

ORIGINAL ARTICLE

To Assess the Knowledge and Understanding of Importance of Pre-Anaesthesia Assessment in Developing Countries like PakistanANUM SULTAN¹, HAMZA BIN ALI², HANA KHURSHID³, KIRAN RIAZ KHAN⁴, ALI KASHIF⁵, SAMINA ASHRAF⁶^{1,6}Senior Registrar, Hameed Latif Hospital, Lahore²Post-Graduate Resident, Hameed Latif Hospital, Lahore^{3,5}Senior Consultant, Hameed Latif Hospital, Lahore⁴Senior Registrar, Lady Willingdon Hospital, LahoreCorrespondence to: Samina Ashraf, Email: saminabutt500@gmail.com, Cell: 0336-4609066**ABSTRACT****Objective:** To assess the knowledge and understanding of importance of pre-anaesthesia assessment in developing countries like Pakistan.**Design:** Consecutive non-probability sampling**Setting:** CMH, Rawalpindi**Subjects:** All the patients coming to preanaesthesia assessment clinics for preoperative anaesthesia assessment**Statistical Analysis:** All statistical analysis was done in SPSS Ver. 22.0, descriptive analyses were used in terms of frequency and percentages, and unpaired t test was used to test the significance.**Interventions:** A predefined questionnaire was filled either passively by the doctor or actively by the patients themselves before being evaluated for anaesthesia fitness**Result:** About 50.6% of the population knew that they had come to the PAC for PAA and risk assessment, whereas 30.1% and 18.5% said they had come because the surgeon had ordered them to do so or to get the date of the surgery, respectively. 62.7% were aware that anaesthesiologist does the PAA, whereas the rest were not sure. On being asked why PAA is necessary 49.1% replied that it reduces the risks associated with surgery and anaesthesia whereas 29.5% said it helps to get the date of surgery. All these responses were compared with literacy levels and to their history of prior exposure to PACs, all of them were statistically significant with a p value <0.15.**Practical Implications:** The aim of this study was to know the importance of preanaesthesia assessment among the general population of a developing country like Pakistan coming for surgery, almost half of the patients were unaware of the purpose and were just obeying their surgeons advice to visit PACs, this attitude is what needs to be eliminated and awareness should be created among patients and also surgeons by incorporating importance of anaesthesia related risks in morbid patients and importance of preanaesthesia assessment and investigation**Conclusion:** Knowledge and perception regarding preanaesthesia assessment is still lacking resulting in post-op complications for the patients and there is need of creating awareness regarding PAA so that complications could be avoided.**Keywords:** preanaesthesia assessment (PAA), preanaesthesia clinics (PACs), questionnaire, third world countries.**INTRODUCTION**

Anaesthesia in Pakistan has come a long way from the times of a junior untrained house officer or a helper giving anaesthesia without essential monitoring, or post op recovery care. Those were the times when anaesthesia was comparatively unsafe, now the times have changed and anaesthesia has become a novel speciality which requires not just preanaesthetic assessment and risk stratification but preoperative optimization of the underlying conditions and preparation of the patient for the surgery, moreover the intraoperative monitoring and postoperative recovery care has remarkably reduced the anaesthesia related morbidity and mortality.

Pakistan is still a developing country with a very huge economic burden and low literacy rate. Most of our population doesn't get basic education. Literacy rate is quite low in Pakistan as compared to other countries. Pakistan's literacy rate has declined from 60 percent to 58 percent, as revealed by the economic survey of Pakistan 2017-2018¹. Multiple factors act as the reasons behind this, for instance, lack of government funds to educational institutions¹. With this literacy and minimal healthcare facilities one cannot aim for knowledge regarding preanaesthesia assessment and its impact on overall functioning of the surgical patients.

Preanaesthesia assessment (PAA) and risk stratification is as much of an importance as the surgical procedure itself, this statement is no exaggeration of the fact that how important is the preanaesthesia evaluation before surgery, and not just the evaluation but the optimization of the prevailing underlying conditions which are likely to affect the surgical process, create intraoperative complications and delay recovery of the patient from the anaesthesia which is a dreadful condition to face by any anaesthesiologist and even the treating surgeon same was suggested by Kehlet et al² in their study that improvements and

changes in preoperative care can improve postoperative outcome of surgical patients.

