

# Level of Competence in Clinical Skills of Medical Officers Working in the Accident and Emergency Departments of District Headquarter Hospitals

Musarrat ul Hasnain, Karim Shah Faizi, Sumera Badar

---

## Abstract

To assess the competence in clinical skills of the medical officers (MOs) working in the Accident and Emergency (A&E) Departments of District Headquarter Hospitals (DHQH). **Study Design:** Cross sectional study. **Place and Duration of Study:** DHQs of Jhang and Sahiwal, in the month of December, 2008. **Methodology:** A questionnaire regarding 14 basic clinical skills applied in patient care in A&E Department was prepared with the help of district specialists, MOs and the nursing staff working in DHQs. The responses were recorded by using modified Likert scale at seven levels of competence. Four respondents were asked to assess the competence of each MO: MO him/herself; a peer of the MO; consultant physician/surgeon; nurse working in the same department. The results were computed and analysed by using statistical software SPSS version 15.

**Results:** In DHQH Sahiwal the collective mean of the level of competence of clinical skills by all the respondents (n=15) was highest for focused history (5.64 out of 7) and lowest for chest intubation (3.15 out of 7). In DHQH Jhang the collective mean of the level of competence of clinical skills by all respondents (n=21) was highest for urethral catheterization (5.20/7) and lowest for Cervical spine immobilization (3.18/7). There was no significant difference in perceptions of different groups regarding level of skill for a particular doctor. **Conclusion:** The level of competence in clinical skills of MOs working in the A&E department of DHQs is suboptimal and needs to be improved urgently to avoid unnecessary mortality and morbidity. **Key Words:** Clinical skills; Accident and Emergency Department; District Headquarter Hospital.

---

## INTRODUCTION

Acquisition of clinical skills is one of the main objectives for health professionals. The term "Clinical skills" includes a wide range of professional activities, including communication skills, teamwork ability and various psychomotor skills such as suturing, intravenous cannula insertion and cardiopulmonary resuscitation. According to literature, performance of clinical skills is associated with significant morbidity and mortality.<sup>1</sup> Emergency care can make important contribution to reducing avoidable deaths and disability. This is particularly true in resource depleted situations especially in low-and middle-income countries where these services need to be well planned and must enjoy

support at all levels - at the national, and community level- and take into account the entire spectrum of care, from the occurrence of an acute medical event in the community to the provision of adequate and appropriate care at the hospital.<sup>2</sup> In a study in Pakistan it was found that out of 18 trauma related deaths six were preventable and seven were potentially preventable, thus showing that proportion of preventable deaths is significantly higher as compared to developed countries.<sup>3</sup> Another investigation revealed multiple discrepancies in health referral system.<sup>4</sup> Even in developed countries significant deficits in the competence of core clinical skills were reported indicating clear requirement for

---

adequate training in basic clinical skills during the training.<sup>5</sup> The most important step in the development of emergency medicine is the recognition that emergency medicine incorporates a unique body of knowledge which is required by specialized practitioners or emergency physicians<sup>6</sup>. Most of the doctors working in emergency care of District Hospitals in Pakistan hold primary degree i.e. MBBS and have not received any postgraduate training in emergency care.<sup>7</sup> There is very little continuing medical education and access to recent biomedical information is almost non-existent in developing countries. It is only provided by pharmaceutical industry during their efforts for marketing their products and thus the base of evidence is questionable.<sup>8</sup>

Majority of the population of Pakistan get emergency treatment from primary and secondary level hospitals which include basic health units, rural health centers, Tehsil and DHQs. DHQs are of prime importance as they receive referrals from primary level hospitals. There are some studies available which have focused emergency facilities and covered perceptions of the administrators, doctors, patient and representatives of the society in Pakistan. No study has tried to assess the level of competence in clinical skills of MOs making life and death decisions of millions of people in A&E departments of the country. This study aims at determination of level of competence of MOs working in A&E department of DHQs.

## **METHODOLOGY**

The study was conducted at two DHQs of Punjab located in Jhang and Sahiwal, during December, 2008. These hospitals are situated in central Punjab about 100 km apart. DHQ Jhang has 250 beds and that of Sahiwal has 422 beds including those of emergency beds. The emergency care is provided by Casualty Medical Officers (CMOs), who, are essentially male while obstetric patients are attended by female after male MO sends a call. Specialists are also on call, some of them residing in the hospital. Practically it takes minimum 15 to 20 minutes for a specialist to reach the A&E department after the call is sent. During this initial

period CMO is the only doctor available for extending emergency care. These CMOs work in shifts and two doctors are working in one shift of 8 hours. Usually one doctor is dealing with medico-legal cases and other is attending patients reporting with acute medical, surgical conditions and trauma.

