

# Communication Skills of Physicians during Consultation in Out-Patient Settings at a Tertiary Hospital in Nepal

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## Abstract

This article explores patient consultation practices of physicians at Patan Academy of Health Sciences-Teaching Hospital. We assessed the communication practice of physicians when interacting with patients.

**Methods:** The study participants (physicians) were selected through non-probabilistic method and observed between May-July, 2017 in doctor-patient interactions in an inpatient setting using a dichotomous checklist. Mean comparison of total scores of each category with independent variables were analyzed.

**Results:** A total of 169 interactions were observed. Among them 13.6% were senior physicians, 35.5% were junior physicians and 50.9% were Medical Officers (including Postgraduate Interns). Mean total score of observed behavior of communication skill and practice ranged from poor to satisfactory across category and showed statistically significant variations. The ANOVA test between groups is strongly significant ( $p=0.000$ ). More than three-quarters (78.11%) have given insufficient time (less than 6 minutes) for consultation. Average interaction time

was 5.26 (SD 2.31) minutes. The mean consultation time of Interns and Medical Officers is least (4.36; SD 1.79). Almost half of the seniors, one third of the juniors and 5.8% of Interns and Medical Officers have given sufficient time for consultation.

**Conclusion:** The study has revealed that history taking skill and practice is dearth mainly in lower level physicians (medical officers/Interns and Junior faculties). The consultation time given by physicians was also insufficient. Thus, hospital authorities should give attention to improve communication skills of physicians.

**Key words:** Communication skills; History taking; Outpatient setting; Patan hospital, Nepal

## Introduction

A medical consultation is a private and intimate interaction between physician and patient [1-3]. It provides an opportunity to establish a therapeutic relationship with patients and listen to their story with an unfolding of symptoms, problems and feelings [4,5]. However, patients tell their stories in different, usually unstructured, ways. Very often physicians limit themselves to a few technical questions they want to ask patients [6-7]. Presently, various communication modules are available but technologies and innovations are merely helpful exclusive of a comprehensive history of a patient [8-10]. The literature has averred that by the medical history, physicians garner 60–80 percent of the information relevant for a diagnosis and the history alone can lead to the final diagnosis in 76 percent [11-14].

In this context, this research aimed to explore history taking during consultation in out-patient settings, hence to stimulate those concerned into a much wider scale of survey by attempting to shade light on the behavior of physicians during their interaction with patients.

## Methods

We conducted a cross-sectional study at Patan Hospital, a tertiary level [15] teaching hospital of Patan Academy of Health Sciences in Lalitpur, Nepal. Data was collected from May to July, 2017. The source population for the study was the 255 physicians working in thirteen clinical departments of the hospital. A sample size of 154 physicians was determined based on the assumption that 50% of physicians would greet patients during interaction with a margin of error of 5% and 95% confidence limit. The sample size obtained was then adjusted for a finite study population with a 10% contingency yielding a sample size of 169. The sampling method was non-probabilistic based on availability and convenience. Data collection was done using a questionnaire in outpatient settings. Eight evaluators (voluntary) were selected among the third year of undergraduate medical students and trained on observation techniques and use of study questionnaire.

A standardized checklist by Lehman was used [12]. The checklist contained 39 items divided into an introduction section (items 1-7), body of the interview (items 8-29), explanations by the physician (items 30-36), and a conclusion section (items 37-39).

The introduction section was meant to measure behavior, courtesy, respect and politeness. The body section was meant to show and measure concern, empathy, compassion, regarding patients psycho-social problems, emotions both verbally and non- verbally. The explanation section showed the physician's ability to properly communicate in a language that the patient understands and checks whether he or she is making an earnest attempt to make the patient comprehend the details of examination and procedures as well as to obtain the patient's agreement.

The conclusion section was designed to show and measure the physician's ability to build reassurance, comfort and hope in the patient.

Since items in the checklist describe objective behaviors, a dichotomous scale ticking 'yes' when behavior is observed, and 'no' if not observed or inapplicable when not relevant was modified from Lehman.

$$\text{Total score in \%} = \frac{\text{Total No of yes answers} \times 100}{\text{Total No. of answers}}$$

Rating scale of scores: <50–very poor; 50-60–Poor; 61-70–barely satisfactory; 71-80–satisfactory and >80–extremely satisfactory Scale was adopted from the Dutch scale Bensing [16].

A time duration of 6 minutes was chosen as a cut off for defining sufficient time during the consultation. This was based on a combination of physician patient ratio at Patan Hospital where one physician is expected to carry out about 40 consultations during an OPD day. Prevailing consultation times in similar situations elsewhere were also taken into account [3].

