Original Article

The Impact of Obstructive Jaundice on Quality of Life

Farhana Memon[1], Ashfaque Ahmed[2], Fariya Usmani[3], Saima Sagheer[4], Rabiyya Ali[5] and Sadaf Iqbal[6]

ABSTRACT

Objective: The purpose of the study is to assess the effects of gall bladder disease patients to maintain their quality of life of having obstructive jaundice.

Study Design: Case control study.

Place and Duration of Study: This study was conducted at the Civil Hospital's Outpatient Department of General Surgery, Unit-1, and Karachi from 18th December 2018 to June 2019.

Materials and Methods: It was conducted on 195 patients of both genders age 20yrs – 80yrs diagnosed with obstructive jaundice and underwent for biliary patenting. In those patients we assessed quality of life with the short form-36 (SF-36) which includes 8 domains. SPSS version-21 was used to analyze the data.

Results: The results of our study revealed statistically highly significant effect of cholelithiasis, chronic cholecystitis and gall bladder polyp on quality of life of obstructive jaundice patients ($p<0.001$*). Also patients with such diseases also had a significantly lower SF-36quality of life scores for both overall and in all eight individual domains than those patients who did not have those diseases, whereas it also indicated that the existence of gall bladder carcinoma in patients with obstructive jaundice didn't have a statistically significant effect on their quality of life ($p>0.05$).

Conclusion: Our study concludes that quality of life of those patients who were suffering from the benign causes of obstructive jaundice; such as cholelithiasis, chronic cholecystitis and gall bladder polyp were more significantly improved after therapy, whereas patients with gall bladder carcinoma had a worst effect on quality of life for both the genders.

Key Words: Cholelithiasis, Gallbladder polyp, Cholecystitis, Gall bladder carcinoma

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INTRODUCTION

Gallstone is a prolonged recurring hepato-biliary illness. It happens due to the spoiled cholesterol metabolic system, bile acids, and bilirubin.

1. Department of General Surgery, Al-Tibri Medical College and Hospital, Isra University Campus, Karachi.
2. Department of General Surgeon, Sindh Government Hospital, Saudabad Malir, Karachi.
3. Department of Surgery, Sir Syed College of Medical Sciences, Karachi.
4. Department of Unit III, Civil Hospital, Karachi.
5. Department of Surgical Unit II, DUHS, Civil Hospital, Karachi.
6. Department of Baqai Medical University, Emergency Department Fatima Hospital, Baqai Medical University, Karachi.

Correspondence: Dr. Farhana Memon, Assistant Professor of General Surgery, Al-Tibri Medical College and Hospital, Isra University Campus, Karachi.
Contact No: 03322204834
Email: farhanamemon83@yahoo.com

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The prevalence of gallstone disease has stretched from 5.2% to 10% in Africa and 6.3% in Iran. The gold standard for diagnosing obstructive jaundice is Endoscopic Retrograde Cholangio Pancreatography (ERCP). ERCP can identify choledo-cholithiasis, common bile duct strictures and any other obstruction. Impairment of quality of life may be due to the biliary obstruction that results in cholangitis. [1-5].

MATERIALS AND METHODS

This study used non-probability, consecutive sampling to choose cases from the Civil Hospital Outpatient Department of General Surgery, Unit-1, Karachi. The study period was from 18-dec-2018 to june-2019. The study began when CPSP approved it. The Dow University Health Science, Civil Hospital ethical review committee approved the data gathering. The study included 195 patients aged 20 to 80 years of both sexes. Patients with obstructive jaundice and biliary patenting for more than 2 years were excluded from the research. The patients' age, duration since biliary patenting, and gender were collected. The SF-36 measures QoL in 8 domains: physical function, role-physical, bodily pain, general health, vitality, social function, role-emotional, and mental health (MH).

This was done using SPSS version 21. Age, time since biliary patenting, serum bilirubin, and QoL evaluation score were expressed as Mean SD. The frequency and percentages of cholelithiasis, incidental gallbladder cancer, gallbladder polyp, and chronic cholecystitis were calculated.

Stratification controlled gender, age, cholelithiasis, incidental gallbladder cancer, gallbladder polyp, and chronic cholecystitis. Post stratification, a Mann-Whitney U-test was used. Statistical significance was defined as p 0.05 or less.

