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A STUDY ON KNOWLEDGE, ATTITUDE, PRACTICE ABOUT HEPATITIS INFECTION AND ITS AWARENESS AMONG PHARMACY STUDENTS IN PRIVATE INSTITUTION AT CUDDALORE, TAMILNADU

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ABSTRACT

Aim − The aim of the study is to access the Knowledge, Attitude, and Practice regarding Hepatitis Infection and its awareness among the pharmacy students in private institution at Cuddalore, Tamil Nadu. Materials and Methods − The students studying in Mayor Radhakrishnan College of Pharmacy (MRCP), Cuddalore Tamil Nadu will be self-administered questionnaires. Only students who studying in department of pharmacy (MRCP) and were above the age of 17 years were eligible for our analyses. It is a based cross –sectional study. A physician validated Questionnaire containing 27 questions was circulated among pharmacy students to evaluate Knowledge, Attitude and Practice regarding Hepatitis Infection and its awareness among the pharmacy students in Mayor Radhakrishnan College of Pharmacy (MRCP) Cuddalore, Tamil Nadu. Results And Discussion − In our study self- administrated questionnaire was circulated to 155 Pharmacy Students totally, but only 130 students were responded (95%). Majority of pharmacy students responded from the Gender from Female were 84 (57%). Majority of pharmacy students responded from the Educational Qualification from B. Pharm were 111 (75.52%). Majority of Pharmacy students responded from the Year of Study from 2nd year students were 61(41.49%). Conclusion − The present study shows that pharmacy students having Adequate Knowledge on Hepatitis Infection on basis of questionaries' administer to the pharmacy students are aware of Hepatitis Infection and its awareness and there is need to develop more Knowledge by attending Seminar, Conferences and Awareness Programs.

Keywords – Hepatitis Infection, Knowledge, Attitude, Practice, Awareness, Questionnaire.

INTRODUCTION

Hepatitis is characterized as liver inflammation that can arise from various factors, including excessive alcohol consumption, autoimmune diseases, medication, or toxins. Nevertheless, the primary cause of hepatitis is a viral infection, known as "viral hepatitis". In the United States, the most prevalent forms of viral hepatitis are hepatitis A, hepatitis B, hepatitis C. [1] Depending on the cause of the diseases, the severity can vary from mild, self-limiting to severe diseases requiring a liver transplant. Hepatitis can be classified into "acute" and "chronic" depending on the duration of the inflammation of the liver. Inflammation lasting less than 6 months is considered "acute" and inflammation lasting more than 6 months is considered "mild". Chronic Hepatitis can lead to liver fibrosis, cirrhosis, hepatocellular carcinoma and hemorrhagic condition, which can lead to serious complication and deaths. [2][3] Advances in technology today have made it possible to identify viruses, and subsequent scientific research has revolutionized the illness and death caused by these pathogens. We aim to provide an overview of viral hepatitis and discuss current treatments and possible cures. Although most of we all have the daily ability to meet them at our doors. [4] The RNA virus known as the Hepatitis A virus (HAV) belongs to the Picornaviridae family. In general, the concentration is very high in the offspring of infected individuals, and the greatest reduction in viral load occurs at the end of the viral incubation period. The most common route of transmission of hepatitis A is through the faecal-oral route from contact with food, water, or objects contaminated with the faeces of an infected person. [5] Hepatitis B virus (HBV) belongs to the Hepadnaviridae family and is a DNA virus. The structure of the viral core is the nucleocapsid, hepatitis B core antigen (HBcAg), which surrounds the hepatitis B virus DNA and DNA polymerases. [6] The RNA virus known

as hepatitis C virus (HCV) belongs to the Flaviviridae family and has one serotype, at least six main genotypes, and over 80 subtypes. The great genetic heterogeneity makes creating a vaccination to stop HCV infection difficult. Parenteral, perinatal, and sexual transmission are all possible. Since dirty needles are frequently shared, those who inject illegal narcotics are most at risk for illness. Individuals who depend on regular blood transfusions and organ transplants from infected donors are also vulnerable. It is rate for transmission to occur during pregnancy or sexually. [7] For HDV, the incubation period lasts around 13 weeks. Hepatitis is exclusively caused by HDV infection in people who also have acute or chronic HBV co infection. The symptoms resemble those of an acute HBV infection. Nevertheless, cirrhosis tends to develop in people with both chronic HBV and HDV infection more quickly than in patients with only one chronic HBV infection. Patients who currently have HBV infection may get superinfection with HEV. Fulminant hepatitis failure can be brought on by superinfection.

