

A Kap Study of Hepatitis Among Hepatitis Positive Patients Presenting to a Tertiary Care Hospital in Southern Punjab, Pakistan

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ABSTRACT

Objective: To study prevalence and assessment of knowledge, attitude, and practice regarding hepatitis in patients presenting to a tertiary care hospital in Southern Punjab.

Method: The study was conducted at the medicine wards of Sheikh Zayed medical hospital, Rahim Yar Khan for three months from July till September 2021. The data was collected through a physical questionnaire which was divided into three sections relating to prevalence, prevention along with control and risk factors. The collected data was then analysed using SPSS version 26.

Results: Out of 219 patients, there were 83 females (38.42%) and 133 males (61.57%). The mean age of the population was found to be 51.74 (15.51). Hepatitis C (86.1%) was found in the highest prevalence. 128 patients (59.2%) were chronic cases while 88 (40.7%) were acute. Regarding co-morbidities, 32.9% patients had diabetes type II (DM-II) and 31.5% of the patients had pre-existing primary hypertension (HTN). In terms of awareness, it was found that 122 (56.5%) attendants/patients were able to correlate their presenting symptoms with hepatitis. 129 (59.7%) of attendants showed some understanding about vaccination. Only the association between the attitude score among males and females was found to be statistically significant (p-value= .003).

Conclusion: Despite increasing vaccination trends, hepatitis cases are still prevalent as the most common cause is HCV which has no vaccination. Good prognosis of HCV requires early detection which is rare as the public still lacks knowledge on its disease course and a proactive attitude.

Keywords: KAP, Hepatitis C, Pakistan, South Punjab, Hepatitis B, Hepatitis Vaccination, Awareness, Vertical transmission, Hepatitis

INTRODUCTION

Hepatitis is a cause for concern among certain countries like Pakistan and its underdeveloped areas of Punjab due to their high population distributions [1]. Hepatitis C virus (HCV) is one of the causes of chronic hepatitis and the most prevalent form of the virus in Pakistan [2]. Some factions of the society segregated based on gender or age are more prone to be hepatitis positive than the others. Pakistan has not seen a decline in hepatitis cases: this is due to multiple causes like a poor sewage system, reused syringes, shaving at barbers and lack of awareness about the prevention and control of the virus, its symptoms for early diagnosis, and its spread [3]. The vaccination programs have been going on for decades and have been met by resistance from the people. The summation of all these factors makes hepatitis a constant and lingering problem in Pakistan [4].

Accordingly, there is a need to understand the demographics in the general population as well as those presenting to the hospital with varying complaints associated with hepatitis. No studies have been performed previously in South Punjab of Pakistan, delineating the percentages of distinct types of hepatitis patients among hospital medicine wards. This study intends to pinpoint the social groups and enlist the portions of society that need further awareness of hepatitis symptoms and their control strategies. Considering the recent pandemic and increase in general vaccination awareness among people, the study is the first of its kind to happen in the Sheikh Zayed Hospital Rahim Yar Khan to highlight the need for patient/attendant increased awareness in combating hepatitis. A previous study was conducted in the same hospital regarding the seroprevalence of different markers of Hepatitis [5]. This study builds up on that by finding groups that need particular focus for prevention and control.

SUBJECTS AND METHODS

This study quantifies the Knowledge, Attitude and Practice through KAP scores of Hepatitis positive patients presenting to the Medicine Ward in Sheikh Zayed Hospital Rahim Yar Khan and reports their prevalence. This study was conducted after obtaining written permission from the Hospital's research board and verbal

consent of the head of departments of the concerned wards. An informed written consent was taken from patients on a separate form, every patient remained anonymous and voluntarily became a part of the research with the right to withdraw. The associations between different variables along with the frequencies and percentages of all the questions asked of patients, or their attendants are reported. The data was collected through a physical questionnaire which was divided into three sections: dealing with prevalence (including age, gender, occupation, and comorbidities), prevention and control (including data about presenting complaint, how long after did the patient present to the hospital, whether they were aware they had hepatitis or if it was a recurrent infection, family history, usage of homeopathic medicine and knowledge of general vaccination as well as the status of hepatitis vaccination among family members), and risk factors (including socio-economic living conditions, hygiene, animal handling, water hygiene, past medical history, and needle stick injuries). Questions were inclusive of all viral hepatitis, keeping in mind their varying presentations and risk factors.