RESULTS

Data of total 195 patients were analyzed for the study. The mean age of patients was 55.85 ± 15.40 years whereas 98 (50.3%) of them were male while 97 (49.7%) of them were females. Furthermore, 36 (18.5%) of them had cholelithiasis, 24 (12.3%) of them had chronic cholecystitis, 16 (8.2%) of them had gall bladder polyp while 3 (1.5%) of them had incidental gall bladder carcinoma. Moreover, their mean total SF-36 quality of life score was 55.20 ± 12.50. The study results showed that there was a statistically significant effect of cholelithiasis on quality of life of obstructive jaundice patients ($p<0.001$) where patients who had cholelithiasis had significantly lower SF-36 quality of life scores, both overall and in all eight individual domains, than patients who did not have cholelithiasis (table-1).

The study results further showed that there was a statistically significant effect of chronic cholecystitis on quality of life of obstructive jaundice patients ($p<0.001$) where patients who had chronic cholecystitis had significantly lower SF-36 quality of life scores, both overall and in all eight individual domains, than patients who did not have chronic cholecystitis (table 2). The study results also showed that there was a statistically significant effect of gall bladder polyp on quality of life of obstructive jaundice patients ($p<0.001$) where patients who had gall bladder polyp had significantly lower SF-36 quality of life scores, both overall and in all eight individual domains, than patients who did not have gall bladder polyp (table 3). The study results further revealed that the presence of gall bladder carcinoma in obstructive jaundice patients did not have a statistically significant effect on their quality of life ($p>0.05$), though the patients with gall bladder carcinoma had lower SF-36 quality of life scores, both overall and in all eight individual domains (table 4).

Table No.1: Cholelithiasis and Quality of Life

Quality of Life (QoL) Domain	Cholelithiasis		Mann-Whitney U test
	No	Yes	p-value
N	159	36	-
Physical function (PF)			
Mean± SD	55.98±16.6	44.12±12.62	<0.001*
Median [IQR]	56.59[69.06-41.49]	41.35[49.66-32.31]	
Max – Min	94.27-25.3	71.83-27.52	
Role-physical (RP)			
Mean± SD	57.28±17.41	43.14±11.53	<0.001*
Median [IQR]	57.99[71.34-40.98]	42.78[48.02-34.76]	
Max – Min	89.18-25.29	76.42-25.42	
Body pain (BP)			
Mean± SD	62.36±17.41	51.11±14.66	<0.001*
Median [IQR]	62.57[76.89-48.13]	49.24[60.43-41]	
Max – Min	93.39-25.24	91.17-25.18	
General health (GH)			
Mean± SD	50.07±13.46	41.12±10.38	<0.001*
Median [IQR]	50.23[59.36-39.25]	40.41[45.91-32.01]	
Max – Min	87.01-25.88	69.4-25.59	
Vitality (VT)			
Mean± SD	55.32±16.41	44.87±14.85	<0.001*
Median [IQR]	54.76[69.05-42.83]	43.26[50.61-34.94]	
Max – Min	94.44-25.26	88.41-25.15	
Social function (SF)			
Mean± SD	63.15±16.02	51.23±13.74	<0.001*
Median [IQR]	63.45[74.85-51.47]	51.32[63.37-39.68]	
Max – Min	93.41-27.87	74.86-27.27	
Role emotional (RE)			
Mean± SD	61.32±17.89	43.33±12.97	<0.001*
Median [IQR]	62.34[76.48-46.67]	41.3[[53.79-35.7]	
Max – Min	93.54-25.31	78.31-26.92	
Mental health (MH)			
Mean± SD	53.81±15.65	42.75±12	<0.001*
Median [IQR]	53.35[62.99-39.62]	40.66[51.81-33.3]	
Max – Min	94.66-25.24	72.61-25.08	
Total SF-36-Qol Score			
Mean± SD	57.41±12	45.46±9.84	<0.001*
Median [IQR]	56.88[63.72-50.03]	47.2[50.88-38.27]	
Max – Min	92.2-26.99	64.15-26.32	

