

Communication Skills of Resident Physicians in Aseer region, Saudi Arabia

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Abstract

Effective communication improves patient-physician relationship and the overall quality of care. The aim of this study was to evaluate communication skills of resident physicians at different health care facilities in Abha, Saudi Arabia through a cross-sectional, questionnaire-based study. A total of 210 resident doctors participated, of whom 31.4% were internal medicine trainees, and 27.1% were family medicine trainees. Previous training on communication skills was reported by 74 participants (35%). The communication skills scores were nearly normally distributed with a mean score of 113.30 ± 32.25 . In comparing the skills by various socio-demographic factors, it was noted that gender and age played a significant role in specific communication skills. There was a significant difference in mean scores of younger and older physicians in domains of interpretation and clarification ($p < 0.001$), asking ($p < 0.001$), feedback ($p < 0.01$), punishment and reward skills ($p < 0.001$). In asking skills, there was a significant difference in mean scores of male and females ($p < 0.001$). Residents in the specialty of Internal Medicine had significantly higher scores than other specialties (CI 95% = 88.6488–102.3688; $p < 0.001$). Fifth-year residents had significantly higher scores than those of other levels (CI 95% = 81.3998–99.9335; $p < 0.001$). Residents with more than one year of experience after the basic degree had significantly higher scores than residents with lesser experience (CI 95% = 123.7650–137.6870; $p < 0.001$). Residents who had taken training in

CME in communication skills had significantly higher scores than those who had no prior training or who had attended other methods of training (CI 95% = 121.4108–135.3320; $p < 0.05$). Results of this study point towards a lingering need to focus on training of physicians in effective communication and efforts should be made to include it as a core competency in medical curriculum.

Key words: communication skills, doctor-patient relationship, resident physicians, Saudi Arabia

Introduction

Communication is an essential skill for dealing with and relating to other people (1,2). Health care is delivered effectively when doctors communicate competently with patients, families, and carers. Strong communication skills lay the foundation for a successful doctor–patient relationship, which is considered to be the core element in the ethical principles of medicine. Effective communication enhances the patient's understanding of treatment, and improves compliance and health outcomes. It can also make the professional–patient relationship a more equitable one, ensuring a better quality of care and improved patient satisfaction (3). The importance of health communication as an essential component of the patient experience was outlined in the WHO world health report 2000 (4). Strong doctor–patient communication increases the patient's confidence, thus enabling them to disclose relevant information and adhere to prescribed treatment (5). Better doctor–patient communication is associated with better patient health outcomes (6,7).

Doctor–patient communication is affected by a range of factors, namely, socio cultural norms, physician training, and organizational factors (8). Resident physicians form an important part of the health workforce and are often the first and most commonly encountered health professional for patients receiving care in teaching hospitals. Therefore, residents must have good communication skills to improve the overall success of management (9). Although research on the communication process of medical consultations has identified the quality of health care provider communication to be a vital aspect of care, and provided growing evidence of the influence of patient–provider communication on caregiver behaviors, (10) the quality and impact of provider communication is not well documented in Saudi Arabia. The few studies conducted in Saudi Arabia have largely been confined to the capital Riyadh, (8,9,11,12) with the exception of one regional study. Two of the studies in Saudi Arabia focused on residents of a particular specialty, and the others dealt with primary health care physicians and pediatric specialists. Some of the studies provided a dual perspective, i.e., that of the patients and the treating physician.

A brief overview of the previous studies helped us to formulate our research question and it is provided here. Al-Zahrani et al. conducted a cross-sectional study to assess barriers, practice attitude, and knowledge of primary health care physicians about communication skills during medical consultations in primary health care centers at the National Guard Hospital in Riyadh, Saudi Arabia. A positive correlation between age, years of experience, and practicing communication skills was found. The study concluded that the knowledge of communication skills can improve with training, age, and experience. However, the improved knowledge does not affect the practice of communication skills (8). In a study by Alnasser et al., physicians and parents from general pediatrics wards at King Saud University Medical City completed a validated Criteria Cognitive Aptitude Test (CAT-T) questionnaire

