

Current understanding and perception of pre anaesthesia check-up among patients. A prospective observational study.

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ABSTRACT

Background and Aims: Pre anaesthesia evaluation and optimisation varies from patient to patient, depending on the type of surgery. Therefore each and every patient should be questioned in order to understand their knowledge and perception regarding preanaesthesia check-up and anaesthesiologists. An incomplete preanaesthesia check-up shows incomplete history and general physical examination, affecting patient care. This study explores the understanding and knowledge among patients undergoing elective surgeries. The primary objective is to assess the patient perception regarding pre anaesthesia check-up and role of anaesthesiologists. The secondary objective is to assess the factors contributing towards lack of perception. **Methods:** This observational study was conducted in a tertiary care teaching hospital, in 320 patients, between the age group of 18-60 years, posted for elective surgical procedures over a period of two years. Patients were asked to fill a questionnaire consisting of multiple choice pattern, in which patient had to choose the most appropriate to him/her. Quantitative variables were expressed in terms of percentage, or in terms of mean and standard deviation. Correlation studies were performed by one way ANOVA test. All analysis was two tailed and the significance level was set as 0.05. The data was collected, compiled and analyzed using EPI info (version 7.2). **Results:** Only 14.06% of patients knew that they had come to preanaesthesia clinic for preanaesthesia assessment. Similarly, only 38.75% of patients knew that, anaesthesiologists perform preanaesthesia examination. **Conclusion:** Patients had insufficient knowledge about preanaesthesia check-up and the role of anaesthesiologists. Educated and employed patients showed better awareness.

Keywords: Patient's perception, preanaesthesia check-up, role of anaesthesiologists

Introduction:

Surgical procedure and method of surgery vary from person to person. Accordingly, preoperative evaluation and optimization required varies, depending on the type of anaesthesia planned. Previous studies showed limited knowledge among general public.[1, 2,3] In a survey of patients attending Derriford hospital to assess the public expectation of preoperative visit, 35% were unaware that anaesthesiologists were medically qualified.[4] The speciality of “anaesthesia” has indeed come a long way,[5] after the first successful public demonstration of anaesthetic agent by William Thomas Green Morton on 16th October 1846.

Anaesthesiology is an upcoming multimodal speciality, with its sub specialities ranging from peri-operative patient care, to critical care, trauma care, pain management and palliative care.[6] Anaesthesiologists have implemented their skills in open cardiac surgery, paediatric surgery, neurosurgery, thoracic surgery, neonatal surgery, resuscitation and recently to the day care surgery, distance anaesthesia and robotic surgery.[7] Still, public perception about this is questionable. Pre-anaesthesia check-up remains the less cared aspect of anaesthesia. This lack of knowledge about anaesthesiologists and preanaesthetic check-up increases the peri-operative morbidity and mortality.

The need of the time is to highlight duty of an anaesthesiologist and the importance of preanaesthetic check-up among patients. But before we suggest anything we actually need to know about the level of awareness about anaesthesiology and preanaesthetic check-up among the public. We have conducted this study on patients who underwent elective surgical procedures, to evaluate their perception, knowledge about anaesthesiologists and preanaesthetic check-up.

The aim of this study was to assess the understanding and perception of preanaesthesia check-up and role of anaesthesiologists and, factors contributing to lack of perception.

Methods:

This study has institutional ethics committee approval bearing EC/98/2017.

This was a questionnaire based prospective observational study. Three hundred and twenty patients were recruited for this study during the period of 2017-2018. Patients undergoing elective surgical procedures between the age group of 18 to 60 years were included in this study. Patients refusing to give informed written consent, who were mentally retarded, who were pregnant and all those who were unable to read and write were excluded from this study.

A printed questionnaire in english, was given to each patient personally, after written informed consent in the language best understood and their responses were obtained during the preanaesthesia check-up at the first contact of the patient with anaesthesiologist. The first part of the questionnaire elicited information on the demographic characteristics like name, age, gender, educational status and employment. Age group has been subdivided into three as 18-30 years, 30-45 years and 45-60 years, for convenience. Second part of the questionnaire was related to the knowledge and perception about the preanaesthesia check-up and regarding anaesthesiologist, including the role of an anaesthesiologist in the operation theatre, their role in postoperative pain management, also about their role in managing postoperative complications.