[8] Incubation for HEV lasts between two and ten weeks. Acute HBV infection is more severe than acute hepatitis E virus infection. Nonetheless, HEV infection is linked to a >25% death rate in pregnant women who become infected during the trimester. [9] The oldest known outbreak of acute viral hepatitis dates back to 1955 in New Delhi and is thought to be caused by the tiny, single-standard RNA virus known as the HEV, which is also one of the most prevalent but underreported causes of the illness. [10]

AIM & OBJECTIVE

The aim of the study is to access the Knowledge, Attitude, and Practice regarding Hepatitis Infection and its awareness among the pharmacy students in private institution at Cuddalore, Tamil Nadu.

To examine the knowledge, attitude and practice regarding hepatitis infection. To evaluate the hepatitis infection awareness among the pharmacy students.

STUDY PLAN

The entire study was supposed to be conducted over a six-month period.

METHODOLOGY

Study site

Mayor Radhakrishanan College of Pharmacy, Cuddalore, Tamilnadu, India.

Study design

Cross-sectional study using questionnaires done in a private institution among pharmacy college students in Cuddalore, Tamil Nadu.

Study plan

The students studying in Mayor Radhakrishnan College of Pharmacy (MRCP), Cuddalore Tamil Nadu will be self-administered questionnaires. Only students who studying in department of pharmacy (MRCP) and were above the age of 17 years were eligible for our analyses. The study involves self-adminstrated questionnaire which is distributed among college students in department of pharmacy in a (MRCP) questionnaire among the students. The survey consists of demographic characteristics such as name, age, gender, education qualification and 3 sections contain question regarding knowledge, attitude, and practice towards Hepatitis Infection. The filled offline questionnaires will be submitted to investigators.

Sample Size

Sample size = 130 college students (By using Raosoft calculator).

Statistical analysis

A complete self-administered questionnaire-based review was performed. Values were expressed as percentage or as mean, and which is obtained by using SPSS Software.

Hypotheses of the Study

The population for this study includes all students enrolled in the Bachelor of Pharmacy (B. Pharm) and Diploma of Pharmacy (D. Pharm) programs at Mayor Radhakrishnan College of Pharmacy. The study focuses on D. Pharm and B. Pharm students.

Using random sampling, a total of 155 students were selected for the quantitative phase of the study. The sample was carefully balanced in terms of consent, gender, qualification and year of study.

RESULTS AND DISCUSSION

Table No. 1 Demographic Details of Consent

All the question from the questionnaire provided the information need to frame the results.

CONSENT	PERCENTAGE (%)
Agree	95%
Disagree	5%

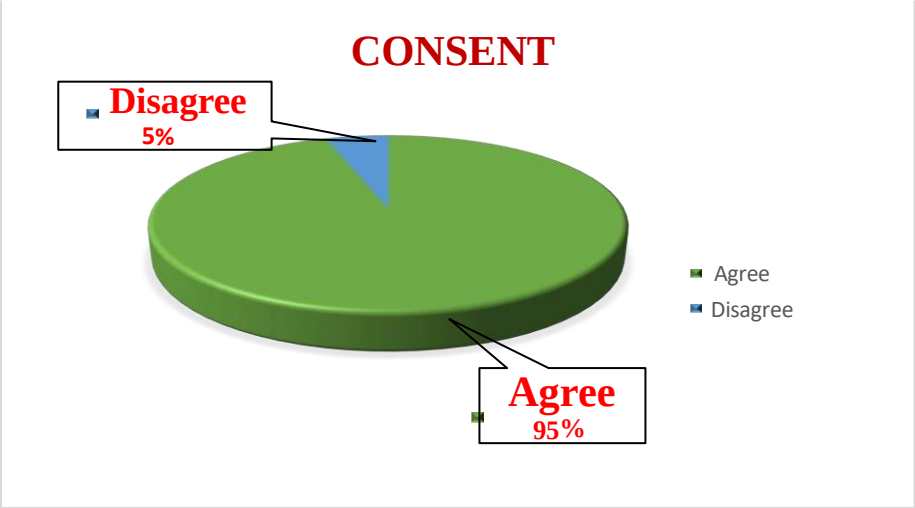

Figure 7 – Consent

Shows the enrolment of the students. Out of 155 study population only 130 students were responded.