The analysis of the data was carried out with SPSS version 16 package. Mean (SD) of total scores were computed for each physician category. Comparison of mean total scores by physician category was computed using statistical methods.

Study protocol was approved by IRC-PAHS. Hospital Director and concerned department heads were given explanations about the observation, but they were not told to whom and when the observation would take place to reduce bias.

## Results

A total of 169 physicians took part in interactions with patients. There were 103 (60.9%) male and 66 (39.1%) female respondents. The majority were in the age group of 25-40 years (76.3%). The proportion of senior faculties (Professor and Associate Professors) was 23 (13.6%), junior faculties (Assistant Professors and Lecturer) were 60 (35.6%) and the remaining was Medical Officers 86 (50.8%).

The total positive responses were analyzed as a total score out of a hundred and mean values of these scores for the different categories of the checklist and the total checklist were then rated on the devised scale. The mean of the total scores for each group item of the checklist and for each category was rated. Ratings for the Interns and Medical Officers appeared as a low score for all parts. The introduction section of the checklist rating was very poor for all categories except senior physicians whilst the conclusion section was comparatively better compared among all sections. Professors obtained the highest score in all sections in almost all the categories. (Table 2)

**Table 1: The characteristics of the respondent physicians (N = 169)**

Demographic Details		f (%)
Sex	Male	66 (39.1%)
	Female	103 (60.9%)
Designation of Respondents	Professors (SF)	13 (7.7%)
	Associate Professors (SF)	10 (5.9%)
	Assistant Professors (JF)	21 (12.4%)
	Lecturers (JF)	39 (23.1%)
	Medical Officers	86 (50.9%)
Age-range of participants	Less than 25	8 (4.7%)
	25 – 40 years	129 (76.3%)
	41 – 50 years	19 (11.2%)
	More than 51 years	13 (7.7%)
Working Departments	General Practice	42 (24.9%)
	Medicine	19 (11.2%)
	Surgery	15 (8.9%)
	Obstetrics and Gynecology	14 (8.3%)
	Orthopedic	15 (8.9%)
	Pediatric	17 (10.1%)
	Psychiatric	5 (3.0%)
	Anaesthesia	10 (5.9%)
	Dental	5 (3.0%)
	Ear, Nose and Throat	8 (4.7%)
	Dermatology	3 (1.8%)
	Ophthalmology	2 (1.2%)
	Radiology	11 (6.5%)

Note: SF = Senior Faculty, JF = Junior Faculty

**Table 2: Mean of total score for observed behavior by physician category**

Checklist Items	Category									
	MO		Lecturer		Assist. Prof		Assoc. Prof		Prof	
	Mean % Score	Rating	Mean % Score	Rating	Mean % Score	Rating	Mean % Score	Rating	Mean % Score	Rating
Introduction (Q1-7)	30.23	e	49.81	e	41.49	e	57.14	d	59.34	d
Body part (Q8-29)	48.78	e	61.53	d	64.06	c	75.90	b	67.48	c
Explanation (Q30-36)	57.30	d	68.86	c	68.02	c	77.14	b	76.92	b
Conclusion (Q37-39)	71.31	b	69.23	c	82.53	a	80.00	a	84.61	a

Note: a = very satisfactory; b = satisfactory; c = barely satisfactory; d = poor; e = very poor

The data has averred that only 16.6% initiating sessions were satisfactory while slightly more than one-third (38.5%) consultations were effective in gathering information. 55.1% of consultations were able to explain the patient during history taking. The majority of the conclusion sections were observed as barely satisfactory (60.4%) while only 32% were very satisfactory.

The mean difference of scores of physicians' categories based on gender was not statistically significant ( $p=0.925$ ). The mean score of male was slightly less (21.879) than female (22.009).

The mean total scores for observed behaviors were compared for variations with each category for the different parts of the checklist and the differences were noted through one-way Anova and post-hoc LSD test. The mean difference of Medical Officers was statistically significant with Professors ( $p=0.002$ ), Associate Professors ( $p=0.001$ ), Assistant Professors ( $p=0.01$ ) and Lecturers ( $p=0.002$ ). Whereas the mean total scores of observed behaviors for the three categories were not statistically significant. (Table 3)



**Table 3: Multiple comparisons of mean by using one-way ANOVA and Post-hoc (LSD)**

Position of Participant	Position of Participant	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Professor	Associate Professor	-1.58*	3.48	.651	-8.45	5.29
	Assistant Professor	2.68	2.92	.359	-3.08	8.45
	Lecturers	3.00	2.65	.259	-2.23	8.23
	Medical Officers	7.92*	2.46	.002	3.06	12.78
Associate Professor	Assistant Professor	4.26	3.18	.182	-2.01	10.54
	Lecturers	4.58	2.93	.120	-1.21	10.37
	Medical Officers	9.50*	2.76	.001	4.04	14.96
Assistant Professor	Lecturers	0.32	2.24	.888	-4.11	4.74
	Medical Officers	5.24*	2.01	.010	1.26	9.21
Lecturers	Medical Officers	4.92*	1.60	.002	1.77	8.08

\* The mean difference is significant at the 0.05 level.

