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Language in India www.languageinindia.com **ISSN 1930-2940 Vol. 20:6 June 2020**
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NARRATIVE SKILLS IN BHOJPURI SPEAKING GERIATRIC AND YOUNG ADULTS

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INTRODUCTION

Language is defined as "a system of conventional, spoken or written symbols by means of which human being as a means of social group and its participants in its culture communicate". (Varsney, 2000)

Language comprises of different component. Each component interacts with each other during the communication.

- **Phonology**: Rules of how sound are combined in language.
- **Morphology**: Rules of word formation in language.
- **Semantics**: Rules that governs how meaning is expressed by word and sentences.
- **Syntax**: Rules of sentence formation in language.
- **Pragmatics**: Rules to use the language in social context. (Denham &Lobek,2010)

Hockett (2010) proposed a list of design features or a set of characteristics of human language and distinguished it from other communication systems. These include:

- **Semanticity**: Specific signal can be matched with specific meaning.
- **Arbitrariness**: No logical connection between form of signal and thing it refer to.
- **Discreteness**: Message in language are made of smaller repeatable unit.
- **Displacement**: The language user can talk about things in present and past.
- **Productivity**: Language user can create new utterances.

- **Patterning**: A large number of meaningful utterances can be recombined in a meaningful way. (Denham & Lobek,2010)

Communication is a process by which information is exchanged between individual through a common system of symbols, sign, and behaviour, also technique for expressing ideas effectively in speech or writing. the information exchanged include ideas, facts, concepts, attitude and even emotions. It involves two processes called as encoding and decoding. Communication may be intentional or non-intentional and may take linguistic and non-linguistic forms and may occur through spoken or some other modes. (Webster Oxford Dictionary, 2000).

Narrative analysis is process in which researchers listen to the conversation of speakers and attempt understand the experience of individual about the world around them. it focuses on the way in which people make use of their experience in order to represent themselves and their world to themselves. Narrative analysis makes use of stories, interview, conversation and life experience as a unit of analysis to understand the way people create meaning in their life.

Labov (1972) described narration as a form of discourse that allow the speaker to give interpretative meaning to sequence of event. The difference in the cognitive ability between the two populations allows them to use the linguistic ability and modify them in different way. Age related change in the brain structure and function affect the change in cognitive function like memory and attention which create difference in communication among geriatric and young adult. Young adult due to maturing brain allow them to use the cognitive system better compared to the geriatric in which neural deterioration will affect the overall performance.

Narrative is a good indicator of linguistic development as well as a factor which contribute in building good reading, comprehension and fluency skills. Narrative analysis is a systematic procedure for the analysis of recording the naturally occurring talk produced in the everyday human interaction. Narrative analysis discovers how an individual understand and respond to another in their turn of talk and how such turn are organised in to sequence of interaction. Narrative analysis has served as a distinctive tool to evaluate the pathological and non- pathological condition in the field of speech language pathology.

The average life span of human being is increasing, so it is important to know the narrative skills of older individual and it is also taken into consideration when we assess the older individual. From previously mentioned studies, it is clear that there are no studies on narrative analysis done on any group of population in Nepal. Narrative analysis in Bhojpuri speaking geriatrics is important as the method provides for clinically applicable language sample. Nepal is a multilingual and multicultural society and these factors may directly affect the narrative skills. The present study

focuses in comparing the narrative skills of Bhojpuri speaking geriatrics and young adults.

REVIEW OF LITERATURE

Communication has been described as the critical tool for life adjustment, linking people to their environment. So, when communication disorders are present then this link may be easily broken. Communication disorder affects people of all age, the prevalence and the complexity of these condition increase with age. The two trajectories of disability and ageing can be applied to those with communication disorders. The disability with ageing group includes the people who have lived most of their life without disability and experience subtle communication problems but the ageing with disability group includes people who have lifelong or early onset of communication disorder. So, the communication gets affected with age and hence affect the maintenance of the social roles. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3074568/

Narrative competence as a function is critically dependent upon the working memory. Resources are particularly relevant when investing the story telling of the elderly person whose working memory capacity may diminish over time (Craik & Byrd, 1982). The situation may be more severe for those suffering from dementia since working memory impairment is hallmark of dementia, in particular, Alzheimer's disease. (Kees & Maconi, 2005)

Speech language pathology is another where narrative is studied deeply. Ulatowska (2000) study was to characterise the salient features of African American discourse of aphasics and non-aphasics in a discourse task. He focussed on African Americans because majority of the study have focussed on Causasians and very limited study has been done on African Americans in spite of their higher degree of susceptibility to neurogenic disease. His research focussed on repetition of narrative of cognitively normal and African American aphasics and he identified two types of repetition ie "Self and other repetition". In general, speech of African American is characterised by higher degree of repetition. (Smitherman,2000).

Ageing deficit

There will be a change in individual performance in later stages of their life span when we compare with the youngsters. The deficit can be positive or negative. Coupland, looked at the phenomenon called "painful self-disclosure" in elderly conversation (Coupland et al, 1988). They found that these stories about illness or bereavement which youngsters find unpleasant can have the function for older speaker. Howard (2006) point out that several areas tend to get better and better as we get old. An obvious area of increment is vocabulary and conceptual development. Finally, although problems like dementia have a serious impact on the production and comprehension of those who are affected by these conditions make up only small

proportion of elderly. It has been pointed out that the feature of ageing that the researchers have focussed or reflect very deeply embedded attitude we have toward elderly. These attitudes are by no means shared across cultures. (Kees & Maconi, 2005)

Ageing refers to the biological process of growing older with the passage of time (Finch,1990). It represents the accumulation of psychological, physical, and social changes in human being over time Ageing is a natural and inevitable phenomenon which is a risk factor for many diseases. So as the individual start ageing there is a gradual wear and tear of the body as well as decline in the cognitive function and it happens in communication also. So due to this reason geriatric population must put more effort to convey their message to other which makes their communication pattern different from youngsters. Ageing seems to have very little or no effect on the way older people engage them in conversation. For the most part, older adult tends to be adept at conversational turn taking, maintaining the topic, and modifying the intent of their message depending on the listeners needs. So, it is important for an audiologist and speech language pathologist study about the geriatric population because a large amount of population constitute geriatric , communication problems are highly prevalent in old age people as well as it has got serious impact on the quality of life. (Kees & Maconi, 2005)

Narrative has been defined as minimum of two independent clauses produced in succession relating to a single event (Labov, 1972). These are four major types of narratives: recounts, event cast, accounts and stories (Health,1986).

Recounts: Reports a past experiences usually in a chronological "Blow by Blow" manner.eg: "How did your day go?"
Event cast: It is a narrative that "Set the stage" by describing roles, relationship and recent event that define situation.
Accounts: It share experience in a more detail. It goes beyond the chronological sequencing of event found in recounts, providing more of individual evaluation and interpretation of events.
Stories: stories are highly organized and most recognisable form of narrative with distinctive structure and tone. (Mclaughlin,1998)

Researcher have analysed the structure of narrative story and found each story is composed of setting a goal, an episode and outcome. The relationship among the constituents are viewed as analogous to syntactic relationship and these are termed as story grammar. (Lund & Duchan, 1993). At a discourse level disorder of narrative structure an cohesion provide an invaluable window in to the occurrence, nature and the character of developmental disorder. (Ulatowska, 2000)

Discourse refers to an extended verbal exchange or some topic essentially conversation. Conversation demonstrate an organisational structure based on such element such as topic-initiation, topic-maintenance, repairs (Grice,1975). The nature of discourse styles depends upon different context. These styles are call ed genres (Lund& Duchan,1993). It includes conversation, discussion, argument, etc. and it involves at least two participation. Researchers have characterised five different discourse genres. (Lund & Duchan, 1993).