and a translated version of the CAT-T questionnaire, respectively (12). The results revealed a higher level of confidence in communication skills among experienced physicians compared to young physicians, who expressed concerns regarding their communication with parents, particularly concerning decision making. The parents rated the physicians' skill of introduction to be higher than the physicians' self-rating and that of active listening as poor. An important finding of this study was that the parents' satisfaction with the physicians' communication skills was inversely related to their level of education. Alsaad et al. studied patients' perceptions of the communication skills of family medicine residents. The study focused on perspectives of patients who were under the care of resident physicians from four family medicine residency programs in Riyadh. The results demonstrated that patients rated male residents higher than female residents with a significant difference (11). Pediatrics trainee residents working at 13 different hospitals in Saudi Arabia were interviewed to determine their attitude and confidence in the use of communication skills in the performance of their primary duties. The majority of the residents were shown to consider learning communication skills a priority in establishing a good patient–doctor relationship, and nearly one-third were very confident with regard to their communication skills (9).

Studies of the impact of postgraduate training in communication skills have identified a need to provide more effective communication skills teaching in clinical practice (13). In 2015, the Saudi Commission for Health Specialties (SCFHS) revised all Training Program Curriculums to include communication skills. Specialties such as Family Medicine consider communication and consultation skills part of the training program, but the training approaches in most of these programs are primarily theoretical (14). To the best of our knowledge, no study has been conducted that focuses on the communication skills of resident physicians across specialties of the Saudi Board of Health Specialties in the Aseer region. This study was conducted to assess communication skills among resident physicians at health care facilities in the Aseer region, and to identify the socio-demographic and job factors that could affect those skills.

Materials and Methods

This cross-sectional study took place between January and July 2018 in Abha City, which is the capital of the Aseer Region in Kingdom of Saudi Arabia (KSA). All residents in the specialty programs were invited to participate. A total of 207 resident physicians from the specialties of Family Medicine, Internal Medicine, Pediatrics, Obstetrics/Gynecology, and General Surgery took part in the study. The questionnaire was distributed to respondents at their place of training, namely, the outpatient clinics of Aseer Central Hospital, Abha Maternity and Children's Hospital, and primary health care centers accredited for Family Medicine training. All participants were briefed by the researcher about the objectives of the study and assured about the anonymity and full confidentiality of their

responses. The study instrument was a self-administered pre-validated questionnaire from a previous study (15). It included questions on personal characteristics, namely, age, gender, program of residency (specialty), level of residency (i.e., year of residency), years of experience (prior to joining the residency program), and formal training in communication skills. The second part comprised questions related to interpersonal communication skills and barriers of communication (not included in this paper). The alpha Cronbach coefficient ($\alpha = 0.89$) of the questionnaire was reported in the source study which was confirmed in this study. The interpersonal communication skills section included 36 items grouped into seven domains of communication skills, i.e., general communication (6 items), speaking (5 items), listening (5 items), interpretation and clarification (5 items), asking (5 items), feedback (5 items), and reward and punishment (5 items). For each statement, there were 5 Likert-scale responses (never, rarely, sometimes, mostly, and always). The score for each item ranged from 1 to 5. The total score ranged from 36 to 180. The Statistical Package for Social Sciences version 23.0 (16) was used for data entry and analysis. In the presentation of results, categorical variables are presented as frequency and percentage distribution, and continuous variables as means and standard deviations. To examine the differences in the communication skills scores of physicians according to their socio-demographic and job characteristics, an independent t-test and ANOVA were applied. All tests were two-tailed, and results considered significant at 95% CI and a p-value less than 0.05.

Results

Table 1 shows the background characteristics of participants. The total number of physicians included in the study was $n = 210$ doctors. There were 122 (58.1%) males and 88 (41.9%) females among the participating residents. In terms of age, the mean age was 28.5 years ($SD \pm 1.78$ years), with a range of 25–33 years. The median age was 29 years. The majority ($n = 66$, 31.4%) were Internal Medicine trainees, followed by 57 (27.1%) who were Family Medicine trainees, 35 (16.7%) who were Pediatrics trainees, 31 (14.8%) who were Obstetrics and Gynecology trainees, and 21 (10%) who were Surgery trainees. The majority ($n = 63$, 30%) were second year resident (R2) trainees, followed by 60 (28.6%) R3 trainees, 45 (21.4%) R1 trainees, 36 (17.1%) R4 trainees, and only 6 (2.9%) R5 trainees. Only 73 (34.8%) had pre-residency clinical experience, compared to 137 (65.2%) who did not. This pre-residency clinical experience was less than one year for 55 (26.2%) trainees, and more than a year for 26 (12.4%) trainees. Previous training on communication skills was reported by 74 participants (35%), of whom, 16.7% had received continuing medical education (CME) and 18.7% had received other training methods.

