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Discourse and Corpus based Analysis of Doctor-Patient Conversation in the Context of Pakistani Hospitals

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Abstract

This study undertakes the analysis of the communicative patterns between doctors and patients by applying Sinclair and Coulthard's (1975) IRF (Initiation, Response and Follow-up) Model. The focus of this study is to investigate the discourse features of the language used between the doctors and the patients in a hospital setting. It further explores how doctors and patients make sense of each other's talk. The data was electronically recorded and then transcribed in terms of Dijk's transcription key with the modification. IRF structural patterns of the original model were applied with modification due to change in the context in which the communication between the participants of the discourse took place. The discourse structure found in the data varied from that of the classroom discourse investigated by Sinclair and Coulthard. This study showed significant difference in the use of language in spoken and written form between the doctors and the patients. It also revealed that commonality, solidarity and familiarity in exchange structure was lacking in the communication between the doctors and patients which resulted in misunderstanding of the talk.

Key words: Corpus approach, Discourse Analysis, Concordances, Communication.

Introduction

Human beings are blessed with a language which is the greatest gift of God and makes human being different from other animals. Humans use language for communication and the most important feature of language is communication. Communication is the process which involves active participation of both the speakers and the hearers. They sometime exchange their ideas, feelings, emotions and information either by following the rules of communication or by violating these rules of communication. Successful communication can be achieved if speakers use linguistic, contextual and grammar knowledge of the language. This study intends to analyse the linguistic patterns, and features of the discourse taking place between the doctors and patients, and the ways how the doctors-patients conversation was made comprehensible. Customarily, medical professionals like doctors, non-medical staff, Nurses and attending staff speak to patients in a hospital. Dijk (2001) defines discourse analysis in his essay "Critical Discourse Analysis" as "Critical discourse analysis (CDA) is a type of discourse analytical research that primarily studies the way social power abuse, dominance, and inequality are enacted, reproduced, and resisted by text and talk in the social and political context," (p.349). The term discourse refers to the language used in public speeches or in spoken interaction. In the past, discourse analysis focused on different stages formal spoken and written language, symbols, abbreviations, medicine, interviews, T.V. programs, movies, novels, poetry, and social interaction etc. However, while describing the structure of language, Deborah

Cameron (2001) argued that "from linguist's discourse analysis takes a concern with the structure of a language and the distribution of linguistics forms", (p.124). Therefore, linguistics discourse analysis can bring changes in the field of communication. In order to have successful communication specifically in classroom, Sinclair and Coulthard (1975) developed a pattern for the successful communication in classroom interaction between the teachers and the students. Sinclair and Asher also worked in making analysis of the conversation between the doctors and patients in the hospital, and the purpose was to provide a linguistic pattern of the between the two speakers.

Historically, with the start of 1980s to 1990, Fairclouhg also worked on the development of the discourse analysis in a society. Many areas like society, political, wars, medicine, classroom interaction became the target of discourse analysts. Later on, conversational discourse analysis emerged at the end of 19th Century. Fairclough (1989), Wodak (2001) in Australia and Dijk in the Netherlands promoted their research in the field of discourse analysis. At that time; many areas had become the focus of the study that is related to power, domination, social inequalities, gender, race, and the study of text and talk. The study of conversation spread rapidly in social sciences and other fields and discourse studies has been extended to various fields like talk communication, speech coding etc. Historical study of discourse has led us to the conversation analysis. Besides, the study of discourse analysis was further extended to conversation analysis by Dijk, and different aspects of the conversation were discussed and proliferated in this way. He founded the pattern and other features of the conversation and introduced different ways to study discourses of different types. According to Dijk (2001) "many of the interaction aspect of talk are closely related to the grammar, semantics, pragmatics, and other dimensions of discourse," (p.349). He formulated the main principles of discourse analysis and the methods and his contemporaries also started working on discourse features of the language while transcribing and analyzing the conversation in classroom. Sinclair et al., (1975) worked on the classroom interaction between the teachers and the pupils and transcribed the conversation to interpret it. Davis (2010) also confirms that "doctors may express empathy and open friendly dialogues with patients to achieve their satisfaction and success in medical care," (p.12) Yin, et al., (2013) attempted to investigate in his study the communicative interaction behaviors of doctors, patients and patients' parents. Yin et el., (2013) conducted his research and found that "the asymmetric relationship may result from Chinese culture in which doctors, lawyers and teachers hold professional power which comes from respect for their expertise." These studies which were taken out to highlight the various types of communication between doctors and patients found that there are many factors which affect the communication between the doctors and patients such as paid/unpaid, government officials, social status or the power of the doctors. Research questions answered in this paper are given below;

1. Is doctor-patient conversation a specific genre in the context of Pakistan?
2. What are the discourse features of the doctor patient conversation?
3. How do doctors and patients make sense of each other's' talk?
4. To what extent Sinclair and Coulthard model helps in the understanding of the conversation taking place between the doctors and patients.

Methodology

Data for this research was collected by the collaboration of the medical and non-medical staff. Data consisted of the 30 audio recorded conversation between the doctors and the patients, collected from OPD (Outdoor patient) of Armed Forces Institute of Cardiology & National Institute of Heart Diseases Rawalpindi, Pakistan. The audio recorded data were translated into English and afterwards it was transcribed. At the time of medical checkup, patients entered with their attendant,

partners or spouses and consultant examines their medical reports, Echo reports, ECGs of the cardiac patients to assess the disease of the patients by asking different questions from the patients and their attendant during the physical examination of the patients. Consultations at OPD lasted for 10-30 minutes for each patient on individual patients. Mostly, two doctors examined the patients in the OPD room. Prior permission from ethical Committee of Institute and consultants was taken to record the conversation. Recorded Information was used entirely for the research purpose and it would be kept confidential. Permission from the patients was also taken prior to the collection of the research data. Consultants were requested to examine the patient as they do in their routine life. For the data analysis, this study employed Sinclair and Coulthard's (1975) IRF (Initiation, Response and Follow-up) Model. In addition, word list of most frequently occurring linguistic features in the doctor-patient conversation was prepared. Later, AntConc software was applied to analyse the frequency of occurrence of the linguistic features.