Language and communication in aging

Most people wonder about how aging affects a person way of talking, and they include the things like forgetting whether you have told someone something, and so forth. Most of the research on language and aging has focussed on what would be considered ageing deficit. These include hearing loss, memory loss, and degenerative condition like Alzheimer's disease. (Meyerhoff, 2000)

Sensory, cognitive, and neurological changes have been shown to explain some of the language differences the older adult and younger adults. Sensory deficit that clearly contribute to language deficit include loss of visual acuity and aural acuity. Non-linguistic cognitive abilities such as cognitive speed, working memory and executive function have been seen to decline with increasing age and it mediate some age-related changes in language behaviour. Changes in brain and sensory organ are often thought to cause cognitive changes, in turn, result in change in language performance.

Many language skills remain well preserved in old age but they are often perceived s decline in their communication abilities. Most common language related problems include word finding problems, difficulties in understanding spoken language in certain circumstances. Experimental studies suggest that some language abilities changes with increasing age while other vary little through lifetime. In studies of language use the following are often defined: phonology, morphology, semantics, syntax, pragmatics and discourse. (http://www.bu.edu/lab/files/2011/11/Clark-Cotton-Goral-Obler.-2007.-Language-andCommunication-in-Aging.pdf)

Phonological skills in aging

Older adult speech is qualitatively different from younger adult. Older adult speech is lower in volume, slower and less precise in articulation than younger adult. Researches have shown that older adult also have difficulties in processing speech than younger adults.

Lexical skills in aging

Word level production in older adult are found to decline with passage of age. i.e., word retrieval and spontaneous production of specific words. Difficulties have

been documented in for adults as in their 50's but significant difference is seen for individual who are in theirs 70's or above.

Semantic skills in aging

Older adult generally performed good on vocabulary tests; so it indicates the intact semantic knowledge. Lexical decision task, semantic priming (the phenomenon of recognising word more quickly when it is preceded by a semantically related word) appears to be equally robust in both groups of individuals. Sentence comprehension studies have shown that older adult's capacities to comprehend word in sentence are intact unless the complexity of sentences varies.

Syntactic skills in aging

Older people show evidence of declining syntactic abilities, as they tend to use simpler syntactic structure and tend to make more error than adults. Older adults are slower and less accurate than young adult in paraphrasing, answering question and making judgement.

Discourse skills in aging

Studies of discourse in older adult have examined naturally (spontaneous conversation) and elicited production (storytelling, picture description) and found some difference between discourse of older adults and younger adults. However the individual difference in discourse performance has made it difficult to generalise across all the age groups. Older adults are often less skilled in reading stories and giving instruction for completing task, as they omit more essential element than younger adults, creating discourse that is less fluent and harder to follow.

Pragmatics and Non-verbal skills in aging

Older adults tend to face more difficulties in producing and processing complex sentences when they encounter real situation. For an older adult with hearing loss non-verbal cues are really important. Researches have shown those older adults are poorer in identifying the emotions encoded in the facial expression than the youngsters. http://www.bu.edu/lab/files/2011/

Changes related to linguistic functioning

Age related variability in cortical activity during language processing was studied in 2006 by Fridrikson, Morrow, Moser and Baylis. They found age related increase in cortical activation in Broca's area, Wernike's area and right homologue of the Broca's area during simple language task such as picture naming and brain area typically associated with language processing.

Changes in cognitive style and memory can be reflected in linguistic alterations. Their impact may be seen in the strategies they use to decode message,

formulate association and select topics for expression. The older adult must remember what has been said to participate effectively in conversation.

Conversational Analysis

Conversational Analysis (CA) is a systematic procedure for the analysis of recorded, naturally occurring talk produced in everyday human interaction. The principal aim is to discover how participants understood and responded to one another in their turns at talk and how such turns are organized into sequences of interaction. CA approach makes use of recording the naturally occurring conversations, which would have taken place even if they had not been recorded. CA occurs in real contexts and is a bottom up, data-driven approach. It aims to describe and explain how the participants displayed their interpretations of each other's talk.

Narrative analysis

Narrative Analysis is a systematic procedure for the analysis of recording the naturally occurring talk produced in everyday human interaction. "Narrative" is sequence and consequence: events are selected, organised, connected, and evaluated as meaningful for a particular audience. Storytellers interpret the world and experience in it; they sometimes create moral tales - how the world should be. Narratives represent storied ways of knowing and communicating (Hinchman & Hinchman, 1997). Westby (1989) stated that narrative skills forms the bridge between oral language and literacy by providing examples of the extended, decontextualized, cohesive discourse units that a child will encounter in written texts. In the field of Speech Language Pathology, narratives have served distinctive evaluative functions. A narrative is some kind of retelling, often in words, of something that happened (e.g. a story).

Gender difference in narrative

Gender does seems to result in the production of narratives between boys and girls (Wodak,1986). Wodak suggested that boys and girls produce different types of narratives. Narrative by girls tends to be more “descriptive” while boys’ narratives are more “analytic”. Wodak attributes this difference to difference in socialization. Boys, on the other hand, are socialized into positively valuing analytical thinking while girls on other hand are socialized in to being emotionally expressive.

WESTERN STUDIES

Ulatowska, Freedman, Doyel & North (1983) studied narrative discourse production in impaired aphasics. The task given were telling stories, summarising stories, and giving moral to stories. The data were analysed in terms of sentential grammar, discourse grammar, and subjective ratings of content and clarity of language. The results showed that aphasics produced well-structured discourse. The

language of the aphasics' discourse was reduced in both complexity and amount, as compared to that produced by normal.

Kaczmarek (1984) performed neurolinguistic analyses of verbal utterances in patients with focal lesion of frontal lobes. Six groups of subjects were examined including patients with left dorsolateral frontal lesions, left orbitofrontal lesions, right frontal lobe lesions, posterior aphasics, posterior brain-damaged patients without aphasia, and a matched control group. Results indicate that the left frontal lobe is involved in organization of linguistic information. Its dorsolateral part seems to be concerned with forming the sequential pattern of an utterance, and the orbital part with the directed development of a narrative.

Goodglass, Christiansen & Gallagher (1993) compared morphology and syntax in free narrative and structured tests: fluent vs. non fluent aphasics. Conduction aphasics were evaluated on a free narrative story elicitation test and on a structured, cross-modal morphology and syntax battery (MSB). The latter permitted comparison of the same set of morphosyntactic forms in both production and comprehension. Results suggest distinctive oral production profiles, with agrammatics inferior to paragrammatic in use of auxiliaries, verb inflection and passive word order. Only agrammatics commonly omitted articles or main verbs. The use of noun plurals and possessives did not discriminate between the groups.

Li, Williams & Della (1995) study investigated the effects of listener and topic familiarity on procedural and narrative discourse variables. Twenty-two aphasic patients (5 Broca's, 7 conduction, and 10 anomic aphasics) and 10 normal speakers served as subjects. Topic familiarity influenced discourse production in both procedural discourse and story retell situations. In procedural discourse, a greater number of optional steps were provided with familiar topics. During retelling of familiar topic stories, a greater proportion of action and resolution clauses were included. Listener familiarity affected the story retell task only. A greater percentage of subjects provided the setting when the listener was familiar.