Questions one to three concentrated on previous exposure of patients to preanaesthesia clinic and surgery, and the functions of anaesthesia clinic. Scoring was done from question four onwards, with each question answered correctly being given one mark while incorrect answers carry zero marks. Minimum score was zero and maximum score was 19 marks. Scores obtained were then added up and analyzed.

< 5 marks = low level of perception

5 – 10 marks = moderate level of perception

> 10 marks = high level of perception.

High level implies that the patient knows the purpose of preanaesthesia check-up. Moderate level implies that the patient has some idea, but not complete. Low level implies patient is unaware of preanaesthesia check-up.

The data was collected, compiled and analyzed using EPI info (version 7.2). The qualitative variables were expressed in terms of percentages. The quantitative variables were both categorized and expressed in terms of percentages or in terms of mean and standard deviations. For testing means of more than two groups, one way ANOVA test was used. Difference between two proportions was analyzed using chi square or fisher exact test. All analysis was two tailed and the significance level was set at 0.05.

Sample size: In an Indian study by Singla et al,[8] 27.4% patients were aware about the preanaesthesia check-up while coming to the preanaesthesia clinic.

Using the formula for sample size calculation at 95% confidence interval,

Sample size = $4pq/l^2$ where p = prevalence = 27.4%, q = $100-p$ = 72.6%, l = precision error = 5%

Sample size = $4 \times 27.4 \times 72.6 / 5^2 = 318.28$
= 320 (round off).

Responses obtained were then compared according to the patients' level of education, occupation, age and gender.

The form has been validated by 5 anaesthesia faculty, after discussing and evaluating the available similar study.

Results:

Demographic details: A total of 320 patients in the age group of 18-60 years answered the questionnaire. Age group was divided into three groups, 18-30, 30-45, 45-60 years. patient's perception to preanaesthesia check-Up: Only 14.06% of patients knew that they come to preanaesthesia clinic for preanaesthesia assessment and to comply with surgeons instructions. About 58.44%

patients thought preanaesthesia assessment was to get date of surgery and 27.5% didn't know the exact reason.

Similarly, only 38.75% patients knew that anaesthesiologist performs the preanaesthesia check-up, rest 60.94% thought that doctor doing surgery performs it.

Around 11.56% didn't have an idea that anaesthesiologists had role in postoperative pain management and only 29 patients (9.06%) knew about it.

Analysis between patient variables and patient knowledge: Level of perception with age, sex, education and occupation was statistically analysed. Significant correlation was found between age, sex, education and occupation. Patients within the age group of 30-45, males, educated and employed were having better awareness.

Discussion:

Anaesthesia as a profession has changed from, just being a supportive speciality to surgery, to one, being involved in complete care of patients, not only in the intra- operative period, but also postoperatively. Still, knowledge among the patients, general population, paramedical staff [9] and even doctors [10] regarding various aspects of anaesthesia is limited. In a comparison study by M.Ahsan-UI- Haq,[11] only 18% knew about anaesthesiologist's role outside the operation theatre and post operative pain management.

In a cross-sectional study by Baaj J et al,[12] the picture was even depressing in developing countries, where only 50-60% patients knew anaesthesiologists are doctors. Most common reason for this low awareness among the patients was due to the fact that patient first goes to a surgeon for their disease condition and are later referred to anaesthesiologist.