Results and Discussions

IRF and Exchange Structure in Doctor Patient Conversation

Sinclair and Coulthard (1975) categorized IRF structure of the conversation that took place in the classroom between students and a teacher. This IRF structures are applied on the conversation between the doctors and patients. Hence, the transcribed dialogues were categorized in the light of Sinclair and Coulthard model (1975). Some excerpts taken from the data are described below.

Example1: Exchange Structure in Doctor-Patient Conversation.

The following extract given in the table has been taken from a doctor and an old patient (pat) history taking session. The patient is an old woman and doctor welcomed her with greetings. She could not understand Urdu language and speaks only Pashto language. She was accompanied by a care taker. All questions asked by the doctors were directed to her. Since, she could not understand Urdu language could not answer to those questions. So, caretaker answered on her behalf. Turns taking and speech are categorized in the table form.

Table 1. Exchange Structure in dialogues (19-57) of Doctor and Patient.

	Dialogues	**Act**	e.s	**Move**	e.s	**Exchange**	Ex
19	Number 24	sum	h	opening	I	Summon	I 1
20	Doc: AoA, come and sit	Gr	h	opening	I	Greet (incomplete)	2
21	Pt: ~						3
22 **23** **24**	Doc: do you have high blood pressure? C/T: yes it remains high. Doc: hmm	M qu end	s h	Pre-h eliciting informing acknowledging	I R F	Elicit	4
25 **26** **27**	Doc: have you completed reports? C/T: Yes we did but ratio is very low up to 35% Doc: hmm hmm	Inq i end	h h h	eliciting informing acknowledging	I R F	Elicit	5
28	Pt: we went for check	I	h	informing	I	inform	6

	Dialogues	**Act**	e.s	**Move**	e.s	**Exchange**	Ex
29	up to colonel, he said that my heart is weak, and rests of things are all right. Doc: ~						
30 **31** **32**	Doc: what do you feel now ama(mother)? Pt: ~ C/T: ~	Inq	h	eliciting	I	Elicit	7
33 **34** **35** **36** **37**	Doc: if heart is weak than use of medicine will give strength to heart. C/T: we have been using for a long time ago. Pt: ~ Doc: When heart is weak and patient is suffering with heart attack and we give medicine to keep it strong. C/T: she has same condition all the time.	I m ret conc	h s h h	informing answering eliciting informing	I R I R	Inform Clarify	8 9 10 11
38 **39** **40** **41**	Doc: you have to be cautious for this it doesn't go down less than 35%. Have you gone through angiography? Pt: ~ C/T: Dr. suggested us but he took his decision back	S n.pr end	pre-h h h	informing eliciting informing	I I R	Inform Elicit	12 13 14
42 **43** **44** **45**	Doc: Have you brought reports kidney test? C/T: yes we did. C/T: if Brigadier recommends we can do. Pt: Don't Know	s m i com	pre-h s h post-h	Eliciting informing	I R I	Elicit	15
46 **47** **48**	C/T: do you want to change the medicine? Doc: I am recommending lipirax.	m m	s s	opening informing	I R	Elicit	16

	Dialogues	**Act**	e.s	**Move**	e.s	**Exchange**	Ex
	Pt: ~						
49	Doc: she will be treated with medicine. Take easyday daily	obs	h	informing	I	Inform	17
50	Pt: ~						
51	C/T: Colonel pre-	ref	h	acknowledge	R		18
	scribed the same medi-	end	h	acknowledge	F		19
52	cine.						
	Doc: Sir has already						
53	advised the tablets you just take this.						
	Pt: ~						
54	Doc: take 'easy day' complete tablet and others tablets in half	ms	H	opening	I	Structuring	20
	quantity.	acq	h	answering	R		
55	Pt: theksho	acq	h	answering	R		
56	C/T: ok	gr	h	opening	I	Greet	
57	Doc: hmm					(Incomplete)	

**Description of the abbreviations: I-Initiation, R-Response and F-feedback*

In the dialogue given above, doctor initiated the conversation with greetings and instructed the patient to take seat. The communication seems the basic institutional discourse; doctor gathers information, diagnoses the disease and makes a decision to prescribe the medicine. The patient was accompanied by the caretaker to communicate with doctor. Caretaker facilitated them to communicate successfully. It is apparent in the dialogue that care taker facilitated in order to make the conversation successful between them. Throughout the conversation, it was found that patient did not give responses to doctor and flow of information was only one sided from doctor to patient. Moreover, it was seen that the typical IRF structure in above mentioned example of the data and Sinclair and Coulthard's (1975) model was applied. In lines 1-3 of the transcription are identified as frame and focused according to move type. In the conversation, follow up move, and answering move help the speakers to relate the previous information and understand what is being said between the doctor and the patients. When caretaker asked if the doctor wants to change the medicine, doctor did not give response rather he informed him that he is going to prescribe Lipirex tablet. Perhaps, the doctor has realized through the detail information given by the care taker or by the history of the patients and he made decision to prescribe the medicine.

Example2: Exchange Structure in Doctor-Patient Conversation.

The following conversation took place in the OPD room of the hospital. A female doctor welcomed the patient and asked to sit on the chair beside her. In the beginning of the conversation, she started to elicit the information from the patient to understand the problem of the patient. During the process of examination, lady doctor received a call. She received a call during the examining to the patient. Doctor's position in the hospitals of Pakistan is authoritative and they have power in their job.