The population in Pakistan is still unaware regarding the importance of the PAA and its implications on the impending surgery. According to the ASA task force a preoperative assessment should be done 2-30 days before the surgery³. Patients are usually guided by the personal assistant (PA) of the surgeons or ward nurses to see the anaesthesiologist so that they could be given appointment for the operation. This practice makes the patient subconsciously hide their problems and drug history from the anaesthesiologists as they are so convinced to get their surgery done that they don't consider PAA important, had they been counseled by the surgeons themselves or had some background knowledge of their own they would act sensibly regarding their PAA. The massive patient load and limited resources add to the problem and minimum contact between patient and doctor lead to a chain reaction of unavoidable complications. Moreover, in most surgical setups there is no proper standardized preanaesthesia assessment clinic which makes it far more neglected domain.

The main aim of this study is to find out the patients' perception of their preoperative assessment and why is it done and why is it necessary to get done, moreover, also to find what is the existing level of knowledge and awareness among public regarding preanaesthesia assessment in spite of low literacy level of Pakistan.

MATERIAL AND METHOD

The study was done in combined military hospital, Rawalpindi. Approval from ethical committee as follows "Ethical committee / institutional review board (IRB) of combined military hospital Rawalpindi thoroughly reviewed the following article of Lt Col Ahmed Mujadid Khan Burki and Dr Anum Sultan of this institution:-

"Patient's Understanding Of Preanaesthesia Assessment In Third World Country"

The ethical committee of CMH, rawalpindi, pakistan gave approval to carry out this study on 2 July 2018"

A total of 1000 patients, who came to the PAC before their surgery, were included in this study. An informed consent was taken and the patients were asked to fill the predefined questionnaire (annex A). The questionnaire was available in both English and urdu as per patient's ease and for the illiterates the doctor asked the patients the questions present in their native language and filled the form accordingly.

Patients aged 13 to 90 were included in this study, whereas, those who could not hear or speak were excluded.

The questionnaire was composed of a total of 11 questions, out of which first 3 were related to patient's demographic profile, whereas no. 5 onwards till no. 11 the questions were asked to assess the patient's perception and understanding regarding preanaesthesia assessment.

RESULTS

The results of this study were as expected and reflected the gross ignorance of patients towards their anaesthesiological assessment and optimization of prevailing diseases and conditions beforehand. Out of 1000, 613(61.3%) were males whereas the rest 387(38.7%) patients were females. 35.5% of the patients were aged <30 years, whereas 43.5% lied between 30-50 years of age, 15.6% constituted the age bracket of 51-70 years and only 5.4% population was >71 years old. Out of 1000 patients only 139(13.9%) had visited PAC before and the rest 861(86.1%) were visiting for the first time.

The literacy level of our population showed that most of the patients coming to PAC were educated upto the secondary level i.e 39.1%, whereas 12.9% were educated upto primary level only while 22.6% and 9.6% were educated till graduate and postgraduate levels, respectively. 15.8% were found to be illiterate.

On being asked why they have come to the PAC, 50.6% answered to be thoroughly reviewed by the doctor before the operation, whereas 30.1% answered that their doctor ordered them to do so, 18.5% thought this was some procedure to get the date for surgery whereas 8% patients didn't know the exact purpose of their visit.

62.7% patients were aware that an anaesthesiologist does the preanaesthesia assessment, whereas 3.9% answered nurse/technician, 17.3% believed it to be done by a house officer and 16.1% thought that the treating surgeon will do the preanaesthesia assessment.

Question regarding importance of PAA was answered correctly by 49.1% of the patients as it reduces the risks associated surgery and anaesthesia, whereas 29.5% thought it helps to get the date of surgery, 14.7% considered it to be part of some legal documentation and 6.7% weren't sure and didn't know the answer.

