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**Research Article,**

# Functional And Psychological Outcome Of Stroke Survivors Attended At CRP, Bangladesh.

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## Abstract:

**Background:** Stroke is a public health issue, which is common and serious problem worldwide. Globally, strokes have high mortality and morbidity rates. In Bangladesh most of the stroke survivors are functionally dependent and psychologically depressed and anxious. The study was conducted to identify the functional and psychological outcome (anxiety level and depression status) of stroke survivors.

**Materials and Methods:**
The study was conducted by using of cross-sectional method. 102 participants were selected from Neurology unit, Centre for the Rehabilitation of the Paralysed (CRP), Savar, Dhaka. Participants were selected by purposive sampling. Data were collected through face to face interview by using a semi structured questionnaire.

**Results:**
From the result of the study, it was found that maximum participants were in between 51-60 years, 70% participants were male and remaining 30% were female. More than half (73%) were with ischemic stroke. In case of ischemic stroke, 10% respondents were functionally independent, maximum respondents (47%) were major dependent on others. But in hemorrhagic stroke, maximum (64%) were minor dependent. Among the participants with hemorrhagic stroke, 36% participants were moderate anxious where in ischemic stroke 12% respondents were moderate anxious. In ischemic stroke, most of the participants (43%) faced mild depression. On the other hand, maximum (50%) participants faced mild depression in hemorrhagic stroke. It was found that, good functional outcome but poor psychological outcome in hemorrhagic stroke and vice versa in ischemic stroke.

## Introduction:

Worldwide, stroke is marked as the second leading cause of death with a history of ischemic heart disease, including approximately 6.7 million stroke deaths in 2015 [1]. According to the World Health Organization, every year worldwide 15 million people suffer from stroke. Five million of these die and another five million are disabled permanently [2]. There are a variety of neuropsychiatric sequelae after stroke– the most common being depressive symptoms. Post-stroke depression develops in 25 - 75% of patients [3]. Around a quarter of stroke and nearly a third of transient ischemic attack (TIA) are commonly suffered from anxiety. It can hamper stroke rehabilitation effort and limit patient's probability of returning to their activities of daily living. In earlier observations reported that phobic anxiety

might be present after stroke [4]. According to Duncan et al., 40% of patients who survive a stroke are left with moderate disabilities and 15 - 30% with severe disabilities. It can be assumed that the greatest health effect and financial burden on stroke survivors and their families are the possible long-term disabling effects [3].

## Materials and Methods:

The study was conducted by using of cross-sectional method. The study site was Neurology unit, CRP, Savar, Dhaka where met all the inclusion and exclusion criteria. Participants were selected by purposive sampling method. 102 participants were selected to conduct this study. Data was collected by face to face interview using semi structured questionnaire technique and converted in Bangla. Data were collected by the selective data collector to avoid the errors. Data were analyzed with the software named Statistical Package for the Social Science (SPSS) version 20 and Microsoft office Excel 2013.To find out the association among the different variables Chi-Square test was performed.

## Result and Discussion:

The study was conducted on 102 participants of having stroke. In this study the minimum age of a participant was 21 and maximum age of a participant was 60. The mean age was 50.6 and standard deviation is 10.64. Other study in France, mean age was 53.38 with SD 13.71 [5]. More than half of the participants 70% (n=71) were male and 30% (n=31) were female in this study. In one Indian study, out of 162 participants 69.8% (n=113) were male and 30.2% (n=49) were female [6].

In our study, 73% (n=74) patients experienced ischemic stroke and 27% (n=28) patients experienced hemorrhagic stroke and 52% (n=53) and 48% (n=49) patients had hemiparesis on the left and right sides, respectively out of 102 patients. In another study, researcher found ischemic stroke (131 patients, 91%) and hemorrhagic stroke (13 patients, 9%) and Eighty-five (59%) and 59 (41%) patients had hemiparesis on the right and left sides, respectively out of 144 patients [2]. Among the 102 participants 97% (n=99) participants were married, 3% (n=3) participants were unmarried and no participants were widowed or divorced. In one study from Nigerian hospital among the 70 participants, 80% (n=56) are married and remaining 20% (n=14) are unmarried [7]. Out of 74 participants of ischemic stroke, 10% respondents were functionally independent, 43% were minor dependent on others and remaining 47% respondents were major dependent on others. Out of 28 participants of hemorrhagic stroke, 11% respondents were functionally independent, 64% were minor dependent on others and remaining 25% respondents were major dependent on others. Some studies found that better functional prognosis in survivors with hemorrhagic stroke than ischemic stroke [8].

