

Original Research Article

Effectiveness of communication board on the communication pattern among aphasic patients

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ABSTRACT

Background: Aphasia is a language disorder that affects a person's ability to communicate and Inability to produce language, pronounce the sentences and Inability to speak spontaneously. Communication has always been a primary need of human beings. Communication boards generally include the letters of the alphabet, common words or phrases and pictures of common items and/or actions.

Methods: The pre experimental design was used in the study and 30 aphasic patients were selected through non probability purposive sampling technique. Observational rating scale was used to evaluate the communication pattern of aphasic patients. Data was analysed by using descriptive and inferential statistics.

Results: In pretest majority of aphasic patients that is 90% have poor communication pattern and 10% of aphasic patients have moderate communication pattern. In posttest 46.7% aphasic patients were having good communication pattern 43.3% were having moderate communication pattern and 10% were having poor communication pattern. The mean±SD in pretest was 1.1000±0.30513 and for posttest was 2.3667±0.66868 and having mean difference of -1.26667. The p value was significant as $p < 0.05$. There was no association between age, gender, religion, educational status and occupation at 0.05 level of significance.

Conclusions: This study concludes that the communication board was effective in significant improvement of communication pattern in posttest. The improvement in communication pattern will help to facilitate communication among aphasic patients. Thus current study encourages the utilization of communication board among aphasic patients to enhance their communication pattern.

Keywords: Aphasia, Communication board, Communication pattern, Effectiveness

INTRODUCTION

Every individual wants to share his/her feelings, thoughts and views to feel comfortable and to satisfy himself/herself. So for this, they interact with one another and share their feelings, thoughts and views through the process of communication. Communication is always been a fundamental need of human beings. Good communication likewise improves the standard of care delivering to patients. Moreover, it is considered for building certifiable and significant connection between the clients and care providers.¹

Aphasia can lead to impairment in speech and language modalities and also leads to Inability to formulate language, pronounce, not due to muscle paralysis or weakness, and also lead to Inability to speak spontaneously and to form words.²

Per annum, 795,000 individual within the United State suffer from stroke. Around 87% of all the strokes are ischemic strokes in which the flow of blood towards brain is ceases. Stroke is the most important cause of long-term disability. For some this incorporate harm to the region of the cerebrum which is accountable for speech, resulting in

a condition called aphasia- a disorder that impairs language abilities, reading and writing.³

Communication boards usually contain the letters of the alphabet, regular words or expressions and pictures of the essential things. People with restricted or no verbal communication abilities simply point out the pictures, letters to spell words or to communicate a thought or desire.⁴

As per NIDCD (2015), it is evaluated that there were 180,000 new cases each year in the U.S. NIDCD additionally assessed that approximately 1 million individual, or 1 out of 250 in the United States nowadays, are living with aphasia. Aphasia after stroke is more frequent in elder adults and least frequent in younger adults. 15.1% of individual younger than 65 years of age experience aphasia after first stroke, this rate increases to 43.2% for individual 85 years of age and older. There is no statistically difference found between the incidence of aphasia in women and men. Some research statistics suggested that distinctions may happen on types and the severity of aphasia. For instance, Broca's aphasia occurs more commonly in men and Wernicke's aphasia and global aphasia occur more commonly in women.⁵

In India, aphasia persists as a disability in 21-38% of stroke survivors. Community incidence of India is 43/100,000/year, and prevalence is 3000 per million. The number of person's with aphasia (PWA) within the country is likely to be around 2 million.⁶

The joint commission on Accreditation in health care organization (JCAHO) placed communication at the top list of the reason for sentinel events in hospitals. Hospitals and health care facilities throughout the USA, Canada, United Kingdom, and Australia depend upon communication board to diminish patient disappointment and help to control pain and anxiety medications.⁷

The objective of the study was to assess the communication pattern among aphasic patients, to determine the effectiveness of communication board on the communication pattern among aphasic patients and to find out the association between pretest communication pattern among aphasic patients with their socio-demographic variables.

METHODS

Pre experimental research design (one group pre test post test) was used for the 30 aphasic patients through non probability purposive sampling technique. The ethical consideration was taken from IGMCH and H, Shimla and College ethical committee with letter number HFW/MS G-5(Ethics)/2018 over a period of around one year i.e. from 31st August 2019 to 21st July 2021.

