Existing health problems (diagnosed)		
Hypertension	7	6.0
Diabetes mellitus	1	0.9
Transmission		
Yes	2	1.7
No	115	98.3
Mostly affected		
Both male and female	110	94
Male	5	4.3
Female	2	1.7
High risk age		
< 45 years	0	0
>45 years	117	100

** Multiple response questions, each response is considered 100%*

Table 2 depicts 3.4% reported hypertension as existing health problem which is contradictory with the study conducted on a Cross-sectional population survey on stroke knowledge and attitudes in Greater Kampala, Uganda. Out of 440 adults screened 17.5% had hypertension it might possibly of difference in sample size in present study among 117 respondents and in previous study among 440 respondents (Kaddumukasa et al. 2017).

Level of knowledge on stroke among middle aged

Table 3,4, 5 and 6 indicate level of knowledge on stroke among middle aged, most of the (65.8%) respondent had average knowledge which is similar to the study conducted on knowledge of risk factors and warning signs of stroke which revealed 67.24% of respondent of age group 40-60 years had average knowledge on stroke (Nicol & Thrift 2005). One study (Wiszniewska, et al. 2000) conducted in Poland that knowledge of stroke among adults revealed that a correct definition of stroke was given by 86.7% of the respondents. Only a small proportion of them knew risk factors for stroke (27.8% knew that one of them was hypertension, 6.1% gave smoking, 4.4% diabetes as risk factors).Similarly one study conducted in China concluded that the urban community residents in China are lacking in knowledge about stroke (Haixin et al. 2011).

One study conducted in rural area of Nepal about knowledge of stroke among higher secondary school students (1360 participants) revealed that 71.1% had heard or read about stroke; 30.2% knew someone with stroke, 39.3% identified brain as the organ affected. Sudden onset limb/s weakness/numbness (72%) and hypertension (74%) were common warning symptom and risk factor identified, 88.9% would take stroke patients to a hospital. Almost half participants (55.5%) felt ayurvedic treatment be effective, 44.8% felt stroke as a hindrance to a happy life and 86.3% believed that family care was helpful for early recovery (Thapa et al. 2016). Tosome extent this study findings are contrast from present study findings.

Association of socio-demographic variables with level of knowledge

The present study do not shows the relationship of age and sex with the level of knowledge on stroke with p-value is 0.875 for age and 0.529 for sex similar result were obtained from the study conducted on Knowledge of Risk factors and Warning signs of stroke among Middle age, with p-value 0.126 for age and 0.317 for sex (Nicol & Thrift 2005).

However the level of education is significant predictor of good knowledge, the study shows the association of education level with knowledge on stroke with p-value 0.000 alike the study conducted on Stroke Awareness in general Population: Knowledge of Stroke Risk factors and Warning signs which showed p-value 0.001 (Hickey et al. 2009). Similarly another study suggests low education is associated with increased stroke risk in men and women, and may be marginally steeper in women than men. Modifiable risk factors account for much of the excess risk from low education level (Jackson et al. 2018). The present study reflects association of ethnicity with the level of knowledge with p-value 0.045

which is supported by the study where Hispanics and Blacks had higher odds of stroke in comparison with non-Hispanic Whites and proposes an association between race/ethnicity and the prevalence of stroke (Aldayel et al. 2017).

Table 3: Knowledge on risk factor, symptoms and prevention of stroke(n=117)

Variables	Frequency(f)	Percentage (%)
Factors lead to stroke*		
Hypertension	107	91.5
Stress	100	85.4
Smoking	32	27.4
Obesity	18	15.4
Sedentary life style	5	8.5
Diabetes	3	4.3
Warning signs of stroke*		
Sudden onset of dizziness	114	97.4
Sudden onset of headache	111	94.9
Sudden onset of weakness/ numbness arms and legs	31	26.5
Sudden onset of fainting	22	18.8
Sudden onset of double vision	10	8.5
Symptoms of stroke*		
Dizziness	113	96.6
Slurred speech	62	53
Facial drooping	55	47
Weakness of arms and leg	55	47
Problem with balance and co-ordination	55	47
Blacking out	42	35.9
Prevention of stroke*		
Consuming healthy diet	99	84.6
Control blood pressure	78	66.7
Avoid smoking	70	59.8
Avoid alcohol	67	57.3
Exercise	49	41.9
Control blood sugar	3	2.6