Table No. 2 Demographic Details of Gender

GENDER	PERCENTAGE (%)
Male	43%
Female	57%

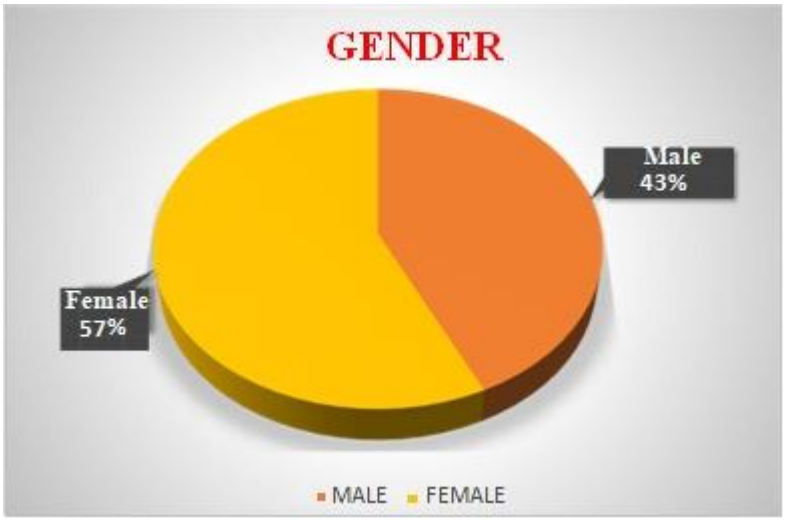

Figure 8–Gender depicts the student's demographic details

Like gender which is obtained from the individual's self-report from the second section of the questionnaire. Most of the respondent are Male 63 (43%) and Female 84 (57%) respectively.

Table No. 3 Demographic Details of Educational Qualification

Educational qualification	**Percentage (%)**
B. Pharm	75.52%
D. Pharm	24.48%

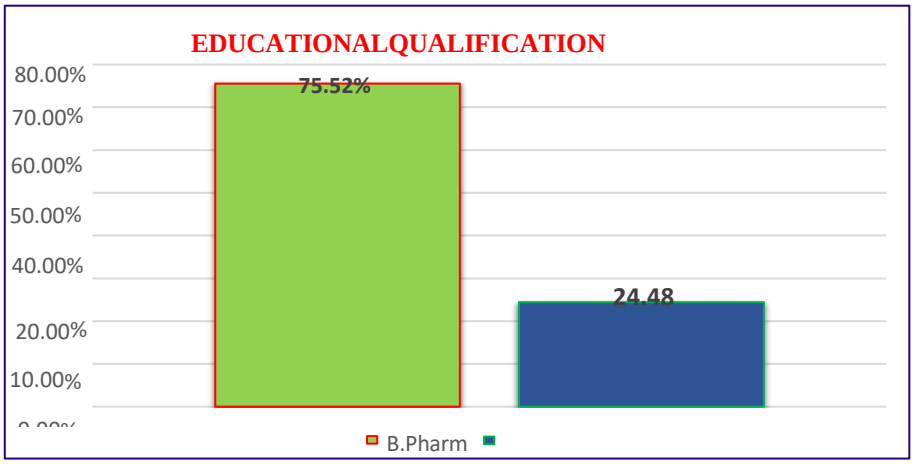

Figure 9 – Educational Qualification: Depicts the student's demographic details like educational qualification which is obtained from the individual's self-report from the second section of the questionnaire. The degrees of education of these students were obtained and the number of samples in B-Pharm and D. pharm degrees were 111 (75.52%) and 36 (24.48%) respectively.

