

Knowledge, Attitude and Practice Towards the Stroke Risk Factors among the Peoples of Dhaka City in Bangladesh

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Abstract

Introduction: Currently, CVD represents a serious problem in public health. CVD is the second most common cause of death worldwide and a significant cause of chronic disability. Contributing to this is the aging of the population, lack of knowledge regarding cerebrovascular disease and increased frequency of the risk factors, mainly hypertension. The main clinical manifestations are paralysis, dysarthria, aphasia, vision alterations, headache, numbness, dizziness or weakness. The public's knowledge of these warning signs is very important. World Health Organization (WHO) defines CVD as rapidly developed clinical signs of focal disturbance of cerebral function lasting for more than 24 hours or leading to death without any apparent cause other than vascular origin.

Objectives: The objective of this study to evaluate Knowledge, attitude and practice about the risk factors of CVD among the peoples of Dhaka city.

Methodology: cross sectional research with 55 participants among the target population of this study is male and female enthusiastically grace with presence in Dhaka city of Bangladesh. On the other hand the study population was those congregation inclusion/exclusion criteria and KAP study of CVD risk factors. The instruments used included direct interview, a standard questionnaire and Knowledge, attitude and practice (KAP) of CVD risk factors. Data were numerically coded and captured in Excel, using an SPSS 22.0 version.

Results: The study found that mean age of the participant was 37.89 (SD± 5.811) years and most of the participants were above 30 years. The youngest participants in this study were 30 years old and oldest participants were 50 years old. In this study, Gender showed that Male and female participant quotient was identical. Male 25.5% (n=14) and Female 74.5% (n=41). In this study Highest level of Education completed showed that HSC and Graduate degree participants were highest rate that was 41.8% (n=23). SSC participant were rate that was 9.1% (n=5). . Are you aware of most useful method for recovery this study showed that physiotherapy participants were highest rate that was 41.8% (n=23) and both participants were 40% (n=22) and medication were 18.2% (n=10).

Conclusion: The present study showed a significant association between the KAP of the participants with young age and higher educational degree. Consistent studies showed that different ages groups were significantly associated with KAP in different countries as the younger age have shown better knowledge. However, older age participants have shown higher level of adequate knowledge due to higher incidence of CVD among old age participants.

Keywords: CVD, KAP, Risk factors, warning symptoms

INTRODUCTION

Currently, stroke represents a serious problem in public health [1, 2]. Stroke is the second most common cause of death worldwide and a significant cause of chronic disability [3]. Contributing to this is the aging of the population, lack of knowledge regarding cerebrovascular disease and increased frequency of the risk factors, mainly hypertension [4, 5]. The main clinical manifestations are paralysis, dysarthria, aphasia, vision alterations, headache, numbness, dizziness or weakness [4, 5]. The public's knowledge of these warning signs is very important. Quick identification of these signs means a more efficient medical attendance within the windows of therapeutic opportunities. Rapid reperfusion with thrombolytic agents within 3 h of the onset of symptoms has been shown to be beneficial as such and to reduce morbidity and mortality [2, 6]. Rapid admission to a hospital after the onset of stroke depends partially on the level of knowledge of stroke [7]. Otherwise, patients with stroke may fail to gain from the benefits of acute treatments such as acute thrombolytic, because of the narrow therapeutic window [8]. It has been reported that knowledge about the risk factors of stroke can help prevent stroke in the first place [9]. Delay in presentation to the emergency department outside of the various treatment time windows for reperfusion therapy remains a significant barrier in the treatment of acute stroke [10]. Stroke is one of the most commonly encountered neurological emergencies in Tertiary Care Hospitals and is one of the leading causes of death in Bangladesh [32]. World Health Organization (WHO) defines stroke as rapidly developed clinical signs of focal disturbance of cerebral function lasting for more than 24 hours or leading to death without any apparent cause other than vascular origin [33]. Despite recent advances in stroke therapy, the majority of stroke patients do not seek immediate medical attention [34, 35]. Stroke may present with an array of signs and symptoms such as weakness or numbness involving one or both sides of the body, headache, vertigo, vomiting, cranial nerve deficits and visual disturbances. Risk factors for stroke include non-modifiable factors like age, sex and modifiable factors like hypertension, heart disease, diabetes mellitus, and hyperlipidemia, smoking and excess alcohol intake [36]. Lack of information and poor control of risk factors contribute to the rising