Among 74 participants of ischemic stroke, 29% respondents faced minimal depression, 43% faced mild depression, 27% respondents faced moderately depression, 1% faced moderately severe depression and there was no severely depressed participant. Among 28 participants of hemorrhagic stroke, 7% respondents faced minimal depression, 50% faced mild depression, 29% respondents faced moderately depression, 11% faced moderately severe depression and 3% participants were severely depressed. One study estimated that when using the PHQ-9 ordinal categories, 42.9%, of patients suffered from minimal depressive symptoms, 35.7% , 14.3%, 4.9% and 2.2% suffered from mild, moderate, moderately severe and severe depression symptoms respectively [9].

Among 74 participants of ischemic stroke, 35% respondents were minimal anxious, 53% were mild anxious, 12% respondents were moderate anxious and no participant was severely anxious. Among 28 participants of hemorrhagic stroke, 18% respondents were minimal anxious, 46% were mild anxious, 36% respondents were moderate anxious and no participant was severely anxious. One study estimated that when using the GAD-7 ordinal categories, 69.2% of patients had minimal anxiety symptoms, 20.3%, 7.7% and 2.7% had mild, moderate, and severe anxiety symptoms respectively [9]. There was a strong association between age and functional outcome, age and depression and anxiety. But there was no association between type of stroke and functional outcome, affected side of brain and functional outcome.

## Table 1: Individual characteristics of the subject variables

| Variable | | | % (N) |
|---|---|---|---|
| Functional Outcome (Depends on types of stroke) | Ischemic | Independent | 10% (7) |
| | | Minor Dependent | 43% (32) |
| | | Major Dependent | 47% (35) |
| | Hemorrhagic | Independent | 11% (3) |
| | | Minor Dependent | 64% (18) |
| | | Major Dependent | 25% (7) |
| Psychological Status (Anxiety) | Ischemic | Minimal anxious | 35% (26) |
| | | Mild anxious | 53% (39) |
| | | Moderate anxious | 12% (9) |
| | | Severely anxious | 0% (0) |
| | Hemorrhagic | Minimal anxious | 18% (5) |
| | | Mild anxious | 46% (13) |
| | | Moderate anxious | 36% (10) |
| | | Severely anxious | 0% (0) |
| Psychological Status (Depression) | Ischemic | Minimal depressed | 29% (21) |
| | | Mild depressed | 43% (32) |
| | | Moderately depressed | 27% (20) |
| | | Moderately severe depressed | 1% (1) |
| | | Severely depressed | 0% (0) |
| | Hemorrhagic | Minimal depressed | 7% (2) |
| | | Mild depressed | 50% (14) |
| | | Moderately depressed | 29% (8) |
| | | Moderately severe depressed | 11% (3) |
| | | Severely depressed | 3% (1) |

## Table 2: The between subject analysis for association

| **Cross tabulation of age and BarthelIndex total score** | | |
|---|---|---|
| Age and Barthel Index total score | Chi-Square | P-Value |
| | 83.13 | 0.02 |
| **Cross tabulation of type of stroke and Barthel Index total score** | | |
| Type of stroke and Barthel Index total score | Chi-Square | P-Value |
| | 22.904 | 0.242 |
| **Cross tabulation of age and Generalized Anxiety Disorder (GAD) total score** | | |
| Age and Generalized Anxiety Disorder **(**GAD) total score | Chi-Square | P-Value |

| | | |
|---|---|---|
| | 72.16 | 0.00 |
| **Cross tabulation of age and Patient Health Questionnaire (PHQ) total score** | | |
| Age and Patient Health Questionnaire **(**PHQ) total score | Chi-Square | P-Value |
| | 68.85 | 0.02 |
| **Cross tabulation of sex and Generalized Anxiety Disorder (GAD) total score** | | |
| Sex and Generalized Anxiety Disorder (GAD) total score | Chi-Square | P-Value |
| | 24.45 | 0.04 |
| **Cross tabulation of affected side of brain and Barthel Index total score** | | |
| Affected side of brain and Barthel Index total score | Chi-Square | P-Value |
| | 23.397 | 0.22 |

## Conclusion:

Nowadays stroke becomes a major problem. Male are more affected than female. After stroke, people face not only functional but also psychological problem. The researchers explored the functional and psychological outcome of stroke patients. The study was conducted on 102 participants of having stroke where maximum participants were with ischemic stroke. According to the result of this study, hemorrhagic stroke has good functional outcome but poor psychological outcome than ischemic stroke. There is no association between affected side of brain and functional outcome. Age of the participants impacts on the functional and psychological outcome.

**Conflict of Interest:** Not interested.

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