Table 2 depicts the details of the communication skills scores of the study participants. The communication skills scores were nearly normally distributed with a mean score of 113.30 ± 32.25 and median of 108. The skewness was 0.261 and kurtosis was -0.407 . The mean and standard

deviation of the total score of general communication skills was 20.46 ± 4.94 . For speaking and listening skills, the mean and SD were similar: 16.59 ± 4.54 and 16.34 ± 4.15 , respectively. For interpretation and clarification, and feedback, the scores were lower at 14.79 ± 5.24 and 14.80 ± 5.33 , respectively.

In comparing the skills by various socio-demographic factors, it was noted that gender and age played a significant role in specific communication skills. There was significant difference in mean scores of younger and older physicians in interpretation and clarification skills ($p < 0.001$), asking skills ($p < 0.001$), feedback skills ($p < 0.01$), and punishment and reward skills ($p < 0.001$). In asking skills, there was significant difference in mean scores of male and females ($p < 0.001$). Other socio-demographic factors did not show an effect on the communication skills of the participants. This information is presented in Table 3.

The differences between groups based on specialty, residency level, years of experience, training in communication skills, and type of training were studied for the total communication skills scores. Post hoc analysis was used to confirm the differences. Residents in the specialty of Internal Medicine had significantly higher scores than other specialties (CI 95% = 88.6488–102.3688; $p < 0.001$). Fifth-year residents had significantly higher scores than those of other levels (CI 95% = 81.3998–99.9335; $p < 0.001$). Residents with more than one year of experience after the basic degree had significantly higher scores than residents with lesser experience (CI 95% = 123.7650–137.6870; $p < 0.001$). Residents who had taken training in CME in communication skills had significantly higher scores than those who had no prior training or who had attended other methods of training (CI 95% = 121.4108–135.3320; $p < 0.05$). The correlation between the total years of experience and communication skills mean score was significant at the 0.01 level, $r = 0.443$. Table 4 presents the above findings.

Table 1: Socio-demographic and Training Information of the study Participants.

Characteristic	Frequency (210)	Percentage (%)
Gender		
Males	122	58.1%
Females	88	41.9%
Age in years mean \pm SD (median)	28.5 \pm 1.78 (29)	
Program		
Internal Medicine	66	31.4%
Family Medicine	57	27.1%
Pediatrics	35	16.7%
Obstetrics and Gynecology	31	14.8%
Surgery	21	10%
Residency Level		
R1	45	21.4%
R2	63	30%
R3	60	28.6%
R4	36	17.1%
R5	6	2.9%
Pre-residency Clinical Experience		
Yes	73	34.8%
No	137	65.2%
Experience years		
Less than a year	55	26.2%
More than a year	26	12.4%
Training Received		
Yes	74	35.2%
No	136	64.8%
Method of Training		
CME	35	16.7%
Other methods (self-learning online training etc.)	39	18.6%

Table 2: Communication skill scores of participants for each skill component.