First, the researcher had taken one group i.e. one group pre test-post test through questionnaire and observational

rating scale. The written informed consent was taken from participants. The selection criteria was aphasic patients (Broca's aphasia and Wernicke's aphasia), patients with age group of (18-65 years), patient present at the time of data collection and GCS >8.

The questionnaire consisted of section A socio demographic characteristics i.e. age, gender, religion, educational status and occupational status section B clinical variables i.e. cause of aphasia, GCS, past/present surgical history related to head, neck or tongue, duration of current stay in hospital and any current use of sedative agent section C observational rating scale with statements like is able to draw the attention of others, is able to follow commands, is able to communicate with others etc.

The modified Bloom's cut off point's criteria was used for scoring the communication pattern for aphasic patients. For no zero mark, for partial one mark, for yes two marks section D communication board. In this study Vidatak communication board was used. Permission was obtained from Amy Reinstein, M.S, CCC-SLP, Speech Language pathologist/owner for using Vidatak communication board.

The base line data was collected through socio demographic characteristics and clinical variables followed by pre-test through the observational rating scale and Vidatak communication board were used. After 30 minutes, in the same series post test was conducted by using observational rating scale to know about the improvement in the communication pattern of aphasic patients

Statistical analysis

The information obtained was entered into a computer data sheet (Microsoft excels). All the information was compiled, tabulated and analysed. The modified Bloom's cut off point's criteria was used for scoring the communication pattern for aphasic patients. For no zero mark, for partial one mark, for yes two marks.

Paired t test was used to determine the effectiveness of communication board. Chi-square was used to find the association between pretest communication pattern with selected socio demographic variables.

RESULTS

The analysis of data was organized and presented under the following sections: Section A: Socio-demographic characteristics of aphasic patients (Table 1). Section B: Clinical parameters of aphasic patients (Table 2). Section C: Effectiveness of communication board among aphasic patients (Table 3). Section D: Association between pretest communication pattern and socio-demographic characteristics of aphasic patients (Table 4).

Table 1: Frequency and percentage distribution of Socio-demographic characteristics (n=30).

Demographic variables	Categories	Frequency (f)	Percentage (%)
Age in years	18-30	5	16.7
	30-45	10	33.3
	45-60	8	26.7
	>60	7	23.3
Gender	Male	17	56.7
	Female	13	43.3
Religion	Hindu	24	80.0
	Sikh	00	00
	Muslim	2	6.7
	Christian and others	4	13.3
Educational status	No formal education	12	40.0
	Primary	00	00
	Middle	5	16.7
	Secondary	5	16.7
	Senior secondary and above	8	26.7
Occupation	Employed	7	23.3
	Unemployed	4	13.3
	Self employed	6	20.0
	Homemaker	9	30.0
	Retired	4	13.3

Table 2: Frequency and percentage distribution of clinical parameters (n=30).

Clinical variables	Categories	Frequency (f)	Percentage (%)
Cause of the aphasia	Neurological disorder	9	30.0
	Presence of tracheostomy (oral) tube	4	13.3
	Any trauma (physical /mental)	9	30.0
	Presence of endotracheal tube	2	6.7
	Any other causes	6	20.0
GCS	>13	30	100
Past/Present surgical history related to head, neck or tongue	Yes	2	6.7
	No	28	93.3
Duration of current stay in hospital	1 week	17	56.7
	2 weeks	7	23.3
	3 weeks	4	13.3
	4 weeks	2	6.7
	>4 weeks	0	00
Any current use of sedative agent	Yes	0	00
	No	30	100

Table 3: Effectiveness of communication board on the communication pattern among aphasic patients (n=30).

S. No.	Mean±SD	Mean difference	t value	P value
1. Pre test	1.1000 ±0.30513	-1.26667	-10.846	0.001*
2. Post test	2.3667±0.66868			

Table 4: Association between pre test communication pattern and socio demographic characteristics N=30.