The hepatitis positive patients presenting to the Medicine ward of the hospital with related symptoms were considered as the population of the study and a rough estimate using hospital data was taken as at least 200 for the size of the study. It was performed over a span of three months i.e., July, August, and September 2021, with the collection of data in regular intervals from the sample. The sample was taken using the clustered random sampling technique. The participants all presented to the same health care unit but there were no further bias-inducing criteria to hand-pick a few of them for this study. Inclusion criteria consisted of all hepatitis patients of the ward who gave written consent. While the exclusion criteria consisted of those who withdrew consent, were less than 14-year-old and chronic HCV patients who had presented with systemic complaints not of the liver or GIT (like seizures, malaria, or stroke).

Questionnaires were distributed among the six researchers who ran a trial test of the questionnaire for a couple of days, improvised and then continued. Then the researchers would periodically go to different Medicine wards to physically fill out the questionnaire. There is a probability of a small bias in the study

here, as people who are in a hospital setting are more accepting of medical interventions, especially prophylactic ones, than those outside. The interview of questions per patient lasted for 5-10 minutes and was conducted in the patient's language. Firstly, the LFTs of patients were checked. Then viral markers were verified to decide the type of viral hepatitis. In some cases, other medical reports like CT scan and PCR were checked too to ensure the patient was rightly diagnosed and to prevent any selection bias or confounder meddling with the result. When the questions regarding the vaccination status and its awareness were asked, in case of negative replies, the attendants were briefed on how vaccinations worked, their advantages and facilities where they could easily get vaccinated. Upon filling of questionnaire, the data points were added into a Google Form. This helped the researchers visualize the data in the end and help the entry of data points into an automatically generated spreadsheet. When the period of the data collection was over, the spreadsheet was inspected and highly variable responses like reasons for not getting vaccinated and presenting complaints were streamlined under various broader categories to help in the analysis and better reporting of the data. This also helped against sensitivity analysis. The data values were analyzed using IBM's Statistical Package for Social Sciences. The improvised spreadsheet was converted into a database. Type for each variable was adjusted by the software but the Likert scale data were treated as ordinal categorical as there was an order to the range of answer scales present in the questionnaire. Descriptive statistics of all the variables with their frequency was calculated and is reported below. The statistical significances were calculated using parametric tests like the Mann-Whitney U Tests and then one-tailed Spearman correlated (where applicable), with the p-value= .05. There was no missing data found.

RESULTS

A total of 219 patients and their attendants were interviewed over the period of three months, out of which the data points from three of them were voided due to withdrawal of consent midway. All other 216 participants had values for all variables. There were 83 females (38.42%) and 133 males (61.57%). The most common type of viral hepatitis among the patients was Hepatitis C with 186 patients (86.11%) followed by 36 Hepatitis B patients (16.66%). Out of the 36 people who had Hepatitis B, 9 had coinfection with Hepatitis C and 2 had a recently diagnosed superinfection with Hepatitis D. 5 (2.31%) patients also had HCC secondary to viral hepatitis. Not enough cases of Hepatitis A and Hepatitis E presented to make any meaningful comment of their prevalence. The mean age for HCV positive patients was 53.74 (14.32) while the mean age for non-HCV positive hepatitis patients was 39.3 (17.07) with a confidence level of 95%, which corroborates earlier mean ages of HBV and HCV. Of the 133 males, 33 (24.81%) were retired, 30 (22.55%) were farmers or property owners and 28 (21.07%) percent were skilled and unskilled laborer. The rest were varying professions. There were only two barbers and no healthcare workers. Most of the females, 67 (80.72%), were stay-at-home spouses.

The most common presenting complaint among patients is visualized in Figure 1.

The questions pertaining to the knowledge of hepatitis patients are listed and scored in Table 1. Results show a good understanding of hepatitis and its symptoms among patients once they get it. The mean score of Knowledge was 2.583, the main contributor to this low score being a lack of knowledge of Hepatitis B vaccine prior or even after infection.