Table 2. Exchange Structure in Doctors Patients Conversation Dialogues (146-171)

	Dialogue	**Act**	e.s	**Move**	e.s	**Exchange**	Ex tr
146	Doc: hello	Gre	h	opening	I	Opening	I 1
147	Pat: Sir my blood pressure remains high and I have pain in my muscles.	inf	h	answering	I	response	2
148	Doc: ok, Have you skipped any meal and medicine?	Ack		Acknowledging	F I	Acknowledging Elicitation	3
149	Pat: No I haven't skipped medicine and meal	Answering	h	Answering	R	Response	
150	Doc: ok , (checks the blood pressure C/T: yes it remains Doc: hmm	Ack qu end	s h	Acknowledging Examining	R F	Response	4
151	Doc: I have checked your blood pressure, it is normal. It happens when we miss a dose of medicine.	inf	h h h	Informing	I	Elicit	5
152 **153**	Pt: ~ Pt: sir I take medicine twice a day, it never happened that I took the tablet in morning and skip the second tablet in the evening.	R I	h	Ack Eliciting	R I	Acknowledging Eliciting	6
154	Doc: ok	Ack	F	Acknowledging	I	Accepting	7
155 **156**	Doc: ** C/T: we have been using for a long time ago.	I	h	Phone ringing	I	Initiation	8
157	Doc: hello, hello, hello Who is it? He should know that home is locked this time and he has to wait because (baji), will not open the door	S I	pre-h h	opening Initiating	I R	opening Eliciting	12 13 14
158	Doc: Ok	Inf	h	informing		Inform	

	Dialogue	**Act**	e.s	**Move**	e.s	**Exchange**	Extr
159	take these medicine regularly Doc: I am going to call her but she is not attending my call , she might be sleeping in her bedroom, after all she will not open the door because SAAB (husband/ owner) forbade her not to open the door	End inf		 replying informing	F R		
160 **161** **162**	Doc: ok? Pat: doc saab from where can I get the test? Doc: medical store	s I R	pre-h s	Eliciting Eliciting informing	I I R	Elicit	15
163 **164** **165** **166**	C/T: will you change the medicine dr ? Pat: ~ Doc: I am recommending lipirax. Pt: ~	I R	s s	opening R Informing Response	I R F R	Eliciting	16
167	Doc: she will be treated with medicine. Take easy day daily	R	h	informing	I	Inform	17
168 **169**	Par: ok, doc saab from where can I get the test? Doc: go outside and , they will guide you the timing	Ack inf	h h	acknowledgment eliciting replying	I R		18 19
170 **171**	Pat: ok dr sb Doc: Allah Hafiz	gr	H	opening	I	Structuring *Greet (Incomplete)*	20

The above table comprises the conversation took place between two doctors and a patient. Lady Doctor elicited the (lines 2, 3, 4) blood pressure level of the patients. She started examining blood pressure and elicited information from the patient of his previous meal (lines 4, 5). Patient responded well in the beginning of the talk. After some time, doctor received a telephonic call and left the patient to wait for the doctor. The telephone call ranged from 10-15 minutes (lines 9-10) and it changed the attention of the doctor. She started talking to her sister. She emerged in another discussion with her sister that has changed the thought process of the doctor and patient as well. There seemed a gap in the context of the previous thought of the doctor. On the other, patient waited for a

long for his turn and during the discussion she spoke of another story with her sister. After the discussion, she finally came to a decision and prescribed a medicine to the patient. Such digressions may lead to wrong decision because of lack of understanding of the context.

Example 3: Exchange Structure in Doctor-Patient Conversation.

In the following example, there are two doctors and one patient. Two doctors are sitting together in one clinic and patient entered with acute disease. In these dialogues there are certain instances where doctor tried to share knowledge with other doctor in order to make correct decision.

Table 3. Exchange Structure in the Doctors and Patients Conversation in dialogues (19-53)

Doctor - Patient Conversation Analysis			
Initiation	**Response**	**Feedback**	**Ex.**
Opening move(Elicit) 19 doc Assalamo Alaikum, come and sit pat ~ doc how is your health now? pat ~ doc is blood pressure high? pat ~ doc hmm doc Have you completed Echo test? pat ~ c/t yes we did, But the percentage is very low 35%	**Answering** No reply No reply c/t : Yes, It always remains high (rep)	**Follow-up** no Hmm	**1.**
Opening move(Elicit) doc1; What does this mean? doc2; please look at this? Spontaneous echo contrast? doc1 Madam, in internal stenoisis , blood flow does not appear in echo but when there is stasis of blood, it appears in the form of smoke like this. This is called spontaneous echo counter. doc2 So what does it mean? doc1it means there is stasis and severe mitral stenosis . doc2 Should we refer him for ms? doc1 yes ms patI came here yesterday Doc prescribed me this test. doc1 madam send him for PTMC downstairs in room no 5, for that it takes time. doc2 for PTMC? doc1 yes, has he got any other paper? doc2 Give me rest of the papers you are carrying. Go down stairs for PTMC	**Answering**	**Follow-up**	**2**

Doctor - Patient Conversation Analysis			
Initiation	**Response**	**Feedback**	**Ex.**
pat Ok			
Opening Move(Elicit) doc1 I think when he was in emergency he prescribed him direct cardionession doc2 Ok CCU? doc1 It is written next to DCCV that TOE next week. doc2 Yes it is, but I think, its cause is atrial fibrillation is ms. doc2 Dr1, I think so. doc1 Did anybody tell you that your valves are narrowed? doc2 he has intermitted AF. doc1 Madam please advise him a fresh Echo doc2 ok again? doc2 yes, actually a few things are visible and can be seen easily, in order to see actual status, it needs a new echo test to rule out ms. doc1hm doc1 hmm ok ok	**Answering** Pat: when I came here earlier. Pat: no sir pat :Sir, whenever I take medicine I take relieve. pat But now am not getting relieve even with medicine.	**Follow-up** **Ok** I think so Ok Hmm Ok	**3**

In above example, doctor initiated the conversation with the greetings. Patient did not give any response to the doctor. Patient is accompanied by the care taker to communicate with the doctor. The care taker facilitated the doctor with the required information. After some time, when doctor 1 found a bit difficulty in making sense of the problem of the patient, he discussed the case with doctor 2. The utterance of DCCV and TOE were not clear to the patients and he didn't respond to the doctor. It is very difficult to categorize such expression of the patients. There are some others medical words which are used by both the doctors are very hard to understand by the patient. In the model presented by Sinclair and Coulthard (1992) self-elicited category is not identified.