Table No.2: Chronic Cholecystitis and Quality of Life

Quality of Life (QoL) Domain	Chronic cholecystitis		Mann-Whitney U test
	No	Yes	p-value
N	171	24	-
Physical function (PF)			
Mean± SD	55.73±16.26	39.96±11.46	<0.001*
Median [IQR]	56.59[68.67-41.15]	35.52[50.47-29.81]	
Max – Min	94.27-25.3	63.1-27.52	
Role-physical (RP)			
Mean± SD	55.98±17.01	45.37±17.28	0.005*
Median [IQR]	56.54[69.98-40.92]	40.63[54.04-31.56]	
Max – Min	89.18-25.29	84.31-25.42	
Body pain (BP)			
Mean± SD	62.26±17.13	46.21±12.92	<0.001*
Median [IQR]	62.57[76.23-48.32]	44.37[55.86-36.92]	
Max – Min	93.39-25.24	72.29-25.18	
General health (GH)			
Mean± SD	49.54±13.17	40.41±12.34	0.002*
Median [IQR]	50[58.21-38.76]	40.65[46.3-29.97]	
Max – Min	87.01-25.88	75.28-25.59	
Vitality (VT)			
Mean± SD	54.96±16.62	42.27±11.71	<0.001*
Median [IQR]	54.45[69.05-42.07]	43.8[50.89-31.37]	
Max – Min	94.44-25.88	63.09-25.15	
Social function (SF)			
Mean± SD	62.25±15.96	51.66±15.71	0.003*
Median [IQR]	63.08[73.84-51.15]	50.73[61.85-37.03]	
Max – Min	93.41-27.27	86.8-29.68	
Role emotional (RE)			
Mean± SD	60.12±17.7	45.93±16.77	<0.001*
Median [IQR]	60.16[75.11-44.69]	40.05[56.52-32.12]	
Max – Min	93.54-25.31	86.84-26.92	
Mental health (MH)			
Mean± SD	53.84±15.19	37±9.62	<0.001*
Median [IQR]	53.35[62.9-40.45]	36.12[41.61-28.33]	
Max – Min	94.66-25.95	58.87-25.08	
Total SF-36-Qol Score			
Mean± SD	56.83±11.7	43.6±12.08	<0.001*
Median [IQR]	56.17[62.52-49.38]	44.23[52.52-33.02]	
Max – Min	92.2-29.31	64.99-26.32	

Table No.3: Gall bladder Polyp and Quality of Life

Quality of Life (QoL) Domain	Gall bladder Polyp		Mann-Whitney U test
	No	Yes	p-value
N	179	16	-
Physical function (PF)			
Mean± SD	54.51±16.46	45.76±16.07	0.043*
Median [IQR]	54.06[68.32-39.95]	41.9[55.68-31.59]	
Max – Min	94.27-25.3	86.11-28	
Role-physical (RP)			
Mean± SD	56.21±16.71	37.44±15.32	<0.001*
Median [IQR]	56.42[69.98-41.46]	31.81[40.82-27.27]	
Max – Min	89.18-25.42	80.91-25.29	
Body pain (BP)			
Mean± SD	61.4±17.12	47.76±16.7	0.003*
Median [IQR]	61.55[75.68-47.63]	45.26[57.85-34.51]	
Max – Min	93.39-25.18	91.63-27.47	
General health (GH)			
Mean± SD	49.15±13.1	40.23±14.18	0.010*
Median [IQR]	4869[57.95-38.76]	37.71[44.73-28.49]	
Max – Min	87.01-25.59	72.75-25.96	
Vitality (VT)			
Mean± SD	54.48±16.38	41.21±14.54	0.002*
Median [IQR]	53.74[66.11-42.07]	39.89[47.42-28.88]	
Max – Min	94.44-25.15	79.52-25.26	
Social function (SF)			
Mean± SD	61.85±16.09	50.84±15.17	0.009*
Median [IQR]	62.1[73.55-50.67]	50.41[64.57-36.34]	
Max – Min	93.41-27.27	73.11-30.25	
Role emotional (RE)			
Mean± SD	59.7±17.64	43.46±17.69	0.001*
Median [IQR]	59.3[74.95-44.38]	37.9[48.08-31.17]	
Max – Min	93.54-25.31	84.58-27.44	
Mental health (MH)			
Mean± SD	52.67±15.59	41.67±12.35	0.007*
Median [IQR]	52.57[62.48-39.33]	41.35[52.07-30.28]	
Max – Min	94.66-25.08	62.34-25.24	
Total SF-36-Qol Score			
Mean± SD	56.25±12.1	43.55±11.25	<0.001*
Median [IQR]	56.08[62.24-48.48]	44.92[51.41-32.61]	
Max – Min	92.2-26.32	65.96-26.99	

Table No.4: Incidental Gall bladder Carcinoma and Quality of Life

Quality of Life (QoL) Domain	Incidental gall bladder carcinoma		Mann-Whitney U test
	No	Yes	p-value
N	192	3	-
Physical function (PF)			
Mean± SD	54±16.56	40.24±12.06	0.154
Median [IQR]	53.08[66.61-39.89]	34.76[54.06-31.89]	
Max – Min	94.27-25.3	54.06-31.89	
Role-physical (RP)			
Mean± SD	54.8±17.41	46.53±12.9	0.414
Median [IQR]	54.26[69.3-39.64	49.22[57.87-32.5]	
Max – Min	89.18-25.29	57.87-32.5	
Body pain (BP)			
Mean± SD	60.49±17.45	46.67±13.94	0.174