Table No. 4 Demographic Details of Year of Study

YEAR OF STUDY	PERCENTAGE (%)
1st Year	20.41%
2nd Year	41.49%
3rd Year	25.18%
4th Year	12.92%

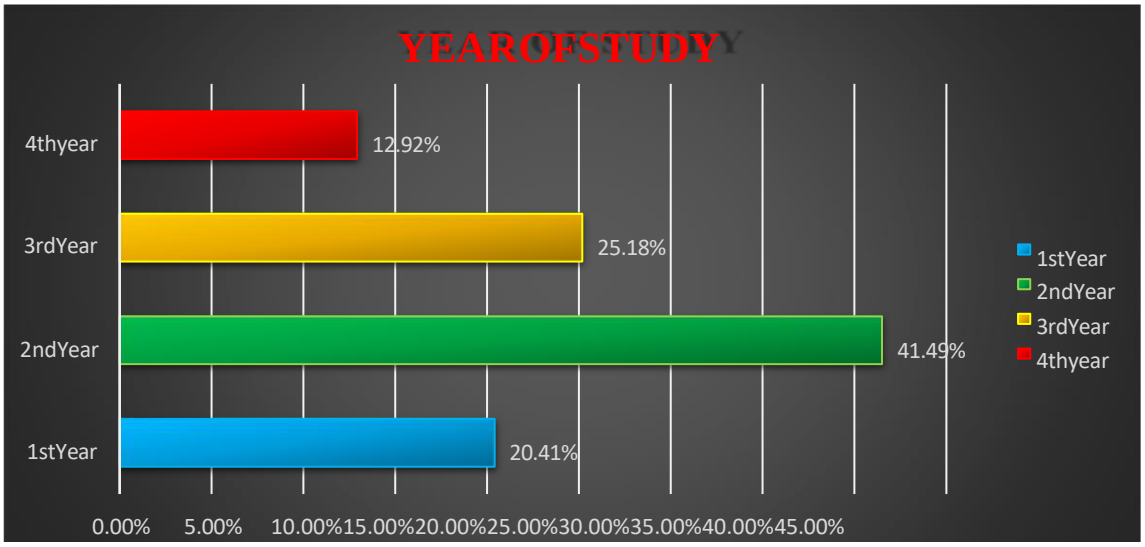

Figure 10 – Year of Study

Figure 10 depicts the student's demographic details like year of study which is obtained from the

individual's self-report from the second section of the questionnaire. The year of study were obtained, and the number of 1st year students were 30 (20.41%), 2nd year students were 61(41.49%), 3rd year students were 37 (25.18%), and 4th year students were 19 (12.92%) respectively.

Table No. 5 Knowledge Towards Hepatitis Infection

S.NO	QUESTIONS	NUMBERS	PERCENTAGE (%)
1.	Have you ever heard about a disease called Hepatitis?		
	Yes	135	91.83%
	No	2	1.36%
	Somewhat	8	5.44%
	Not Sure	2	1.37%
2.	Which type of organism can cause Hepatitis Infection?		
	Virus	139	94.55%
	Bacteria	3	2.04%
	Parasites	3	2.05%
	Fungi	2	1.36%
3.	Can Hepatitis virus cause liver diseases?		
	Yes	116	78.91%
	No	3	2.04%
	May be	27	18.36%
	Not Sure	1	0.69%
4.	Which organ in human body can be affected by Hepatitis		
	Infection?	143	97.27%
	Liver	1	0.68%
	Lungs	2	1.36%
	Pancreases	1	0.69%
	Kidney		
5.	What are the symptoms of Hepatitis Infection?		
	Jaundice	18	12.24%
	Abdomen pain	13	8.84%
	Fatigue and Fever	15	10.2%
	All the above	101	68.72%
6.	How Hepatitis Infection can be diagnosed? nd urine test		
	und test	50	34.02%
		5	3.40%
		7	4.76%
	above	85	57.82%
7.	What are the complications of Hepatitis Infection?		
	Cirrhosis	2	1.36%
	Liver cancer	3	2.04%
	Liver failure	6	4.09%
	All the above	136	92.51%
8.	Which of the following is a most common cause of		
	Hepatitis Infection?	10	6.80%
	Blood transfusion and sexual contact	3	2.04%
	Contact with infected person	15	10.20%
	Exchange of used needle syringe	119	80.96%

	All the above		
9.	What type of Hepatitis Infection vaccine are available? A B A&B None of above	 15 17 110 5	 10.2% 11.56% 74.84% 3.40%

