

Awareness of Jaundice among Pharmacy Undergraduates at, Karachi, Pakistan

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Abstract

Jaundice is the most common condition that needs medical attention in newborns. About 80% of preterm and 50% of term infants develop jaundice in their early days of life. The purpose of this study is to check the awareness of this disease amongst the undergraduate students in our society. The main underlying reason for this study is to create awareness about the disease, its symptoms. Prior to fill these questionnaires the student got a brief lecture and understanding of the disease so they can link and understand the purpose well. A yellow coloration disease, jaundice is a medical condition due to hyperbilirubinaemia or increases the levels of bilirubin in the body. Depending on the position of jaundice, i.e. pre-hepatic, hepatic or post-hepatic, cause may vary. Common symptoms are dark coloured urine or pale coloured stool. Jaundice is caused due to abnormal destruction of red blood cells because bilirubin is made as a by-product in this process. CBC, LFT and different imaging techniques are used for the diagnosis of jaundice. Exchange transfusion, phototherapy, surgery and medications are usually considered as the treatment strategies. Our survey aimed to find out its awareness among the pharmacy undergraduates at Jinnah University for Women, Karachi, Pakistan. A random and cross-sectional method was to collect the data in the month of November-December, 2014.

After our survey on awareness about jaundice at JUW, we find that 98.7% pharmacy undergraduates have awareness about the term jaundice, 70% pharmacy undergraduates have awareness about the Etiology of jaundice, 88.7% pharmacy undergraduates have knowledge about the symptoms of jaundice, 47.3% pharmacy undergraduates have knowledge about the pathophysiology of jaundice, 77.3% pharmacy undergraduates have knowledge about the diagnostic tools and techniques of jaundice and 63.3% pharmacy undergraduates have knowledge about the treatment strategies of jaundice.

Keywords: Jaundice; Hyperbilirubinemia; Hepatic; Exchange transfusion; Phototherapy

Introduction

Jaundice is one of the most common conditions needing medical attention. Jaundice is a term use for the condition in which yellow colouration of the skin and the sclera occurs and is caused by a raised level of bilirubin in the circulation, a condition known as hyperbilirubinemia [1].

Unbound unconjugated bilirubin can penetrate the blood-brain barrier. It is potentially toxic and may result in short and/or long term neurological dysfunction [2]. Jaundice can be categorised as pre-hepatic, hepatic, or post-hepatic, and these positions provide a useful framework for identifying the underlying cause.

Etiology

The natural cycle of RBCs breakdown is consist of 120 days. The waste or by-product product of this natural process is bilirubin. The bilirubin take out of the process of body's waste disposal systems takes it carried by blood to the liver. There is it combined with bile (digestive fluid) from the gallbladder. This mixture exits the body through urine and faeces. In normal condition, when all the body parts working well, the colour of faeces are brown and the colour of urine is light yellow. Some infections and damages are able to disrupt or even destroy this process in some conditions that will lead to the jaundice.

Pre-hepatic jaundice

If an infection or medical condition makes the red blood cells break down sooner than usual, bilirubin levels raise. This is known as pre-hepatic jaundice. Malaria, sickle cell anaemia, thalassemia, hereditary

spherocytosis, Gilbert's syndrome and Crigler-Najjar syndrome are conditions that can lead to pre-hepatic jaundice.

Intra-hepatic jaundice

In a damaged liver, bilirubin cannot process through it and remains in the body leading to intra-hepatic jaundice. The causes of liver damage are including hepatitis, liver cancer, glandular fever, alcoholic liver disease and illegal drug use. Obesity and non-alcoholic fatty liver disease can be a cause of cirrhosis of the liver and jaundice.

Post-hepatic jaundice

Gallstones, pancreatitis, pancreatic cancer and cancers of the gallbladder or bile duct may also disrupt the bilirubin removal process that leads to post hepatic jaundice. Eating a high-fat diet can raise your cholesterol levels and increase the risk of having gallstones [3].

Signs and symptoms

Individuals with jaundice may experience any of the following signs and symptoms: pale-colored stools, dark-colored urine, skin

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itching, nausea and vomiting, rectal bleeding, diarrhoea, fever and chills, weakness, weight loss, loss of appetite, confusion, abdominal pain, headache, swelling of the legs, and swelling and distension of the abdomen [4].

Pathophysiology

The formation of bilirubin can be enhanced due to an abnormally high peripheral breakdown of haemoglobin, termed haemolysis, or due to dyserythropoiesis [5]. Haemolysis is a far more frequent cause of unconjugated hyperbilirubinemia [6].

Diagnosis

Gilbert's syndrome, in which serum bilirubin concentration usually raised, is confirmed by full blood count and normal liver enzyme activities.