incidence of stroke in developing countries. Therefore, by early detection and reduction of these modifiable risk factors, it is possible to reduce the incidence of stroke and this is influenced by the public knowledge and perception of stroke and its risk factors. The aim of the present study is to assess baseline knowledge regarding stroke risk factors, symptoms, importance of receiving early treatment (within first few hours of onset of symptoms) in acute stroke, treatment modalities and information resources from relatives of patients admitted with acute stroke using a structured questionnaire. Population-based studies have shown that there is a lack of knowledge about established stroke risk factors and warning signs in the USA [9, 11–13], Australia [14], South Korea [15], Canada [16], Brazil [17], Oman [18], India [19] and Turkey [20]. In Iran, the public's level of knowledge of symptoms and risk factors for stroke has not been studied so far. Thus, it is of great clinical and epidemiological interest to know the magnitude of the problem so that strategies can be adopted to minimize the unfavorable effects of stroke. Stroke is a worldwide health disease that results in high morbidity and disability rates. Two types of stroke were identified, ischemic and hemorrhagic types (21). The risk factors of stroke are age, positive family history, and chronic conditions including diabetes and hypertension and heart diseases. Alcohol consumption and smoking are also most common risk factors for stroke (22, 23). According to the severity of stroke, it can result in different effects on mood, functional abilities, cognitive function and quality of life (24). Also, it bosses a great burden on caregiver, national and individual economic stress (25). The treatment of stroke in acute type could reverse the paralysis in most of patients (26, 27) but thrombolytic therapies could be useful during the first four hours of signs (28). Due to the fact that most of patients arrive late after the golden hours for using therapies thus using preventive measures and modifying lifestyle is the most effective type of management of stroke (29, 30). Adequate general knowledge about stroke could result in a quick and correct identification of stroke thus good management within the estimated time (31). All over the world about twenty million people suffer from stroke, among these fifteen million will survive while five million will die as a sequel and of those who ride out, five million will be disabled every year. [37] Without public knowledge

and the right attitude and practices, stroke burden cannot be reduced. For instance, it is important to know that therapeutic opportunities in stroke are limited. Delay in hospitalization contributes to high mortality and morbidity in stroke but ignorance about stroke symptoms, poor infrastructure, and hesitancy about hospital admission even when infrastructure and access are available often leads to delay. [38] Further, there is a lack of knowledge and indifference about that timely treatment of hypertension and appropriate lifestyle changes that may help to decrease the incidence of stroke and morbidity among stroke-survivors in the long run.[39] Adequate general knowledge about stroke could result in a quick and correct identification of stroke thus good management within the estimated time. [40]. Moving towards globalization and modernization, developing nations are susceptible to unhealthy lifestyle habits such as poor dietary habits, lack of exercise and poor emotional control Stroke is classified as one of the top five leading causes of death and the top 10 reasons for hospital admission in Malaysia [41]. It has considerable impact on its sufferer's quality of life, cognitive status, functional ability and interpersonal relationship [42]. However, there are a few prospective studies conducted in developing countries especially including Malaysia which limits the epidemiological findings on stroke [43]. The aim of the present study was to assess the baseline knowledge, attitude of and attitude towards warning symptoms of stroke, impending risk factors availability of sources of information and the perceived risk of stroke among people attending the OPD Department of north east medical college hospital and private physiotherapy centre in Sylhet city.

Rationale of the research

Increasing the general knowledge (K) on stroke will enable correct identification of signs and symptoms of CVD and adding value towards other technical knowledge of the CV disease and its management. An improvement in knowledge (K) will then affect the people's attitude (A) by seeking information about CVD via various medium among the individuals with high risk. These will then help to change the practice (P) by adopting healthy lifestyle. Indeed, it is vital to improve the KAP aspects among the public's particularly the CVD patients and their family members in order to reduce the mortality and morbidity rate

among the population. This effort however, requires cooperation and networking between the MOH and non-profit bodies to make it happen. Knowledge that CVD is an emergency demanding prompt medical management, and acknowledgement that a negative aftermath can be prevented through early hospitalization and therapeutic intervention in the window period in contrast to the belief that physical rest or spontaneous recovery could be the correct practice for CVD management is substantially present among respondents in the present observation. The speed of hospitalization after stroke depends on the level of knowledge about CVD. However, inadequate knowledge regarding the presenting signs and symptoms of CVD can delay recognition and therefore, hospitalization. Knowledge that CVD demands immediate medical attention with proper medical facilities is voiced by people globally. Strong advocacy for urgent hospitalization will not be effective in reducing mortality and morbidity if stroke knowledge, coupled with improvement in infrastructure and logistics for transporting patients to hospitals at odd hours, is improved. On KAP across the world in relation to CVD and highlights the recommendations for CVD prevention strategies. This study was assessed to evaluate the knowledge, attitudes, and practices (KAP) of adult subjects regarding risk factors, warning symptoms for CVD that intended to develop Strategies for controlling the CVD risk factors.