Randall (1999) suggested that the "internal narrative" seems to continue expanding in older age, and that there was no reduction of the interpretative capacity of one's life story. In fact, older adults appeared to be interested in making sense of life experiences, expressing a subjective appreciation of events and describing emotional states, more than younger adults seem to do.

Wilkinson (2006) applied conversation analysis to aphasic talk and found out the CA has been made by researchers drawing on conversation analytic findings into the structure of aspects of ordinary, non-aphasic, talk such as repair organization and turn organization and indicates some of the ways in which this approach to aphasia has been used within intervention studies and everyday professional practice.

Yim & Yih (2006) studied Conversational analysis between the conversation of patient with Dementia and their professional nurses to understand conversations and to identify typical conversational problems between nurses and patients with dementia. Result showed that the communicative problems between nurses and patients in terms of expressions were identified as "directive and authoritative expressions", "emotional and competitive expressions", "evasive and on-looking expressions", and "excessive use of title only", such as calling them granny or grandpa without proper names.

Hough (2007) studied the incidence of word finding in normal ageing population and study indicated that aged individual had selective impairment on picture naming of noun as well as category naming. She also studied adult age-related word fluency difference for common and goal directed categories. Result showed that elderly adult performed similar to young and middle-aged adult for goal-directed category but produced significantly fewer accurate responses and fewer strategies than other groups.

Wetherell, Botting & Ramsden (2007) in a study on narratives in adolescent subjects with specific language impairment (SLI), compared the 99 typically developing adolescents and 19 peers with specific language impairment. The subjects were given two different types of narrative task: one, a story telling condition and the other a conversational condition. Four areas of narrative (productivity, syntactic complexity, syntactic errors and performance) were assessed. They concluded that the group with specific language impairment was poorer on most aspects of narrative skills.

Feyereisen, Berrewaerts & Hupet (2007) evaluated pragmatic skills in the early stages of Alzheimer's disease and they concluded that persons with dementia of Alzheimer's type (DAT) produced a larger number of words than control participants and they benefited from the task repetition. However, they were less able to take into account previously shared information, used no definite referential expressions and were more idiosyncratic in their descriptions of the referent. This decline of communicative effectiveness was found not to relate closely to executive deficits.

Beeke, Maxim & Wilkinson (2007) in a study using Conversation Analysis to Assess and treat people with Aphasia brought about the implications of using CA as a tool for assessment and treatment in aphasia.

Taehan, Kanho, Haknoe & Chi (2007) studied conversation analysis for improving nursing conversation and the result of the study provided theoretical backgrounds and basic assumptions of conversation analysis which were influenced by ethnomethodology, phenomenology, and sociolinguistic. In addition, the characteristics and analysis methods of conversation analysis were illustrated in detail. Lastly, how conversation analysis could help improve communication was shown, by examining researches using conversation analysis not only for ordinary conversations but also for extraordinary or difficult conversations such as conversations between patients with dementia and their professional nurses.

Gloria (2009) studied the narrative skills in the age group of 5-6-year-old typically developing children and concluded that children had more phonological errors and they used reduction and unrelated repair strategy. Studies show that the normal development of phonology and morpho-syntax continues by the age of 6 years.

Yi (2009) analysed the conversation between elderly patients with dementia and nurses to identify functional structure and patterns of dialogue sequence in conversations between elderly patients with dementia and nurses in a long-term care facility. Essential parts of the conversation were the assessment and intervention phases. In the assessment phase three sequential patterns of nurse-initiated dialogue and four sequential patterns of patient-initiated dialogue were identified. Also, four sequential patterns were identified in nurse-initiated and three in patient-initiated dialogues in the intervention phase. In general, "ask question", "advise", and "directive" were the most frequently used utterance by nurses in nurse-initiated dialogue, indicating nurses' domination of the conversation. At the same time, "ask back", "refute", "escape", or "false promise" were used often by nurses to discourage patients from talking when patients were raising questions or demanding.

Jorgenson & Togher (2009) compared the narrative skills between traumatic brain injured patients and control groups and they found out that, there was a significant difference between participants with and without TBI for all measures in the monologic narrative. In the jointly-produced narrative, there was no significant difference in performance and participation between individuals with TBI and control participants. Participants with TBI demonstrated a significant improvement between the monologic and the jointly-produced task in story grammar and informational content.

Marini, Martellj, Gagliardj, Fabbro & Borgatti (2009) analysed narrative skills in William syndrome and its neuropsychological correlates and compared the narrative skills of WS patient with typically developing children's and found out WS participants showed visual-spatial deficits but scored within the normal range, according to their mental age, in the linguistic assessment. For the narrative task, they showed good phonological, lexical and syntactic skills, but their story descriptions were less effective than those produced by the TD group on measures assessing global coherence and lexical in formativeness, showing dissociation between macro and micro linguistic abilities.

Eme, Lacroix & Almeciia (2010) studied linguistic features and discourse organisation in 52 functionally illiterate French men and women and reported 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.

Kozlowski (2010) used conversational analysis technique to analyse the conversation of person with severe traumatic brain injury and he found the patient with TBI showed impaired participation in communication exchange, especially in greeting behaviour. Verbal communication was mostly affected by difficulty in producing fluent and intelligible language and using pragmatics. Non- verbal communication was impaired by difficulties in prosodic aspects.

Heilmann, Miller, Nockerts & Dunaway (2010) evaluated properties of the narrative scoring scheme using narrative retells in young school-age children, the authors concluded that the NSS was significantly correlated with age and each of the microstructural measures.

Murray (2010) tried narrative analysis to distinguish clinical depression from early Alzheimer's disease in elderly people, and they found out significant group differences on the informativeness discourse measures. AD participants producing less-informative samples than DEP and control participants. DEP and control groups did not significantly differ on any discourse variable.

Rousseaux, Verigneaux & Kozlowiski (2010) did the analysis of communication in conversation after severe traumatic brain injury and revealed the patients with TBI were impaired in their participation to communication, especially in greeting behaviour. Verbal communication was mostly affected by difficulties in producing fluent and intelligible language and using pragmatics (responding to open questions, presenting new information and introducing new themes, organizing discourse and adapting to interlocutor knowledge). Non-verbal communication was impaired by difficulties in using pragmatics (mostly adapted prosody). Participation

and verbal communication correlated with the executive functions, language and behavioural assessment.

Stead, Donovan& Hoffman (2015) investigated the effect of time of day on language in healthy aging and Alzheimer's disease. Language samples were evaluated for quantity (total utterances and words per minute) and quality: mazes or fillers, repetitions and revisions, abandoned utterances and type token ratio or percentage of different words to total words. Result showed that healthy ageing group performed significantly better on cognitive measures across the day than the AD group. Healthy ageing group produced significantly longer narrative than the AD group.

This may be due to the greater amount of personal experience and to the way that older adults might represent themselves as communicative actors in context.

INDIAN STUDIES

Mukundan (2006) studied verbal fluency measure, comparing the performance of younger and older adult. And she found that in the subject above the age of 80 years, performance of the task decreased. because of the time constraint involved.