# Associate Professors scored higher than Professors

**Table 4: Mean of total score for observed behavior of respondents based on working departments**

Observed behaviours	Working Departments												
	EM	IM	O/G	Pedi	Orth.	Surg.	Radio	Psych	ENT	Dent	Ophth	Derm	Anes
Introduction	13.27	51.89	42.86	55.46	59.05	50.48	38.96	64.29	32.14	31.43	42.86	38.10	47.14
Body	27.17	64.60	69.16	82.89	69.70	80.91	64.05	53.41	39.21	35.46	52.27	62.12	65.91
Explanation	32.31	78.20	83.67	66.39	79.05	86.67	50.65	75.00	71.43	77.14	85.71	61.91	71.43
Conclusion	62.70	87.72	71.43	80.39	68.89	95.56	57.58	83.33	75.00	66.67	83.33	66.67	73.33
Total	33.86	70.60	66.78	71.28	69.17	78.41	52.81	69.01	54.45	52.68	66.04	57.20	64.45

Note: EM – Emergency Medicine; IM – Internal Medicine; O/G – Obstetrician and Gynecology; Pedi – Pediatric; Orth. – Orthopedic; Surg. – Surgery; Radi.- Radiology; Psyc – Psychiatric; ENT – Ear, Nose and Throat; Dent – Dental; Ophth – Ophthalmology; Derm – Dermatology; Anes – Anesthesia

**Table 5: Mean of total score for observed behavior of respondents based on positions**

	Introduction	Body	Explanation	Conclusion	Mean total
Professor	59.34	67.48	76.92	84.62	72.09
Associate Professor	57.14	75.91	77.14	80.00	72.55
Assistant Professor	41.50	64.07	68.03	82.54	64.04
Lecturer	49.82	61.54	68.87	69.23	62.37
MOs	30.23	48.78	57.31	71.32	51.91

The mean total scores for observed behaviors of physicians working in the Emergency Medicine Department was observed least (33.86%) while Pediatric department was highest (71.28%). Patan Hospital is known for its Ob/Gyne services where around 7,000 delivery assisted births occur per annum; the mean total score for observed behavior of Obstetrician and Gynecologist was 66.78% which is barely satisfactory. The behavior of physicians working in Surgery, Internal Medicine, Psychiatric and Orthopedic departments was found satisfactory; whilst behavior of physicians working in Radiology, Dentistry, ENT, Dermatology are poor whilst Ophthalmology and Anesthetist are barely satisfactory. (Table 4)

The mean total scores for observed behaviors of physicians based on position was also calculated. The behavior of Professors and Associate Professors was satisfactory with mean total score 72.09 % and 72.55 % respectively. The behavior of Medical Officers was poor with mean total score 51.91% whilst behavior of Assistant Professors and Lecturers was barely satisfactory (with mean total score 64.04% and 62.37% respectively). (Table 5)

## Consultation Time

Analysis of time for psychosocial exchange showed that more than three-quarters (78.11%) of consultations had insufficient time (less than 6 minutes). Average consultation time was 5.26 (SD 2.31) minutes. The mean consultation time of Interns and Medical Officers was least (4.36; SD 1.79). The data further showed that 40.8% of the interactions were of 4 - 6 minutes followed by 2 - 4 minutes (32.5%). There were only 4.7% consultations in less than 2 minutes and more than 10 minute intervals respectively.