METHODOLOGY

Study objectives

General Objective

The objective of this study were to evaluate Knowledge, attitude and practice towards the stroke risk factors among the peoples of Dhaka city in Bangladesh

Specific Objective

1. To find out socio demographic (age, marital status, education, religious, family types, occupation, socioeconomic status, income) characteristics of CVD patients.
2. To assess the CVD related knowledge of the respondents.
3. To assess the CVD related attitude of the respondents.

4. To assess the CVD related practice of the respondents.

Study Design

This study was conducted using a cross-sectional study under a quantitative study design. Cross-sectional study design was chosen to meet the study aim as an effective way to collect data.

Study period

It was started with protocol development and completed with final report submission of this study period was from January 2020 to June 2020.

Place of the Study

The setting for this study were conducted at outpatient department of Islami Bank Central Hospital Kakrail and Islami Bank Hospital Motijheel at Dhaka corporation area for the study

Study population

The study population was age 20 to 50 years living in Dhaka City areas in Bangladesh.

Sample size

P= prevalence of Bangladeshi knowledge, attitude and practice of risk factors of CVD (total (percentage) of the total population)

p= 20.5% (Population census-2011)

q= 1-p

q=1-.205

=0.80

d= acceptable margin of error (.05)

Actual sample size was

$$(n) = Z^2 pq/d^2$$

$$= (1.96)^2 \times 0.5 \times 0.5 / (0.05)^2$$

$$= 3.84 \times 0.25 / 0.0025$$

$$=384$$

But as the study performed as a part of academic research project and there were some limitations, so that 55 were taken as the sample of this study from Islami Bank Central Hospital Kakrail and Islami Bank Hospital Motijheel at Dhaka corporation area for the study.

Sampling technique

Samples were selected using convenience sampling method.

Data Collection & Management

Data was collected through a well-structured questionnaire prepared by the interviewer and approved by the examination board. Baseline information was collected through interviewer-administered questionnaire through face-to-face interview.

Data Collection Procedure

Researcher himself collected data by face-to-face interview. The interview was conducted privately as far as possible and before preceding the data collection, the detail of the study was explained to each eligible respondent and informed written consents were obtained from the respondents. Interview was taken in a quiet place; no other person was allowed to influence the replying of the respondent. It took on average 30 minutes to complete the interview of a single respondent.

Conduction of the study, quality control and monitoring

The data was collected from selected areas by me. The collected data was checked and verified by the investigator at the end of the work every day. Any inaccuracy and inconsistency was corrected in the next working day.

Data presentation

Data was presented by tables, Bar chart and Pi chart.

Selection criteria

Inclusion Criteria

1. Peoples were included age 20-50 living in Dhaka city.
2. Willing to participate

Exclusion Criteria

- Unstable medical conditions.
- Traumatic injury around the body.
- Mentally ill.

Data processing

Data processing involves

- Categorization of the data

Knowledge, Attitude and Practice Towards the Stroke Risk Factors among the Peoples of Dhaka City in Bangladesh

- Coding
- Summarizing the data
- Categorizing to detect the errors and to maintain consistency and validity

Data Analysis

Data were analyzed Statistical Package for the Social Science (SPSS) version 22.0. Microsoft office Excel 2013 was used to decorating the bar graph and pie charts. The results of this study were consisted of quantitative data. By this study a lot of information was collected.

Ethics and other permissions

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

Limitations of the study

Even with best efforts with thesis, the present study was not complete free from all constraint and impediments which shall affect the accuracy of the study. There was some situational limitation and barriers while considering the study. Those are as follows:

Expected sample size was more than 156 for this study

but due to resource constrain just 55 samples was taken which is very small to generalize the result for the wider population.

It was hospital base study; these will not reflecting the whole population and not find the real picture of CVD patients because some barrier.

The questionnaire were developed only through searching sufficient literature but considering the context of the demography of the population a pilot study could substantial before developed questionnaire. The study was cross-sectional, thus causal conclusions cannot be drawn. Second, this study stated self reporting information that may bias the result. Third, other external possible influential factors could affect the adolescent nutrition information seeking behavior of the teacher. Moreover, the inclusion of a larger sample size may increase the generalization of the results.

RESULTS

Age of the participants

In this research, researcher shows that the mean age of the participant was 37.89 years ($SD \pm 5.811$). The respondents age of participant minimum 30 years and maximum 50 years. The variance of years 33.76 years. (Figure-1).

