



ASSESSING THE ATTITUDES OF AL-NEELAIN MEDICAL STUDENTS TOWARDS LEARNING COMMUNICATION SKILLS AND ITS IMPLICATIONS ON HEALTH PRACTICES IN CLINICAL WARDS, 2022

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1. Introduction

1.1. Background:

Communication can be defined as the process of transmitting information and common understanding from one person to another(1). Verbal and non-verbal aspects of communication possess an important role in the medical encounter(2).

WHO recognizes that effective, integrated and coordinated communication is integral to carrying out WHO's goal to build a better, healthier future for people all over the world(3). One of the characteristics of medical education is the need to learn practical and communication skills along with cognitive and theoretical domains(4). A weak state healthcare system can be viewed as an important contributor to poverty and inequity in the African Region(5). In recent years throughout Africa, many healthcare workers or professionals (nurses, doctors, dentists etc.) have been sharply criticized for their lack of communication skills, especially in rural and poor areas(6). Improper training of doctors, medical staff and medical students will render them unable to communicate efficiently with the patients and explain the clinical situation to them, or even in performing prevention campaigns(5). Not many medical schools in Sudan apply communication skills in their curriculum. Usually, students will get taught about taking a good and detailed history from the patients during clinical wards with some advises and tips of getting the information out of the patients, however, they don't focus on improving the patient-doctor connection. Students find

themselves in a tough situation when dealing with patients; because normally, not all the people are able to conduct what they mean or feel properly, so it's the doctor or student job to help them do so. Medical education integrates attitude development to aid adequate communication skills learning(7,8). Most of the students are not mature enough to regard communication skills as an important and required to doctors, till they encounter the clinical life in the final years. This attitude towards developing such skills might be linked to the thought that history taking templates are just enough to get patients complaints. A German study(9) measured the attitude of medical students towards communication and showed increased negative attitude in final years.

1.2. Problem statement:

There's a gap of knowledge when it comes to the evaluation of learning process in Sudan in general and medical education in particular. Students negative attitude might affect their learning desire towards communication skills which will affect the health system in the future.

1.3. Justification:

We aim to improve the integrity of the health system and find the roots of the problem with doctor-patient communication in Sudan, which in turn will promote health and make stronger health network in Sudan and Africa.

2. Research question and objectives:

Does attitude towards learning communication skills affect medical student's performance and communication skills in clinical wards?

General objective:

1/ To assess the effect of medical student's attitude towards learning communication skills on their clinical wards practice. Specific objectives:

1/ To assess medical student's attitude towards communication skills learning. 2/ To assess medical student's communication skills at clinical wards practice. 3/ To compare positive and negative attitudes between males and females. 4/ To estimate positive and negative attitudes towards communication skills among students.

3. Literature review:

Communication skills in medical students is an important factor to build an integrated health system. Most of the relevant previous researches have focused on assessing and improving medical communication skills or assessing attitude towards it separately and didn't try to find a relation as we've done. A systematic review in interventions for improving interpersonal communication by C. Gilligan and M. Powel was done. The study compared different aspects of communication skills in different trials including randomized, nonrandomized or cluster randomized trials. The review included a (intervention versus no intervention) (intervention versus usual training) (intervention versus other intervention) trials in patient relationship building, information gathering and planning and explaining as well as listening(10). The study did not include student's opinion on the importance of training and learning these skills. Another study targeted the attitude as cohort study on students(11). The study is done on 91 medical students using Communication Skills Attitude Scale from their first year to fourth year. They were required to have a patient-physician communication training starting from primary care mental service in their first years and ending with in depth patient consultation training in last years. They also had workshops and interviews with simulated patients. The study found that the attitude has declined from first to fourth year with significant increase in negative attitude. The study also stated that similar studies(12)(13)(14) supported the results and other cohort compared trained and non- trained groups had negative attitude results towards teaching communication skills in the trained group(15). Most of the similar

