

## AWARENESS OF MEDICAL GRADUATES ABOUT CAPACITY ASSESSMENT OF PATIENTS – A COMPARATIVE STUDY

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### ABSTRACT

*Background:* Autonomy is basic fundamental right of every patient. It is the free will to decide whether to take or refuse any treatment. Pakistan Medical and Dental Council states that autonomy should always be respected; doctor should assess capacity of every patient. The autonomy can be overridden only if patient has impaired capacity to make decision. For this reason subject of Behavioural Sciences was introduced in medical curriculum to broaden doctor's knowledge about medical ethics and thus improving patient's care.

*Objective:* In this study, two groups were made on the basis of whether the medical graduates had been taught the subject of Behavioural Sciences or not, and multiple questions were asked to check their knowledge about capacity assessment.

*Methods and Results:* It was a comparative study conducted in 2012 – 13 in Lahore. The study group of medical graduates of Services Institute of Medical Sciences Lahore affiliated with University of Health Sciences (the group who had been taught and examined in the subject of Behavioural Sciences) were significantly better aware of the knowledge about capacity assessment, as compared to the study group of medical graduates of King Edward Medical University Lahore (the group who had not been taught or examined in the subject of Behavioural Sciences).

*Conclusions:* The study group of medical graduates who had been taught and examined in the subject of Behavioural Sciences were significantly better aware of the knowledge about capacity assessment.

*Key words:* Capacity assessment, mental capacity, physician, patient, autonomy, Behavioural Sciences.

### INTRODUCTION

Most fundamental dogmata of the medical profession have been the obligation to achieve patient benefit. From the days when the Hippocratic traditions were established, generations of treating physicians have sworn to do their best to protect patients from detriment, and to reinstate them to health. The physician is readily accepted and believed as the caretaker who uses his specialised knowledge and training to benefit patients, including deciding one – sidedly what 'constitutes a benefit'. The relationship therefore resembles that between a peer and caring father and his child, hence the use of the term "paternalism". For a number of centuries, medical beneficence stood unopposed and unchallenged as *the modus operandi* for doctor – patient relationships.<sup>1,2</sup>

However, various social and philosophical advances, especially in last few centuries have progressively but certainly relocated the authority of decision making from the treating physician to the individual. People are now much more aware of their fundamental rights than before.<sup>3</sup> According to 'Code of Ethics' by Pakistan Medical and Dental Council<sup>4</sup> patient has right

to make his or her own decisions regarding his or her health. This right is termed as "Autonomy". The principle of autonomy recognizes the rights of individuals to self – determination. But this right could only be given to the patient who has capacity to make his / her own decisions.<sup>5</sup> Any adult is said to have capacity to consent (or refuse consent) to any medical treatment if he or she can understand and retain the information relevant to the decision in question, believe that information and weigh that information in the balance to arrive at a logical and medically or culturally acceptable choice.<sup>6,7</sup> If the patient fulfills these four criteria then he is under no obligation to be forced to come to any decision which is logical, saner or more beneficiary in doctor's point of view.<sup>4</sup> The spread of knowledge of patient's rights in general public and current legislation, has subjected the doctor to critical evaluation if he is forcing a treatment that patient does not want. But the doctors who understand the steps in assessment of capacity should not be found to have acted negligently.<sup>3</sup>

With induction of any new approach the question arises that whether it is serving the purpose, in ade-

quate capacity, for which it was introduced or there is room for improvement. To answer such a question, medical graduates who have been taught about it could be compared with graduates who were not formally taught the capacity assessment. Here in the Punjab province of Pakistan, the public and private medical colleges that are affiliated with University of Health Sciences Lahore are given formal teaching in subject of Behavioural Sciences.<sup>8</sup> In King Edward Medical University (KEMU) Lahore, this subject is not been taught.<sup>9</sup> Since some of the medical colleges (which are affiliated with UHS) impart formal education in the subject of Behavioural Sciences and other medical college don't impart such education therefore, some difference in knowledge of graduates from both universities about the assessment of patient's capacity may be there. This comparison would be expected to tell us that how much grasp over knowledge regarding capacity assessment is achieved by the students of University of Health Sciences. Cohort who will score, at least, 25 percent greater than the other cohort will be considered to have significantly improved awareness about capacity assessment.

**Null hypothesis:** Knowledge about capacity assessment in interventional group (who have studied the subject of behavioural sciences) may be equal to that in non-interventional group.

**Alternate hypothesis:** Knowledge about capacity assessment in interventional group (who have studied the subject of behavioural sciences) may not be equal to that in non-interventional group.