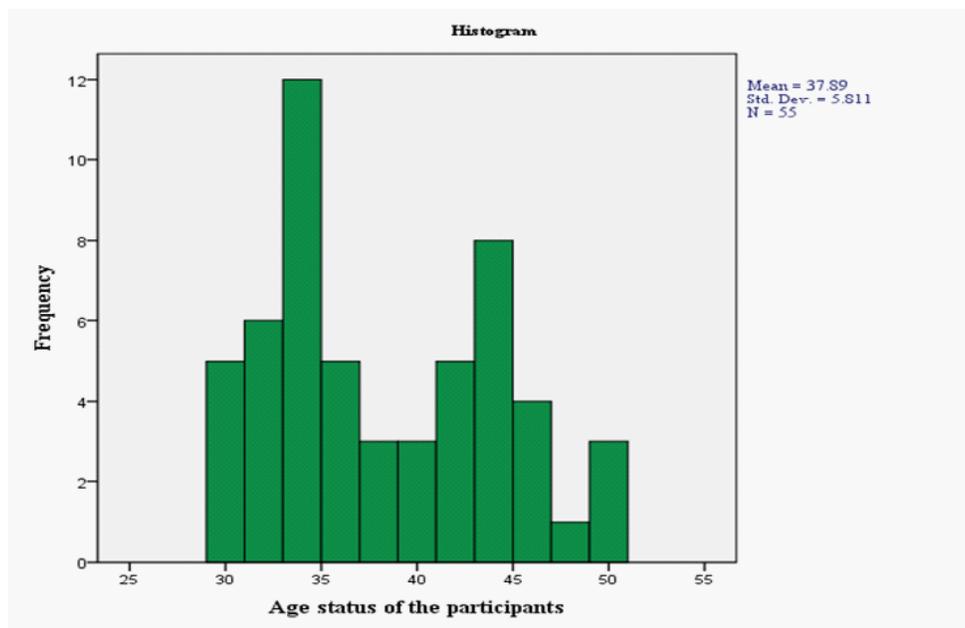


Figure1. Age of participant

Gender of the participants

This figure showed that Male and female participant quotient was identical. Male 25.5% ($n=14$) and Female 74.5% ($n=41$). (Figure: 2)

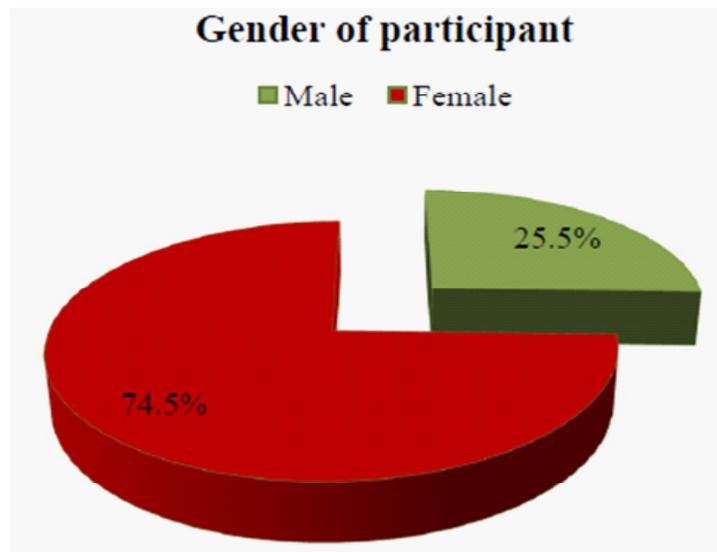


Figure2. Gender of the participants

Education completed of the participant

This figure showed that HSC and Graduate participants were highest rate that was 41.8% (n=23). SSC participant were second highest rate that was 9.1% (n=5) and Masters Participants were 7.3% (n=4). (Figure: 3)