Skill component	Item	Item Mean \pm SD	Component Mean \pm SD
General Communication Total score-30	1. I greet my patients	3.35 \pm 0.82	20.46 \pm 4.94
	2. I talk with a smile	3.55 \pm 0.87	
	3. I appear sophisticated looking, clean and tidy	3.53 \pm 0.91	
	4. I have integrity and privacy in communication	3.40 \pm 0.98	
	5. During communication, I am interested in comfortable physical space conditions	3.24 \pm 0.91	
	6. I make sure to end the communication in a polite manner	3.36 \pm 0.88	
Speaking Total score - 25	1. Talking tough, dignified, quiet, and fluency	3.46 \pm 0.91	16.59 \pm 4.54
	2. I try to use appropriate, simple and understandable words	3.33 \pm 0.99	
	3. I try to use the head, face, hands and body as appropriate	3.34 \pm 1.01	
	4. I may use walking and sitting when needed	3.26 \pm 0.97	
	5. I speak with passion	3.18 \pm 1.01	
Listening Total score 25	1. I listen carefully to what the patient expresses	3.31 \pm 0.90	16.34 \pm 4.15
	2. I pay careful attention to the tone and pace of speech and non-verbal gestures	3.30 \pm 0.91	
	3. I frequently put myself in his/her position in order to better understand him/her	3.21 \pm 0.91	
	4. I do not interrupt his/her talk	3.24 \pm 0.95	
	5. I Don't look away from patient at the time of listening	3.25 \pm 0.90	
Interpretation on Clarification Total score- 25	1. I repeat important points in brief to the patient	2.86 \pm 1.09	14.79 \pm 5.24
	2. I repeat his/her talk after getting approval from him/her	2.85 \pm 1.16	
	3. I do not confirm his negative descriptions of himself	2.94 \pm 1.11	
	4. I clarify the question, if it seems to be vague	3.06 \pm 1.08	
	5. I pay attention to others' non-verbal gestures	3.05 \pm 1.11	
Asking Total score -25	1. I plan a proper question to understand the audience's feelings and concerns	3.08 \pm 1.11	15.09 \pm 5.14
	2. I make sure to use friendly and respectful tone and pace of the question	3.10 \pm 1.19	
	3. I outline a subject and wait to hear the same answer for the same questions	3.00 \pm 1.03	
	4. I avoid questions with the word "Why?"	2.93 \pm 1.06	
	5. I avoid questions that they answer "Yes" or "No"	2.97 \pm 1.10	
Feedback Total score - 25	1. I evaluate the views not what the patient implies	3.02 \pm 1.04	14.80 \pm 5.33
	2. I give feedback about his/ her new behaviors	2.95 \pm 1.13	
	3. I give feedback about his/her inconsistent behavior	2.96 \pm 1.12	
	4. I refuse to giving feedback on several subjects simultaneously	2.89 \pm 1.12	
	5. I give feedback at the proper time	2.96 \pm 1.13	
Punishment-Reward Total score -25	1. I encourage to continue talking with the proper words	3.10 \pm 1.16	15.21 \pm 5.45
	2. I encourage to continue speaking with the proper head and body movements	3.09 \pm 1.18	
	3. I demonstrate understanding of the emotions and the decisions of the audiences	3.00 \pm 1.12	
	4. I show important feelings and decisions to the patient	3.03 \pm 1.12	
	5. I refrain from blaming and judging the patient	2.98 \pm 1.10	

Table 3: Comparison of communication skills scores of the participants by their age and gender

Skill	Variable (Age, Gender)	Mean ± S.D.	t	P value	Mean diff	SE diff	CI 95%	
							Lower	Upper
General Communication	≤29 years	20.16 ± 4.61	-1.394	0.165	-1.050	0.753	-2.534	0.434
	>29 years	21.21 ± 5.64						
	Male	20.87 ± 4.57	1.420	0.157	.979	0.689	-.379	2.338
	Female	19.89 ± 5.38						
Speaking	≤29 years	16.24 ± 4.43	-1.765	0.079	-1.220	0.691	-2.582	0.142
	>29 years	17.46 ± 4.73						
	Male	16.43 ± 4.49	-0.603	0.547	-0.383	0.636	-1.639	0.871
	Female	16.81 ± 4.62						
Listening	≤29 years	16.00 ± 3.86	-1.867	0.063	-1.176	0.630	-2.419	0.066
	>29 years	17.18 ± 4.72						
	Male	16.18 ± 3.93	-0.667	0.505	-0.387	0.581	-1.533	0.758
	Female	16.56 ± 4.45						
Interpretation and clarification	≤29 years	13.94 ± 5.15	-3.857	0.000	-2.993	0.776	-4.523	-1.463
	>29 years	16.93 ± 4.88						
	Male	14.27 ± 5.51	-1.687	0.093	-1.232	0.730	-2.672	0.207
	Female	15.51 ± 4.78						
Asking	≤29 years	14.27 ± 5.10	-3.752	0.000	-2.860	0.762	-4.362	-1.357
	>29 years	17.13 ± 4.69						
	Male	14.26 ± 5.42	-2.791	0.006	-1.976	0.708	-3.372	-0.580
	Female	16.23 ± 4.50						
Feedback	≤29 years	14.07 ± 5.30	-3.187	0.002	-2.543	0.797	-4.116	-0.970
	>29 years	16.61 ± 5.00						
	Male	14.26 ± 5.57	-1.727	0.086	-1.283	0.742	-2.747	0.181
	Female	15.54 ± 4.91						
Punishment - Reward	≤29 years	14.28 ± 5.33	-4.063	0.000	-3.263	0.803	-4.846	-1.679
	>29 years	17.55 ± 5.06						
	Male	15.01 ± 5.90	-0.634	0.527	-0.483	0.763	-1.988	1.02125
	Female	15.50 ± 4.76						

Table 4: Comparison of communication skills scores of the participants by their training characteristics.

