Narrative Analysis in Malayalam Speaking Geriatrics

Sofia V Sunny, Final Year Postgraduate Student
Santhana. M, Final Year Postgraduate Student
Anjana Merin Xavier, Final Year Postgraduate Student
Satish Kumaraswami, Asst. Professor & Ph.D. Scholar

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Abstract

The purpose of the study was to analyze the repaired strategy and trouble sources in normal geriatrics. 20 geriatrics (10 males &10 females) in the age range of 70-80 years with no history of speech and hearing problem, neurological problem and who spoke Malayalam as their native language participated in the present study. Narrative samples of familiar and unfamiliar tasks were taken analyzed to study types of trouble sources (phonological, morphological-syntactic, semantic, discourse) and repair strategies (repetition, unrelated, elaboration, reduction and substitution) along with the complexity and success of resolution (most successful, successful and unsuccessful) and repair complexity (simple or complex) and the repair sequences were analyzed based on self-initiated self-repairs and SI-incomplete utterances and also the data was analyzed in terms of Type Token Ratio (TTR) using the systematic procedure. The results showed that there is a highly significant difference between the trouble sources, type of repair strategies, repair sequences and resolutions in familiar and unfamiliar tasks. The comparison of TTR for both familiar and unfamiliar task revealed there is a highly significant difference for both open and closed class words and also the unfamiliar tasks have more trouble sources, repair sequences, repair strategies and resolutions. Communication skills are seen to be deteriorated as a function of age.

Key words: Narrative analysis, Trouble sources, Repair strategy, Repair sequence, Type token ratio

Introduction

Narrative plays a very significant role in the life of a person as it is an extension of linguistic development. Narratives are a type of discourse in which people describe a series of events from an actual or fictional world in the past (Labov & Waletzky, 1967; Labov, 1972; Polanyi, 1989). Narrative Skills build upon vocabulary skills. Having robust narrative skills helps build reading comprehension and fluency. Narrative Analysis is a methodical procedure for recording the naturally occurring talk produced in everyday human communication.

Aging is a usual phenomenon and is expectable. The linguistic and communication patterns of the old are quite different from that of the younger groups. Geriatric individuals need to put in a lot of effort to convey their message across others. As we age, our ability to communicate effectively will get influence by some normal changes in speech, language, swallowing, and hearing (Busacco, 1999). Also there is a great deal of variation in the language skills of older adults. The differences are most likely due to the individual's life history, language competence, communication environment, and cognitive abilities. Some age-related changes in language are due to normal cognitive declines that occur as one grows older, including a decrease in attention, decline in memory, and slower speed of processing information. In general, older adults tend to use simpler sentence structure than younger adults. They tend to use more fragmented sentences in conversation, especially as age increases.

Older adults use compensation strategies when experiencing difficulties for recollecting information. They seem to use circuitously relevant ideas as a strategy for compensating problems in the retrieval of progressive action (Finley & Ruthberg, 1990).

The importance of aging population for clinician is that communication changes with age. This occurs for two reasons, the aging process alone can affect communication and with aging there is an increased prevalence of disease and disabilities that can affect communication. Impairments seen in normal aging can include those in hearing (decreased sensitivity to pure tones and decreased ability to discriminate speech in adverse listening condition), language(decreased speed and ability to retrieve words and difficulty in comprehending complex

messages), speech (decreased respiratory support for speech output, imprecise articulation and slower rate of speech), voice (increase in pitch in males, decreased pitch in females and decreased voice quality) and narration (understanding complex and lengthy discourse, decreased efficiency and increased ambiguity in expression, increased degree of topic maintenance, number of words per clause and overall number of words and decreased cohesion). (Caruso & Max, 1997; Shadden, 1997; Shadden & Tonner, 1997; Shadden 1998).

Busacco, 1999 stated that the majority of older adults maintain basic conversational skills well into the 8th or 9th decade of life unless a pathological condition is present. Fridriksson, Morrow & Shiro (2003) examined personal narratives and fictional narratives for first and fourth grades across two socioeconomic groups. Controlling for the effects of story length, significant weak but correlation was obtained between the two narrative tasks. There was no age or socioeconomic effect for personal narratives and the middle class children showed an increase in evaluative elements with age. Low socioeconomic children did not show a similar age increase.