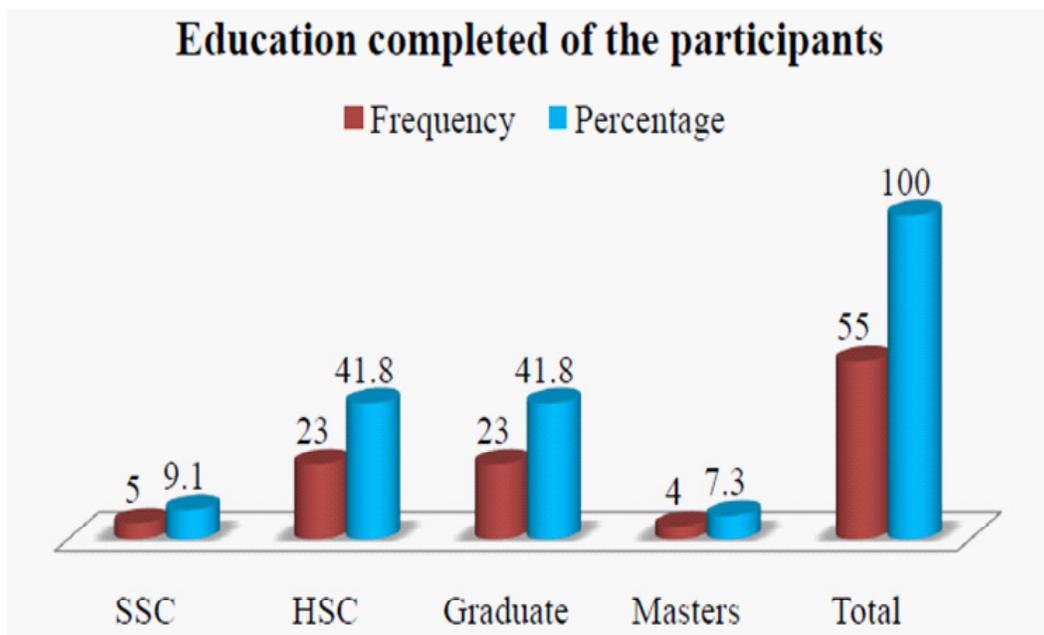


Figure3. Education completed of the participants

Distribution of respondents income status (n=55)

	Frequency	Percentage
Low =10000-20000 BDT	16	29.1
Moderate=21000-30000 BDT	35	63.6
High=31000-50000 BDT	4	7.3
Total	55	100.0

Knowledge, Attitude and Practice Towards the Stroke Risk Factors among the Peoples of Dhaka City in Bangladesh

This table showed that Moderate (21000-30000 BDT) participants were highest rate that was 63.6% (n=35). Low (10000-20000 BDT) participants were second highest rate that was 29.1% (n=16) and High (31000-50000 BDT) participants were 7.3% (n=4) (Table-1).

Occupations of the participants

This figure showed that unemployed participants were highest rate that was 60.0% (n=33). Service participants were second highest rate that was 36.4% (n=20) and business participants were 3.6% (n=2). (Fig: 4)

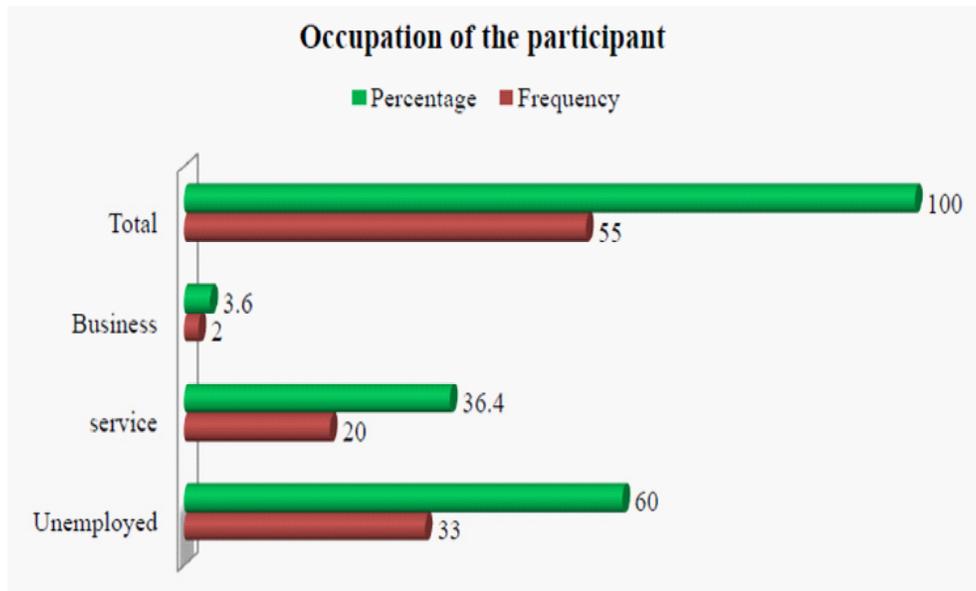


Figure4. occupation of the participants

Have you ever heard or read about disease called stroke?

This figure showed that yes participants were highest rate that was 58.2% (n=32) and no participants were 41.8% (n=23). (Fig: 5)