The results delineating attitude of patients of hepatitis is given in Table 2. The low mean score of 5.120 reflects a delay in bringing hepatitis positive patient to the hospital on time. Moreover 27 (12.5%) of patients had either a hepatitis positive mother or offspring, thus showing vertical transmission. Unclean water consumption (69.9%) was the biggest factor of a subpar living standard among hepatitis patients, although it affects Hepatitis A and E more, which were not prevalent cases here.

Table 3 shows the practice score among the patients. Out of a total score of 6, the mean was 3.740. Patients and attendants showed great willingness to get their close family members vaccinated (70.4%) and there was an increased trend seen in awareness of unsafe needle usage as well as shaving at barber. The biggest contributor to a low score was the excessive use of homeopathic medicine among hepatitis patients.

Of the 216 patients, 79 (36.57%) had known cases of hepatitis in the family. Out of these, 30 (37.97%) were present in siblings of the patient, 23 (29.11%) in offspring, and 14 (17.72%) in parents. There was no statistically significant association between the occurrence of Hepatitis C and the knowledge of symptoms of hepatitis within any strata of days in which the patient was admitted to the hospital. 80 (37.03%) patients presented to the hospital within a week of symptoms, 65 (81.25%) of these patients were HCV patients and only 33 (50.76%) of HCV positive ones were aware their symptoms corresponded with those of hepatitis C.

There was no statistically significant association between vaccination status and the usage of homeopathic medicines (p-value=.19) but there was a significant association between the knowledge of vaccines in general and hepatitis B vaccination awareness (p-value= 4.72E-18). Additionally, the most common reason that around 71 (33%) patients or attendants cited for not getting vaccinated for hepatitis was a complete lack of awareness on how to get vaccinated.

The data of the socioeconomic conditions of the patients is reported in Table 4, with a special focus on the association between the poverty line and hepatitis patients. Questions related to food, water and hygiene are relevant to Hepatitis A and E while others are for blood-borne ones. The findings in risk factors among hepatitis positive demographic show most patients were below the poverty line and the socio-economic parameters like the number of rooms and number of people in house support this claim.

In Table 5, the associations between various demographics of patients are shown with their respective KAP scores. Only the association between the attitude score among males and females was found to be statistically significant. The Mann Whitney U Test was only run within the house-wife demographic within the occupation tab.

Using the one-tailed Spearman correlation, a significant association between Knowledge score and Attitude score (p-value= .017), as well as Knowledge score and Practice score (p-value= .004). Thus, making it a vital area of focus to combat against this disease in the community.

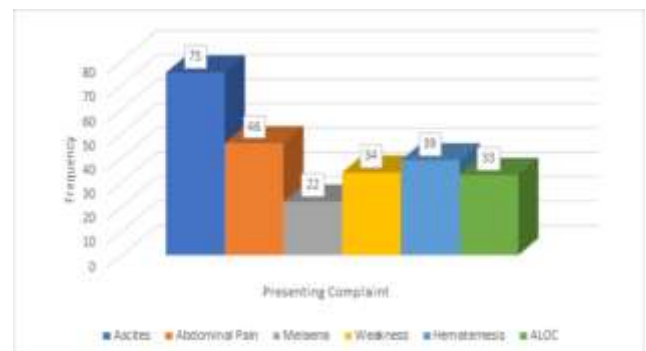


Figure 1: Frequency of various presenting complaints in Hepatitis positive patients

(ALOC: Altered Level of Consciousness)

Figure Legend: Figure 1 shows the frequency of most common presenting complaints among Hepatitis. Y-axis shows the number of patients, X-axis shows the presenting complaint. Blue denotes ascites, orange shows abdominal pain, grey shows melaena, yellow shows weakness, cyan shows hematemesis and green represents altered level of consciousness.