Variables	Pretest communication pattern						Chi square (χ^2)	Df	Table value	P value	
	Poor		Moderate		Good						
	f	%	f	%	f	%					
Age											
18-30	5	16.7	0	0	-	-	0.754	3	7.82	0.860	
30-45	9	30.0	1	3.3							
45-60	7	23.3	1	3.3							
>60	6	20.0	1	3.3							
Gender											
Male	15	50	2	6.7	-	-	0.136	1	3.84	0.713	
Female	12	40.0	1	3.3							
Religion											
Hindu	22	73.3	2	6.7	-	-	1.296	2	5.99	.523	
Muslim	2	6.7	0	0							
Christian and others	3	10	1	3.3							
Educational status											
No formal education	10	33.3	2	6.7	-	-	1.749	3	7.82	0.624	
Middle	5	16.7	0	0							
Secondary	5	16.7	0	0							
Senior secondary and above	7	23.3	1	3.3							
Occupation											
Employed	6	20.0	1	3.3	-	-	3.810	4	9.49	0.432	
Unemployed	3	10	1	3.3							
Self employed	6	20.0	0	0							
Homemaker	9	30.0	0	0							
Retired	3	10	1	3.3							

DISCUSSION

In the current study maximum of aphasic patients, 33.3% were in the age group of 30-45 years of age. Whereas a study was conducted in Apollo hospital Chennai and findings showed that 33.3% of the aphasic patients were in the age group of ≤ 35 years.⁸ It was observed that the majority of aphasic patients were male 56.7% and rest were females 43.3%. A similar study was conducted which indicates that the majority were males 63.3%.⁸ Study findings depict that 30.0% were having neurological disorder as a cause of aphasia. All the aphasic patients had GCS >13 . Regarding the past/present surgical history of the patients, 93.3% were having no history of surgery, it was also observed that more than half of that is 56.7% were admitted from 1 week in hospital whereas 100% of the aphasic patient did not use sedation. The current study shows that the mean $\pm$ SD in pretest was 20.8 $\pm$ 6.415 and for posttest was 43.53 $\pm$ 6.932 and having a mean difference of -22.667. The p value was significant as $p<0.05$. A similar study was conducted by Sarkar in 2017 at Apollo hospital Chennai which revealed that the communication process in the experimental group had a high mean score in post-test (M=27.0, SD=5.64) compared to pretest (M=10.53, SD=6.71) among 57 aphasic patients. The difference was statistically significant at $p<0.001$ level.⁸ These findings were constant with a similar study carried out by Gaudel et al.⁹

The results of the study shows that the communication board was successful in enhancing the communication (t=9.051, $p=0.001$) and disappointment (t=-6.604, $p=0.001$) of mechanically ventilated post cardiothoracic surgery patients.⁹

The current study indicates that there is no association between age, gender, religion, educational status and occupation at 0.05 level of significance.

A comparative report directed by Sarkar et al finding shows that there is no significant relationship between the selected demographic variables and communication process of aphasic patients. Demographic variables had no impact on improving the communication process of aphasic patients.⁸

Findings were similar to a study which was conducted by Lourdu et al to survey the adequacy of communication board on communication pattern and level of fulfilment among mechanically ventilated patients in selected hospitals, Bangalore shows that there was no significant association of communication pattern of the experimental group with selected demographic variable.¹⁰

A similar study was conducted in Apollo hospital Chennai which portrays that endotracheal tube was utilized in 36.66% in the control group and 30% in the

experimental group of aphasic patients. The vast majority of the patients in the control group 76.67% and 66.6% in the experimental group of aphasic patients had no history of surgery. About sedation use, 73.34% in the control group and 76.67% in the experimental group did utilize sedation. Fifty percent in the control group and 53.34% in the experimental group have GCS between 8 and 12.⁸

Hence, hypothesis H₂ was rejected because there is no significant association between the communication pattern and demographic variables at 0.05 level of significance.

CONCLUSION

Communication plays a vital role in the health care system to make patients and health care staffs to feel more comfortable and satisfied by communicating with one another. Through interactive communication patient feel more comfortable to verbalize his/her problems. Good communication also improves the quality of care provided to patients, which is observed within the results. Additionally, it is considered for building a genuine and meaningful relationship between patients and nurses and other health professionals. The improved communication pattern in aphasic patients will help to facilitate communication among aphasic patients. Thus this study encourages the use of communication board among aphasic patients to improve their communication pattern.

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Ethical approval: The study was approved by ethical committee as well as hospital ethical committee with letter number HFW/MS G-5(Ethics)/2018

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