**METHODS**

**Study Design and Setting:** It was a cross sectional analytical study. Data was collected from house officers in two conveniently selected tertiary care hospitals in Lahore i.e. Mayo Hospital, affiliated with King Edward Medical University (KEMU) and Services Hospital affiliated with Services Institute of Medical Sciences (SIMS) and University of Health Sciences Lahore from October 2012 to February 2013. Data analysis was conducted in the department of Behavioral Sciences, University of Health Sciences, Lahore.

**Selection of Participants:** The sample size was calculated by the following formula keeping the power of study equal to 90% and level of significance equal to 5%. The sample size should be 82 in each group.

$$n = \frac{(Z_{1-\alpha/2} \sqrt{2\bar{p}(1-\bar{p})} + Z_{1-\beta} \sqrt{p_1(1-p_1) p_2(1-p_2)})^2}{(p_1 - p_2)^2}$$

(Sample Size determination in health studies version 2.0.21 WHO).

Where  $\bar{p} = \left( \frac{P_1 + P_2}{2} \right)$

$P_1$  is the anticipated proportions of Group A = 67%<sup>10</sup>  
 $P_2$  is the anticipated proportions of Group 2 = 42%  
 $p_1 - p_2$  is the difference between proportions = 25%  
 $Z_{1-\beta}$  is the desired power of study = 90%  
 $Z_{1-\alpha/2}$  is the desired level of significance = 5%

The study included 82 medical graduates of SIMS who were taught Behavioural Sciences (Group I: Interventional) and 82 medical graduates of KEMU who were not taught Behavioural Sciences (Group II: Non-Interventional) by simple random sampling. Fresh graduates in their last six months of house job were included in the study. Foreign graduates, graduates of any other medical school within or outside the Punjab province were excluded.

**Data Collection and Research Procedures:** The research was questionnaire based. The questionnaire was structured in accordance with written criteria for assessment of capacity. The material for the questionnaire was taken from Evan (2002), Jacobs (2007), PMDC 'Code of Ethics' (2012), Mental Health Ordinance of Pakistan, 2001 and various textbooks on the subject. On these basis correct and wrong answers to the various questions were included in the questionnaire, and awareness of doctors to assess capacity of patient was assessed. Furthermore, each correct answer was counted as "1 mark" and thus a total of fifteen questions could possibly give a participant a maximum of 15 marks. Such scoring for each participant was also calculated and compared through suitable statistical procedures as mentioned in the next paragraphs.

**Statistical Analysis:** The data was entered and analyzed using Statistical Package for Social Sciences (SP-SS) version 20.0. Mean ± SD (Standard deviation) was given for age and duration of house job. Percentage, frequency and graph were given for qualitative variables, for example sex, college, etc. As the data was mainly categorical, comparison between two groups was done by application of Chi-Square test or Fischer Exact test along with calculation of Contingency Coefficient. Expected data, observed data and difference between two was observed by contingency table. The sum of total scores obtained by the participants, out of 15 was tabulated with mean ± SD. The comparison between the two study groups on the basis of total scores was performed by applying Independent Sample T test. P value of ≤ 0.05 was considered as statistically significantly.

**RESULTS**

A total of 164 house officers were divided into two groups based on whether they were formally taught the subject of Behavioural Sciences or otherwise. Each group consisted of 82 medical graduates, out of which 41 were working in medical wards and 41 were working in surgical wards. Out of total, 115 (70.1%) were males and 49 (29.9%) were females thus carving a

Table 1: Comparison of frequency of correct answers to the questions between study groups.

Questions	Group I	Group II	P value
1. What are the points you would look for while assessing the capacity of patient to give valid consent?	19	9	0.038*
2. What is legal age for consent?	82	82	1.000
3. Can you describe the first stage of the two – stage test for assessing a person's capacity?	13	11	0.659
4. If a sane adult refuses the prescribed treatment by you, what you think, can he be still treated under common law, good will and best interest of patient?	50	33	0.008*
5. A person who is declared not having capacity for making decision for certain treatment, can he have capacity for some other illness?	40	22	0.004*
6. Can a patient who has been declared clinically not having capacity to make decision for some particular physical illness, testify as a witness in court of law?	47	30	0.008*
7. If you believe that a person is incapable of signing a consent form for the prescribe procedure, are you under legal obligation to get the consent form a relative?	49	39	0.117
8. Is it appropriate to explain complications of a procedure and get the consent form signed from a close or first degree relative, who is presumed to be more understanding than the patient?	52	37	0.019*
9. Is the patient eligible for casting vote if he was detained in hospital, in his best interest, for having impaired judgment about his physical disease?	40	31	0.156
10. Capacity assessment is complex process that is why only psychiatrists should be called in for expert opinion as they are said to be expert in this domain:	46	36	0.118
11. An illiterate person of labor class from a rural background in shaggy clothes with Punjabi as only language of communication should be considered to have lack of capacity to understand medical complexities and difficult treatment regimens?	44	35	0.160
12. If a person goes with treatment option relevant to his cultural background or in accordance to his health belief model but this option is not acceptable in evidence based medicine, should be considered to have lack of capacity?	54	43	0.081
13. If a person is unable to make the specific decision at some specific time, should he be declaring to have impaired capacity for same issue at some other point in time?	45	37	0.212
14. Can a person be considered to have capacity if he is unable to communicate verbally or in written form but can only communicate his decision through blinking his eye?	49	37	0.061
15. When a person is presumed to have capacity, is there need to have formal capacity assessment if his capacity is challenged by some of his friend?	55	39	0.012*