researches are validation researches for the (CSAS)(16) and testing the psychometric properties of the scale(17–19). Another study focused on involving patients in assessing student's communication skills in OSCE exams(20). The research used constructivist grounded theory which based on forming a new theories according to the results(21). They used cognitive stimulated interviews to assess participants understanding of used tools. They were shown videos with student's performance in OSCE exams and examiners feedback on the performance was used as a stimulus. Performances on OSCE were classified into good, borderline and poor. Participants then provided their feedback on student's performance and examiner's feedback. Then results provided a theory of involving patients in communication skills assessment. There was a disconnect between patient's and examiners perception of good communication and variability between participant's feedbacks and they thought that different feedbacks imply a need of different communication methods and means. The study, therefore, recommend patient involvement in the communication learning. A study used a close approach to ours measured communication skills attitude as a predictor of patient-centered attitude(22). It's a cross-sectional study on dental students used multiple scales like CSAS and Patient-Practitioner Orientation Scale (PPOS). It found that female participant's attitude was more patient-centered than their male counterparts. Final year's attitude was more doctor-centered than first years. Empathic concern was associated with patient-centered attitude while personal distress type of empathy was associated more with doctor-centered attitude.

Previous studies focused student's attitude with communication skills. Some studies implicated training programs to assess the difference in attitude before and after. Some of them shed the light on the assessment criteria for communication learning and how to improve it. We noticed that what is missing is actually observing the effect of these attitudes on clinical practice, which is the main focus of this study.

4. Methodology:

4.1. Participants:

This is an analytical cross-sectional study which was conducted among medical students of Al-Neelain University in Khartoum, Sudan. The sample size was 210 student taken from a total of 460 students of fourth and fifth years using the equation $(460/1+480)(0.05)^2$. The students were stratified into two groups according to academic year. A systematic randomization done on each strata for sampling. We created online groups for each strata and assigned a coordinator for each group. We provided questionnaire link and a list with the selected sample to the group coordinators.

4.2. Independent variables:

We used Communication Skills Attitude Scale (CSAS)(16) to assess the attitude of medical students. The scale has 26 items in total divided into two subscales or domains; positive attitude scale (PAS), which contain the items (4,5,7,9,10,12,14,16,18,21,22,23,25) and negative attitude scale (NAS), which contain the items (1,2,3,6,8,11,13,15,17,19,20,24,26). Each item has 5 answer in form of Likert scale (strongly disagree/disagree/neutral/agree/strongly agree) having scores from 1 to 5 respectively, with items 1 and 22 having a reversed scoring. Both scales range from 13 to 65, and higher scores represents stronger positive attitude in (PAS) or negative in (NAS)(23). The alpha Cronbach's reliability of the scale is 0.8 which possessed satisfactory internal consistency.

4.3. Outcome variables:

We assessed medical student's communication skills using the Medical Communication Perceived Self-Efficacy (ME-CO) Scale(24). The scale has 8 questions which covers three areas; information gathering phase which contains three items (questioning skills item/prompts and cues skills item/active listening skills item), feedback phase which contains three items as well (talking skills item/communication of diagnosis/checking skills item) and relationship building and maintenance phase which contains two items (non-verbal use item/empathy item). Each item has responses in form of 5-point Likert scale (1= "not at all able" to 5= "completely able". We took one item per skill

to reduce question load on participants for more credibility. Higher scores reflect good communication skills in wards. The scale has reliability coefficients ranged from 0.77 to 0.90.

4.4. Co-variants:

We asked participants about their age, gender and academic level as a demographic data based on a similar study(9).