Moser & Baylis (2006) studied age related variability in cortical activity during language processing and they found age related increases in cortical activation in Brocas area, Wernicke's area and in the right homologue of Brocas area during simply language tasks such a picture naming in brain areas typically associated with language processing. Eme, Lacroix & Almeciia (2010) examined linguistic features and discourse organisation in 52 functionally illiterate French men and women found that the subjects had great difficulty handling morphosyntactic rules, referential cohesions and the narrative schema. The authors concluded that individuals who have not succeeded in learning to read also have impaired oral language abilities.

Mathias (2008) examined the language characteristics between normal geriatrics and middle aged adults by using conversational analysis and found that the geriatrics had greater trouble sources and lesser resolution strategies. John, Veena, George & Rajashekhar (2008) conducted a study on comparison of narrative and procedural discourse in normal young adults and elderly subjects. They also studied the influence of age, gender and education in the Malayalam speakers. The results indicated that the discourse skills alter with the advancing age in all the parameters taken. There was an increase in the number of words, mean length of

utterance (MLU), speaking rate and reduction in the number of the sentences produced in elderly as compared to young adults.

Hegde, Shruthi and SubbaRao (2010) evaluated the narrative skill performance in normal young adults under familiar and non-familiar communication contexts and they states that the number of trouble sources and repair strategies used were higher in young adults than the middle aged adults and geriatrics. Nebu, Thomas, Varghese and Kumaraswami (2014) analyze the repaired strategy and trouble sources in normal geriatrics of 60-70 years Malayalam speakers and they found number of trouble sources and repair strategies used were higher as age increases. The present study is an extension to previous research by age range of 70-80 years Malayalam speaking geriatrics.

Analysis of narrative skills provides evidence of language processing and cognitive abilities. When narrative skills are studied in geriatric population, the decline in the language as well as cognitive ability can be assessed. Such data will be useful in understanding the performance of elderly communication disordered population.

Since the average life span of human being is increasing, hence it is important to know the narrative skills of older individual and it is also taken into consideration when we assess the older individual. The review of literature has shown that discourse analysis of Malayalam speaking geriatrics has been conducted. Narrative analysis in Malayalam speaking geriatrics is important as the method provides for clinically applicable language sample. India is a multilingual and multicultural society and this factor may directly affect the narrative skills. There are not many studies reported in Malayalam, so the present study focuses on narrative skills of older Malayalam speaking individuals.

Aim

To analyze the repaired strategy and trouble sources in normal geriatrics of 70-80 years Malayalam speakers.

Methodology

Subject

20 geriatrics (10 males &10 females) in the age range of 70-80 years with no history of speech and hearing problem, neurological problem and who spoke Malayalam as their native language participated in the present study.

Instrument

Micromax A250 voice recorder

Procedure

The geriatrics was seated comfortably in a room and a narrative sample was recorded for each subject for familiar and unfamiliar contexts. Familiar contexts involved asking subjects to tell about their family. Non-familiar contexts involved asking subjects to imagine the specified situation and narrate with respect to different characters/personality (Clinician would ask 'what developments will you do if you become a Chief Minister?).Obtained data of 15 minutes (hundred utterances were selected) were transcribed and analyzed to study types of trouble sources such as phonological, morphological-syntactic, semantic, discourse and also repair strategies such as repetition, unrelated, elaboration, reduction and substitution along with the complexity and success of resolution like most successful, successful and unsuccessful and repair complexity was coded as simple or complex and the repair sequences were analysed based on self-initiated self-repairs (SI-SR) and SI-incomplete utterances (SI-INCO) (Orange, Lubinski & Higginbotham, 1996). Also the data was analysed in terms of Type Token Ratio (TTR).
TTR= Total number of different words/Total number of words.

Results & Discussion

The audio recordings of the narration were taken for around 20 minutes to half an hour, but only 100 utterances were taken for this study. Since all the subjects were acquaintances of the interlocutor they were very comfortable during the recordings. The data obtained was subjected to appropriate statistical analysis. T- test was carried out to find the significant difference between the familiar and unfamiliar task. Based on the definitions given by Orange et al (1996) the analysis of trouble sources, repairs, resolution and their complexity for both familiar and unfamiliar tasks was done. Based on the classification given by Yule (2002), open