male to female ratio of 7:3.

Another way of comparing the knowledge about capacity assessment was based on the marks obtained by each participant. This way of comparison has two prongs, the one which is based on 'total scores' and the other which is based on a 'cut-off score' dividing the participants obtaining  $\leq 7$  scores, referred to as 'inadequate' and those participants obtaining  $> 7$  scores, referred to as 'adequate' in terms of knowledge for capa-

city assessment. The comparison of total scores obtained by the participants of study groups is shown in Figure 1. Mean ( $\pm$  SE) total score obtained by Group I participants ( $8.34 \pm 0.273$ ) was significantly ( $p$  value: 0.0001) higher as compared to the mean total score ( $6.33 \pm 0.264$ ) obtained by Group II participants.

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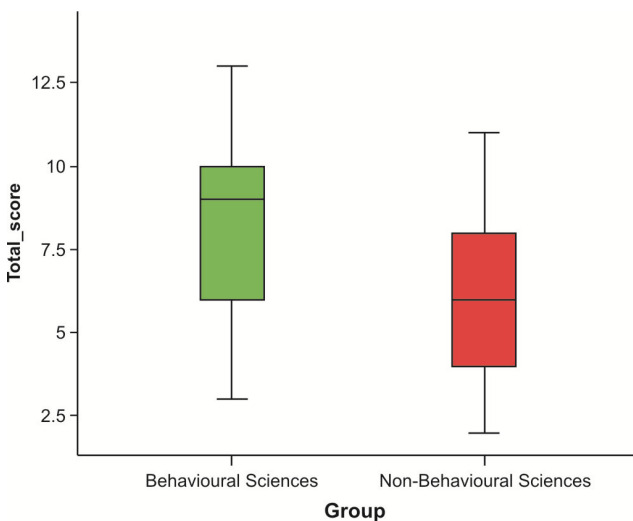


Figure 1: *Boxplot showing the comparison of total scores between study groups.*

The cut – off value of total score obtained by the study participants was the basis of dividing them into two categories i.e.  $> 7$  scores meant the participant was considered to have adequate knowledge of capacity assessment whereas  $\leq 7$  scores meant that the participant’s knowledge about capacity assessment was inadequate. The comparison of study groups on the basis on this categorization is given in Table 2. The cross – tabulation followed by application of Chi-square and Contingency Coefficient technique of statistical analysis revealed that participants of Group I had significantly ( $0.0001$ ) higher frequency of ‘adequate’ knowledge about capacity assessment as compared to par-

Table 2: *Comparison of knowledge about capacity assessment between study groups.*

Knowledge	Group		Total
	BS	Non-BS	
Adequate	51	22	73
Inadequate	31	60	91
Total	82	82	164

ticipants of Group II.

Summarizing the results of current study, it is reported that the medical graduates who were taught Behavioural Sciences as a mandatory subject and were examined in that subject too, showed overall higher knowledge about capacity assessment as compared to the those medical graduates who were not taught Behavioural Sciences. However, some questions were dropped by the Group I participants and some questions were correctly answered by the Group II participants yet none of the questions were better answered by the Group II participants, an observation consolidating the overall superiority of Group I. Sceptically, author deduced that Group I participants could have answered ‘all questions’ significantly better than Group II participants if problem based learning were further strengthened in the course and teaching of the subject of Behavioural Sciences. Nonetheless, it is needless to recommend that the subject may be taught to all the medical students across the country so that ‘Code of Ethics’ issued by PMDC to all medical practitioners may be followed by them stringently.