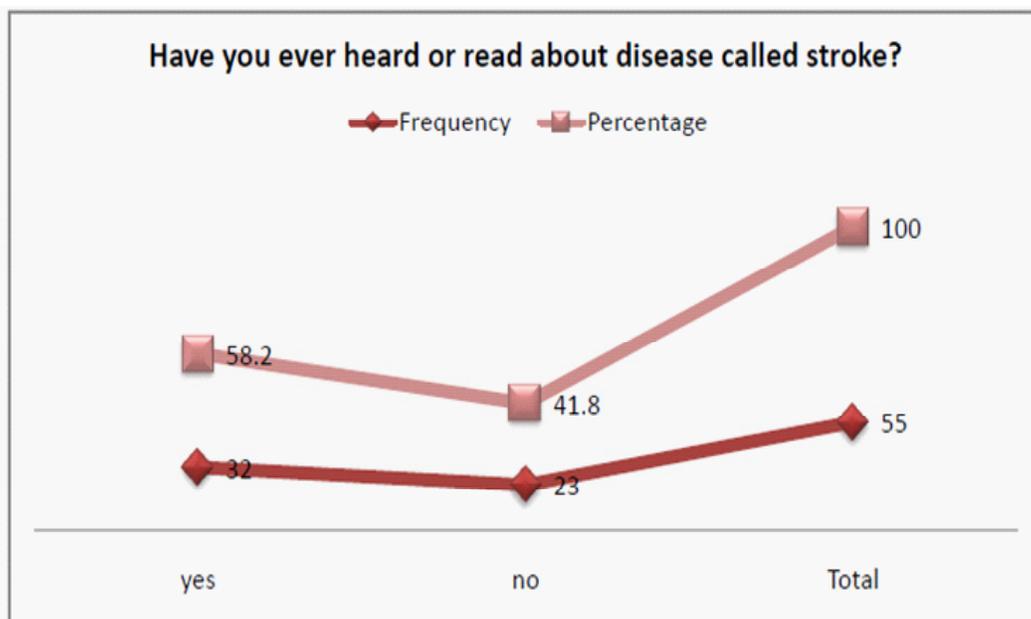


Figure5. Have you ever heard or read about disease called stroke

Knowledge, Attitude and Practice Towards the Stroke Risk Factors among the Peoples of Dhaka City in Bangladesh

Distribution of respondents Do you know about following warning signs of stroke (n=55)

	Frequency	Percentage
Abdominal pain	15	27.3
Chest pain	15	27.3
Dyspnea	7	12.7
Paralysis	7	12.7
Hemiplegic	1	1.8
Aphasia	5	9.1
Ataxia	2	3.6
Body pain	2	3.6
Urinary incontinence	1	1.8
Total	55	100.0

This table showed that abdominal pain and chest pain participants were highest rate that was 27.3% (n=15) and Dyspnea and paralysis participants were second highest rate that was 12.7% (n=7). Aphasia were 9.1% (n=5) and ataxia and body pain 3.6% (n=2). Hemiplegic and urinary incontinence were 1.8% (n=1) (Table-2).

	Frequency	Percentage
Hypertension	24	43.6
Smoking	18	32.7
Vascular rupture	1	1.8
Familial history	2	3.6
Arrhythmia	4	7.3
Obesity	1	1.8
Myocardial infraction	2	3.6
Thrombosis	1	1.8
Nervousness	1	1.8
Hyper triglycerdemia	1	1.8
Total	55	100.0

This table showed that hypertension participants were highest rate that was 43.6% (n=24) and smoking participants were second highest rate that was 32.7% (n=18). Arrhythmia were third highest rate that was 7.3% (n=4). Familial history and MI that was 3.6% (n=2) and 3.6% (n=2). Vascular rupture, obesity, thrombosis and hyper triglycerdemia were 1.8% (n=1) (Table-3).

Do you think people with stroke can be reemployed in their job?

This figure showed that yes participants were highest rate that was 58.2% (n=32) and no participants were 41.8% (n=23). (Fig: 6)

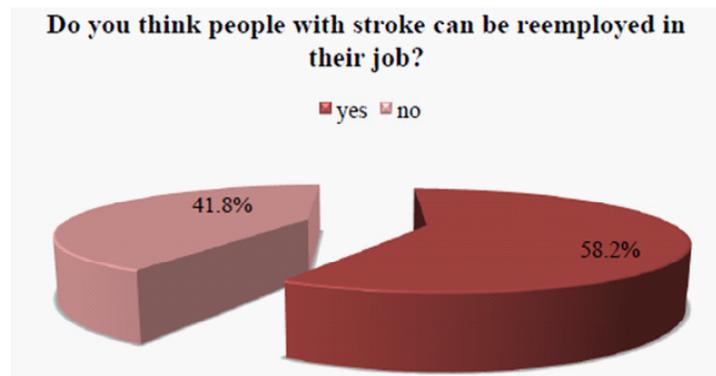


Figure6. Do you think people with stroke can be reemployed in their job

Are you aware about the best option for stroke?