class words (content words) like nouns, verbs and adjectives and closed class words (functional words) like conjunctions, prepositions, articles and pronouns were used. Once the closed and open class words were identified using definitions from Wren, Martin & Rao (2008), the total number of words, total number of different words and type token ratio of each category were calculated using the TTR.
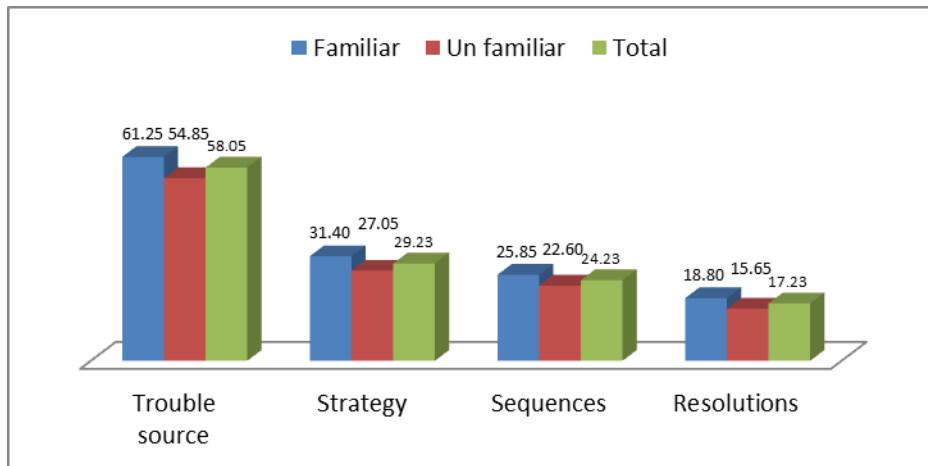

Fig1: Shows scores of familiar an unfamiliar tasks (trouble sources, type of repair strategy, repair sequence, type of resolutions)

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		t test value	p value
					Lower Bound	Upper Bound		
Trouble source	Familiar	20	61.25	3.11	59.79	62.71	7.129	.000
	Un familiar	20	54.85	2.54	53.66	56.04		HS
	Total	40	58.05	4.28	56.68	59.42		
Strategy	Familiar	20	31.40	2.46	30.25	32.55	6.124	.000
	Un familiar	20	27.05	2.01	26.11	27.99		HS
	Total	40	29.23	3.13	28.23	30.22		
Sequences	Familiar	20	25.85	2.32	24.76	26.94	4.757	.000
	Un familiar	20	22.60	1.98	21.67	23.53		HS
	Total	40	24.23	2.69	23.36	25.09		
Resolutions	Familiar	20	18.80	2.14	17.80	19.80	4.458	.000
	Un familiar	20	15.65	2.32	14.56	16.74		HS
	Total	40	17.23	2.72	16.35	18.10		
Total	Familiar	20	137.30	8.50	133.32	141.28	6.973	.000
	Un familiar	20	120.15	6.98	116.88	123.42		HS
	Total	40	128.73	11.59	125.02	132.43		

Table 1:Shows scores of familiar an unfamiliar tasks (trouble sources, type of repair strategy, repair sequence, type of resolutions)

From the above figure 1 and table 1, it is clearly showing that there is a high significant difference between the trouble sources, type of repair strategies, repair sequences and resolutions in familiar and unfamiliar tasks.

Figure 2: Showing comparison between the open class and closed class

| | | N | Mean | Std. Deviation | 95% Confidence Interval for Mean | | t test value | p |
					Lower Bound	Upper Bound		
Open class words	Familiar	20	.709	.068	.677	.741	6.031	.000
	Un familiar	20	.592	.055	.566	.617		HS
	Total	40	.650	.085	.623	.677		
Close Class Words	Familiar	20	.546	.061	.517	.575	4.194	.000
	Un familiar	20	.475	.046	.453	.496		HS
	Total	40	.510	.064	.490	.531		

Table 2: Showing comparison between the open class and closed class

From the above figure 2 and table 2 it is clearly showing there is a highly significant difference for both open and closed class words.

Familiar Tasks		Unfamiliar tasks	
Open class words	**Close Class Words**	**Open class words**	**Close Class Words**
0.74	0.561	0.57	0.5
0.65	0.5	0.56	0.44
0.85	0.55	0.6	0.42
0.65	0.5	0.54	0.43
0.76	0.5	0.6	0.51

0.8	0.65	0.6	0.47
0.72	0.56	0.65	0.45
0.65	0.53	0.52	0.46
0.8	0.67	0.67	0.55
0.76	0.53	0.57	0.43
0.73	0.64	0.67	0.45
0.64	0.45	0.66	0.52
0.75	0.63	0.63	0.57
0.64	0.55	0.53	0.54
0.62	0.53	0.52	0.46
0.72	0.56	0.65	0.45
0.65	0.53	0.52	0.46
0.65	0.5	0.54	0.43
0.76	0.53	0.57	0.43
0.64	0.45	0.66	0.52

Table 3: Type Token Ratio of familiar and unfamiliar tasks (open class and close class words)

From the above table 3 it is clearly showing the comparison of type token ratio for familiar and unfamiliar tasks and is revealed that there is a highly significant difference for both open and closed class words.