Example 4: IRF pattern extracted from the dialogues of doctors and patients

The following example is the conversation between a female doctor and a female patient.

Table 4: IRF Pattern in Example dialogues (253-290)

Moves	Dialogues	Boundary exchange
3 I	Doc: Assalam o Alaikum, What's your name?	Initiating
254 R	Pat: Waallaikum Assalam, Parveen Khalid	Answering
4 F	Doc: ok	Acknowledging
5 I	Doc: show me your reports	Eliciting
6R	Pat: G	Answering
7F/I	Doc: Hmm, From which Doc you previously got treated	Acknowledging , eliciting
8R	Pat: I don't remember his name	Answering

Moves	Dialogues	Boundary exchange
9F/I	Doc: let me see from reports. I think it's an electro physiologist	informing
0R	Pat: Dr Majeed sahib! I often forget his name.	Informing
1F	Pat: Yeah! He is a very quiet doctor	Acknowledging, informing
2I	Doc: When did you get the treatment?	Eliciting
3R	Pat: Ramadan	Answering
4F/I	Doc: Okay! Okay!, So now do you feel pain like the way it was before the treatment?	Acknowledging , eliciting
5R	Pat: Yes	Acknowledging
6F	Pat: I feel the same pain. That's why I started taking medicines again .The Doc told me before to not to take medicines now because I was perfectly all right. But, after getting this pain again I asked the Doc. He gave me some of the medicines again. But I was not satisfied as the pain grew bigger and bigger. Then I came here again and started taking all the medicines. Now by taking these medicines I lost my appetite and I feel like my abdomen swell up	Answering, informing
7I	Doc: Hmm	Acknowledging
8R	Pat: From the first day I started medicines I feel like my abdomen is inflated even my hands and feet also started to swell. I have headache and cough also. When I walk up the stairs my breath also hitches. I have so many problems	Informing
9F	Doc: it's okay	Acknowledging
0I	Doc: Don't need to get worry about it. We will see it. Might be they are just minor symptoms.	Advising, informing
1R	Pat: I have a lot of things to worry about. You know its very difficult to maintain the house without a husband. My sons are also jobless. There are such a lot of things in my life to worry about.	Informing
2F	Doc: IN SHA ALLAH Everything will be fine!</ Actually you have a very particular disease. There is no problem with your heart. All is good. Your vessels are all working properly. You also don't have nausea due to blood pressure problem or sugar problem. So your heart is working fit and fine. SHUKAR ALHAMDULILAH! Thanks to Allah that I am getting treatment and I don't have any serious problem	Wisihing, advising
3I	Doc: What's your weight? Have you measured it?	Eliciting

Moves	Dialogues	Boundary exchange
4R	Pat: I don't know	Answering
5F	Doc: Ok	Acknowledging
6I	Doc: can you measure her weight now?	Eliciting
7R	Nur: yes!	Acknowledging
8F	Doc: go with her. She will measure your weight	Commanding
9I	Pat: should I take these reports?	Questioning
0R	Doc: no! Let them be here. You go and come then I will give you medicines.	Answering, guiding
1F	Pat: yes, doctor.	Answering
2I	Doc: what is her weight?	Eliciting
3R	Pat: 50 kg	Answering
4F	Doc: I am changing some medicines according to your weight.	Informing
5I	Pat: I also have cough	Informing
6R	Doc: okay!	Acknowledging
7F	Doc: I will give you medicine for this also. You don't need to avoid any kind of food. You have high BP problem but its not very serious that you have to control your diet.	Informing, advising
8I	Pat: should I check to Majeeb sahib also?	Questioning
9R	Doc: do you want to go? But it's not a very serious disease to consult with him. I am referring you now to cardiology OPD for ECG and then show me your ECG just for a normal check. Otherwise you don't have a serious disease to worry about.	Questioning , Eliciting
0F	Doc: okay!	Acknowledging

In the above health seeking conversation, doctor greeted the patient and elicited name of the patient. (Lines 254-258). She took the history of treatment from the patient and makes a quick review of her previous papers and reports. Doctor elicited the weight of the patient and ask the nurse to measure the weight and inform her. Doctor described the detail of the disease and explained all the problem of the patient in very good way. Patients seemed satisfied form the doctor. Talk between the doctor and patient in above example is structured and has a pattern of IRF. IRF structure has been identified. Through the IRF pattern, it was identified that communication is successful. Pattern such as IRF, IRF/I and IRFF are identified. As for as the communication process is concerned, doctor did not explain the detail of the problems of the patient. He just prescribed the medicines to patients. In such cases communication process may be disturbed for instance, and some difficult words spoken by doctor may lead to misunderstanding. Doctors used words of medicine with patients and these words were challenging and could not be categorized.

Example 5: IRF Pattern in the Conversation between Doctor and Patient:

The dialogue is the communication between a doctor, a child and her mother. She was accompanied by her mother.