Variable	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		F	P
					Lower Bound	Upper Bound		
Specialty								
Family medicine	57	95.50	25.85	3.42	88.64	102.36	7.55	<0.001
Pediatrics	35	116.02	29.88	5.05	105.76	126.29		
Surgery	21	122.42	13.68	2.98	116.19	128.65		
Internal medicine	66	117.40	39.32	4.84	107.74	127.07		
Obstetrics and Gynecology	31	128.06	24.09	4.32	119.22	136.90		
Year of residency								
R1	45	90.66	30.84	4.59	81.39	99.93	8.82	<0.001
R2	63	115.69	26.17	3.24	109.04	122.22		
R3	60	122.48	31.107	4.01	114.44	130.51		
R4	36	118.97	35.317	5.88	107.02	130.92		
R5	6	133.00	8.625	3.52	123.94	142.05		
Years of Experience								
≤1 year	137	104.02	29.62	2.53	99.02	109.03	38.48	<0.001
>1 year	73	130.72	29.83	3.49	123.76	137.68		
Training on Communication skills								
No	136	110.41	35.23	3.02	104.43	116.38	3.14	0.078
Yes	74	118.63	25.25	2.93	112.78	124.48		
Training method in communication (n = 74)								
CME	35	128.37	20.26	3.42	121.41	135.33	4.74	0.010
Other methods	39	109.89	26.31	4.21	101.36	118.42		

Discussion

It is well-known that communication skills are a pillar of clinical practice(1). To be an effective doctor, in addition to knowledge and technical skills, communication skills are also essential. These skills are not limited to talking, but include listening and nonverbal communication (17). The findings of the current study illustrate the communication skills of resident physicians and show the important factors that effect the communication skills.

Our study uncovered several important factors that could help understand communication among resident physicians. One of the findings of our investigation was that female gender is associated with better listening skills, whereas, in other components, there were no differences between female and male residents. This is contrary to past studies where Saudi patients rated male trainees higher than females(11). We also confirmed that older residents have higher scores in communication skills.

Pre-residence clinical experience also stood out as a factor for better communication skills. Work experience is an established factor in improving and refining communication skills for doctors and medical students (18,19). Interaction with patients leads to better understanding of their needs, better recognition of verbal and non-verbal cues, and better communication with both patients and their significant others (17,19). In this study, we found that the number of years of clinical experience had a strong correlation with

better communication skills. This could be expected and is consistent with past research (20). In addition, local research has confirmed that experienced senior physicians are more competent in terms of communication skills than their younger colleagues (12).

In our study, the specific specialty did not affect communication skills, with the exception of Internal Medicine. Although Family Medicine necessitates particular communication skills, as it deals at the primary care level with patients of all ages and social backgrounds, and their families, their mean scores were lower than their counterparts in Internal Medicine, Surgery, and Obstetrics and Gynecology. Other studies have reported Family Medicine trainees are more skilled than Surgical trainees in providing information (18). It should also be noted that patients' perceptions of the communication skills of Family Medicine trainees in Saudi Arabia were shown to be relatively favorable in previous studies, however, this finding could not be replicated in the current study(11). This is an important finding that points towards gaps in specialty training in Family Medicine in the region and warrants further exploration. For pediatric trainees, there is inherent complexity around effective communication with patients and families (21). Communication skills' training for medical students has gained more focus recently (22), particularly in surgical specialties such as Obstetrics and Gynecology (23) and General Surgery (24) which may have some role in our study findings.