Jaundice with pale stools, dark urine, and raised alkaline phosphatase and γ -glutamyl transferase activity suggests an obstructive cause, which is confirmed by presence of dilated bile ducts on ultrasonography.

Jaundice suggests chronic liver disease in those patients having decreased serum albumin levels. If the bilirubin concentrations are high in the body (>100 $\mu\text{mol/l}$) or signs of sepsis require emergency specialist referral.

Imaging of the bile ducts for obstructive jaundice is increasingly performed by magnetic resonance cholangiopancreatography [7].

Treatment

Medical treatment with IV fluids, medications like antibiotics depending on the causes may be chosen. Blood transfusions may be required. If a drug/toxin is the cause, these must be discontinued. In certain cases of jaundice, phototherapy or exchange blood transfusions may be required to decrease elevated bilirubin levels. Surgical treatment may be required [8].

Pharmacologic therapy

There is now evidence that hyperbilirubinemia can be effectively prevented or treated with tin-mesoporphyrin [9-12].

Methodology

This is a survey based study on the awareness of Jaundice. A cross-sectional and random method was used to collect data from department of pharmacy, Jinnah University for women, Karachi, Pakistan, about the awareness of Jaundice in the month of November-December, 2014. A specially designed questionnaire was used for data

collection. Data of 150 students (n=150) was collected from students of different professional years and analyzed. Different questions were asked for the subjects to collect the data to conclude the awareness rate in university students about Jaundice. Questions were asked on the knowledge, etiology, symptoms, pathophysiology, diagnosis and treatment of Jaundice (Table 1).

Data analysis

We have statistically analyzed our data (Table 2) and used tables and charts for the representation of our data collected.

4. Result and Discussion

A yellow coloration disease, jaundice is a medical condition due to hyperbilirubinaemia or increases the levels of bilirubin in the body. Depending on the position of jaundice, i.e. pre-hepatic, hepatic or post-hepatic, cause may vary. Common symptoms are dark coloured urine or pale coloured stool. Jaundice is caused due to abnormal destruction of red blood cells because bilirubin is made as a by-product in this process. CBC, LFT and different imaging techniques are used for the diagnosis of jaundice. Exchange transfusion, phototherapy, surgery and medications are usually considered as the treatment strategies.

In our survey on awareness about Jaundice in pharmacy undergraduates, the first question was asked about the general awareness about jaundice that is "what is jaundice?" this question was asked from 150 pharmacy undergraduates. All the 150 pharmacy undergraduates answered this question actively. According to our survey report, 148 pharmacy undergraduates out of 150 students have awareness about the medical condition "jaundice". Whereas other 2 pharmacy undergraduates have no basic awareness about the term 'jaundice' (Table 3).

In our survey on awareness about Jaundice in pharmacy undergraduates, the second question was asked about the etiology of jaundice that is "do you know about the etiology of jaundice?". This question was asked from 150 pharmacy undergraduates. All the 150 pharmacy undergraduates answered this question actively. According to our survey report, 105 pharmacy undergraduates out of 150 students have awareness about the etiology of this medical condition "jaundice". Whereas other 45 pharmacy undergraduates have no basic awareness about the etiology of 'jaundice' (Table 4).

In our survey on awareness about Jaundice in pharmacy undergraduates, the third question was asked about the symptoms of jaundice that is "do you know about the symptoms of jaundice?". This question was asked from 150 pharmacy undergraduates. All the 150 pharmacy undergraduates answered this question actively. According to our survey report, 133 pharmacy undergraduates out of 150

Statistics							
N		Jaundice	Etiology	Symptoms	Pathophysiology	Diag0sis	Treatment
		Valid	150	150	150	150	150
	Missing	0	0	0	0	0	0

Table 1: Participants for awareness of disease.

Test Statistics						
	Jaundice	Etiology	Symptoms	Pathophysiology	Diag0sis	Treatment
Chi-Square	141.107 ^a	23.362 ^a	91.872 ^a	.544 ^a	44.034 ^a	10.208 ^a
Df	1	1	1	1	1	1
Asymp. Sig.	.000	.000	.000	.461	.000	.001

A. 0 Cells (0.0%) Have Expected Frequencies Less Than 5. The Minimum Expected Cell Frequency Is 74.5.

Table 2: Statistics of participants for awareness of disease.

Jaundice					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	2	1.3	1.3	1.3
	YES	148	98.7	98.7	100.0
	Total	150	100.0	100.0	

Table 3: Awareness about jaundice.

Etiology					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	45	30.0	30.0	30.0
	YES	105	70.0	70.0	100.0
	Total	150	100.0	100.0	

Table 4: Awareness about etiology of jaundice.