Table 5. IRF Patterns in Example 5

Symbols	Speaker	Dialogue	Moves/acts
I	Doc	<gre>Come and take this seat<gre>	Greeting/directing
R	Pat	~ (Patient sits)	
F	Doc	<ack>Ok</ack>	Acknowledging
I	Doc	<eli> What is your child Name? </eli>	Eliciting
R	C/T	<rep>Ayesha Bashir</rep>	Replying
F/I	Doc	<eli>Ok, What is her age? </eli>	Eliciting
R	C/T	<rep>Eight years old. </rep>	Answering
I	Doc	<eli> What problem she has got? </eli>	Eliciting
R	C/T	<rep>She has a pain in bladder and the area around it. </rep>	Answering
. I	Doc	<eli>How long she is suffering from it? </eli>	Eliciting
. R	C/T	<rep>round 3-4 days. </rep>	Answering
. I	Doc	<enq> hmm, Is the pain persisting for a short while or on a continuous basis? </enq>	Ack/ Enquiring
. R	C/T	<rep>When she took medicine she got temporarily relief for 2-3 hours then again pain cycle starts which results in headache and temperature. </rep>	Answering
. I	Doc	<enq>OK, How much temperature she usually got? </enq>	Enquiring
. R	C/T	<inf>101 </inf>	Informing
. F	Doc	<ack> ok </acl>	Acknowledging
. I	Doc	<ins> I am giving medicine take this regularly </ins>	Instructing
. I	C/T	<ack>ok dr sb thank you </ack>	Acknowledging

In above example, a close analysis of the communication between doctor and three years old little girl reveals that doctor engages the caretaker in eliciting information (lines 1, 2, 3, 4). Girl was suffering from high fever comes to doctor accompanied by her mother. In the beginning of the con-

versation, doctor elicited from the patient. Girl did not answer to the question asked by the doctor. Her mother answered to the elicitation of doctor. However, doctor took more information (lines 12, 14, 15) and manages in making diagnose the problem of a child. Before the end of the talk, he elicited the temperature of the girl and acknowledges the final part of the woman and prescribes the medicine. As for as IRF structure is concerned in the conversation of doctor and patient, IRF, IRF/I, IRFIF and IRFII structures are identified. Doctor did not talk to patient to ask or elicit directly from her.

Doctor elicited the information from the patient, if the patient doesn't provide response, and then the elicitation is repeated in order to provide more clear feedback. In doctor patient conversation, certain moves were found which followed the IRF structure model because of oral communication. In this oral communication, tone of the speaker also played a vital role specifically in doctor patient interaction. There were five tones: falling, rising, rise-fall, fall-rise and level.

Linguistics Features

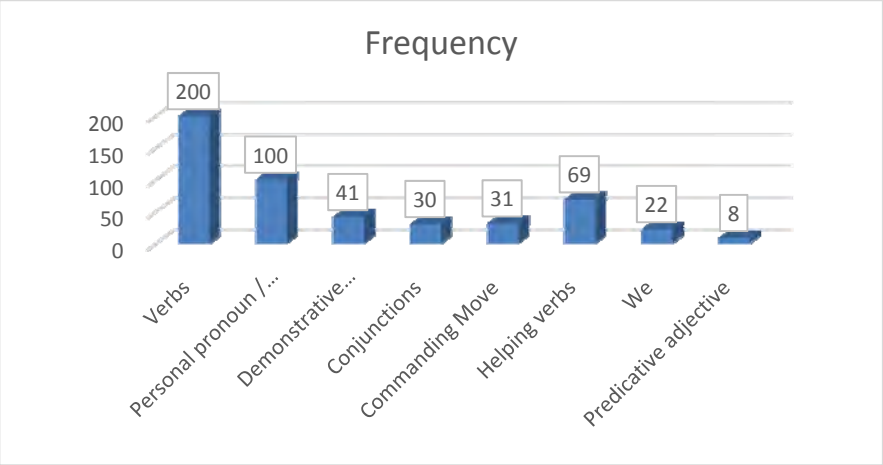

Figure 1 Frequency of occurrence of the Linguistic Features

Word Frequency

Frequencies of the tagged words used in the entire conversation between the doctors and patients are shown in table 6.

Table 6: Frequency of occurrence of the discourse category

Rank	Code	Discourse Category	Frequency
1	Doc	Doctor	251
3	Pat	Patient	157
26	Gre	greeting	40
4	Eli	eliciting	152
8	Rep	reply	126
15	Que	questions	67
30	Ans	answering	32
8	Wri	writing	5
9	Adv	advising	48
10	Sta	stamping	3
2	Inf	informing	198

Rank	Code	Discourse Category	Frequency
12	~	silence	5
13	Ins	instruction	11
87	Ini	initiation	12
15	Com	command	31
16	"	background Voices	10
17	Exa	examine	11
18	**	phone ringing	3
35	Enq	enquiry	28
5	Ack	acknowledge	150
60	Req	request	18

In table 6, all the words are categorized and frequencies presented. The corpus has length of more than 2000 words. Keyword list of this conversation was taken from AntConc. The above table presents the most frequent words used in conversation is Doctor and Patient whereas the elicitation is repeated only 152 times. A large numbers of adjectives in their greeting that is repeated 252 times in their conversation represent that speech was descriptive. Whereas, informing mood was repeated 198 times which showed that conversation was descriptive and there was a set of pattern. Informing words described the knowledge of the doctor and dominate the role of doctor in this conversation. The frequency of elicitation was repeated 152 times which exhibited the description of particular aspect of the conversation and also these words were used to enquire some information in regard of the particular text.