4.5. Data analysis:

We used IBM SPSS ver26 to code and analyze the data. We assessed the correlation between positive attitude scores and communication skills using Pearson Correlation test. We also assessed the correlation between negative attitude and communication skills using Spearman Correlation test. We did descriptive statistics and group comparison on gender groups (males/females) regarding positive and negative attitude scales scores represented as means and mean ranks using Mann-Whitney U test

5. Results:

Out of 210 of the desired sample size, 161 participants took the questionnaire. Percentage of the participant's gender is presented in figure 1.0. Almost two-thirds of them were females. Age is presented in figure 2.0. The correlation between positive attitude towards communication skills learning (measured by positive attitude scale) and communication skills in clinical practice (measured using ME-CO(24) scale) is measured using Pearson correlation coefficient. The result as presented in table 1.0 shows a significance (0.290 $P < 0.01$) indicating high correlation significance. It also showed positive relationship between the two variables, presented in figure 3.0.

Correlation between negative attitude and communication skills in clinical practice efficacy is measured using Spearman correlation test. The result as presented in table 2.0 shows a significance (-0.187 $P < 0.05$) indicating inverse relationship between the two variables, presented in figure 4.0. Descriptive statistics of the attitude and clinical skills scale scores are shown in table 3.0. Descriptive statistics about the raw scores of attitudes and skills in relation to gender is shown in table 4.0. Using Mann-Whitney U test, we assessed the mean ranks of positive and negative attitude scores in both gender groups as shown in table 5.0. Mean rank of positive attitude scores are higher in females ($P < 0.05$), while mean ranks of negative attitude scores are higher in males ($P < 0.05$). We tested the homogeneity of variance of both gender groups as shown in table 6.0 to solidify our findings regarding the mean ranks. We found that both groups are equally distributed regarding the positive attitude scores ($P > 0.05$), however, they aren't equally distributed when it comes to the negative attitude scores ($P < 0.05$), so that justifies the comparison of positive attitude between both groups, but not the negative attitude.