Even, preanaesthetic check-up has its own significance in the preoperative, intra- operative and postoperative period in providing information,

confidence and reassurance among patients.[13] Hence many anaesthesia groups and medical centres have developed evaluation programmes by implementing specialised questionnaires with the objective of improving patient care.[14,15]

So, it is a well-established fact that preanaesthesia assessment is significant in-patient care. Hence if a patient is not interested in sharing their comorbid conditions, fears and queries regarding anaesthesia, the task of anaesthesiologist becomes very difficult. This may end up in a patient being inadequately optimized before surgery, which increases postoperative morbidity and mortality.[16]

Many respondents wish to receive information from their respective anaesthesiologist about the type of anaesthesia and postoperative care.[17] But, the number of patients who wish to stay informed is directly proportional to their educational status.[18]

In our study, significant correlation was found between age of the patient and knowledge about preanaesthesia check-up. This was contradictory to the results obtained in a study conducted by Deepak Singla et al.[8] Also, statistically significant correlation was found between gender of the patient and knowledge about preanaesthesia check-up and the role of anaesthesiologist. Males were having better perception than females.

In our study, the impact of education and occupation, on the awareness of anaesthesia were found to be directly related. Educated and employed patients had better level of perception.

An important factor that resulted in inadequate preanaesthesia management and increase in mortality is due to lack of proper communication between patient and anaesthesiologist. This was well proven in Australian Incident Monitoring Study (AIMS) by Kluger et al.[19]

According to one study, another main factor that adversely affects patient satisfaction is the time spent in the clinic.[20]

Hence, patients should be made aware that, through pre-anaesthesia assessment and optimization, operative outcome can be improved. This can be achieved by educating the general public about the values of various aspects of anaesthesia. Also, misconceptions in patient like preanaesthesia check-up delays the surgery should be discouraged.

Our study had certain limitations. This study failed to find out the relationship between inadequate preanaesthesia optimization and lack of preanaesthesia check-up related knowledge. We did not study regarding measures that can be applied to improve patient's knowledge about preanaesthesia check-up. Also impact of lack of perception of preanaesthesia check-up on operative outcome was not studied. This study excluded those patients who refused to give an informed written consent, who were below 18 years and above 60 years, who were mentally retarded, pregnant and illiterates. Hence, perception amongst them or their guardians were not studied. Finally, effects of confounding factors like prior meeting with the surgeon, level of explanation of the surgeon and nursing care on the level of patient perception was not studied.

CONCLUSION:

Our study concluded that education and employment are the major factors determining the high level of perception regarding pre anaesthesia check-up.

DISCLOSURE:

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Table 1. Demographic details

Variables		Number	Percentage
Age (years)	18 – 30	92	28.75
	30 – 45	139	43.44
	45 – 60	89	27.81
	Total	320	
	Mean ± SD	37.72 ± 11.07	
Gender	Male	175	54.69
	Female	145	45.31
	Total	320	
Educational status	Primary school	111	34.69
	Secondary school	168	52.5
	Graduate	38	11.88
	Post graduate	3	0.94
	Total	320	
Occupation	Working	174	54.36
	Business	17	5.31
	Housewife	120	37.50
	Retired	9	2.81
	Total	320	

Table 2 : Patient's perception to questionnaire

Questions	Response	Number of patients	Percentage
Have you undergone any surgery previously	Yes	121	37.81
	No	199	62.18
Have you ever visited preanaesthesia clinic previously?	Yes	67	20.94
	No	253	79.06
Why have you come to anaesthesia clinic?	To comply with surgeons instructions and for preanaesthesia assessment	45	14.06
	To get date for surgery	187	58.44
	I don't know	88	27.50
Do you think anaesthesia is required for surgery?	Yes	293	91.56
	No	0	0
	I don't know	27	8.44
What happens in the preanaesthesia clinic?	Assessment, optimization and risk evaluation before surgery	30	9.38
	General assessment of patients only	185	57.81
	I don't know	105	32.81
Who does the preanaesthesia check-up?	Anaesthesiologist	124	38.75
	Doctor doing surgery	195	60.94
	Nurse/technician	1	0.31
	Anaesthesiologist	178	55.63
	Surgeon	142	44.36