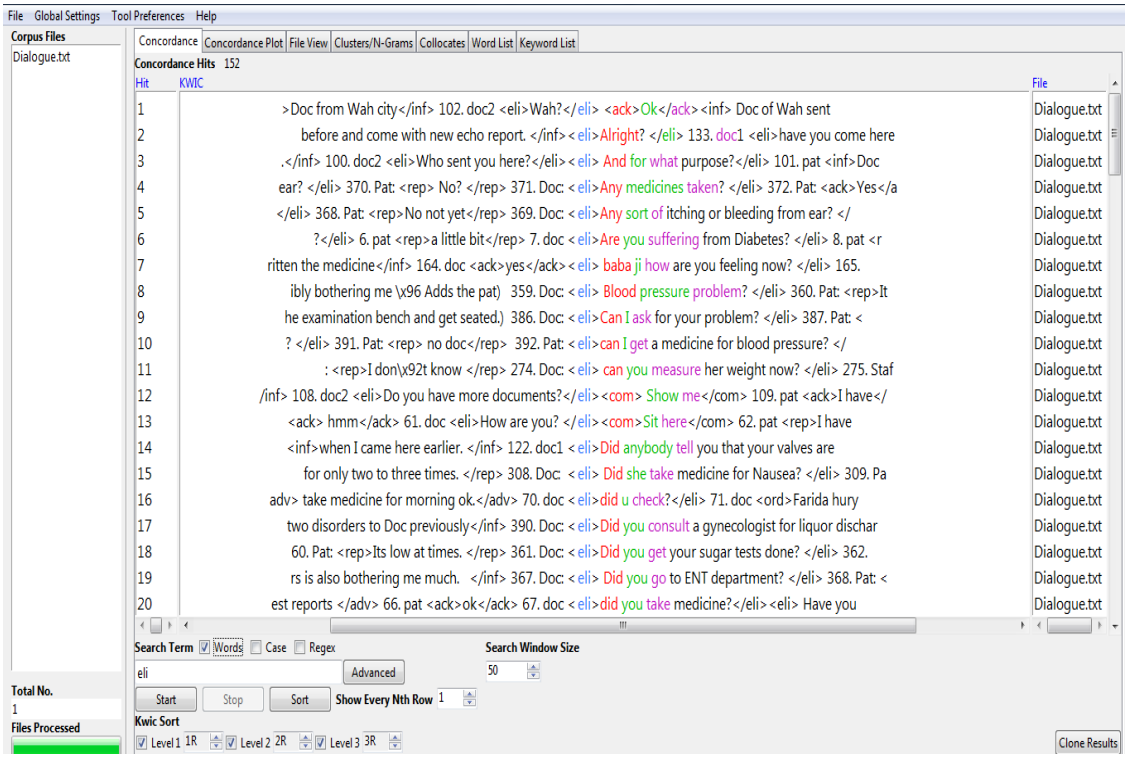

Figure 2: Screenshot of Concordance of targeted word "elicitation" in the corpus.

Figure 3. A Screenshot of targeted word "acknowledgment" in the corpus

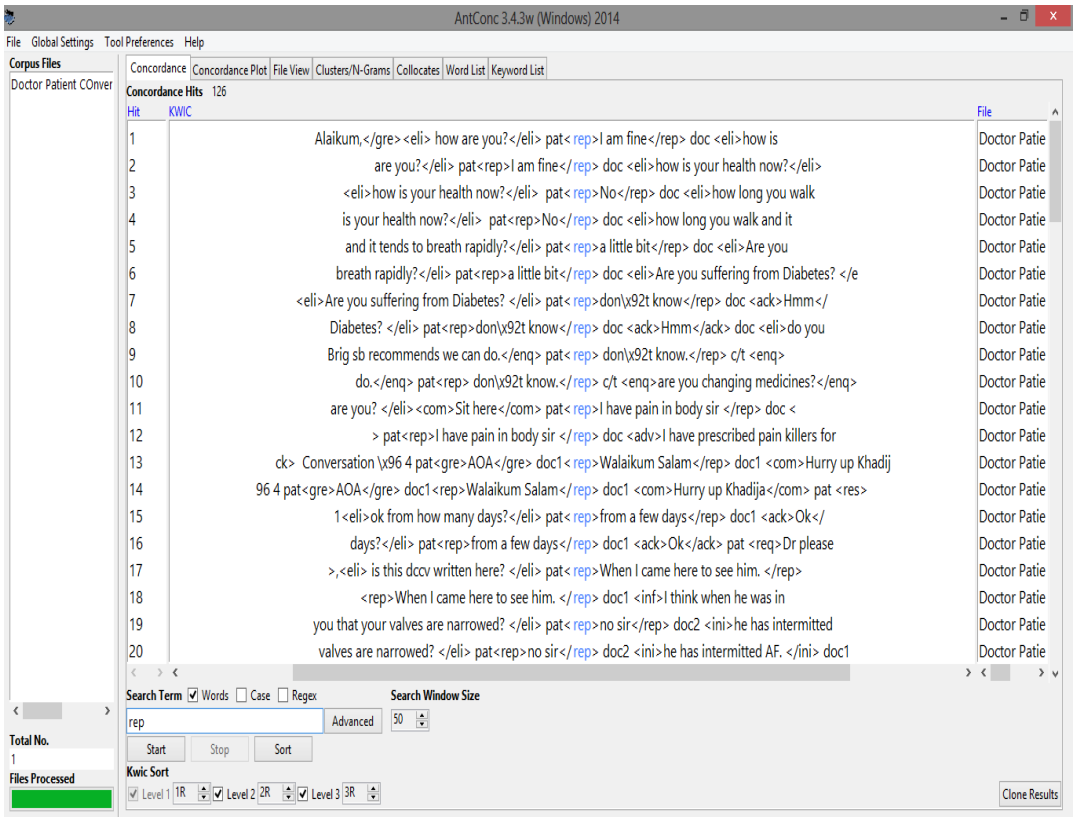

Figure 4. A Screenshot of Concordance of targeted word "reply" in the corpus.

In Fig 2, repetition of words such as hmm, ok, han, are shown that described the willingness of the doctor and patients in their conversation Direct relation could be seen when there was a repetition of 'you' in conversation of doctor and patient. Importance of emotions could be connotative and represent the social relationship of patient and doctor. At one time doctor elicit from the patient < do you avoid sweets?>. It is observed that patient did not reply to doctor at the moment and kept silent. It can be said that either patient did not understand the question of the doctor or he is reluctant to inform doctor about him habits. On the other hand in fig 2, at another moment doctor has used the clinical vocabulary 35% that is difficult to understand on the part of the patient, doctor should explain in native language of the patient.

Figure 4 showed the 'rep' which means the reply mood of the doctor. This word was occurred 128 times in this conversation, a gap between doctor and patients was also observed in the conversation of the doctor and the patients. There are some other instances of misunderstanding in the conversation i.e. some patients did not reply or doctors did not show their feelings towards patients and patients got tired from the attitude of the doctors. For instance, from the word frequency it was seen that patients 21 times didn't reply to doctors. May be they did not get the proper understanding of the patients or they were confused at the time of conversation from the doctors or there was some language barriers. Fig 3 also shows the greetings by both the speakers. Words like 'intermitted AF' is difficult to get proper understanding by the patient because patient seems here to be ignorant of the language spoken by the *doctor*.