Median [IQR]	60.25[74.87-46.84]	42.95[62.09-34.97]	
Max – Min	93.39-25.18	62.09-34.97	
General health (GH)			
Mean± SD	48.52±13.42	42.1±10.75	0.412
Median [IQR]	47.99[57.85-38.33]	46.45[50-29.86]	
Max – Min	87.01-25.59	50-29.86	
Vitality (VT)			
Mean± SD	53.56±16.64	42.46±11.15	0.251
Median [IQR]	52.47[65.73-41.65]	38.39[55.07-33.92]	
Max – Min	94.44-25.15	55.07-33.92	
Social function (SF)			
Mean± SD	61.19±16.19	45.37±15.86	0.095
Median [IQR]	61.84[72.7-50.06]	38.83[63.45-33.83]	
Max – Min	93.41-27.27	63.45-33.83	
Role emotional (RE)			
Mean± SD	58.63±18.1	41.53±16.22	0.106
Median [IQR]	58.73[74.79-43.99]	33.94[60.16-30.5]	
Max – Min	93.54-25.31	60.16-30.5	
Mental health (MH)			
Mean± SD	51.97±15.6	38.65±12.08	0.143
Median [IQR]	51.87[61.62-39.15]	32.75[52.55-30.65]	
Max – Min	94.66-25.08	52.55-30.65	
Total SF-36-Qol Score			
Mean± SD	55.4±12.44	42.95±12.38	0.087
Median [IQR]	54.93[61.6-48.24]	38.61[56.91-33.32]	
Max – Min	92.2-26.32	56.91-33.32	

DISCUSSION

Most patients with biliary abrasions are old and unable to afford surgery. This study looked at how benign and malignant gallbladder problems affect quality of life. Patients with benign or malignant obstructive jaundice ranged in age from 29 to 70 years. In contrast, malignant etiologies were more common in people aged 50+. [23] Many studies have indicated that malignant obstructive jaundice increases with age [24,25]. Our study found that older patients were more likely to develop malignant obstructive jaundice. Men are more likely than women to have benign or malignant obstructive jaundice. Bodily jaundice male-female ratio was 1.33, while malignant obstructive jaundice was 1.23. [23] Gall stones are the most common cause of obstructive jaundice in females.[26,8] More study backed up the results. [24,26] Our study indicated that males had slightly more gall bladder disease than females in obstructive jaundice.

Bekele et al. found that benign obstructive jaundice was the most common etiology in Ethiopia. The study also found that benign causes of choledo-cholithiasis were more common, with 11 patients (22%) having common bile duct stricture and 2 (4%) having post cholecystectomy common bile duct stone. The most common cause of benign is choledocholithiasis. [24,27-29] This study found pancreatic head cancer (15%), gallbladder carcinoma (8%) and cholangio-carcinoma (5%). (8 percent). 4% The same was true with obstructive jaundice. [24,29] We found cholelithiasis to be the most common benign cause of obstructive jaundice, followed by chronic cholecystitis and gallbladder polyps, with 3 (1.5%) having incidental gallbladder malignancy. The most common benign cause of obstructive jaundice was cholelithiasis. Finan et al. studied gastrointestinal symptoms and QoL after cholecystectomy. In addition to the SF-36, the survey covered symptoms of biliary illness and other benign gastrointestinal problems. Patients with symptomatic gallstone disease benefitted from laparoscopic cholecystectomy. [30] Malignant incidental gallbladder carcinoma patients' quality of life increased while benign causes of obstructive jaundice including cholelithiasis and chronic cholecystitis worsened (p=0.087). Some studies combined the SF-36 and GIQLI, or a general health and postoperative QoL questionnaire. Quintana et al. (19) utilized the SF-36 to assess post-cholecystectomy patients. Their findings revealed that both the SF-36 and GIQLI were valid QoL measures. [31] With benign and malignant obstructive jaundice, the SF-36 Health Survey predicts Qol.

CONCLUSION

Obstructive jaundice is a common and difficult to treat condition. On the other hand, gallbladder cancer patients had greater quality of life than those with benign causes of obstructive jaundice, such as cholelithiasis. This study demonstrates that early detection and treatment of obstructive jaundice is critical.

Author's Contribution:

Concept & Design of Study:	Farhana Memon
Drafting:	Ashfaque Ahmed, Fariya Usmani
Data Analysis:	Saima Sagheer, Rabiyya Ali, Sadaf Iqbal
Revisiting Critically:	Farhana Memon, Ashfaque Ahmed
Final Approval of version:	Farhana Memon

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