Mukundan and Basanta (2007) analysed age effects in the detection of lexical ambiguity. their study was designed to compare the performance of the group of younger and older healthy English speaking adult on a task involving matching of multiple meaning of words and the results showed that the aging did not impact significantly the ability to discern the lexical ambiguity when words were presented were presented in isolation.

Mathias (2008) used conversational analysis to study the language characteristics between normal geriatric and middle-aged adult, and her study indicated that geriatrics show increased trouble sources and decreased resolution.

Sam, Thomas and Goswami (2008) did a study on the effect of ageing on oral and written confrontation naming in Kannada and English and found that there was an overall decrease in the accuracy of naming response with age semantic errors were more evident in older group for oral and written naming in both languages. Kannada written naming was found to be better than English written naming across all the age group emphasizing the role of orthographic regularities in naming.

John, Veena, George & Rajashekhar (2008) did a comparative study of narrative and procedural discourse in normal young adults and elderly subjects, together with of the influence of age, gender and education in the Malayalam speakers provided results which 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, Shruthy & Subba Rao (2010) evaluated the narrative skill performance in normal young adult under familiar and non-familiar communication context and they states that the number of trouble sources and the repairs strategies used were higher in young adults than the middle aged adults and geriatrics.

Nebu & Kumaraswamy (2014) studied narrative analysis in Malayalam speaking geriatrics. The result shows that there is no significant difference between the trouble sources and type of repair strategies in familiar and unfamiliar tasks, while the repair sequences value and type of resolutions showed highly significant difference. The comparison of type token ratio for familiar and unfamiliar tasks revealed that there is a highly significant difference for both open and close class words.

NEED FOR THE STUDY

The average life span of human being is increasing, so it is important to know the narrative skills of older individual and it is also taken into consideration when we assess the older individual. From previously mentioned studies, it is clear that there are no studies on narrative analysis done on any group of population in Nepal. Narrative analysis in Bhojpuri speaking geriatrics is important as the method provides for clinically applicable language sample. Nepal is a multilingual and multicultural society and these factors may directly affect the narrative skills. The present study focuses in comparing the narrative skills of Bhojpuri speaking geriatrics and young adults.

AIM OF THE STUDY

The aim of the present study was two folded:

1. To investigate the narrative performance among 20-30 years old young adult and 60-70 year old geriatrics for familiar and unfamiliar task.
2. To compare narrative performance across group for familiar and unfamiliar task.

METHODOLGY

Participants

A group of 20 individuals have been chosen for the present study and the individual are divided in to two groups.

1. First group consists of 10 healthy young adult individuals with age of 20-30 years (5 males and 5 females).
2. Second group consists of 10 healthy geriatric individuals with age of 60-70 years (5 males and 5 females).

Two groups were matched for age, gender, socio-economic status, education and linguistic background participated in the study. The participants used Bhojpuri as their native language for communication.

Inclusion criteria

Subjects who did not have any neurological impairment and memory problems were omitted from the study.

DATA COLLECTION PROCEDURE

Test environment

A quiet room was used for the recoding of speech samples. The subject was seated comfortably on a chair at a distance of one foot from the laptop placed on the table. Participants speech was recorded using standard laptop (HP PAVILION G6) with a standard microphone with the help of PRAAT voice recording and analysis software 5.1 version. (Boersma& Weenick,2009). Sampling rate was 44100 Hz and quantization level set at 16 bits.

Narrative sample of 5-10 minutes was recorded for each subject regarding their past events of both familiar & unfamiliar contexts. Familiar contexts involved story narration & past experiences of life (eg: About marriage, any traditional festivals, childhood etc.) Non-familiar contexts involved asking subjects to imagine the specified situation and narrate with respect to different characters/personality (eg. Clinician would ask 'what developments will you do if you become a Prime Minister, what change you would do if you become school principal?).

Data coding and analysis

Obtained data of 5 minutes (hundred utterances were selected) were transcribed and analysed 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 type token ratio using the systematic procedure [Orange, Lubinski & Higginbotham (1996)].

Analysis of trouble sources, repairs and resolutions

According to the guidelines by Orange, Lubinski & Higginbotham (1996), the data was analysed to study the trouble sources, repairs, along with complexity and success of resolutions. Trouble sources (TS) were divided into phonological, morphological-syntactic, semantic, discourse and other trouble sources. The categories for describing repair types were repetition, elaboration, reduction, substitution and unrelated. Repair resolutions were analysed as most successful, successful and unsuccessful. Repair complexity was coded as simple or complex.

Analysis of type token ratio

The data was analysed in terms of Type Token Ratio (TTR). 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.

According to Wren, Martin & Rao (2008), once the closed and open class words were identified the total number of words; total number of different words and type token ratio of each category were calculated using the ratio:

TTR= Total number of different words/Total number of words

The data was then treated with statistical analysis using Man Whitney U test.

RESULTS AND DISCUSSION

The data was collected, transcribed, analysed and statistical evaluated for finding out the significant difference, and the results are discussed below:

Group	Paramerer	Parameter	N	Mean	Std. Deviation	Median(IQR)	t value	p value
Youngsters	Familiar	REPAIRS	10	6.20	3.259	6(3.75-8.25)	11.010	.000
		RESOLUTION	10	4.30	1.418	4(3-6)		HS
		TROUBLE SOURCE	10	10.60	3.978	9(7.75-14.25)		
	Unfamiliar	REPAIRS	10	7.80	1.874	8(6-9.25)	12.566	.000
		RESOLUTION	10	6.60	2.503	7(4-9)		HS
		TROUBLE SOURCE	10	11.60	2.547	11(9.75-14)		
Geriatrics	Familiar	REPAIRS	10	6.90	2.183	7(5.5-9)	32.422	.000
		RESOLUTION	10	5.50	1.354	5.5(4-6.25)		HS
		TROUBLE SOURCE	10	12.80	2.700	13(10.5-15)		
	Unfamiliar	REPAIRS	10	8.20	2.300	9(6.75-10)	29.445	.000
		RESOLUTION	10	7.20	1.751	7(6-9)		HS
		TROUBLE SOURCE	10	13.40	1.713	14(12-14.25)		

Table 1: Showing the significant values for the following comparison in Young adults and Geriatrics:

a) Young adults' familiar task verses unfamiliar task. (Repairs, Resolution, Trouble source)
b) Geriatrics familiar task verses unfamiliar task. (Repairs, Resolution, Trouble source)