Figure 1.0 : Gender distribution

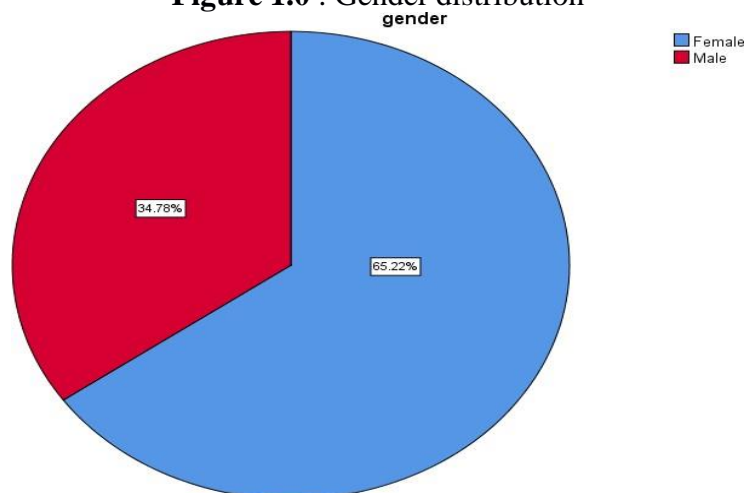


Figure 2.0 : Age distribution Histogram

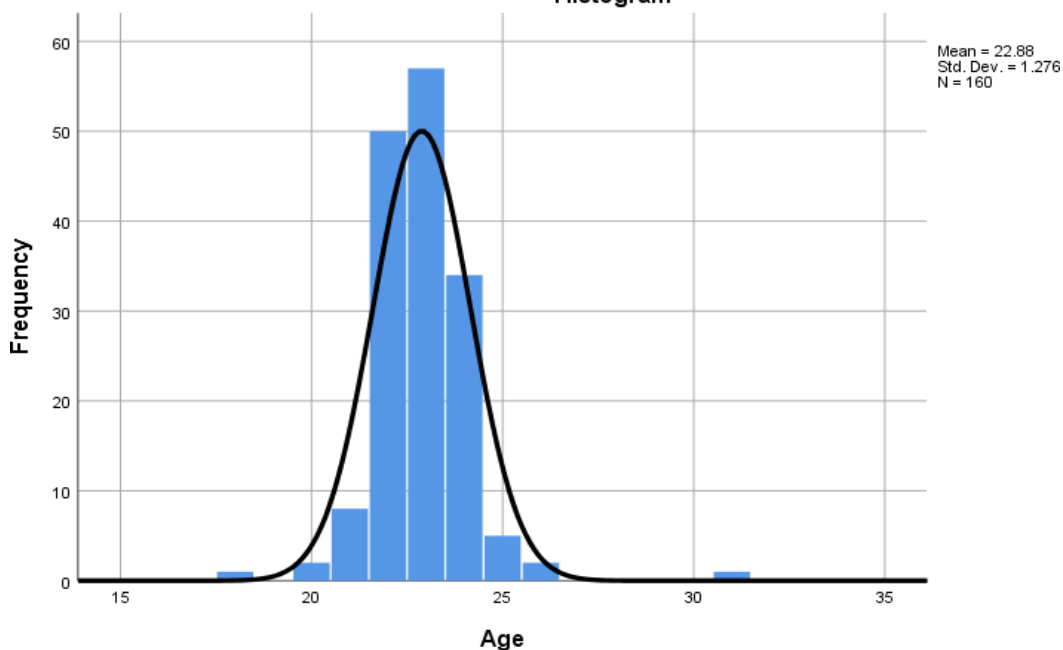


Table 1.0 correlation between positive attitude and communication skills in clinical practice using *Pearson Correlation Test*

skill sum		PAS sum	
skill sum	Pearson Correlation	1	.290**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	3998.472	3010.267
	Covariance	24.990	18.814
	N	161	161
PAS sum	Pearson Correlation	.290**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	3010.267	26970.559
	Covariance	18.814	168.566
	N	161	161

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2.0 correlation between negative attitude and communication skills in clinical practice using *Spearman Correlation Test*

skill sum		NAS sum	
Spearman's rho	skill sum	Correlation Coefficient	1.000
		Sig. (2-tailed)	.018
		N	161
NAS sum	NAS sum	Correlation Coefficient	-.187*
		Sig. (2-tailed)	.018
		N	161

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 3.0 positive relation between positive attitude towards communication skill (x-axis containing sum score) and communication skills in clinical practice (y-axis presenting sum score)