This figure showed that treatment participants were highest rate that was 56.4% (n=31) and prevention participants were 43.6% (n=24). (Fig: 7)

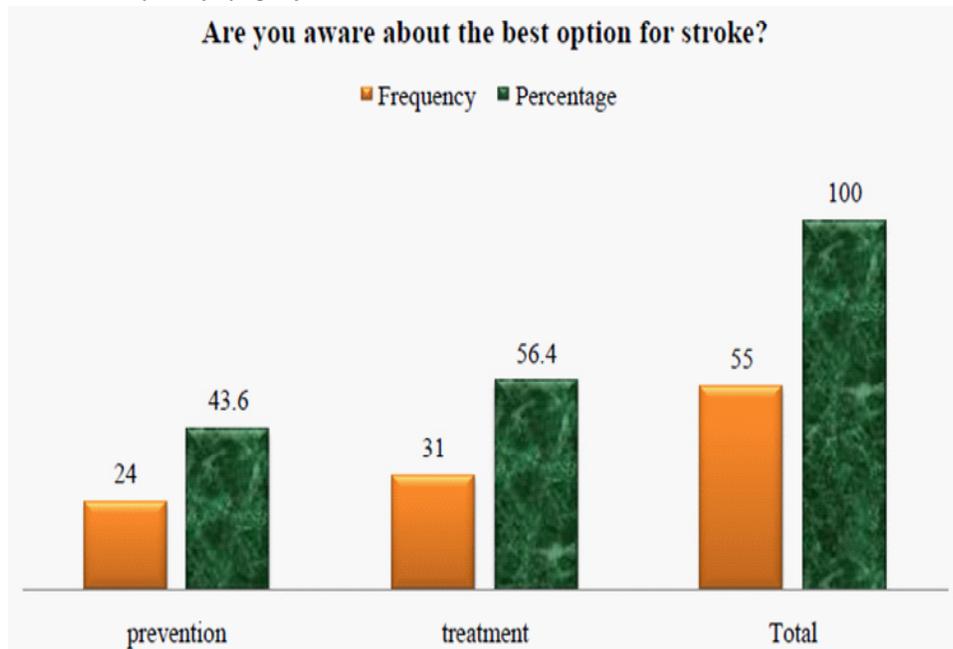


Figure7. Are you aware about the best option for stroke

Are you aware of most useful method for recovery?

This figure showed that physiotherapy participants were highest rate that was 41.8% (n=23) and both participants were 40% (n=22) and medication were 18.2% (n=10). (Fig: 8)