Table No. 6 (Count) Hypothesis Testing

		Precaution Measure to Be Taken Against Hepatitis			Total
		Not sure	Sure	No	
Organism Causing Agent	virus	9	8	122	139
	bacteria	3	0	0	3
	parasite	1	0	2	3
	fungi	0	0	2	2
Total		13	8	126	147

Table No. 7 (Chi-Square Tests)

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	34.557a	6	.000
Likelihood Ratio	17.884	6	.007
Linear-by-Linear Association	3.795	1	.051
N of Valid Cases	147		

a. 9 cells (75.0%) have expected count less than 5. The minimum expected count is .11.

Based on the hypothesis testing for the study of Knowledge about hepatitis infection and its awareness among the pharmacy students.

Knowledge (Which type of organism can cause Hepatitis Infection)

The null hypothesis is rejected. There is no statistically significant association between the type of organism causing agents and the precaution measures taken against hepatitis

The alternate hypothesis is accepted. There is a statistically significant association between the type of organism causing agents and the precaution measures taken against hepatitis.

Table No. 8 Attitude Towards the Hepatitis Infection

S.NO	QUESTIONS	NUMBERS	PERCENTAGE (%)
1.	Hepatitis spreads faster than HIV. Agree Disagree Not Sure	 135 2 10	 91.83% 1.37% 6.80%

2.	Hepatitis is a communicable liver disease. Agree Disagree Not Sure	 124 4 19	 84.35% 2.72% 12.93%
3.	Hepatitis B can cause cirrhosis. Agree Disagree Not Sure	 128 9 10	 87.07% 6.13% 6.80%
4.	Hepatitis can be cured or treated. Agree Disagree Not Sure	 67 60 20	 45.57% 40.83% 13.6%
5.	Hepatitis can be prevented by vaccination. Agree Disagree Not Sure	 112 22 13	 76.19% 14.96% 8.85%
6.	Hepatitis Infection can occur at any age. Agree Disagree Sure	 133 5 9	 90.47% 3.4% 6.13%
7.	Five types of viruses can cause Hepatitis Infection. Agree Disagree Not Sure	 127 4 16	 86.39% 2.72% 10.89%
8.	Hepatitis can be transmitted from mother to child. Agree Disagree Not Sure	 133 3 11	 90.47% 2.05% 7.48%

Table No. 9 Hypothesis Testing (One-Sample Statistics) One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
GENDER	147	1.57	.497	.041
Do you aware of hepatitis vaccine	147	2.60	.746	.062

Table No. 10 (One-Sample Test)

	Test Value = 0					
	t	df	Sig. (2tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
GENDER	38.369	146	.000	1.571	1.49	1.65
Do you aware of hepatitis vaccine	42.217	146	.000	2.599	2.48	2.72

Based on the hypothesis testing for the study of Attitude about hepatitis infection and its awareness among the pharmacy students.

Attitude (whose gender and the awareness of the hepatitis vaccine)
Both hypotheses are rejected, meaning that the sample means for gender and Awareness of hepatitis vaccine are significantly different from the test value (0).

Table No. 11 Practice Towards Hepatitis Infection

S.NO	QUESTIONS	NUMBERS	PERCENTAGE (%)
1.	Have you ever been screened for Hepatitis?		
	Yes	4	2.72%
	No	130	88.43%
	Not Sure	13	8.85%
2.	Do you aware of Hepatitis vaccine?		
	Yes	111	75.51%
	No	13	8.85%
	Not Sure	23	15.64%
3.	Have you been vaccinated against Hepatitis?		
	Yes	4	2.72%
	No	135	91.84%
	Not sure	8	5.44%
4.	Do you know the precaution measures to be taken against Hepatitis?	126	85.71%
	Yes	8	5.45%
	No	13	8.84%
	Not Sure		
5.	What are the precaution measures as to be taken against Hepatitis?	21	14.28%
	Get vaccinated	9	6.12%
	Avoid sharing personal items	6	4.09%
	Maintain good hygiene	111	75.51%
	All the above		
6.	Do you aware of first aid treatment of accidental exposure to Hepatitis?	112	76.19%
	Yes	8	5.44%
	No	27	18.37%
	Not Sure		
7.	How do you first aid when you exposure to Hepatitis Infection?	15	10.20%
	Wash the exposed skin	8	5.44%
	Get blood borne virus assessment	19	12.9%
	Remove the contaminated cloth	105	71.46%
	All the above		