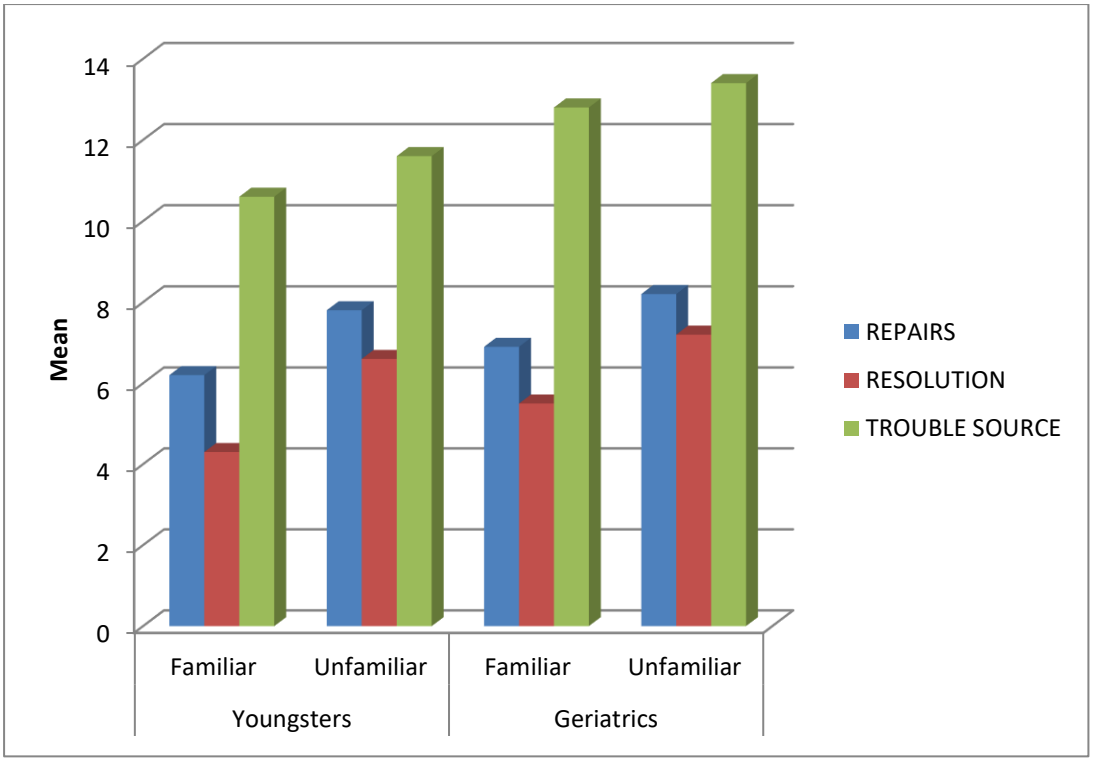

Figure1: Showing the mean score value for familiar and unfamiliar task in young adult verses geriatrics.

From the above figure it can be inferred that there is a slight difference in the performance of young adult and geriatrics for familiar verses unfamiliar task. High significant at (P= 0.00) for Repairs, Resolution and Trouble sources were noted when compared with familiar and unfamiliar task compared between Young adult Verses Geriatrics.

Paramerer	Group	Parameter	N	Mean	Std. Deviation	Median(IQR)	t value	p value
Familiar	Youngsters	Closed	10	37.10	7.249	34.5(32.25-43.25)	3.12	.002
		Open	10	42.50	5.148	42(38.75-46.75)		HS
	Geriatrics	Closed	10	33.50	5.276	33.5(31.75-36)	2.94	.004
		Open	10	38.10	6.315	39(33-43.25)		HS
Unfamiliar	Youngsters	Closed	10	42.10	4.999	40(38.75-45)	.34	.733
		Open	10	42.70	7.889	42(39-46.5)		NS
	Geriatrics	Closed	10	35.30	5.314	35(30.75-40.5)	.07	.945
		Open	10	35.40	5.461	34(31-41.5)		NS

Table 2: Showing the comparison between the following:

a) Young adults Open class word Verses Closed class word (Familiar verses Unfamiliar)

b) Geriatrics Open class word Verses Closed class word (Familiar verses Unfamiliar)

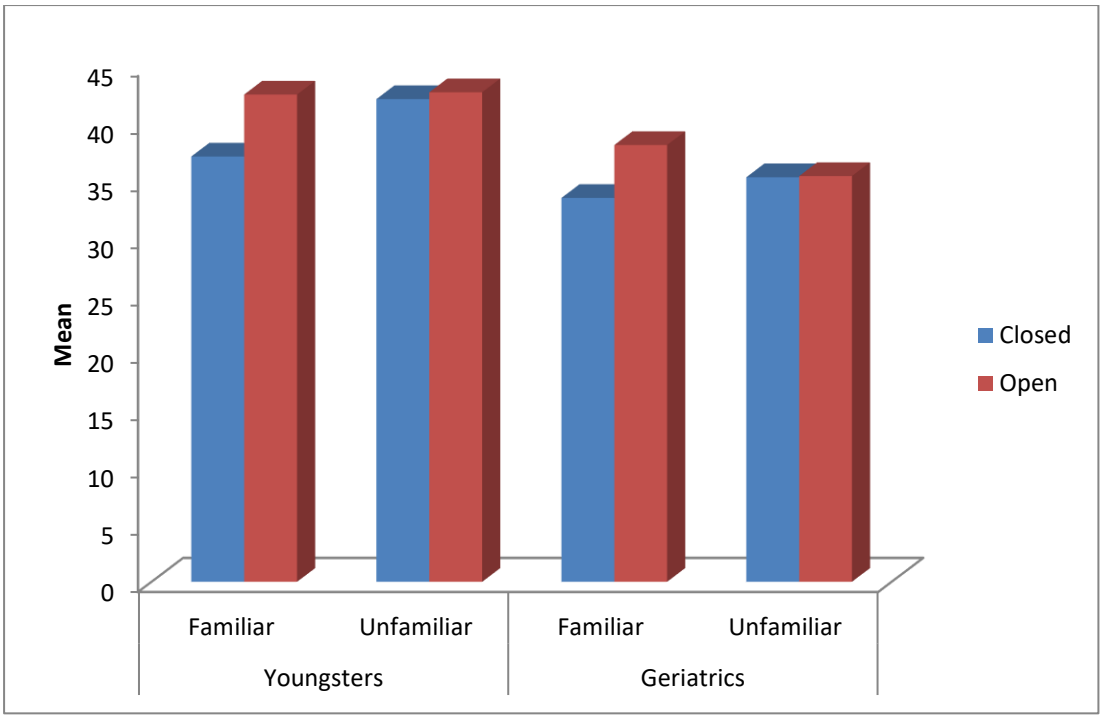

Figure 2: Showing the mean score values for open verses closed class word in familiar and unfamiliar task condition for Young adult and Geriatrics.

From the above figure it can be inferred that there is a difference in the performance between two groups in familiar and unfamiliar tasks. Open class verses Closed class word in familiar task showed highly significant (p= 0.004) in geriatrics but Open verses Closed class word in unfamiliar task is not significant (p=0.733) in young adults and not significant (p=0.945) in geriatric population.

Parameter	Group	Paramerer	N	Mean	Std. Deviation	Median(IQR)	t value	p value
REPAIRS	Youngsters	Familiar	10	6.20	3.259	6(3.75-8.25)	1.35	.195
		Unfamiliar	10	7.80	1.874	8(6-9.25)		NS
	Geriatrics	Familiar	10	6.90	2.183	7(5.5-9)	1.30	.211
		Unfamiliar	10	8.20	2.300	9(6.75-10)		NS
RESOLUTION	Youngsters	Familiar	10	4.30	1.418	4(3-6)	2.53	.021
		Unfamiliar	10	6.60	2.503	7(4-9)		sig
	Geriatrics	Familiar	10	5.50	1.354	5.5(4-6.25)	2.43	.026
		Unfamiliar	10	7.20	1.751	7(6-9)		sig
TROUBLE SOURCE	Youngsters	Familiar	10	10.60	3.978	9(7.75-14.25)	.67	.512
		Unfamiliar	10	11.60	2.547	11(9.75-14)		NS
	Geriatrics	Familiar	10	12.80	2.700	13(10.5-15)	.59	.560
		Unfamiliar	10	13.40	1.713	14(12-14.25)		NS