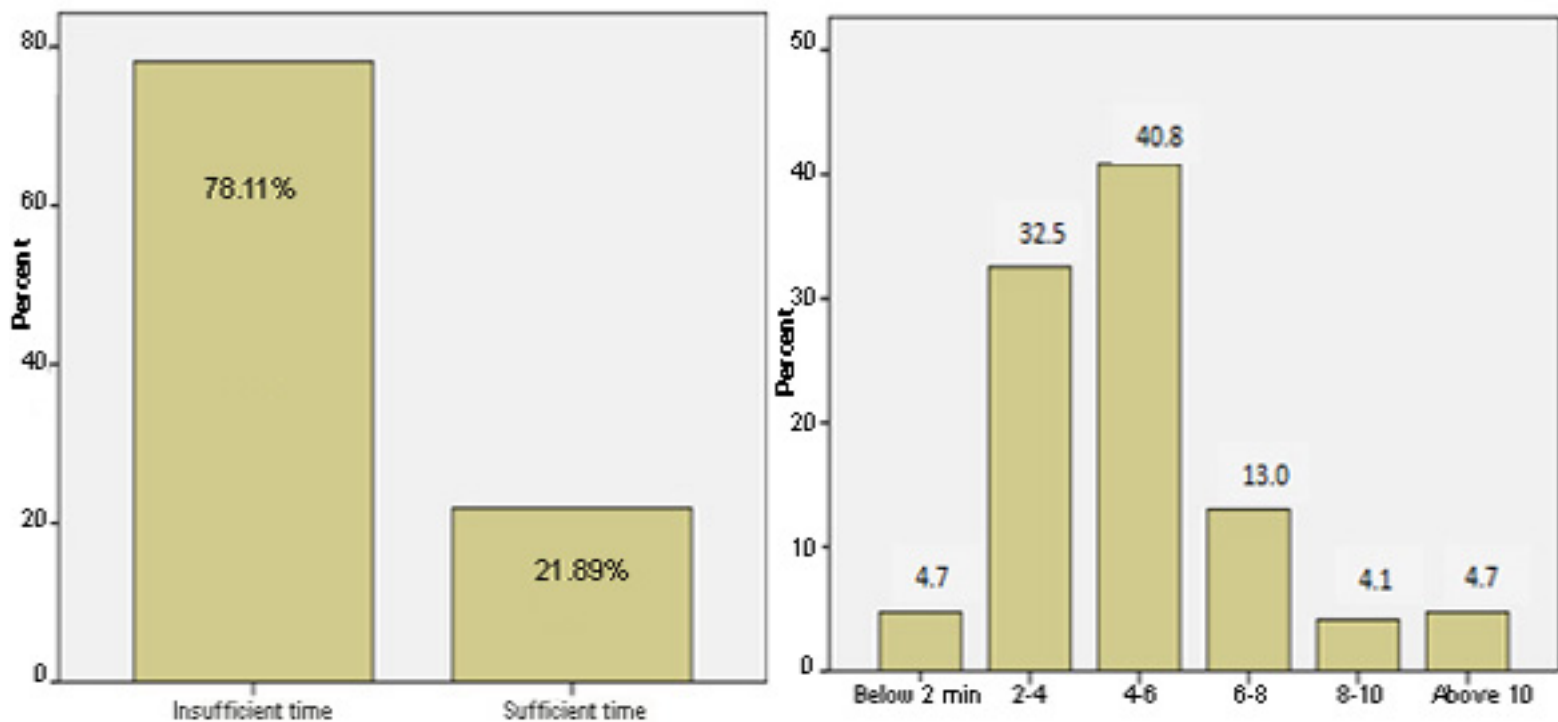
Senior physicians gave nearly sufficient time (more than six minutes), one-third of junior physicians have practiced it but the majority of physicians composed of Medical Officers have very poor (5.8%) practice of sufficient time.

The mean consultation time was further distributed on the basis of time interval. The 40.8 % (69) of consultations were concluded in four to six minutes followed by 32.5% (55) in two to four minutes whilst 4.7% (8) consultations were wound up in two, or less than two, minutes. About one-fifth (21.8%) of consultation time was more than six minutes.

The average consultation time across working departments was 5.27 (SD 2.306) minutes ranging from 11.83 (Psychiatric) to 2.36 (Anesthesia). Only three departments, namely Psychiatric, Radiology and Pediatric, have achieved sufficient time. Among insufficient consultation time categories; Anesthesia, Dermatology and ENT departments were in the 2 to 4 minutes range, the rest, seven departments scored 4 to 6 minutes range.

The mean time spent for communication (history taking) by Professors is 6.79 (SD 3.0951) minutes followed by Associate Professors (6.26 minutes; SD 1.723), Assistant Professor (5.63; SD 1.687), Lecturer (6.31; SD 2.643) and Medical Officers (4.36; SD 1.795).

**Figure 1: Classification of consultation time with cut-off point 6 minutes and interval of consultation time**



## Discussion

Patients expect to be treated with respect and informed about what patients need to know about their health and diagnosis and its prognosis, during the consultation [17]. The Macy Initiative in healthcare communication has defined three broad skills and behavior of physicians; namely communication with the patient, communication about the patient, and communication about medicine and science [18]. Interpersonal communication skills and practices of physicians sanguinely affect the outcome of healthcare [19]. Studies show that patients attach more importance to the communication skill and behavior of physicians than technical abilities, as studied from patients' perspectives [20-22]. There are also studies that incorporate both physician-defined measures of care and patient satisfaction arguing that both ends of the matter can be seen together while some argue that a single set of measures can be employed to appraise both [23-24].