In the above Table-4 and Table-5 presented the usage of particular type of words in the conversation. The complete connotation and denotation are discussed. However, it was observed that communication between the two seems successful but there is some gap that is visible in many cases. Such elements may cause a problem in making in the course of the doctor patient conversation. Many times doctor did not answer to the questions of patients and expresses silence. Words like hmm, ok and no have been used in conversation by the doctor that was complex in making sense on the part of patient.

Key words Analysis 1

In the table below, the connotations and denotations of words are given in detail.

Table 7. Key words Analysis 1

Patterns	**Realizations**
Adjectives that specify that conversation is descriptive and shows the subjective impression of doctor, these words are connotative, negatively and positively	Words like good (, sweet, and very good show the positive connotative or denotative words.
Words have negative impression on patients and negative connotative or denotative are	Like no, no reply nothing etc.
Personal pronouns are spoken by the doctor and sometimes by patient show the relation with doctors and patient.	Word 'you' (145) times in the doctor and the patient conversation
Words that show the informing mood between doctor and patients, where doctor tries to give proper information of particular disease	Information (199) times such as mucosal, lower, measure, blood pressure and heart beat etc.
Words that were used during the conversation to elicit information related to particular items show the subjective role of the doctor to know	Elicitation 153 times occurred during the conversation between doctor and patient.

Patterns	Realizations
the cause of the disease.	
Words that show the advising The patients were repeated 48 times.	Such as take this medicine, go for walk etc.
Questions asked by the patients are 67.	Doctor gives answer to 32 questions and rest of the questions were ignored and five times there was mere silence during the conversation that gives the negative impression on the part of the patient and can lead to unsuccessful communication.

Key Words Analysis 2

Table 8: Key Words Analysis 2

Pattern	Realizations
Fifty six words are positively connotative or denotated which express the satisfaction on the part of part of patients	Ok, hmm etc
Forty nine words are connotative or denotated negatively which express negative impression ort emotions	No, not etc
Nineteen words are connotative or denotative which express the sympathetic relation of both the speakers.	Please, feelings etc.
Seven words which can be connotative or denotative which express negative expression because patients are not able to understand the proper meaning of these words.	Mucosal, vertigo, echo contrast, fibrillation

Overall Features of Doctors-Patients Conversation

Table 9. Overall Features of Doctors-Patients Conversation

Agreement	Reasons
One to one	Correspondence of utterance Doctor and Patient
	Doctors imitate the exchange were dominant
Language	Language barrier was observed for successful interaction.
Greetings	Greetings were observed.
Interruption	Interruption was observed where a doctor was not able to understand who was speaking.

Examination Process

In the doctor patient examining process, doctor tries to elicit the information related to the disease of the patient. Patient is supposed to answer the questions. During this formal talk, doctor makes sense of the information of the patient and makes decision to prescribe the medicine. Majority of the questions were asked by the doctors and the attendant of the patients. Consultants describe the disease and the effects of smoking in detail and. In tape-2, attendant asked the way to leave smoking and the doctor describes in detail. The questions asked by the individual have been counted

by the researcher shown in the following way. First, the question asked by the doctor are examined and then the answers of the patients. In tape 1, the questions asked by the doctor was analyzed and results are as under;