A questionnaire was prepared through a process of consultation involving all specialists attending patients at A&E departments and it was piloted on five doctors for further improvement. The doctors did not make any changes in the questionnaire. A total of 14 clinical skills were identified. Likert Scale was used and 7 levels of competence were listed. First three levels denoted no competency, 4<sup>th</sup> level indicated need for assistance and last three showing level of mastery in competence.

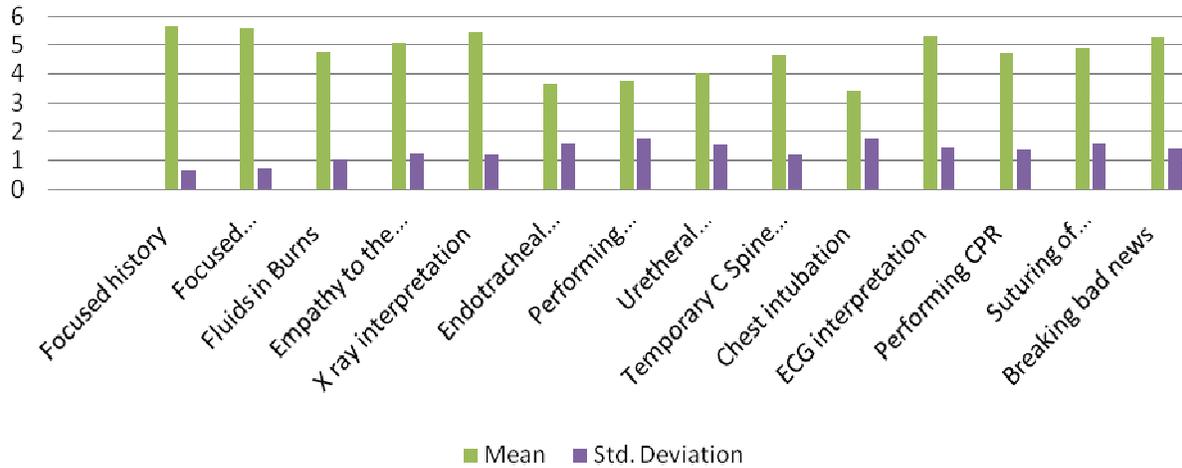
The study was triangulated in the sense that each CMO was reported upon by himself, by his peer, by a Surgeon/Physician and by one nurse acquainted with the work of respective CMO. The questionnaire was handed over to the respondents through special messenger and was returned the same day. Although it was absolutely voluntary activity yet all the CMOs expressed their willingness to participate in the study after the purpose of study was explained to them. Approval of the Medical Superintendents of both the hospitals was obtained.

## **RESULTS**

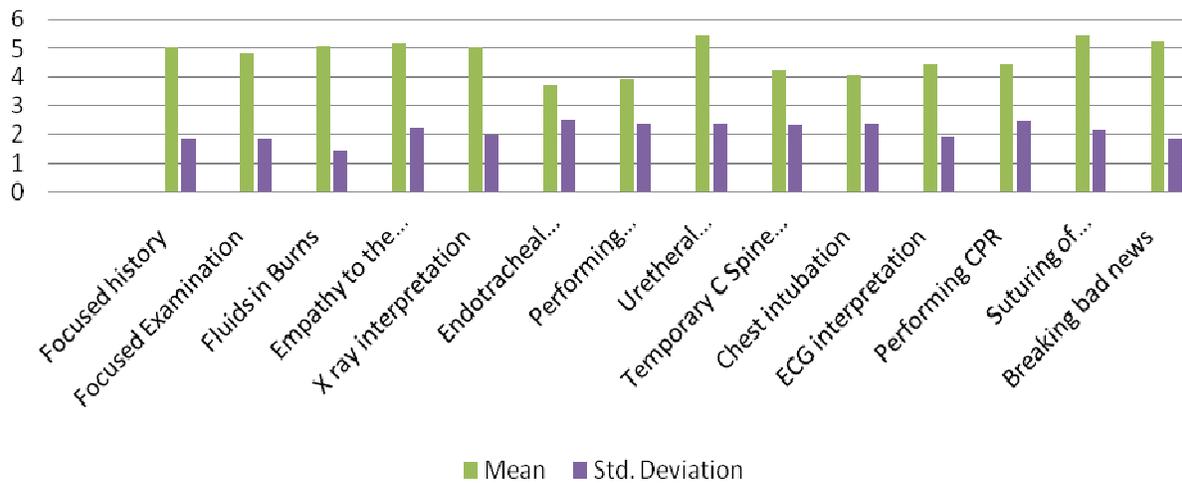
There were 15 Male MOs in DHQ Sahiwal and 21 MOs in DHQ Jhang and all of them participated. Age ranged between 28 to 45. The data Cumulative mean for Chest intubation in District Sahiwal was 3.7/7 and that for focused history was 5.4/7. Even in self assessment the level was almost similar being 3.53/7 for chest intubation and 5.73/7 for focused history.