Table 1: Questions to determine knowledge score among Hepatitis patients

Knowledge			
Question	Score	Result	
1. Knowledge of diagnosis of Hepatitis	1	Yes 122 (56.5%)	No 94 (43.5%)
2. Correlation of disease with previous symptoms of Hepatitis	1	Yes 155 (71.8%)	No 61 (28.2%)
3. Aware of general vaccines	1	Yes 129 (59.7%)	No 87 (40.3%)
4. Aware of Hepatitis B vaccine	2	Yes 76 (35.2%)	No 140 (64.8%)
Total Score for Knowledge is 5			
Mean Score for Knowledge: 2.5833 ±0.21833			

Table 2: Questions to determine attitude scores among Hepatitis patients

Attitude		
Question	Score	Result
1. Time taken to come to hospital	0 : More than a month	32 (14.8%)
	1: More than 2 weeks	6 (2.8%)
	2: More than a week	22 (10.2%)
	3: Within a week	80 (37.0%)
	4: As soon as possible	76 (35.2%)
2. Change in lifestyle based on family history	0: No change regardless	135 (62.5)
	1: Distant relative; somewhat	51 (23.6%)
	2: Close family; great affect	30 (13.9%)
3. Subpar hygienic practices like eating outside too much, sharing toothbrushes, water cleanliness, animal handling	1: Ill-prepared commercial food	8 (3.7%)
	1: Toothbrush sharing	24 (11.1%)
	1: Unclean water consumption	151 (69.9%)
	1: Unsafe handling of animals	80 (37.3%)
Total Score for Attitude is 10		
Mean Score for Practice: 5.1204 ±0.2337		

Table 3: Questions to determine practice score among Hepatitis patients

Practice			
Question	Score	Result	
1. Usage of homeopathic medicine	2	Yes 166 (76.9%)	No 50 (23.1%)
2. Vaccination status for Hepatitis B	2	Yes 152 (70.4%)	No 64 (29.6%)
3. Hygienic practices during shaving	1	Yes 202 (93.5%)	No 14 (6.5%)
4. Unsafe syringe usage	1	Yes 213 (94.0%)	No 13 (6.0%)
Total Score for Practice is 6			
Mean Score for Practice: 3.7407 ±0.1739			

Table 4: Socioeconomic conditions of patients presenting with Hepatitis

Poverty line	Frequency						Percentage		
	Above			Below					
Parameters	People	Number	%	Rooms	Number	%	Bathrooms	Number	%
	<3	24	11.11	<3	99	45.83	0-1	136	62.96
	3-6	58	26.85	3-5	94	43.50	2-3	71	32.87
	6<	134	62.03	5<	23	10.64	3<	9	4.16

Table 5: Association of various demographic groups with KAP scores

Demographic Characteristic	Knowledge Score	P-value	Attitude Score	P-value	Practice Score	P-value
Gender						
Male	2.6541	0.380	4.8496	0.003	3.7820	0.510
Female	2.4699		5.5542		3.6747	
Occupation						
Farmer	2.7692	0.400	4.3462	0.086	3.6923	0.930
Housewife	2.4627		5.4179		3.7612	
Retired	2.2381		5.15		3.4500	
Labourer	2.8250		4.3810		3.9048	
Comorbidities						
Hypertension	2.7941	0.148	5	0.432	3.7206	0.852
Diabetes	2.8028	0.145	5.2254	0.491	3.8451	0.401

DISCUSSION

In our study, we found an unexpectedly substantial number of people who knew about how vaccinations worked in all socioeconomic subgroups even if the people who knew about

Hepatitis B vaccine were not much. This trend only increased as our study progressed and can be attributed to the current coronavirus pandemic, due to which the government has implemented restrictions for non-vaccinated citizens. The influx of

knowledge through social media has also helped the case of awareness [6]. People resorting to homeopathic medicines were aware of vaccinations and were willing to get vaccinated proves this too. So, rather than a distrust of the medical system, the barrier is a lack of state apparatus to inoculate them. Awareness programs should target the prompt vaccination of children for Hepatitis B as mother-to-child transmission (MTCT) during pregnancy is the leading form of transmission. Vaccination later in life does not help much while the risk of MTCT is reduced by prompt neonatal HBV vaccination through the EPI and the administration of hepatitis B immunoglobulin after birth in high-risk infants [7].

The study shows and serves to substantiate the claim that the most common type of viral hepatitis in Pakistan is still Hepatitis C by far and large [8]. The other types are more in percentage in the general healthy population as acute cases of non-HCV hepatitis rarely admit into the hospital without cause for concern.