Table 3: Showing the comparison between the following:

a) Young adult familiar Verses unfamiliar (Repairs, Resolution, Trouble sources)

b) Geriatrics familiar Verses unfamiliar (Repairs, Resolution, Trouble sources)

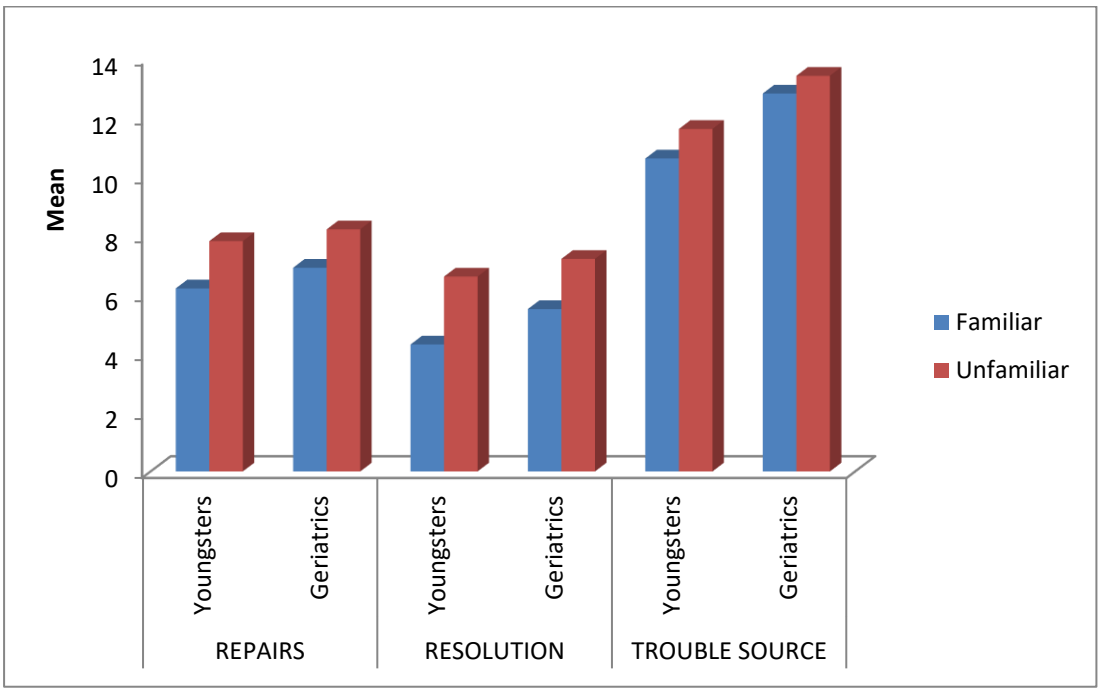

Figure 3: Showing the mean score value compared within Young adults and Geriatric in Familiar verses unfamiliar task for Repair, Resolution and Trouble source.

From the above table it can be observed that there is no significant difference within young adults as well as Geriatrics for Repair in familiar verses unfamiliar task (No significant at p=0.195 for Young adults, and p=0.211 for Geriatrics) as well as no significant difference was observed for Trouble sources in familiar verses unfamiliar task for both Young adult and Geriatrics. but significant difference was noted for

Resolutions in familiar verses unfamiliar task for young adult (significant at p= 0.21) and Geriatrics (significant at p=0.26).

Parameter	Group	Paramerer	N	Mean	Std. Deviation	Median(IQR)	t value	p value
Closed	Youngsters	Familiar	10	37.10	7.249	34.5(32.25-43.25)	1.80	.089
		Unfamiliar	10	42.10	4.999	40(38.75-45)		NS
	Geriatrics	Familiar	10	33.50	5.276	33.5(31.75-36)	.76	.457
		Unfamiliar	10	35.30	5.314	35(30.75-40.5)		NS
Open	Youngsters	Familiar	10	42.50	5.148	42(38.75-46.75)	.07	.947
		Unfamiliar	10	42.70	7.889	42(39-46.5)		NS
	Geriatrics	Familiar	10	38.10	6.315	39(33-43.25)	1.02	.320
		Unfamiliar	10	35.40	5.461	34(31-41.5)		NS

Table 4. Showing Non-significant for Open and closed class word in familiar verses unfamiliar condition for Young adults and Geriatrics.

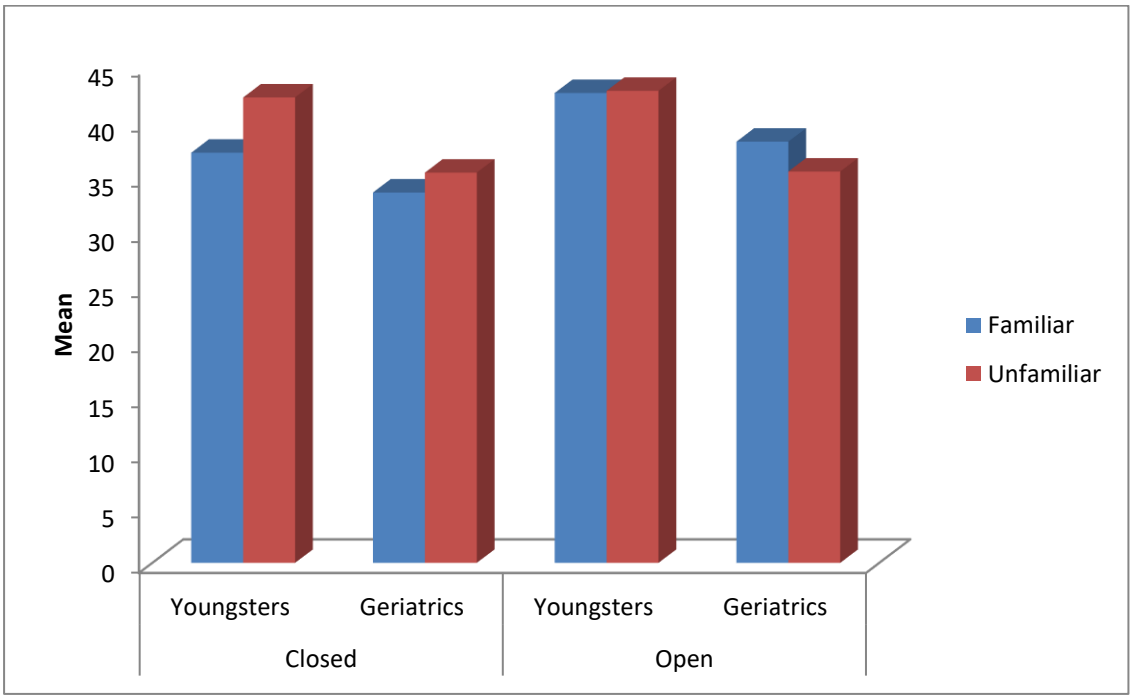

Figure 4: Showing the mean score value compared for familiarverses unfamiliar task for Open class and Closed class word for Young adults and Geriatric.

From the above figure it can be inferred that there is no difference in the amount of Open class word used as well as closed class word used in familiar verses unfamiliar condition in both Young adult group as well as Geriatrics group. So, there was no significant difference in the amount of Open and Closed class word used in familiar verses unfamiliar condition.