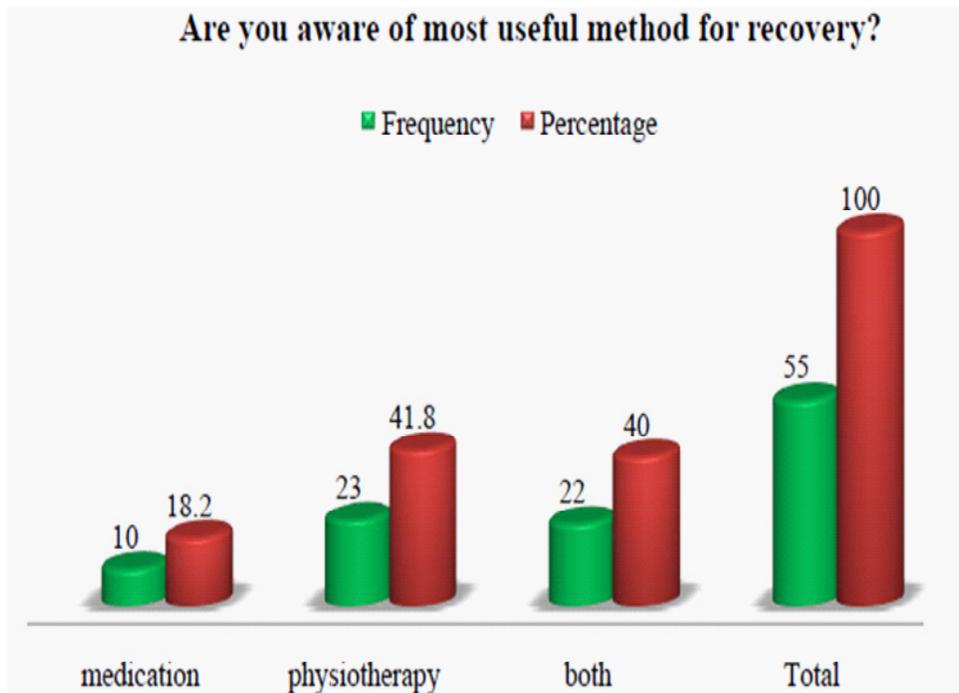


Figure8. Are you aware of most useful method for recovery

DISCUSSION

The aim of this study will be to evaluate Knowledge, attitude and practice towards the stroke risk factors among the peoples of Dhaka city in Bangladesh. However the study populations were those meeting inclusion/exclusion criteria and KAP study at stroke risk factors at Dhaka city. Total number of accomplices was fifty five for quantitative study with aged (20-50) years living in Dhaka city were selected for this study was considered as research population. The study found that mean age of the participant was 37.89 (SD± 5.811) years and most of the participants were above 30 years. The youngest participants in this study were 30 years old and oldest participants were 50 years old. McGrath CMF. Et. Al., (2008) performed a cross-sectional study for these purpose 78 patients (mean age 57.8 ± 11.9 years, 55 women and 23 men) were randomly selected for inclusion in the study. Another result .has been reported by Siti Noor khairina S., Sakinah H. (2014) who concluded that the mean age was ±62.1 and their age range was 30-50 years. So above two studies, mean age was not similar to this study. In this study, Gender showed that Male and female participant quotient was identical. Male 25.5% (n=14) and Female 74.5% (n=41) and no predilection for race (Arshad, et al., 2015). In this study Highest level of Education completed showed that HSC and Graduate degree participants were highest rate that was 41.8% (n=23). SSC participant were rate that was 9.1% (n=5). Another result has been Evcı ED and Memis S, 2007 showed his study education level highest Bachelor degree level and male participants' highest ratio. In this study income status of the participants showed that moderate participants were highest rate that was 63.6% (n=35). Bushnell CD and Goldstain LB, 2002 showed his research maximum income level were higher participants was highest ratio. So this two study were some prediction regarding economic value of those continents wise. Have you ever heard or read about disease called stroke This study showed that yes participants were highest rate that was 58.2% (n=32) and no participants were 41.8% (n=23). Another study Inzitari D and Eliasziw M, 2000 showed his study were yes participants highest ratio. So this two study were similar. Have you ever witnessed a cerebral attack or stroke this study showed that yes participants were highest rate that was 61.8% (n=34) and no participants were 38.2% (n=21). Ovbiagele B et.al. 2008 of his study showed yes participants were

highest ratio. So this two study were similar. Do you know about following warning signs of stroke This study showed that abdominal pain and chest pain participants were highest rate that was 27.3% (n=15). Das S, Paul N, Hazra A, Ghosal M, Ray BK, Banerjee TK et al. (2013) of his study showed paralysis and hemiplegic ratio was highest rate. So that two study becomes less of others warning signs. In cerebral stroke an emergency requiring medical management as is the case for cardiac attack This study showed that yes participants were highest rate that was 56.4% (n=31) and no participants were 43.6% (n=24). Davis S, Lees K (2006) of his study showed yes participants were 89%. Are you aware of risk factors that predispose to stroke this study showed that hypertension participants were highest rate that was 43.6% (n=24) and smoking participants were second highest rate that was 32.7% (n=18). Lipsky MMM, and Bales RMM, 2008 showed that study thrombosis and diabetes mellitus were highest ratio and another study Eliasziw M and Gates P, 2000 showed vascular rupture and hypertension were highest ratio, so that two studies found hypertension was another cause of risk in stroke. Are you aware about the best option for stroke this study showed that treatment participants were highest rate that was 56.4% (n=31) and prevention participants were 43.6% (n=24). Rowe AK and Frankel MR, 2001 prevention were highest ratio. Are you aware of most useful method for recovery this study showed that physiotherapy participants were highest rate that was 41.8% (n=23) and both participants were 40% (n=22) and medication were 18.2% (n=10). Kwon YD, Yoon SS Chang H (2007) showed her study both that was medication and physiotherapy treatment highest ratio.

CONCLUSION

The present study showed a gap between the lifestyle of the population of the city of Dhaka and their knowledge about risk factors as reflected by the necessity of intervention with public and professional educational campaigns and public media in the community. The present study showed a significant association between the KAP of the participants with young age and higher educational degree. Consistent studies showed that different ages groups were significantly associated with KAP in different countries as the younger age have shown better knowledge. However, older age participants have shown higher level of adequate knowledge due to higher incidence of CVD among old age participants.

Knowledge, Attitude and Practice Towards the Stroke Risk Factors among the Peoples of Dhaka City in Bangladesh

In accordance with our present study, a positive relation was found between high education and good knowledge. Another contrast study on KSA showed that there was neither significant difference in knowledge nor attitude towards CVD among different age groups or between different genders. In conclusion, the level of KAP toward CVD risk factors and warning symptoms was inadequate among the majority of participants. Good KAP was associated with high educational degree and young age.

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AUTHOR'S CONTRIBUTIONS

Both authors made substantial contribution to the conception, design, analysis and elucidation of data.

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Knowledge, Attitude and Practice Towards the Stroke Risk Factors among the Peoples of Dhaka City in Bangladesh

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