In District Hospital Jhang Chest intubation skill level was 3.51/7 while Temporary C spine immobilization had lowest mean i.e.3.18/7 C. Self assessment showed Chest intubation mean as 4.1/7 and focused history as 5.0/7 while Endotracheal intubation skill was lowest being 3.71/7 and suturing of laceration as highest being 5.43/7. The assessment from all dimensions touched skill level 1 in many skills and among many respondents.

### Cummulative Result, District Hospital, Sahiwal No. of Doctors=15



### Cummulative Result, District Hospital, Jhang No. of doctors=21



## Report

10		Focused history	Focused Examination	Fluids in Burns	Empathy to the patients	X ray interpretation	Endotrachea I Intubation	Performing Venesection	Urethral Catheterization	Temporary C Spine immobilization	Chest intubation	EKG interpretation	Performing CPR	Suturing of Laceration	Breaking bad news
Self	Mean	5.00	4.81	5.05	5.14	5.00	3.71	3.95	5.43	4.24	4.10	4.48	4.48	5.43	5.25
	Std. Deviation	1.897	1.861	1.431	2.242	1.949	2.552	2.376	2.378	2.343	2.385	1.914	2.462	2.158	1.860
Peer	Mean	5.05	5.00	4.60	5.29	4.81	3.68	3.05	4.71	3.12	3.00	4.86	4.35	4.43	5.00
	Std. Deviation	1.687	1.673	1.536	1.678	2.015	2.689	2.355	2.305	2.118	2.357	1.558	1.801	2.315	1.826
Surgeon	Mean	4.00	4.26	3.56	4.10	4.58	6.75	6.50	5.19	4.33	4.14	4.24	5.11	4.29	4.63
	Std. Deviation	1.777	1.327	1.464	1.480	1.261	.500	.577	1.167	2.082	1.292	1.947	1.243	1.858	1.606
	Mean	5.33	5.29	4.90	5.10	6.05	3.38	3.19	5.48	2.95	2.95	5.71	4.71	5.52	4.52
	Std. Deviation	.483	.463	.436	.539	.498	2.312	2.089	.928	4.511	2.479	.902	.956	1.123	.602

## DISCUSSION

The study clearly uncovers the suboptimal level of competence in basic clinical skills among CMOs who act as first line medical care providers for all kinds of emergency conditions in DHQs. These doctors enter the peripheral health care system without further training anywhere in the academic institutions. The confidence level of the students is usually higher than actual competency level in the performance of emergency skill.<sup>9</sup> The experience of medical students in practical skills is remarkably lower than the expectations of the faculty members.<sup>10</sup> Students usually lay more emphasis on the theoretical aspects than on the practical aspects.<sup>11</sup> This factor necessitates improvement in training of medical students.

In this study there is no significant difference in the assessment by different respondents. The skills of history taking, physical examination, radiograph and ECG interpretation scored higher mean i.e. between 5 and 7 while endotracheal intubation, venesection, and chest intubation obtained low mean score i.e. between 3 and 4. This finding is comparable with other reports where it was found that procedures that are common, safe and easy to perform have better assessment results while uncommon demanding and true emergency procedures have poor results.<sup>12</sup> This finding was consistent in both the hospitals. Further explanation for lower levels of competence is that physicians entering peripheral hospitals often do not feel sufficiently

clinical skills and procedures including: prepared in relevant clinical skills and procedures which are drawn from many fields including: anesthetics; surgery; obstetrics; gynecology; emergency medicine; radiology; radiography; ophthalmology; dermatology; psychiatry; pediatrics; and ultrasonography.<sup>13,14</sup> Moreover they have higher need of training than urban/big cities doctors.<sup>14</sup>

There are obvious limitations of this investigation as only two hospitals were studied. The list of skills was not comprehensive and cannot serve as true basis of need assessment if CME activity is to be planned for the doctors in DHQs.