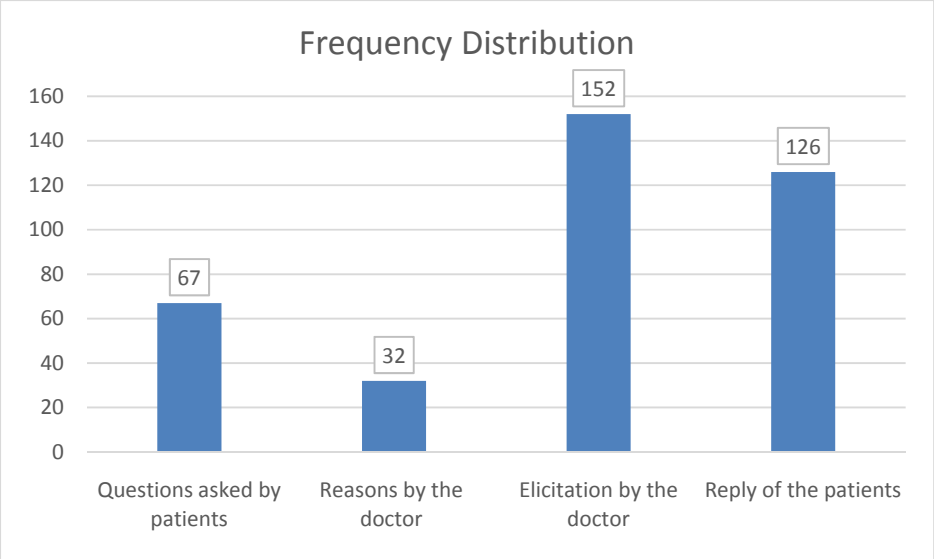

Figure 5: Frequency of Question and Reply of Both the doctors and patients

Discussion on the Results of Conversation between Doctors and Patients

The study focuses on the questions whether the communication between doctors and patients make sense of each other. For this, the data collected from the conversation between doctors and patients is explored and interpreted in the context of Pakistan. In Pakistani culture, the treatment of the patients depends upon the social status of the patient. Doctors' profession is considered superior in Pakistan. This study revealed that people of high rank are given high respect by the doctors and the behavior of the doctors was significantly negative with full commanding tone. So, the direct speech with imperative sentences which indicates the 'commanding attitude of the doctors should not be preferred while talking to the unpaid patients. Communication of the doctors relies on the social level of the patients. Language was observed significantly highly positive towards the people of high rank and negative towards patients of poor class because they cannot pay the fee of the doctor. According to Brawn and Levinson (1987) "face is the public self-image one tries to maintain", (p.61). There are two types of face, one positive and second negative. Positive face shows the encouragement, commonality and solidarity of the doctor towards patients and negative face refers to the power and action with free mind. Negative face has been viewed in above given examples. The analysis further identified IRF in the light of Sinclair and Coulthard (1975) IRF model and pattern recurring in the conversation. It was observed from the analysis that doctors remained the focal person and controlled the talk and focus of interaction between doctors and patients. The pattern emerged after the analysis of doctor and patient's communication were entirely different from the pattern proposed in IRF model. IRF structure presented by the Sinclair and Coulthard is identified in the conversation of the doctor and the patient. Major part of the conversation did not follow the pattern of the Sinclair and Coulthard because doctor did not follow up in many instances. Moreover, doctors exerted the maximum control over the entire conversation and patient showed the formal way of communication. Smith (2006) 1specified that Patients expressed a clear preference for joint

decision making rather than delegating the decision alone concordance, or the commitment of two parties to a shared decision, was to be better when patients were involved in decision making.

ConclusionThe present study applies the IRF model on the conversation took place between the doctors and patients in the hospital of Pakistan and to describe the features of talk between the doctors and patients. Sinclair and Coulthard in their model established a pattern in the talk of students within the settings of classroom. Different features of language took place between the doctors and the patients have been described in terms of the model as described by the Sinclair and Coulthard. Like, the communication and understanding of the talk was the topic of this study, it was apparent through the detail in analysis of the dialogues that communication seems successful in many cases. In few cases doctors showed their power relation with the patients and didn't give even the required detail of patients' disease. However, it was also identified that speakers used discourse markers in their conversation to create coherence in their talk. Thus, it is concluded by the discourse analysis of the language used between the doctors and patients in the hospitals of Pakistan that different features of language reflect insignificant and communication was successful. In some cases communication was not successful but doctors were able to make sense because of the gestures and non-verbal responses of the patients. On contrary to the understanding level of the doctors in Pakistan, patients' understanding is lower due to many reasons. First, patients come through different background or from rural areas. Many of the patients do not know the settings of the urban life. Second is the literacy rate is not as much as it is in urban areas. Poor patients with no education visit to the hospitals. In such conditions, these patients cannot express their real problem to doctors. Third is the language barrier which is noticeable in this study as well and reflected that doctors are not able to make sense of the people who cannot speak Urdu language and they preferred to speak their indigenous languages. Example 1 of this study highlighted the language barrier when an old lady could not speak Urdu language and she was accompanied by the caretaker. Although, messages are communicated to doctors in this condition but patients can express in better way as compared to the caretaker. In such condition, it was comprehended that doctors should understand or learn the local languages of Pakistan in order to avoid the language barrier that led to misunderstanding of the talk of patients. The findings of the study showed that language used in the hospitals of Pakistan is highly formal, stationary, and complex. But making sense of the talk is the art of the doctors. Doctors on the basis of their experience, practice and knowledge make use of contextual information in order to understand the talk of the patients. Patients come from different areas and they do not give detail information to doctors sometimes which are required in order to make decision. It is apparent from the analysis of the conversation that communication between the doctors and patients were successful in many cases. Albeit patients could not reply on the elicitations of the doctors but doctors just got the sense from the nonverbal responses and gestures of the patients. Moreover, the current research aimed at exploring the communication gaps among the doctors and patients. It further suggests how that gap may be filled by using language with clarity by both doctors and patients. The recorded data led to the point the causes of unsuccessful conversation between the consultants and patients can be easily understood. It was found that talk between the doctors and patients had a pattern that showed the social, formal and true relation between the doctors and the patients and gap in communication. Doctors used many linguistic and conversational techniques in the conversation with patients such as elicitations, back channeling, and characteristic of spoken discourse to make sense of the talk of the patients.

Finally, the study of discourse analysis of the doctors-patients' conversation opened new avenues in the field of applied linguistics. Such studies can help the researchers to probe into the matter and make the genre analysis, or discourse analysis of the conversations and resolve the com-

munication issues that have been faced by linguists for many years, especially in the areas of the non-native speakers of the English language. There are many language barriers occurred in a conversation, if the speakers communicate in such a way that they follow a set pattern, they can overcome with these barriers through which a successful communication can be achieved. Similarly, the present study was intended to find the answer of the question whether doctor made the sense of the patient or not. It was found out in the analysis that at some moments, doctor made the sense of the conversation of the patients. But most of it was observed that patients, from the rural areas who could not speak even the native language very clearly could not communicate well in the hospital. Doctors also presented the ignorance of the understanding of the conversation made by the patients; he was in need of the attendant who could communicate the patients' message to him. For such a case, it was suggested that doctors must be multilingual; he should speak even all native languages and foreign language as well to communicate successfully. Because the pain or disease that can be explained by the patient itself, cannot be explain by others. Doctors can have better understanding of the communication if they know the specific language. It has been observed that sometime patients did not make sense of the talk or advises of the doctors because of the language used by the doctors during the medical checkup. Some doctors used acronyms or abbreviation in their communication so it was not possible for the patients even for the attendant to understand the doctors.

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Appendices

Appendix A: Key used in Coding of the words

Coding	Word
doc	Doctor
pat	Patient
gre	greeting
eli	eliciting
rep	reply
que	questions
ans	answering
wri	writing
adv	advising
sta	stamping
inf	informing
~	silence
ins	instruction
ini	initiation
com	command
“	background Voices
**	Telephone call

Appendix B

Abbreviations

Abbreviations of the recurrently used terms in the study are given below.

Doc	**Doctor**
Pat	**Patient**
C/T	**Care Taker**
ECG	**Electrocardiogram**
ECHO	**Electrocardiography**
CPR	**Cardiopulmonary resuscitation**
OPD	**Outdoor Patients**
OT	**Operation Theatre**
CA	**Conversation Analysis**
IRF	**Initiation, Response, Follow-up**
BNC	**British National Corpus**