** Multiple response questions, each response is considered 100%*

This study doesn't show the association of occupation with knowledge on stroke with p-value 0.066 is supported by the study conducted on Awareness of University Students towards Strokes: A Cross-Sectional Study which shows *p*-value 0.085 (Alam et al. 2017. In the present study existing health problems and income do not reflect the association with

knowledge on stroke with *p*-value 0.574 for income and 0.67 for existing health problems which is contradictory to the previous study on Knowledge of Stroke Risk Factors, Warning Symptoms, and Treatment among an Australian Urban Population with p value 0.005 for health problems and 0.01 for income it might be due to setting difference, rural area in present study where as urban area in previous study (Yoon et al. 2001).

Table 4: Knowledge on treatment of stroke among middle aged adult (n=117)

Variables	Frequency(f)	Percentage(%)
Can stroke be cured		
Yes	71	60.6
No	46	39.4
Treatment of stroke (primary preference)		
Allopathic	113	96.6
Ayurvedic	4	3.4
Stroke patient recover to normal		
Yes	4	3.4
No	113	96.6
Responsible for recovery of stroke patient*		
Health care personnel	112	95.7
Family member	46	39.3
Physiotherapy team	34	29.1
Patient themselves	13	11.1
Importance of rehabilitation		
Yes	74	63.2
No	43	36.8
Ways of rehabilitation (n=74)		
Depends on the kind of problem	67	90.4
Physiotherapy only	7	9.6
Immediate management for fainting and loss of consciousness		
Take person to hospital	114	97.4
Wait for spontaneous recovery	2	1.7
Leave him/her alone	1	0.9

** Multiple response questions, each response is considered 100%*

Table 5: Level of knowledge on stroke among middle aged adult (n=117)

Variables	Frequency(f)	Percentage(%)
Poor	32	27.4
Average	77	65.8
Good	8	6.8

Table 6: Association of level of knowledge with selected demographic variables(n=117)

Variables	Level of knowledge		
	Inadequate f %)	Adequate f (%)	*p value**
Agegroup (in years)			
40-50	7(5.9)	36(30.7)	.053
51-65	25(21.4)	49(41.9)	
Sex			
Male	11(9.4)	44(37.6)	0.102
female	21(17.9)	41(35.1)	
Ethnicity			
Brahmin/Chhetri	32(27.3)	71(60.7)	.045*
Janajati	0(.0)	14(12.0)	
Education			
Illiterate	19(16.2)	7(5.9)	.000*
Literate	13(11.1)	78(66.6	
Educational level (n=91)			
Informal			
Primary level	7(7.6)	20(21.9)	.000*
Secondary level	2(2.1)	21(23)	
Higher secondary level	3(2.6)	27(29.6)	
	-	11(12.0)	
Occupation			
Farming	31(26.5)	0(59.8)	
Others#	1(.9)	15(12.8)	0.066
Monthly Income (in NRs)			
≤20,000	32(27.4)	81(69.2)	0.574
>20,000	0(0)	4(3.4)	
Existing health problems			
Hypertension	3(2.6)	4(3.4)	0.657
Diabetes	0(0)	1(0.9)	

**Chi-square test p-value significance i.e.<0.05*

 # includes service, business and daily wages

CONCLUSION

The study concluded that there was average knowledge on stroke among middle aged adult hence, there is a need for further study in view of understanding the knowledge on Stroke. Widespread awareness program focusing on prevention of risk factors on stroke can be conducted among community people to reduce the stroke occurrence.

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