Discussion

From the above results it is clear that the unfamiliar tasks have more trouble sources, repair sequences, repair strategies and resolutions. The present study indicates that the open class and close class words are significantly differently handed. This study is in correspondence to Drew (1997). In narratives the open forms of words are used for repair initiation. In the present study, this finding was common for both familiar and unfamiliar topics. As age increases the individual shows word finding difficulties. This finding is supported in previous study of Hough (2007). Some subjects tend to repeat the same content unit and comment on some word finding difficulties they experienced similar to what has been reported by Dorze & Bedard (1998).

The repair sequences and type of resolutions were significantly related. This finding is an agreement with previous studies in Hegde et al (2010). The trouble sources and repair strategies were increases as age increases. This finding is supported by previous study of Nebu et al (2014). The most common type of repair strategies used by this age group was repetition, elaboration and

substitution. This is in accordance with the study done by Mathias (2008). The comparison of familiar and unfamiliar topics using type token ratio revealed that there was a significant difference in both open class and close class words. This finding is similar to the result of Mahendar & Raksha (1994) indicating less generative naming abilities in aged individuals. In general familiar topics are narrated with more efficiency than unfamiliar topics hence geriatrics performance on familiar and unfamiliar tasks can be distinguished from each other using narrative skill analysis. Among geriatrics when we compare the familiar and unfamiliar tasks there was more number of trouble sources and type of repair strategies in un familiar tasks compared to familiar tasks.

Summary & Conclusion

Aging is a predictable process and along with the other body systems, communication also undergoes change with age. Due to four reasons, it is important for us to study geriatrics. Firstly there is growing proportion of older people among the general population. Secondly communication problems are highly prevalent in older people. Thirdly these problems will have implications on their quality of life. And finally this group is at maximum risk for medical conditions like stroke, dementia, Parkinson's disease or Alzheimer's disease.

The aim of the study was to analyze the repaired strategy and trouble sources in normal geriatrics of 70-80 years Malayalam speakers. The study was done on group of 20 geriatrics who were seated comfortably in a room and a narrative sample was recorded for each subject for familiar and unfamiliar contexts and statistical analysis was done using 'T'-test and the result showed that there is a highly significant difference in trouble sources, type of repair strategies, repair sequences and resolutions in familiar and unfamiliar tasks. The comparison of familiar and unfamiliar topics using type token ratio revealed that there was a significant difference in both open class and close class words. As the age increases there will be deterioration in the communicative skills. The overall results showed that the unfamiliar tasks have more trouble sources, repair sequences, repair strategies and resolutions.

The narrative analysis is a good tool which can be used for both assessment and treatment of both healthy and language disordered geriatrics. It gives us an idea about the individual's communication skills in a natural environment. It can be used to counsel the family and client as

to where trouble source occur and how they can be repaired with the help of efforts of both the listener and speaker. In bilingual communities it can be used to compare deficits across languages. Future research is indicated to study the narrative aspects across various groups of adults and geriatrics and compare them with the different language disordered groups and also and it can be used in children with language disorders.

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References

Busacco, D. (1999). Let's talk. *American Speech and Language Association*. 72, 49-50. Retrieved from http:// www.asha.org / uploaded files / publications / archive / 0499ashamag.pd

Busacco, D. (1999). Cited in Fausti , S.A., Wilmington, D. J., Helt ,V. P., Helt, J.W., & Martin, D. K. (2005). Hearing health and care: The need for improved hearing loss prevention and hearing conservation practices. *Journal of rehabilitation research & development*, 42, 45-62. doi: 10.1682/JRRD (2005) 0039

Caruso, A.J. & Max, L. (1997). Effects of aging on neuromotor process of Swallowing. *Seminars in Speech and Language*, 18(2), 181-192.

Dorze, G.L., & Bedard, C. (1998). Effects of age and education on the lexico-semantic content of connented speech in adults. *Journal of communication Disorders,* 31,53-71.

Drew, P. (1997). 'Open' class repair initiators in response to sequential sources of troubles in conversation, 69-102.

Eme, E., Lacroix, A., & Almeciia, Y. (2010). Oral narrative skills in French adults who are functionally illiterate: linguistic features and discourse organization. *Journal of speech Language and Hearing Research,* 5, 1349-1370. Doi:10.1044/1092-4388.