**DISCUSSION**

With the institution of Human Rights, there is increasing public wakefulness of individual rights, and in the health care setting people are encouraged to participate actively in decisions regarding their care.<sup>11,12</sup> Now it has been established that an adult has capacity to consent (or refuse consent) to medical management if he or she can comprehend and retain the information related to the decision in question, believe that information, and weigh that information in the balance to work out a logical choice.<sup>13,14</sup> Criteria to assess capacity to consent for research are essentially the same as well. Doctors make judgments about their patients’ fitness to consent to medical investigation and treatment during their daily routine; and in today’s litigious environment they must face the likelihood that, from time to time, these judgments will be examined judgmentally in a court of law.<sup>15,16</sup> Capacity varies with both time and the complexity of the decision being made; thus, sound decisions need cautious assessment of individual patients.<sup>5</sup> A doctor could be held negligent for not correctly assessing capacity if the patient was affected by treatment.<sup>6,17</sup>

Evan et al, in 2007 conducted a questionnaire based cross sectional study in which he distributed his structured questionnaire to doctors working in emergency and accident department, nurses working in emergency and accident department and emergency ambulance staff. In this questionnaire he assessed the knowledge of these people regarding method of capacity to consent or refuse a medication treatment. During this cross sectional survey it turns out that 67% of the doctors and 10% of the nurses but none of the ambulance staff workers had this knowledge regarding capacity

assessment. Fifteen percent of all respondents wrongly thought that an adult who is found to have capacity can lawfully be medically managed against his or her will. The results of this study indicate that workers of emergency and accidental department do not have satisfactory knowledge about how to assess capacity and treat people who either reject management prescribed by their healthcare worker or lack capacity. It shows a need for additional training among doctors, nurses and ambulance staff.

Jackson et al, in 2002 conducted a cross sectional survey through a structured questionnaire at academic meetings, lectures and conferences.<sup>6</sup> In this cross sectional survey he assessed the knowledge about capacity. In his study he distributed his structured questionnaire to 190 doctors out of which 129 responded back to him. These 129 doctors included 35 general practitioners, 31 psychiatrists, 29 old – age psychiatrists and 34 final year medical students. From the responses he found that 58% of psychiatrists had significant knowledge about how to assess capacity of patient to consent or refuse medical treatment, whereas, 34% of the old – age psychiatrists, 20% of the general practitioners and 15% of the final year medical students had significant knowledge about capacity. Surprisingly all the participants believed that an individual can be lawfully treated against his or her will, with no obvious difference by specialty. In light of his research he suggested that issues of capacity and consent deserve more devotion in both undergraduate and postgraduate medical education.

As the ground situation in Pakistan is totally different from the scenarios presented in last a few paragraphs. Here, in our country like other developing and under – developed nations, the usual way of ‘paternalistic approach’ is rampant to date. Capacity assessment of patients was far from thinking of even the busiest and most sophisticated clinicians in the country who might have neither read the ‘Code of Ethics by PMDC’ nor acted on those ever, till last decade when University of Health Sciences Lahore stepped forward and introduced a new subject to the curriculum of MBBS and BDS students, namely the Behavioural Sciences. A major portion of the new subject covered the most important and practical aspects of medical ethics including the principals and methods of capacity assessment. This plod has strengthened not only the concepts of medical ethics but also succeeded to produce better medical doctors who can apply the principals of medical ethics in their practice – a binding put on all medical practitioners across the country by the national regulatory authority i.e. PMDC, Islamabad.

Two study groups were made on the basis of whether the medical graduates had been taught the subject of BS or not, and multiple questions were asked to check their knowledge about capacity assessment. A thorough and fair analysis was carried out by separately

comparing the correct and wrong answers to each question by the participants of both groups on one hand and by the cumulative comparison of sum of marks obtained by the participants of both groups out of a total of 15 marks where each correct answer was equal to ‘1 mark’ and there was no negative marking for wrong answers. Such a meticulous analysis has substantially pointed out that the study group of medical graduates of Services Institute of Medical Sciences Lahore affiliated with University of Health Sciences (the group who had been taught and examined in the subject of Behavioural Sciences) were significantly better aware of the knowledge about capacity assessment of their patients in general and in variety of clinical situations in particular as well, as compared to the study group of medical graduates of King Edward Medical University Lahore (the group who had not been taught or examined in the subject of Behavioural Sciences).

### Limitations

This study has various limitations. Differences in practices by doctors at various levels were not studied due to limitation of both resources and time. Educational intervention was carried out in third year MBBS studies but the house officers were selected to check their knowledge about capacity assessment as it is during the house job when a medical graduate is allowed to practice patient care and only then their practical knowledge about question under study could have been measured. At least two years (fourth and final year MBBS) may have provided opportunity to the participants to learn more knowledge through workshops and conferences but such events are neither very common nor participated by large number of students.

It is **Concluded** those graduates who studied Behavioural Sciences in their undergraduate studies had better understanding of significance and methodology of assessment of capacity as compared to those who had not studied the subject.

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