An important finding of our investigation is that communication skills were affected by the level of residency and attendance at training through CME events. In terms of the structure of the current training system for communication skills development, this is a positive finding. This clearly complements international literature that emphasizes improvement in communication skills with progression in training for residents across specialties (25). Training in communication skills has become a core competency in modern medical education (26) given its established positive effect on various clinical outcomes (27). Effective training and teaching has been shown globally to enhance communication skills among post-graduate medical residents (28). It can be hypothesized that training in the Middle Eastern region is lacking in terms of communication skills. As communication skills equip doctors with confidence in dealing with difficult situations and improve patient satisfaction, (29,30); they deserves greater focus during doctors' specialty training.

Conclusion

The residents communication skills were explored and it was found that interpretation, clarification skills and feedback skills were lower than speaking-asking and punishment-reward skills. General skills were better than any other skill component. Factors that affect the communication skills included gender, residency year, experience and prior training in communication.

Limitations: Any interpretation of the results of this study should be mindful of one important limitation. The cross-sectional design does not imply causation, just establishes a relationship between the communication skills and the factors. It is reported that there are differences between self and patient perceptions of physicians' communication skills as reported in previous research (31). This comparison is lacking in the current work and is one of its limitations. Considering the results of this study, and in light of the observations made in previous similar studies, the structure of the current Saudi Board post-graduate training in communication skills requires revision and reconsideration to bring it in line with international evidence-based standards. To achieve this goal, further longitudinal research is required to evaluate different educational interventions and their effects in enhancing communication skills amongst resident physicians.

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References

1. Naghavi Z, Anbari K, Saki K, Mohtashami AZ, Lashkarara G, Derik MA. A study on effect of training communication skills on knowledge and attitudes of family physicians and patients' satisfaction. *J Biol Today's World* 2015;4 (1): 1-5.
2. Ha JF, Longnecker N. Doctor-patient communication: a review. *Ochsner J*. 2010;10(1):38-43.
3. Chandra S, Mohammadnezhad M, Ward. Trust and Communication in a Doctor- Patient Relationship: A Literature Review. *Journal of Healthcare Communications* 2018. Vol.3 No.3:36. DOI: 10.4172/2472-1654.100146.
4. World Health Organization. The world health report 2000: health systems: improving performance. Geneva: World Health Organization, 2000. https://www.who.int/whr/2000/en/whr00_en.pdf?ua=1
5. Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open* 2013;3: e001570. doi:10.1136/bmjopen-2012-001570
6. Kelley JM, Kraft-Todd G, Schapira L, et al. The influence of the patient-clinician relationship on healthcare outcomes: a systematic review and meta-analysis of randomized controlled trials. *PLoS One* 2014;9:e94207. <https://doi.org/10.1371/journal.pone.010119>
7. Riedl D, Schüßler G. The Influence of Doctor-Patient Communication on Health Outcomes: A Systematic Review. *Z Psychosom Med Psychother*. 2017;63(2):131-150. doi:10.13109/zptm.2017.63.2.131
8. Al-Zahrani BS, Al-Misfer MF, Al-Hazmi AM. Knowledge, attitude, practice and barriers of effective communication skills during medical consultation among general practitioners National Guard Primary Health Care Center, Riyadh, Saudi Arabia. *Middle East Journal of Family Medicine* 2015; 13 (4):4-17.
9. Alofisan T, Al-Alaiyan S, Al-Abdulsalam M, Siddiqui K, Bin Hussain I, Al-Qahtani MH. Communication skills in pediatric training program: National-based survey of residents' perspectives in Saudi Arabia. *J Family Community Med*. 2016; 23(1): 43-47.
10. Larson E, Leslie HH, Kruk ME. The determinants and outcomes of good provider communication: a cross-sectional study in seven African countries. *BMJ Open* 2017;7:e014888. doi: 10.1136/bmjopen-2016-014888
11. Alsaad SM, Alshammari SA, Almogbel TA. Appraisal of the communication skills of residents in the Family Medicine Program in Central Saudi Arabia. *Saudi Med J*. 2016; 37(7): 804-808.
12. Alnasser YS, Bin Nafisah HM, Almubarak ZA, Aleisa LA, El Sarrag AI, Babiker AM. Communication skills between physicians' insights and parents' perceptions in a teaching hospital in KSA. *Journal of Taibah University Medical Sciences* 2017; 12(1): 34-40.
13. Junod P N, Nendaz M, Louis SM. et al. Impact of postgraduate training on communication skills teaching: a controlled study. *BMC Med Educ* 14, 80 (2014). <https://doi.org/10.1186/1472-6920-14-80>
14. Rayes F. *Communication Skills: Key to Understanding*. Ware J, (ed). 1st Edition. Riyadh, Saudi Arabia: Saudi Commission for Health Specialties, 2016.