Parameter	Paramerer	Group	N	Mean	Std. Deviation	Median(IQR)	t value	p value
Closed	Familiar	Youngsters	10	37.10	7.249	34.5(32.25-43.25)	1.27	.220
		Geriatrics	10	33.50	5.276	33.5(31.75-36)		NS
	Unfamiliar	Youngsters	10	42.10	4.999	40(38.75-45)	2.95	.009
		Geriatrics	10	35.30	5.314	35(30.75-40.5)		HS
Open	Familiar	Youngsters	10	42.50	5.148	42(38.75-46.75)	1.71	.105
		Geriatrics	10	38.10	6.315	39(33-43.25)		NS
	Unfamiliar	Youngsters	10	42.70	7.889	42(39-46.5)	2.41	.027
		Geriatrics	10	35.40	5.461	34(31-41.5)		sig

Table 5: Showing the significant value for following comparison:

a) Open class word in familiar and unfamiliar (Young adults verse Geriatrics)
b) Closed class word in familiar and unfamiliar (Young adults verse Geriatrics)

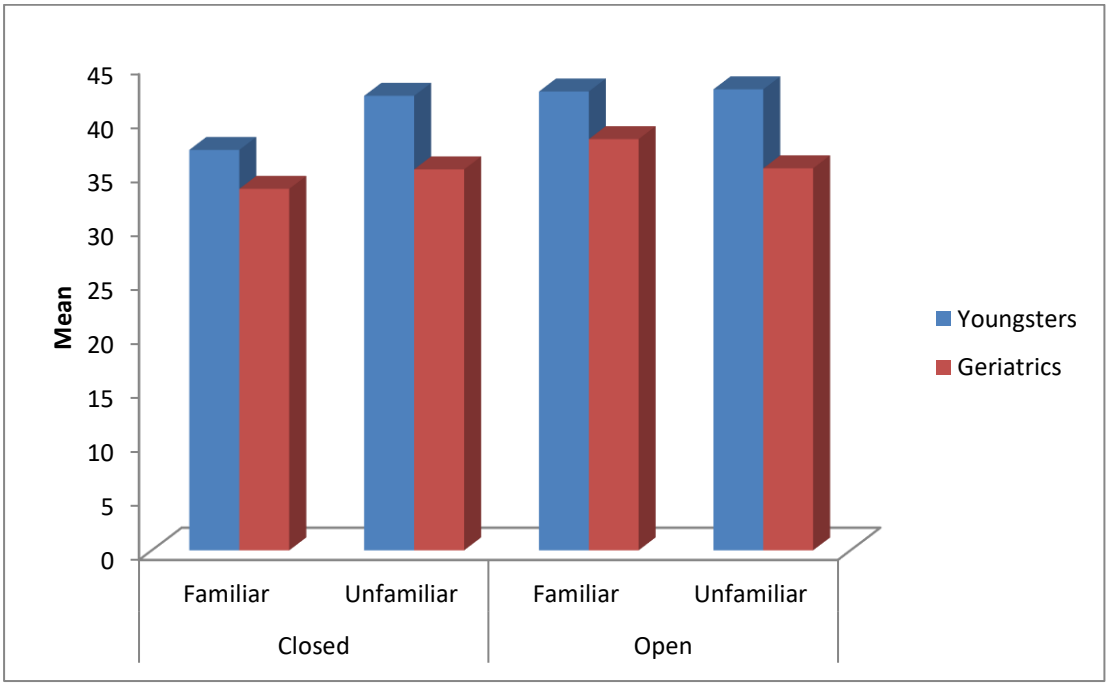

Figure 5: Showing the mean score value for Open and closed class word compared in Young adult verses Geriatrics for familiar and unfamiliar task.

From the above figure it can be inferred that there is a slight difference in the amount of open class word used as well as closed class word used for unfamiliar task when compared between Young adult and Geriatrics. Closed class word was highly significant at (p=0.009) for unfamiliar task and open class word significant at (p= 0.027) for unfamiliar task when compared between young adult and geriatrics.

Parameter	Paramerer	Group	N	Mean	Std. Deviation	Median(IQR)	t value	p value
REPAIRS	Familiar	Youngsters	10	6.20	3.259	6(3.75-8.25)	.56	.580
		Geriatrics	10	6.90	2.183	7(5.5-9)		NS
	Unfamiliar	Youngsters	10	7.80	1.874	8(6-9.25)	.43	.675
		Geriatrics	10	8.20	2.300	9(6.75-10)		NS
RESOLUTION	Familiar	Youngsters	10	4.30	1.418	4(3-6)	1.94	.069
		Geriatrics	10	5.50	1.354	5.5(4-6.25)		NS
	Unfamiliar	Youngsters	10	6.60	2.503	7(4-9)	.62	.542
		Geriatrics	10	7.20	1.751	7(6-9)		NS
TROUBLE SOURCE	Familiar	Youngsters	10	10.60	3.978	9(7.75-14.25)	1.45	.165
		Geriatrics	10	12.80	2.700	13(10.5-15)		NS
	Unfamiliar	Youngsters	10	11.60	2.547	11(9.75-14)	1.85	.080
		Geriatrics	10	13.40	1.713	14(12-14.25)		NS

Table 6: Showing no significant value for the following comparison:

a) Young adult verses Geriatrics for familiar and unfamiliar condition (Repairs, Resolution, Trouble sources).

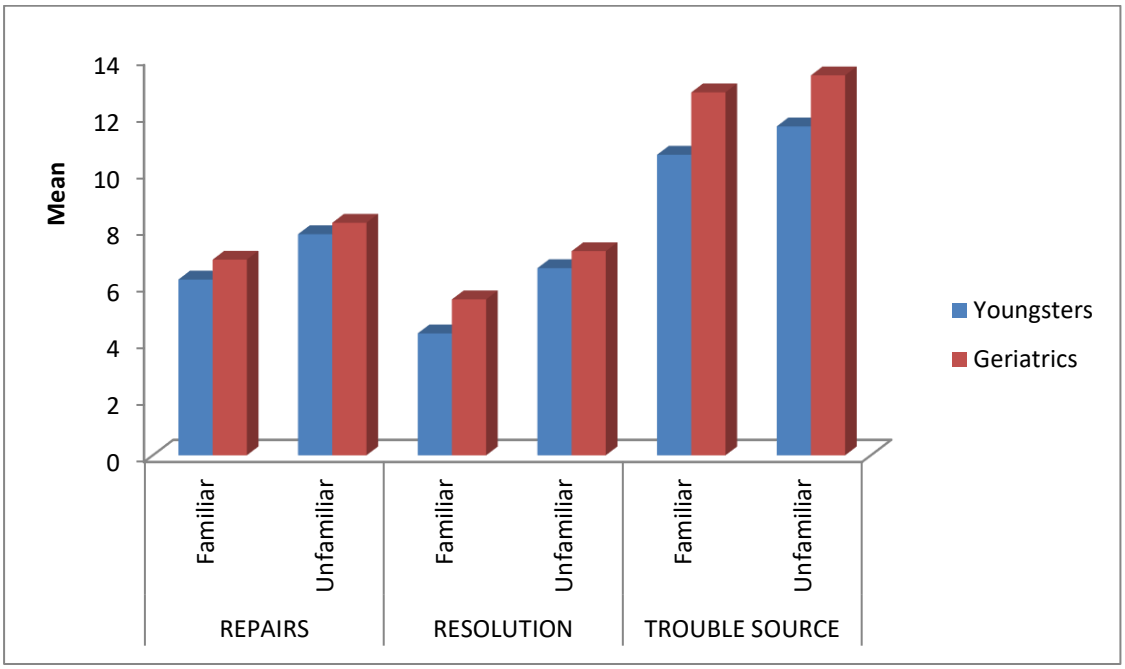

Figure 6: Showing the mean score value compared between Young adults verses Geriatrics in Familiar verses unfamiliar task for Repair, Resolution and Trouble source.