Symptoms					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	17	11.3	11.3	11.3
	YES	133	88.7	88.7	100.0
	Total	150	100.0	100.0	

Table 5: Awareness about symptoms of jaundice.

Pathophysiology					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	79	52.7	52.7	52.7
	YES	71	47.3	47.3	100.0
	Total	150	100.0	100.0	

Table 6: Awareness about pathophysiology of jaundice.

Diagnosis					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	34	22.7	22.7	22.7
	YES	116	77.3	77.3	100.0
	Total	150	100.0	100.0	

Table 7: Awareness about diagnosis of jaundice.

students have awareness about the symptoms of this medical condition “jaundice”. Whereas other 17 pharmacy undergraduates have no basic awareness about the symptoms of ‘jaundice’ (Table 5).

In our survey on awareness about Jaundice in pharmacy undergraduates, the fourth question was asked about the pathophysiology of jaundice that is “do you know about the pathophysiology of jaundice?”. This question was asked from 150 pharmacy undergraduates. All the 150 pharmacy undergraduates answered this question actively. According to our survey report, 71 pharmacy undergraduates out of 150 students have awareness about the pathophysiology of this medical condition “jaundice”. Whereas other 79 pharmacy undergraduates have no basic awareness about the pathophysiology of ‘jaundice’ (Table 6).

In our survey on awareness about Jaundice in pharmacy undergraduates, the fifth question was asked about the diagnostic techniques and tools for jaundice that is “do you know about the diagnostic techniques and tools for jaundice?”. This question was asked from 150 pharmacy undergraduates. All the 150 pharmacy undergraduates answered this question actively. According to our survey report, 116 pharmacy undergraduates out of 150 students have awareness about the diagnostic techniques and tools for this medical condition “jaundice”. Whereas other 34 pharmacy undergraduates have no basic awareness about the diagnostic techniques and tools for ‘jaundice’ (Table 7).

In our survey on awareness about Jaundice in pharmacy undergraduates, the sixth question was asked about the treatment strategies of jaundice that is “do you know about the treatment strategies of jaundice?”. This question was asked from 150 pharmacy undergraduates. All the 150 pharmacy undergraduates answered this question actively. According to our survey report, 95 pharmacy undergraduates out of 150 students have awareness about the

Treatment					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	55	36.7	36.7	36.7
	YES	95	63.3	63.3	100.0
	Total	150	100.0	100.0	

Table 8: Awareness about treatment of jaundice.

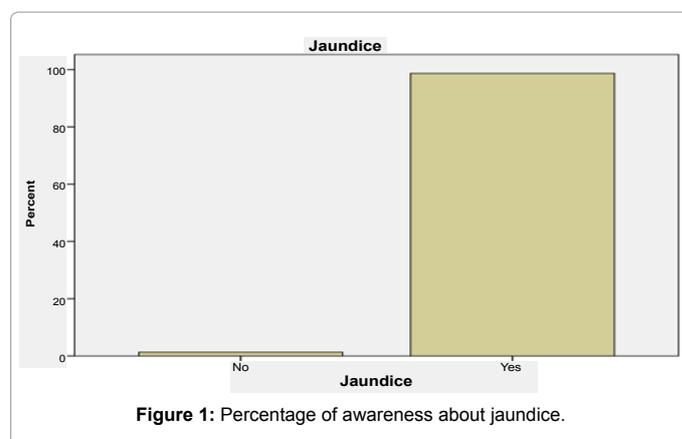


Figure 1: Percentage of awareness about jaundice.

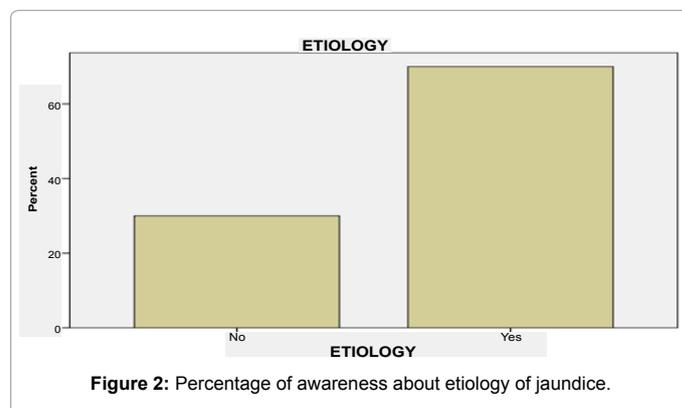


Figure 2: Percentage of awareness about etiology of jaundice.