## ETHICAL CONSIDERATIONS

The study purpose was properly communicated to the participants and all the data will only be used for the study.

## CONCLUSION

The CMOs in the A&E departments of DHQs are not fully competent in clinical skills required to save lives of patients presenting with acute medical/surgical conditions and trauma. A comprehensive essential skill training should be started and continued at DHQs. Which are drawn from many fields prepared in relevant.

## REFERENCES

- Dangoisse M, Collins S, Glynn CJ. Haemothorax after attempted intercostal catheterisation. *Anaesthesia* 1994; 49:961–963.
- Kobusingye OC, Hyder AA, Bishai D, Hicks ER, Mock C, Joshipura M: Emergency medical systems in low- and middle-income countries: recommendations for action. *Bull World Health Organ* 2005; 83:626-631.
- Jat AA, Khan MR, Zafar H, Raja AJ, Hoda Q, Rehmani R, Lakdawala RH, Bashir S *Asian J Surg*. Peer review audit of trauma deaths in a developing country. *SAsian J Surg* 2004;27:58-64.
- Siddiqi S, Kielmann A, Khan M, Ali N, Ghaffar A, Sheikh U, Mumtaz Z. The effectiveness of patient referral in Pakistan. *Health Policy Plan* 2001; 16:193-8.
- Fischer T, Chenot J, Simmenroth-Nayda A, Heinemann S, Michael M, Kochen *et al*. Learning core clinical skills-a survey at 3 time points during medical education. *Medical Teacher* 2007; 29: 397–399.
- Arnold JL. International emergency medicine and the recent development of emergency medicine worldwide. *Annals of Emergency Medicine* 1999;33:97-103.
- Razzak JA, Hyder AA, Akhtar T, Khan M, Khan UR. Assessing emergency medical care in low income countries: A pilot study from Pakistan. *BMC Emergency Medicine* 2008; 8:8.
- Bhutta Z, Husein, Dewraj L. Practicing just medicine in an unjust world. *BMJ* 2003; 327:1000.
- Board MM. A survey of the basic practical skills of final-year medical students in one UK medical school. *Medical Teacher* 1994; 20:104–108.
- Ringsted C, Schroeder T, Henriksen, J. *et al*. Medical students' experience in practical skills is far from stakeholders' expectations. *Medical Teacher* 2001; 23:412–416.
- Remes V, Sinisaari I, Harjula A, Helenius I. Emergency procedure skills of graduating medical doctors. *Medical Teacher* 2005; 25: 149–154.
- Glazebrook R, Manahan D, Chater B, Barker P, Row D, Steele B, Morris G, Cornelius S, McLellan T. Educational needs of rural and remote. Australian non-specialist medical practitioners for obstetric ultrasound. *Aust J Rural Health* 2004; 12:73–80.
- Glazebrook RM, Harrison SL. Obstacles to maintenance of advanced procedural skills for rural and remote medical practitioners in Australia. *Rural and Remote Health* 2006; 6:502.
- Curran V, Hatcher L, Kirby F. CME needs of rural physicians: How do we compare to our urban colleagues? *Can J Rural Med* 2000; 3:131–138.

## Appendix

### Questionnaire

Serial No	Skill	Not Mastery/Not Competent			Assistance Needed		Mastery/Competent	
		1	2	3	4	5	6	7
1	History taking; Focused Examination; Fluid assessment in burn; Empathy; X-ray interpretation; Endotracheal Intubation; Venesection; Urethral Catheterization; Temporary C Spine immobilization; Chest Intubation; ECG Interpretation; CPR; Suturing of Laceration; Breaking bad news							

## AUTHORS

- Dr. Musarrat ul Hasnain**  
Director Medical Education  
Punjab Medical College, Faisalabad  
Email: [shahabal@gmail.com](mailto:shahabal@gmail.com)
- Dr. Karim Shah Faizi**  
Consultant Surgeon  
District Headquarters Hospital, Sahiwal
- Dr. Sumera Badar**  
Lecturer, Department of Medical Education  
Punjab Medical College, Faisalabad