

# Awareness of patients with symptomatic gallstones regarding their own disease

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## ABSTRACT

**Aim:** To evaluate the awareness of patients presenting to a government sector hospital in Lahore with gall stones regarding their disease and factors influencing it.

**Methodology:** A cross sectional observation study was conducted at the Department of General Surgery, Services Hospital, Lahore from 1st January 2020 to 30th June 2021. A simple questionnaire to collect and analyze the data of the patients admitted for cholecystectomy. The content of the questionnaire included socio-demographic characteristics and questions to assess the awareness of patients regarding gallstones. Data was entered and analyzed using EXCEL 2013. Frequencies and Percentages were calculated as descriptive statistics whereas Fisher's exact test was conducted as inferential statistics. Value of p less than 0.05 was considered as significant.

**Results:** Only 13.5% patients had a good awareness of their own disease. Direct education about the disease from doctor ( $p=0.0320$ ), media (0.0316) or self-study (0.0001) were significantly related to awareness.

**Conclusion:** The awareness of the patients with symptomatic gall stones regarding their own disease is poor. Role of physicians and lack of its impact on this needs to be investigated further.

**Keywords:** Patient Awareness, gall stones

## INTRODUCTION

Gall stones are a common pathology. Almost 10 % of the world population is believed to suffer from gall stones with incidence even higher in certain populations. Abnormalities in bile and cholesterol secretions in the gall bladder are believed to lead to gall stone formation.<sup>1,2</sup>

Located beneath the liver the gall bladder serves to act as a reservoir for the bile. Excessive cholesterol secretion and super saturation of bile is thought to result in the formation of the gall stones. Delayed emptying of the gall bladder due to pathology adds further to this process. Almost 90% of the gallstones are cholesterol stones.<sup>3</sup>

A number of factors have been linked with the formation of gall stones such as female gender, genetic predisposition, obesity, hormonal changes, sudden weight loss, certain medications and medical conditions.<sup>4,5</sup>

Most of the cases are asymptomatic. Only 10 % of the patients develop symptoms.<sup>6</sup> Each year 1–2% of patients develop complications. Studies from Pakistan also reveal a similar trend with almost 10-20% of the population showing the presence of gall stones<sup>7,8</sup>.

Cholecystectomy is performed for the removal of the gall bladder. Gall bladder removal may be undertaken via open or laparoscopic approach. With the introduction of laparoscopic techniques in the western world, laparoscopic cholecystectomy was also introduced in Pakistan in the early 1990's. Since then it has gradually been adopted by most of the general surgeons and is now one of the most commonly performed elective procedures<sup>9</sup>.

Adherence to management plan has important therapeutic and economic results. It is believed to be influenced by a number of factors. It is believed that there is a complex interplay between demographic, clinical, knowledge and behavioral factors that affect patients adherence.<sup>10</sup>

Studies done in various parts of the world have shown that the awareness of patients of gallstones regarding their disease is poor<sup>11-15</sup>.

We were curious about the awareness of the Pakistani population regarding their disease. Despite an extensive literature review we were unable to find any such studies. Therefore we carried out a small study to evaluate the awareness of the patients of gall stones presenting to us regarding their disease and the factors influencing it.

The objective of the study was to evaluate the awareness of patients presenting to a government sector hospital in Lahore with gall stones regarding their disease and factors influencing it.

## MATERIAL AND METHODS

We carried out a cross-sectional observation study at the Department of General Surgery, Services Hospital, Lahore from 1<sup>st</sup> January 2021 to 30<sup>th</sup> June 2021. We recruited patients by Non-probability, consecutive sampling. All patients of either gender and of any age who had been admitted for cholecystectomy were included in the study. Patients who refused to give consent for inclusion in study were excluded from the study. Informed consent for inclusion was taken from all participants. Approval from the hospital Ethical committee was also taken before the start of the study.

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We designed a simple questionnaire to collect and analyze the data of the patients. All patients were interviewed using the questionnaire. Bio data of patients and their responses to the questions were recorded. We calculated a score for each respondent considering their answers. Total score was 10. Patients having score 5 or more were considered to have good awareness while those scoring less than 5 were considered to have poor awareness. All data was entered into EXCEL and analyzed. Quantitative variables like age and education level are presented as mean and standard deviation while frequency and percentages are used for gender and awareness. Post-stratification Fischer's exact test used and p value equal or less than 0.05 taken as significant.