Every health institution monitors the health workers' communication and behavior that goes beyond the ability to diagnose and treat health problems and addresses a compassionate and a not-impersonal communication to which the educational system has not given a solution as yet [25-26].

Research findings in the literatures have unveiled more importance to empathy, and behavior towards patients' psycho-social problems than biomedical problems as evidenced in patient centered studies [27]. Although this study used only provider defined measuring tools and was not combined with patient-perceived quality measures, the findings still showed similar behavior deficiencies seen in other studies [28-29].

The average range for Medical Officers showed very poor ratings indicating that behavior during interaction was rather poor [30-31]. Ratings for the body section of the checklist appeared poor for all respondents' categories. The explanation section of the checklist scores were barely satisfactory for all categories indicating fair communication efforts by all. The conclusion section of the score showed satisfactory ratings. The assumption inferred from this was that physicians give some attention to reassurance, comfort and imparting hope to their patients at the end of their interaction. The overall score rating showed a clear deficiency in communication skills and behavior [32-33].

The fact that all categories of physicians scored rather dimly in nearly all items of the checklist reflect that due attention has not been given to the communication skill and behavior part of doctors' training [34-35]. As the study was conducted in a teaching hospital, the results obtained showed that medical training as it stands to date does not bear any influence on the communication skill and behavior of physicians and their trainees implying the possibility that the problem may be widespread in medical practice across the nation as a result of the deficiency in the medical curriculum. Mean scores of each group of checklist items analyzed within each category showed no

statistically significant variation obviating the fact that the problem is uniform across all categories. However, total score analysis showed that differences in the category means were statistically significant which may be explained by other factors not included in the study.

Although there are no universally agreed upon standard time limits for interaction or physical examination [36-39]; most researchers advocate that more time improves quality of care both from the doctor's and patient's perspectives, while some favor factors associated with doctors' specialty and style of work [39]. The study found average consultation time was 5.26 (SD 2.31) minutes. The senior faculties were practicing above six minutes for consultation but MO's consultation time was shortest. Although, comparison with above studies is not possible owing to the study settings where physician-patients ratio is 1:40, country distinction, health care system characteristics, culture, training and philosophy; the average time is slightly lower for both encounters. In our context, the hospital OPDs are primarily managed by junior faculties including MOs and senior faculties look after referred cases and follow up cases. No matter how good physicians are at assessing, diagnosing and treating biomedical problems; as long as they do not heed the need of imparting their information to the patient and fail to communicate properly; it would be extremely difficult to conclude that patient satisfaction and successful treatment has been achieved.

## Conclusion

Effective communication skill is a need in medical practice and is beneficial to patients, caregivers and physicians. The study shows dearth of communication skills and short consultation time primarily among Medical Officers and some junior physicians at PAHS. This can adversely affect patient healthcare and physician contentment. Communication skills are learned. PAHS needs to take action on improvement of the art of communication and proper behavior of concerned physicians. Otherwise, it can have great loss on health outcome and people's trust on care and services of the hospital.

### Limitations:

Bias both from the observer and observed would inherently affect outcome, and in the absence of audiovisual cross-check, it would be impossible to ascertain validity. Because of its dichotomous nature, the study could not measure quality. All behaviors in body parts were grossly inappropriate to some clinical outpatient settings. For example ENT, Psychiatric, Ophthalmology, Dental OPDs are less likely to undress while examined. The possibilities lie in other departments as well. Hence, 'where to undress', 'where to put clothes', 'offer gown if genitals need to be exposed', 'lets patient undress privately, if genital needs to be exposed', 'direct patient to get dressed again' and 'lets patient dress privately' are some examples. Patients' educational status, social and economic backgrounds had not been appraised, but are known to affect physicians' behavior towards patients.



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## Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

## Authors' contributions

SP conceived the study, analyzed the data, and drafted the manuscript; SKD, BL participated in the study design and implemented the field investigation; KBGC, AA participated in the study design, analyze data and helped draft the manuscript. All authors contributed to the study and have read and approved the final manuscript.

## Ethics approval and consent to participate

The study was approved by the Institutional Review Board of PAHS (med1607081107; 2016-07-08). Study data were de-identified prior to analysis. All study participants provided signed informed consent.

## Consent for publication

Not applicable.

## Competing interests

The authors declare that they have no competing interests.

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