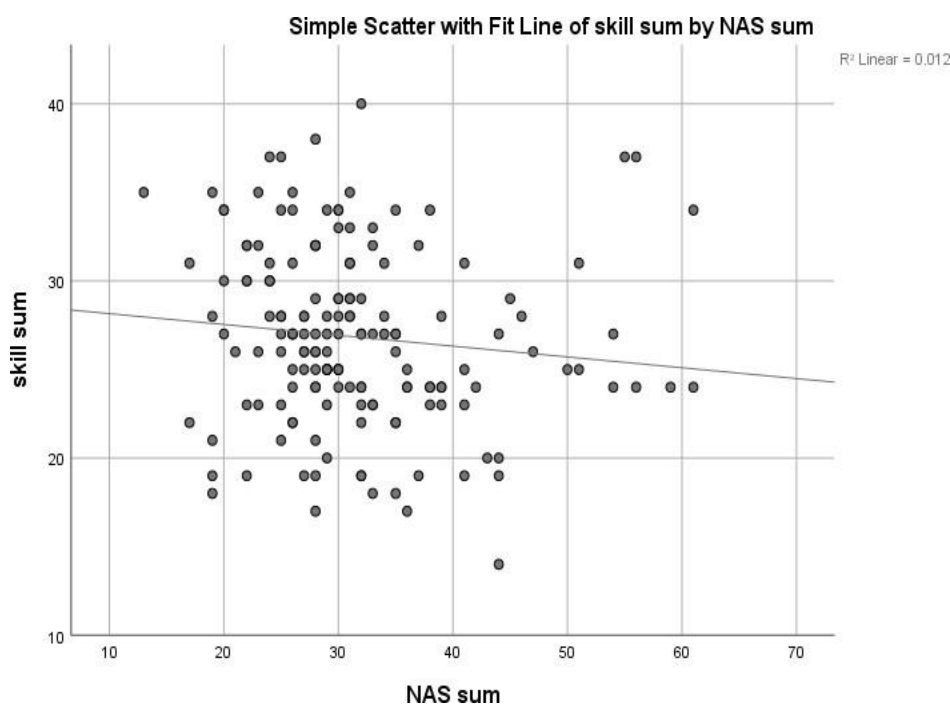
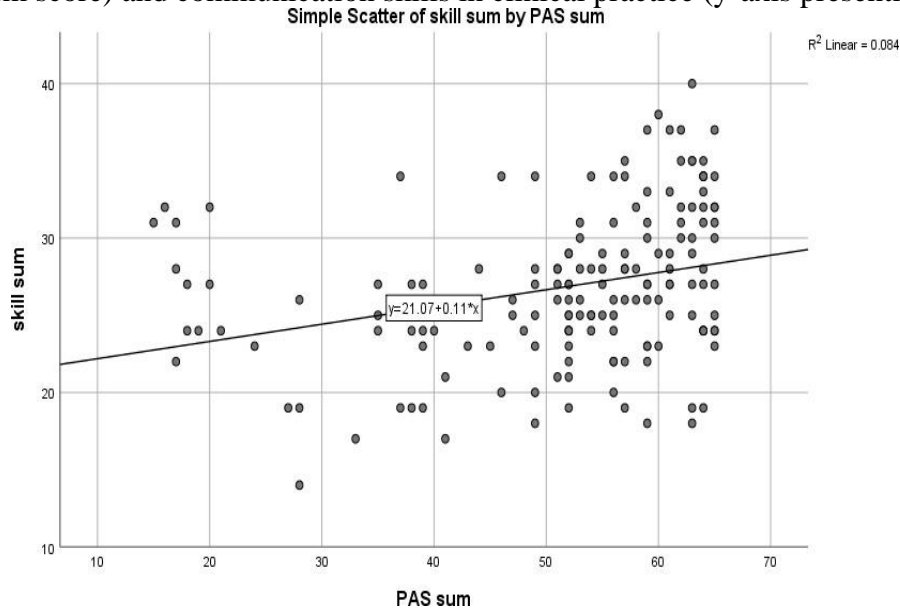


figure 4.0 inverse relation between negative attitude towards communication skill(x-axis containing sum score) and communication skills in clinical practice (y-axis presenting sum score)

Table 3.0 Descriptive statistics of the three scales scores

skill sum		PAS sum	NAS sum
N	Valid	161	161
	Missing	0	0
Mean		26.83	31.61
Median		27.00	30.00
Std. Deviation		4.999	9.089
Range		26	48
Minimum		14	13
Maximum		40	61

Table 4.0 descriptive statistics of the three scale raw scores among males and females

N		Mean	Std.Deviation	Std.Error	95% Confidence Interval for Mean		Minimum	Maximum	
					LowerBound	UpperBound			
skill sum	Male	56	26.07	4.659	.623	24.82	27.32	17	37
	Female	105	27.24	5.147	.502	26.24	28.23	14	40
	Total	161	26.83	4.999	.394	26.05	27.61	14	40
PAS sum	Male	56	48.50	14.490	1.936	44.62	52.38	15	65
	Female	105	53.26	11.847	1.156	50.96	55.55	16	65
	Total	161	51.60	12.983	1.023	49.58	53.62	15	65
NAS sum	Male	56	34.05	10.370	1.386	31.28	36.83	17	61
	Female	105	30.30	8.080	.789	28.74	31.87	13	61
	Total	161	31.61	9.089	.716	30.19	33.02	13	61

Table 5.0 mean ranks of positive and negative attitude scores in males and females

	gender	N	Mean Rank	Sum of Ranks
PAS sum	Male	56	70.29	3936.00
	Female	105	86.71	9105.00
	Total	161		
NAS sum	Male	56	92.33	5170.50
	Female	105	74.96	7870.50
	Total	161		