Finley, G. E., & Rothberg, S. (1990). Retrieval stratagies of older and younger adults for recalling names and misplaced objects. Revista Interamericana de Psicologia, 24(1), 99-100.

Fridrikson, J., Morrow, K. L., Moser, D., & Baylis, G. C. (2006). Age related variability in cortical activity during language processing. *Journal of speech Language and Hearing Research,* 49, 690-697.

Hegde, M., Shruthy.T.S. & SubbaRao, T.A. (2010). Narrative skill performance in normal young adults under familiar and non-familiar communication contexts.

Hough, M. S. (2007). Adults age difference in wordfluency for common and goal directed categories. *Advances in Speech Language Pathology*, 9(2), 154-161.

John. S., Veena, K. D., George, A., & Rajashekhar, B. (2008). Spoken discourse in normal young adults and elderly: influence of age, gender and education in Malayalam speakers. Paper presented at ISHA conference, Mangalore, February 1-3.

Labov,W. (1972). Cited in *Speech Language Communication*. In Miller, Joanne, L., & Eimar, Peter D. Pragmatics and Discourse. pp396. Academic press,Inc

Labov,W., & Waletzky, J.(1967). Cited in *Speech Language Communication*. In Miller, Joanne, L., & Eimar, Peter D. Pragmatics and Discourse.pp396. Academic press,Inc

Mahendra, N., & Raksha, H. R. (1994). Generative naming in Elerly: Evidence of an Age Related Decline ? *The journal of Indian speech and Hearing Association*. 52-55.

Mathias, C. S. (2008). Conversation analysis: A comparison between normal geriatrics and middle aged adults. Unpublished masters dissertation, Mangalore university, Mangalore.

Nebu, E. A., Thomas, D., Varghese, J., & Kumaraswami, S. (2014). Narrative skills in geriatrics Malayalam speakers. Language in India , 14, 131-138. Retrieved from http://web.a.ebsco host. com /abstract? direct=true&profile=ehost&scope=site&authtype crawler&jrnl=1930 2940 &AN=95441904&h=VyEWGgjPRlGJUGlfLjAb7IR8Ui52WmRTUtj%2 fHhswmz2o1rkn0W Xv2MxZ N cO5%2fbjUEwvdYaixlZY9y3cmZoL9nw%3d%3d&crl=f&crawlloc=cf%3az%2f0145181759&cr awlli b=RD201404.LIB

Orange. J. B., Lubinski, R. B., & Higginbotham, D. J. (1996). Conversational Repair by individuals with Dementia of the Alzheimer's type. Journal of speech and hearing research, 39, 881-895.

Polanyi, L. (1989). Cited in *Speech Language Communication*. In Miller, Joanne L., & Eimar, Peter D. Pragmatics and Discourse. Pp397. Academic press,Inc

Shadden, B. B. (1997). Discourse behaviors in older adults. *Seminars in speech and language*, 18 (2), 143-153.

Shadden, B. B. (1998). Communication behaviors and aging: A Source book for clinicians. Baltimore: Williams & Wilkins.

Shadden, B. B., & Toner, M. A. (1997). Introduction: The continuum of life functions. In Worral, L. E., Hickson, L. M (Ed), *Communication disability in aging*. (pp.9). Canada: Thomson Rights.

Shiro, M. (2003). Genre and evaluation in narrative development. *Journal of child language,* 30, 165-195.

Wren, P. C., Martin, H., Rao, P. (2008). *High school English grammar and composition.* (pp.6-106). New Delhi: S. Chand.

Yule, G. (2002). *The study of language* (Second Edition Ed), (pp,76). Cambridge, UK: Cambridge University Press.

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Sofia V Sunny
Final Year Postgraduate Student
Dr. M. V. Shetty College of Speech and Hearing
Mangalore-575015
Karnataka
India
sofiaaslp@gmail.com
sophiasunny91@gmail.com

Santhana. M

Final Year Postgraduate Student
Dr. M. V. Shetty College of Speech and Hearing
Mangalore-575015
Karnataka
India
santhanamuralidharan@gmail.com

Anjana Merin Xavier
Final Year Postgraduate Student
Dr. M. V. Shetty College of Speech and Hearing
Mangalore-575015
Karnataka
India
amx.aslp@gmail.com

Satish Kumaraswamy
Assistant Professor & Ph.D. Scholar
Dr. M. V. Shetty College of Speech and Hearing
Mangalore-575015
Karnataka
India
sat8378@yahoo.com