Table No. 12 (Count) Hypothesis Testing

	Symptoms Of Hepatitis Infection	Total

		Jaundice	Abdomen pain	Fatigue and fever	All the above	
Qualification	B. Pharm	17	0	15	80	112
	P. Pharm	9	13	0	13	35
Total		26	13	15	93	147

Table No. 13 (Chi-Square Tests)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	52.916a	3	.000
Likelihood Ratio	52.577	3	.000
Linear-by-Linear Association	16.276	1	.000
N of Valid Cases	147		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 3.10. Based on the hypothesis testing for the study of Practice about hepatitis infection and its awareness among the pharmacy students.

Practice (Qualification of the study and symptoms of hepatitis infection)

The null hypothesis is rejected. There is no statistically significant relationship between qualification and symptoms of hepatitis infection.

The hypothesis test Passed, meaning there is a significance relationship between qualification and symptoms of hepatitis infection.

CONCLUSION

The present study shows that pharmacy students having Adequate Knowledge on Hepatitis Infection on basis of questionaries administer to the pharmacy students. The results of the study help to analyze their Knowledge, Attitude and Practice regarding Hepatitis Infection and its awareness among the pharmacy. The study shows that the pharmacy students are aware of Hepatitis Infection and its awareness and there is need to develop more Knowledge by attending Seminar, Conferences and Awareness Programs.

Knowledge (Which type of organism can cause Hepatitis Infection)

The null hypothesis is rejected. There is no statistically significant association between the type of organism causing agents and the precaution measures taken against hepatitis.

The alternate hypothesis is accepted. There is a statistically significant association between the type of organism causing agents and the precaution measures taken against hepatitis.

Attitude (whose gender and the awareness of the hepatitis vaccine)

Both hypotheses are rejected, meaning that the sample means for gender and Awareness of hepatitis vaccine are significantly different from the test value (0).

Practice (Qualification of the study and symptoms of hepatitis infection)

The null hypothesis is rejected. There is no statistically significant relationship between qualification and symptoms of hepatitis infection.

The hypothesis test Passed, meaning there is a significance relationship between qualification and symptoms of hepatitis infection.

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REFERENCES

1. Zuckerman AJ. Hepatitis Viruses. In: Baron S, editor.

Medical Microbiology. 4th ed. University of Texas Medical Branch at Galveston; Galveston (TX): 1996.
2. Dakhil N, Junaidi O, Befeler AS. Chronic viral hepatitis. Mo Med. 2009 SepOct;106(5):361-5.
3. Ryder SD, Beckingham IJ. ABC of diseases of liver, pancreas, and biliary system: Acute hepatitis. BMJ. 2001 Jan 20;322(7279):151-3.
4. Koff RS. Feinstone SM, Kapikian AZ, Purcell RH. Hepatitis A: detection by immune electron microscopy of a virus like antigen associated with acute illness [Science 1973; 182:1026-1028] J Hepatol. 2002; 37:2–6.
5. Koenig KL, Shastry S, Burns MJ. Hepatitis A Virus: Essential Knowledge and a Novel Identify-Isolate-Inform Tool for Frontline Healthcare Providers. West J Emerg Med. 2017 Oct;18(6):1000-1007.
6. You CR, Lee SW, Jang JW, Yoon SK. Update on hepatitis B virus infection. World J Gastroenterol. 2014 Oct 07;20(37):13293-305.
7. Li HC, Lo SY. Hepatitis C virus: Virology, diagnosis and treatment. World J Hepatol.
8. Farci P. Delta hepatitis: an update. J Hepatol. 2003;39 Suppl 1: S212–S21.
9. Cangin C, Focht B, Harris R, Strunk JA. Hepatitis E seroprevalence in the United States: Results for immunoglobulins IGG and IGM. J Med Virol. 2019; 91:124–131.
10. Lhomme S, Marion O, Abravanel F, Chapuy-Regaud S, Kamar N, Izopet J. Hepatitis E Pathogenesis. Viruses. 2016 Aug 05;8(8).