Who will anaesthetize you?	Nurse	0	0
What is the importance of preanaesthesia check-up before surgery?	Decreases risk of anaesthesia and surgery	26	8.13
	Legal documentation	206	64.36
	I don't know	88	27.50
If there are any pre-existing medical conditions, do they need to be optimized before surgery?	Yes	291	
	I don't know	29	
	No	0	0
Do drinking and smoking affect the outcome of surgery?	Yes	272	85.00
	I don't know	48	15.00
	No	0	0
When should you clear your fears regarding anaesthesia?	In preanaesthesia clinic	50	15.63
	In ward with surgeon	204	63.75
	In operation theatre	66	20.63
Will you follow advice given in preanaesthesia clinic?	Yes, it is for my own good	320	100.00
	Only if surgeon says so	0	0
	I don't know	0	0
What is the role of an anaesthesiologist in operation theatre?	Anaesthetizes and also take care of patient's vital parameters	48	15.00
	Only anaesthetizes, then leaves the operation theatre	95	29.69
	I don't know	177	55.31
	Anaesthesiologist	49	15.31

Who monitors vitals during surgery?	Surgeon	271	84.69
	Nurse	0	0
Who watches for blood loss during surgery and performs its replenishment?	Anaesthesiologist	46	14.38
	Surgeon	274	85.63
Do anaesthetists have a role in post operative pain management?	Nurse	0	0
	Yes	29	9.06
	No	37	11.56
Are you aware of the information contained in the consent form which you/your relative signed for approval of surgery?	I don't know	254	79.38
	Yes	216	67.50
	No	9	2.81
If yes, is there any information given regarding the risk of anaesthesia? (n=216)	I don't know	95	29.69
	Yes	167	77.3
	No	19	8.7
Where did you get all the above information from?	I don't know	30	13.8
	Surgeon told me	176	55.00
	Was informed by friend/relative	119	37.19
	I came to know from TV/newspaper/other electronic media	25	7.81

Table 3: Level of perception and age

Level of perception	Age group (years)						P value
	18 to 30		30 to 45		45 to 60		
	Number	%	Number	%	Number	%	
Low (<5)	23	25.00	21	15.11	41	46.07	<0.001
Moderate (5 to 10)	2	2.17	3	2.16	4	4.49	
High (>10)	67	72.83	115	82.73	44	49.44	
Mean score \pm SD	7.41 \pm 3.57		8.28 \pm 3.59		5.40 \pm 3.21		
Total	92	100.00	139	100.00	89	100.00	

Table 4: Level of perception and Gender

Level of perception	Gender				P value
	Female		Male		
	Number	%	Number	%	
Low (<5)	50	34.48	35	20.00	< 0.001
Moderate (5 to 10)	6	4.14	3	1.71	
High (>10)	89	61.38	137	78.29	
Mean score \pm SD	6.30 \pm 3.17		6.30 \pm 3.17		
Total	145	100.00	175	100.00	

Table 5: Level of perception and educational status

Level of perception	Educational status								P value
	Graduate		Post Graduate		Primary school		Secondary school		
	Number	%	Number	%	Number	%	Number	%	
Low (<5)	0	0	0	0	59	53.15	26	15.48	<0.001
Moderate (5 to 10)	0	0	0	0	5	4.50	4	2.38	
High (>10)	38	100.0	3	100.0	47	42.34	138	82.14	
Mean score \pm SD	12.03 \pm 2.94		9.67 \pm 2.52		4.65 \pm 2.44		7.81 \pm 3.12		
Total	38	100.0	3	100.0	111	100.0	168	100	

Table 6: Level of perception and occupational status

Level of perception	Occupation status								P value
	Business		Housewife		Retired		Working		
	Number	%	Number	%	Number	%	Number	%	
Low (<5)	1	5.88	46	38.33	5	55.56	33	18.97	<0.001
Moderate (5 to 10)	2	11.76	6	5.00	1	11.11	0	0	
High (>10)	14	82.35	68	56.67	3	33.33	141	81.03	
Mean score \pm SD	8.71 \pm 3.18		5.73 \pm 2.70		4.33 \pm 2.78		8.28 \pm 3.90		
Total	17	100	120	100	9	100	174	100	

CONSORT DIAGRAM