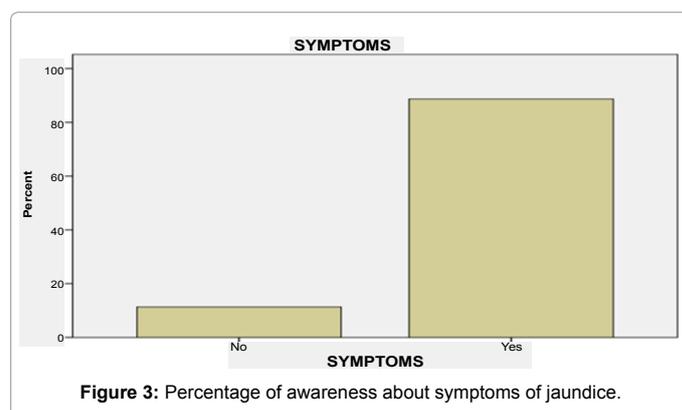
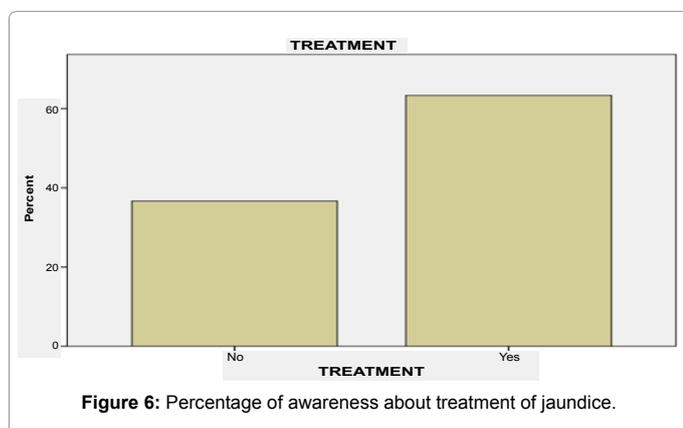
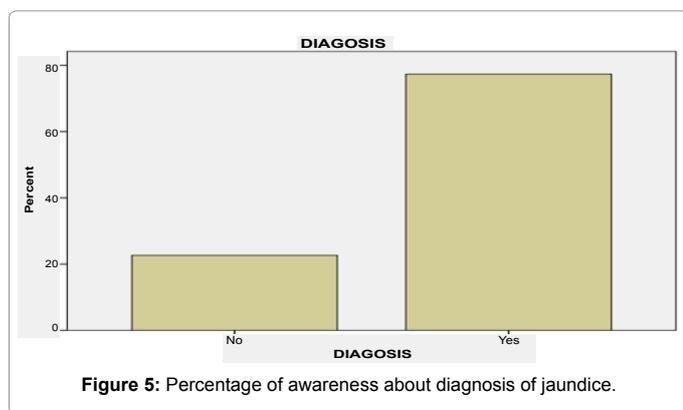
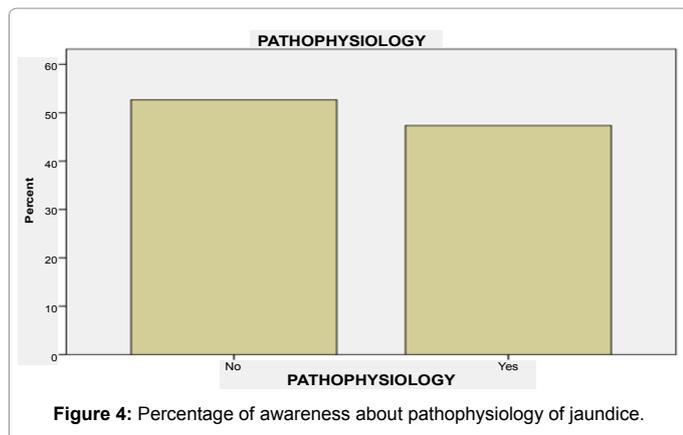


Figure 3: Percentage of awareness about symptoms of jaundice.



treatment strategies of this medical condition “jaundice”. Whereas other 55 pharmacy undergraduates have no basic awareness about the treatment strategies of ‘jaundice’ (Table 8). We have done these types of survey which will be helpful for health professionals [13-19].

Conclusion

After our survey on awareness about jaundice at JUW, we find that 98.7% pharmacy undergraduates have awareness about the term jaundice (Figure 1), 70% pharmacy undergraduates have awareness about the Etiology of jaundice (Figure 2), 88.7% pharmacy undergraduates have knowledge about the symptoms of jaundice (Figure 3), 47.3% pharmacy undergraduates have knowledge about the pathophysiology of jaundice (Figure 4), 77.3% pharmacy undergraduates have knowledge about the diagnostic tools and

techniques of jaundice (Figure 5) and 63.3% pharmacy undergraduates have knowledge about the treatment strategies of jaundice (Figure 6).

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