When asked what would they do if they had some preexisting medical condition like HTN, DM or some cardiac issue, 63.4% were of the opinion that it should be conveyed to the anaesthetist to reduce the risks associated with them, 25.5% thought otherwise and answered telling the doctor would delay the date of operation, 4.7% believed telling this information to the surgeon only is enough, while 6.4% didn't know the answer and were unsure.

67.5% said history of any alcohol intake or any other addiction should be disclosed to the anaesthetist, 17.4% believed only surgeon should be told, whereas 15.1 didn't know the answer to the question.

The question regarding discussing fears and anxiety, only 36.5% answered correctly to discuss them with the anaesthetist in PAC, 24.4% were of the opinion that it should be discussed with the surgeon during ward round, 32.6% believed surgeon should be informed just before operation at the OT table, while 6.5% were unsure.

On being asked would they follow the instructions given to them in PAC, 66.8% answered in accordance and replied positively, but still 29.7% were of the opinion that they will follow the given instruction only if their surgeon allows them, while 3.5% didn't know the correct answer and were unsure.

When all these answers were compared with their educational level and the fact that this is their first visit or have they been to PAC before, the chi-square test was used, a p-value <0.15 was observed in each case, implying patients who had been to preanaesthesia clinics had better understanding of PAA, anaesthesia and associated risks.

The total score achieved by patients according to their age group, educational status, visit number and gender is tabulated in figures.

Table 1: Highest score was achieved by the age group of 31-50 and minimum score by the elderly age group.

Age	Score
15-30	1400
31-50	1740
51-70	570
71-90	187

Table 2: Patients who were educated till secondary level achieved highest score.

Educational status	Score
Illiterate	500
Primary	402
Secondary	1322
Graduate	1167
Postgraduate	567

Illiterate and primary level achieved 500 and 402 respectively patients educated up to PG level scored 567 combined, it was comparatively less but the total number of PG patients was less (9.6%), showing they scored high individually.

Table 3:

Visit number	Score
First visit	3193
Have visited earlier	404

Patient who visited PACs before made 13.9% of the total population and scored individually high but combined score was less (404) than those visiting for the first time (3193).

Table 4:

gender	Score
Male	2276
female	1621

Combined knowledge of male patients was high, scoring 2276 whereas female population scored less (Table 4).

DISCUSSION

Our study showed that almost half of the population was unaware of the importance of preanaesthesia assessment.

An inadequate examination and checkup can lead to an array of surgical and anaesthesia related complications⁴. According to the American society of anaesthesiologists task force on preanesthesia assessment the healthcare system is bound to provide relevant and important information to the anesthesiologist for the timely and appropriate assessment of the invasiveness of the proposed surgical procedure and the severity of the patient's medical condition quite earlier than the planned time for all elective patients^{4,5}. Many patients are discouraged by their surgeons and their personal assistants to not to do anymore investigations and they are reluctant to undergo any test advised by the anaesthetist,

this is a dilemma which an anesthetist face on daily basis and unprepared patients are brought to the ORs. Selective preoperative tests (i.e., tests advised after consideration of specific information obtained from sources such as medical records, patient interview, physical examination, and the type of surgical procedure and anesthesia) guide and help the anaesthetist in preoperative assessment and optimization of the prevailing disease conditions^{4,5}.

If proper PAA is done, there is no need of a battery of investigations, just selective tests but for that proper timing and environment is required for pre-operative checkup. Selective tests pertinent to any finding on preoperative examination and overall assessment are then ordered which are tailored for every patient as per their medical condition and the degree of invasiveness of the surgical procedure. Garcia-Miguel⁶ in 2003 also suggested that a thorough clinical preoperative assessment of the patient is more important than routine preoperative tests, and should be advised only when indicated on preoperative assessment. But for that a good understanding between the patient and doctor is required as well as adequate time for the checkup is essential but unfortunately in most of the setups in Pakistan it is a neglected domain, as already concluded by Khan et al⁸ who suggested recruitment of young doctors in this field to extend knowledge regarding anaesthesia as perception regarding PAA in developing countries is minimal. Moreover the patient load is so huge in our setups that the anaesthesiologist is unable to spend extra time on one patient to educate him/her rather the doctor just see the patient as per his/her protocol and demands and the patient is also most of the times clueless regarding the visit and its importance due to lack of communication and understanding.