## RESULTS

A total of 200 patients were included in our study. Out of them 12% (24) were male while 88%(176) were female. The mean age of the patients was 40.46 years. 23% (46) patients were illiterate while the rest were literate. The awareness of 27 patients was good (13.5%) while the remaining 173 (77.5%) patients had poor awareness regarding their disease. When stratification of variables was done it was found that direct education about the disease from doctor, media or self-study were significantly related to awareness.

Results are summarized in Table 1.

Table 1: Summary of results

Age of patients			
40.46 years			
Gender distribution			
Male	24		12%
Female	176		88%
Education			
Illiterate	46		23%
Literate	156		77%
Stratification of awareness regarding disease			
Gender			
	Male	Female	Fisher's exact test
Good	3	24	The two-tailed P value equals
Poor	21	152	1.0000
Age			
	<40	>40	Fisher's exact test
Good	13	14	The two-tailed P value equals
Poor	90	83	0.8365
Education			
	Illiterate	Literate	Fisher's exact test
Good	3	24	The two-tailed P value equals
Poor	43	130	0.1430
Self-effort			
	Yes	No	Fisher's exact test
Good	20	7	The two-tailed P value is less
Poor	17	156	than 0.0001
Physician's counselling			
	Yes	No	Fisher's exact test
Good	22	5	The two-tailed P value equals
Poor	102	71	0.0320
Mass media			
	Yes	No	Fisher's exact test
Good	4	23	The two-tailed P value equals
Poor	6	167	0.0316

## DISCUSSION

A total of 200 patients who were admitted with gall bladder stones for cholecystectomy to the surgical department were interviewed by us. A majority of them were women (88%). This is in line with the fact that gallstones are especially common in women. Furthermore, the average age of our patient was 40.26 years. The same has been demonstrated all over the world that the gall bladder stones are more common after middle age.<sup>16,17</sup>

It was surprising that despite gall bladder stones being such a common pathology, the knowledge of the patients regarding their disease was so poor. Out of the 200 patients interviewed by us only 27 demonstrated good awareness regarding their disease while the majority (86.5%) had very poor understanding of the disease. This is an alarming situation. Being unaware of their disease they are unlikely to adhere to the management requirements and may lead themselves to complications. Similar findings have also been reported by other researchers as well.<sup>14</sup>

We noted that out of the 176 females interviewed only 24(13.63%) had good awareness while the remainder having poor awareness (86.37%). A similar situation was seen among the men with only 3 (14.28%) men having good knowledge. The difference in awareness between the genders was not statistically significant. Although some studies have shown that the awareness among woman was poorer we however didn't note any such difference.<sup>12</sup>

Similarly, age didn't play a significant difference in the awareness of the patients regarding the disease. Out of the 103 patients under the age of 40 years, 13 (12.62%) had good awareness while in the group of patients over the age of 40, 14 (14.43%) had good awareness. Education also wasn't significantly related to the patient's awareness of the disease. We had 46 illiterate patients out of whom 3(6%) had good awareness and 24 (15.58%) of the 154 literate patient had good awareness. Although not statistically significant it does show that a greater portion of literate are likely to have awareness about their disease, thus highlighting the importance of education. However a number of researchers had findings which didn't agree with ours.<sup>13,15</sup> Self-education about the disease, education from the physician or mass media information all result in a statistically significant difference in the improvement of the awareness of the patients regarding their disease. However what we found surprising was that 124 patients noted that they had been educated by a physician but only 22(17.74%) had good awareness. This could be due to a number of reasons and requires further investigation. We speculate that the following may have contributed: overcrowded OPDs, junior member performing counselling, patient anxiety and failure of re-enforcement. Furthermore, despite a large population suffering from the condition and requiring surgery which is a major burden on the strained healthcare system of the country, no information campaign is being run by the governmental agencies to educate the populace to adopt a healthy life style and safe themselves not only from this but also various other diseases caused due to an unhealthy life style such as diabetes, obesity, ischemic heart disease etc

Our study was a single center study. It was carried out in a teaching hospital of one of the biggest cities in the country. Most of the patients who presented to us were educated. More than half of the patients had an interaction with a healthcare provider. Despite this only 13.5% had good awareness of their disease. It is very likely that as we move towards the periphery this percentage will fall even lower. This holds significant implications for both the patient as well as healthcare system as failure to understand the disease will lead to poor adherence to management and likely result in a poorer outcome. The study also highlights the importance of education level of the patients as well as impact of patient's education regarding the disease.

## CONCLUSION

The awareness of the patients regarding their own disease is poor. Role of physicians and lack of its impact on this needs to be investigated further.

**Conflict of interest:** Nil

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