15. Siamian H, Bagheri-Nesami M, Nia RD, Nezhad FR, Akbari H, Balaghafari A, et al. Assessment of interpersonal communication skills among Sari health centers' staff. *Materia socio-medica* 2014 (5): 324-8. DOI:10.5455/msm.2014.26.324-328
16. IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.
17. Berman AC, Chutkan DS. Assessing effective physician-patient communication skills: "Are you listening to me, doc?". *Korean J Med Educ*. 2016;28(2):243-249. doi:10.3946/kjme.2016.21
18. Alansari A. A Comparison Study of Communication Skills Between General Surgery and General Practice Residents on First-time Patient Visits. *Can Med Educ J*. 2012 Mar 31;3(1):e42-51. eCollection 2012.
19. Xie J, Ding S, Wang C, Liu A. An evaluation of nursing students' communication ability during practical clinical training. *Nurse Educ Today*. 2013, 33 (8) , pp. 823-827
20. Mohiaddin H, Malik A, Murtagh GM. Maximizing the acquisition of core communication skills at the start of medical training. *Adv Med Educ Pract*. 2019;10:727-735. Published 2019 Aug 27. doi:10.2147/AMEP.S212727
21. Mărginean CO, Meliț LE, Chinceșan M, et al. Communication skills in pediatrics - the relationship between pediatrician and child. *Medicine (Baltimore)*. 2017;96(43):e8399. doi:10.1097/MD.00000000000008399
22. Sun, C., Zou, J., Zhao, L. et al. New doctor-patient communication learning software to help interns succeed in communication skills. *BMC Med Educ* 20, 8 (2020). <https://doi.org/10.1186/s12909-019-1917-z>
23. Young, O.M., Parviainen, K. Training obstetrics and gynecology residents to be effective communicators in the era of the 80-hour workweek: a pilot study. *BMC Res Notes* 7, 455 (2014). <https://doi.org/10.1186/1756-0500-7-455>
24. Ryan K. Schmocker, Linda M. Cherney Stafford, Alexander B., Glen E. Levenson, Emily R. Winslow. Understanding the determinants of patient satisfaction with surgical care using the Consumer Assessment of Healthcare Providers and Systems surgical care survey (S-CAHPS). *Healthcare*. 2015. Volume 158, Issue 6, P1724-1733
25. Roberts L, Cornell C, Bostrom M, Goldsmith S, Ologhobo T, Roberts T et al. Communication Skills Training for Surgical Residents: Learning to Relate to the Needs of Older Adults. *J Surg Educ*. 2018 Mar 30. pii: S1931-7204(17)30605-0.
26. Hausberg, M.C., Hergert, A., Kröger, C. et al. Enhancing medical students' communication skills: development and evaluation of an undergraduate training program. *BMC Med Educ*. 2012, 12, 16. <https://doi.org/10.1186/1472-6920-12-16>
27. Benson BJ. Domain of competence: Interpersonal and communication skills. *Acad Pediatr*. 2014 (2 Suppl): S55-65.
28. Jameel A, Noor SM, Ayub S, Ali SS, Park YS, Tekian A. Feasibility, relevance and effectiveness of teaching and assessment of ethical status and communication skills as attributes of professionalism. *J Pak Med Assoc*. 2015 Jul; 65(7):721-6.
29. Ishikawa, H., Son, D., Eto, M. et al. The information-giving skills of resident physicians: relationships with confidence and simulated patient satisfaction. *BMC Med Educ* 17, 34 (2017). <https://doi.org/10.1186/s12909-017-0875-6>
30. Turner, J.S., Pettit, K.E., Buente, B.B. et al. Medical student use of communication elements and association with patient satisfaction: a prospective observational pilot study. *BMC Med Educ* 16, 150 (2016). <https://doi.org/10.1186/s12909-016-0671-8>
31. Graf, J., Loda, T., Zipfel, S. et al. Communication skills of medical students: survey of self- and external perception in a longitudinally based trend study. *BMC Med Educ* 20, 149 (2020). <https://doi.org/10.1186/s12909-020-02049-w>