From the above figure it can be inferred that there is no difference in the performance for Geriatric verses Young adults for familiar and unfamiliar task. No significant difference was noted for Repairs, Resolution and Trouble sources for both familiar verses unfamiliar task when compared between Young adults and Geriatrics.

SUMMARY AND CONCLUSION

Ageing is an inevitable process and along with the other body system, communication also undergoes changes with age. Geriatric group have become the matter of study because there is growing population of older people in the population, communication problems are highly prevalent in older population as well as their quality of life is also getting adverse due to these aging problems. The other reason to study this group is this population are at high risk to get language problems since, these population are more likely to face the problems of Stroke, dementia, Parkinson's disease or Alzheimer's disease. This study will form normative data for the communication changes taking place in healthy elderly.

There have been only a few studies reported using narrative analysis in geriatric population. So, this study presents and analyses sequential, collaborative construction of conversation, regarding what causes trouble during conversation and what repairs might be negotiated to overcome these trouble spots. Having a very diverse culture ranging in differences in language, education level, places, geographical location, socioeconomic status, etc., there is a need to understand the conversation or narrative characteristics of normal elderly people in Nepali-setting and thus form a normative data for language disordered population.

Narrative analysis can be used for both assessment and treatment of language disordered population. It also gives information regarding individual's communication skills in a natural situation. Also gives information regarding the parameters of language. Narrative analysis can be used among various communities and also helps to know the deficits across languages.

Narratives represent storied ways of knowing and communicating (Hinchman,1997). The aim of the study was to compare the narrative skills in normal geriatrics of age 60-70 years and Young adults of 20-30 years. The specific aim of within the group comparison on familiar and unfamiliar topics and across group comparison on familiar and unfamiliar topics. The present study consists of two groups, 10 healthy geriatrics individuals and 10 young adult and the two groups were matched for age, gender, socioeconomic status, education and linguistic background.

Subjects were selected only if they did not have any neurological impairment. The narrative was analysed into turns and further in to utterances. Then based on the definition given by Orange et al (1996) types of trouble source, repairs, resolutions and degree of success were analysed. In the second part of the analysis, type token ratio was studied. The utterances were analysed in to open and closed class word based on the definition given by Yule in 2002, and then based on that classification in to noun, verb, adjectives and closed class word based on the definition found in Wren et al (2008).

The result of the present study reveals that as the comparison of trouble sources, repair strategies, types of resolution and repair sequences geriatric showed higher score than young adults. The comparison of young adults and geriatrics using type token ratio reveals that there is significant difference in the unfamiliar task of both open and closed words in adults. The performance of geriatric population on trouble source and repair strategies are similar to that of the results reported by Mathias (2008).Another study done by Hegde, Shruthi & Subba Rao (2010) shows that the number of trouble source and the repair strategies used were higher in young adult compared to middle aged adult and geriatric were contradictory to this present study.

The statistical analysis was done using Man-Whitney t test and the result showed that there is only significant difference in repair sequences and type of resolutions. The comparison of type token ratio revealed a highly significant difference for both open and close class words. 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 is in accordance with the study done by Mahendra and Raksha (1994) indicating less generative naming abilities in aged individuals. So as the age increases there will be deterioration in the communicative skills. Future research is required to study the narrative aspects across various groups of adults and geriatrics and can be used in children with language disorders.

Implications of the study

1. This study gives the information regarding the effect of aging in narrative skills.

Limitations of the study

1. The present study was done only in small group of individuals.
2. The study was limited only to individuals in certain individuals.
3. The present study was conducted in only one particular dialect.

Further recommendations

1. This study can be extended using more number of individuals.
2. This study can be conducted in children with language disorders in future.
3. This study can be used to compare with different Indian language disordered population.

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APPENDIX

Definition of TS, RP, RS and Degree of complexity of RS based on Orange et al (1996).

Trouble sources (TS) : related to speaking, hearing or understanding problems, represent and identity problems in interaction between partners, relate to an incongruence of the intent and the understanding between a speaker and listener and may result from the difficulties in the output of the speaker and may lie with mishearing by the listener, can be related to phonological, morphological/syntactic, lexical, discourse or other disturbances.

Phonological: Problem with mispronunciation "Slip of tongue" and poor knowledge of sound and sound combinations.

Morphological/ Syntactic: Disturbance to the rule system of the grammar and syntax such as problem in time and possession markers, agreement among all constituents and word order problem.

Semantics: Disturbances related to lexical access, word recall and word retrieval and accurate and known word use.

Discourse: Difficulties related to listener's apparent comprehension of topic content (i.e., accuracy, initiation, maintenance and change); shared knowledge (i.e. Clarity and relevance); and cohesion (i.e. Referencing problems within and across utterances).

Others: Trouble sources that cannot be unambiguously classified; include abandoned or incomplete utterances, utterances that remain unrepaired, or utterances where there is no indication in the repair initiator of the repair as to nature of the trouble sources also include the repetition of Trouble source as the repair activity.

Repairs (RP): Effort by a speaker of listener to remedy trouble sources; represent collaborative activity where information in prior utterances is repeated or modified; may involve one or multiple turn before they are completed.

Repetition: All of the part of the trouble sources utterance(s) is repeated and where change in form, content, intent and function and prosodic features are not appropriate to the listener.

Unrelated: A participant does not respond to the repair initiator, produces an unintelligible word or utterance(s), or provide a response unrelated in content to the trouble source.

Elaboration: Include additions, specification or expansion of meaning with respect to trouble sources; new information is conveyed.

Reduction: Involve the deletion of meaning that appeared in speaker's trouble sources; include utterances in elliptical form, confirmation and denial responses and utterances that indicate that speaker does not know answer to specific question.

Substitution: Contain element that are similar in meaning to those in trouble sources and include the use of alternate but equivalent form of meaning or change in grammatical/ syntactical form without altered meaning.

Resolution (RS): Outcome measure of the repairing process; two parameter measured on an ordinal scale;(a) the scale of successful repair (b) the simplicity or complexity of repair; degree of success is measured by (a) whether or not the trouble source is repaired, and (b) whether single or multiple repair initiators and repair are used; a trouble source is repaired if partner continue on topic or change or shift topic using a appropriate topic manipulations.

Most successful: Comprises a single trouble sources, repair initiator, and repair, or a single trouble sources and repair, and no repair initiator; partner continue with the conversation on topic with conversation governed movement to related or new topic.
Successful: More than one repair initiators and repair are used to successfully repair a single trouble source.

Unsuccessful: Trouble sources are not repaired with single or multiple repair initiator and repairs.

Complexity level: This is defined according to the presence of embedded or secondary trouble sources in the TSR sequence.

Simple: This contains a single trouble source.
Complex: This contain a primary trouble source and one of more embedded trouble sources; primary and embedded source each have their own associated repair initiators and repairs, embedded trouble source may arise from the production of

misperceived or misunderstood repair initiators or repair associated with the primary trouble source.

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