If the patients are informed earlier well before time and educated properly regarding the PAA and its main purpose and importance, they can comply better and adhere to the advices given in PACs. Timely assessments would lead to lesser delays and early treatment along with lesser complications and less post-operative hospital stay⁸. Patient education may also be enhanced by early assessments. It has been demonstrated that the knowledge gained by patients taught four to eight days before surgery was greater than those who were taught the day before surgery^{10,11}.

The overall satisfaction after a preanaesthesia assessment also guides the patients' attitude towards its importance and the anaesthesiologist, this will ultimately help building confidence between the two. Hepner et al¹² concluded that the practitioner and functional aspects of the preoperative visit have a significant impact on patient satisfaction, with information and communication versus the total amount of time spent being the most positive and negative components, respectively, so this calls for a change on both the ends to aim for a safe and better surgical and anaesthetic outcomes.

A similar study in India in 2015 by Singla et al¹³ concluded "Patients have inadequate knowledge about preanesthesia assessment and its role in improving the outcome of surgery." and suggested efforts to create awareness among people regarding importance of preanaesthesia assessment.

A study by Jathar et al¹⁴ suggested that younger patients have more knowledge regarding preanaesthesia assessment. A study by Single et al also suggested that knowledge regarding PAA was less in older patients¹³ and with increasing educational status concerns regarding PAA and anaesthetic complications increases. A study by Shevde et al¹¹ had results in contrast to the previously mentioned studies and no statistically significant relationship was found between age, educational status and knowledge regarding PAA. Our study suggested statistically significant results when age and educational status was compared to the knowledge of PAA, but the percentage of educated population is less so overall score achieved by them was low, similarly number of correct answers given by people who were visiting PACs for the first time was less than those visiting for the

second time, but the latter make less portion of the population so their score was less.

According to a study by Correll et al in 2006, Most of the new problems required that a new test or consultation be done, whereas most of the old problems required retrieval of information existing from outside medical centers. It also concluded as, the preoperative evaluation can identify and resolve a number of medical issues that can impact efficient operating room resource use^{6,15}.

Irita et al¹⁶ impinged upon the need to educate patients as well as the surgeons regarding importance of preoperative assessment and optimization of patients. The patient should be informed regarding the role of each doctor prior to his operation. This can reduce overall rate of complications and increase patient satisfaction.

Preoperative anxiety and depression is very common and usually an ignored domain.¹⁷ Quite a number of the patients were confused regarding who they have to tell their anxieties and fears regarding anaesthesia. The role of anaesthesiologist, in this domain, is quite unknown to the people. And most of them refer to the surgeon in this regard, who is not properly trained to address these important issues. A study by Şekerci¹⁸ showed 51.2% of people were afraid of not waking up after anaesthesia, and Ceyhan¹⁹ found fear of death (30.6%) and pain (22.6%) as their top most concerns., all of which are a purely anaesthesiologist's concern as a study in Kenya²⁰ in 2017 showed great decrease in anxiety levels in patients who underwent preoperative consultation in preanaesthesia clinics. In our study only 36.5% of the people knew they have to tell these issues regarding fear to the anaesthesiologist, 63.5% were unsure. These issues can be addressed if the patient is educated preoperatively^{4,8} and according to Irita et al¹⁶ patient as well as surgeon both should be informed and awareness be created regarding anaesthesiologist's role.

Conclusion & Practical Implications: The ultimate aim of this study was to know the importance of preanaesthesia assessment among the general population of a developing country like Pakistan coming for surgery, almost half of the patients were unaware of the purpose and were just obeying their surgeons advice to visit PACs, this attitude is what needs to be eliminated and awareness should be created among patients and also surgeons by incorporating importance of anaesthesia related risks in morbid patients and importance of preanaesthesia assessment and investigation. Simple steps like incorporation of brochures, posters and video clips highlighting importance of PAA in wards and hospitals can be a small but much needed step in this direction leaving long lasting impact on health system.

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