Table 6.0 significant of mean ranks tested by *Mann-Whitney U test*

	PAS sum	NAS sum
Mann-Whitney U	2340.000	2305.500
Wilcoxon W	3936.000	7870.500
Z	-2.132	-2.255
Asymp. Sig. (2-tailed)	.033	.024

a. Grouping Variable: gender

6. Discussion:

This analytical cross-sectional study aimed to assess the attitude towards learning communication. It also assesses communication skills in clinical practice and the implication or effect of the positive and negative attitudes on clinical practice of medical students in wards, which is a non-touched area of research. Communication skills are an important part of having an integrated and well sustained health system(25). Having student’s attention and interest to learn these skills is important to learn them properly as the study have found a clear relation between attitude and skill. To our knowledge, this is the first study to compare student’s views and opinions about learning communication skills with their performance on clinical wards.

We used correlation tests to find that positive attitude of learning communication skill has a positive correlation with student’s communication skills in clinical practice. A study in Korea emphasized the effect of communication skills (namely, “listening attentively” and “explaining more explicably”) on clinical practice as they were correlated between students and residents(26). Our study took a different approach (opinions and views on learning these skills), while our study didn’t find a correlation between “active listening and talking skills” and student’s positive attitudes about communication skills when compared separately from the other (ME-CO) items. We also found that negative attitude of the student has a negative correlation with their communication skills in practice. This imply that student’s attitude affects their connection and ability to gather information from patients, which in turn will affect the quality of management of patients and healthcare in general. The study also showed that students have a good attitude regarding communication skills, but also showed a significant negative impression on learning these skills with negative attitude

scale having a mean of 31.61 of total scores. This indicates that communication skills are not taught in a way that attracts student's interest. We assessed the positive and negative attitudes and communication skills in relation to student's gender. The means of communication skills raw scores were almost the same in both males and females. The mean of the positive attitude raw scores is more in females than males (48.50), indicating higher positive attitude in females, similar to a previous study(9)(27). Meanwhile the mean of negative attitude raw scores is higher in males than in females, thus more negative attitude in males. We compared mean ranks of positive and negative attitude between males and females. Females have higher positive attitude than males which is justified to compare, while males have more negative attitude towards communication skills learning than females but in this case, both groups were not equally distributed so it's not justified to compare negative attitude. Similar study showed a favorable attitude in females(9).

7. Conclusion and recommendations:

The study provided an important key to improve the health system. Improving the way communication skills are taught in medical school has its role on a better doctor- patient connection and understanding. Curriculum of the community medicine should be more understandable and have more practical than theoretical means of teaching, as a study in London highlighted that practical learning of communication skills (in form of simulated sessions) affected student's attitudes toward learning these skills positively(28). More studies should touch on the area of learning process in medical field. Students should be engaged in a simulated communication skills sessions to enhance better learning experience.

We should aim for the roots of the problem to be fixed. In other words, constructive researches for evaluation of teaching process and curriculum should be encouraged considering the lack of evaluative studies in the area. Further and more detailed studies are needed for full evaluation of health system in the region. Extended studies with larger population are needed. More detailed studies on male and female difference in communication skills are required as well.

8. Limitations of the study:

161 participants out of 210 of the total sample size participated in the study due to unavailable online access. Some of them were drop-outs. There were also some individuals who didn't respond and didn't want to take the questionnaire although we did our best to make it short and simple. The timeline to conduct the study was limited.

9. Ethical consideration:

The aims of this study will be clearly clarified in the first section of the electronic questionnaire and by data collectors. Participants will get informed that the questionnaire will not include names or any private information and data will be used for research purposes. They will also be informed that their data (personally) will not be distributed and the questions are not for evaluation but merely for survey. We will ask them that if they agree to these terms they can continue and fill the questionnaire and they have the right to refuse not to do so.

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