However, for the considerable number of Hepatitis C positive patients, the HBV vaccine did not affect their HCV RNA and didn't help in disease course. It was more important for such patients to recognize their symptoms early or seek treatment early for nonspecific symptoms of hepatitis before the damage done to the liver was great. The no significant association between knowledge of symptoms with HCV prevalence among people no matter when they showed up to hospitals serves as evidence.

This study was the first one to occur in this region of Pakistan, and one of the few ones in the country figuring out the awareness of people regarding vaccines and disease knowledge, consequently helping pave the road to combat hepatitis in this area. The strength and weakness of this study is that the population sample was limited to the viral hepatitis positive patients presenting to the hospital.

Using the data in the study and earlier studies [9], it can be concluded Hepatitis B vaccine drives are needed which would remove the problem that people seemed to have of vaccine access. Recent studies have shown there is a wide gap between health literacy rates among patients presenting to OPDs [10]. Health seeking behavior in patients is dependent on patient's knowledge of the disease more than early detection of it [11]. This precipitates the need for awareness programs on social media and at hospitals on disease course of hepatitis C and how it is manageable if caught early but can lead to hepatocellular carcinoma if left unchecked [12]. Further research like case-control studies is needed to prove a significant association between various risk factors and the incidence of hepatitis C. Research looking into biomarkers and predictors of HCV disease progression should be promoted as well [13]. More generalized cross-sectional studies including non-hospitalized cases can be used in the future to back the findings of this study.

This study was performed to assess the knowledge, attitude, and practice of Hepatitis positive patients presenting to Medicine ward in Sheikh Zayed Hospital, in Southern Punjab. The study was able to highlight social groups, such as people above the age of forty, high-risk infants and those that may have weakness secondary to diabetes or primary hypertension, and bolster already

existing old cross-sectional studies in other regions of the country. The study proved how considering the global pandemic, the public viewpoint of vaccinations has improved with greater awareness and less reluctance. However, it also showed an urgent need to diagnose HCV infections on time to curb the increasing number of serious cases. Using the findings of this study, medical practitioners of this area can be on the lookout for the tell-tale symptoms in high-risk individuals and provide them with effective healthcare. This should help the knowledge and attitude of population in this area towards hepatitis improving mortality as well.

REFERENCES

1. Butt AS, Sharif F. Viral Hepatitis in Pakistan: Past, Present, and Future. *Euroasian J Hepatogastroenterol.* 2016;6(1):70-81. doi:10.5005/jp-journals-10018-1172
2. Mahmud, S., Al Kanaani, Z. & Abu-Raddad, L.J. Characterization of the hepatitis C virus epidemic in Pakistan. *BMC Infect Dis* 19, 809 (2019). <https://doi.org/10.1186/s12879-019-4403-7>
3. Raza-E-Mustafa, Sana Mushtaq, Naeem Akhtar, Muhammad Arfat Yameen. Assessment of knowledge, attitude and practice towards hepatitis among patients visiting the hepatitis clinic in tertiary care hospital, Rawalpindi, Pakistan (JPMA 69: 1136; 2019)
4. Ayoub HH, Al Kanaani Z, Abu-Raddad LJ. Characterizing the temporal evolution of the hepatitis C virus epidemic in Pakistan. *Journal of Viral Hepatitis.* 2018 Feb 21;25(6):670–9.
5. Majeed Zafar, M. A. Manzur, and Aasma Manzur. "Prevalence of hepatitis-B and hepatitis-C viral infection in the rural population of Rahim Yar Khan." *J Sheikh Zayed Med Coll* 3.2 (2012): 310-12.
6. Mallick N, Anjum F, Leghari Q-A, Bashir L, Naz S. Awareness of Hepatitis C in Karachi, Pakistan. *World Journal Of Pharmacy and Pharmaceutical Sciences.* 2018 Jan 13;7(2):148–54
7. Cheung KW, Lao TT. Hepatitis B - Vertical transmission and the prevention of mother-to-child transmission. *Best Pract Res Clin Obstet Gynaecol.* 2020;68:78-88. doi:10.1016/j.bpobgyn.2020.02.014
8. Jamil Z, Waheed Y, Ahsan O, Najmi MH, Yousuf H. Familial clustering of hepatitis C virus in a Pakistani population. *J Med Virol.* 2020 Apr 22. doi: 10.1002/jmv.25926. Epub ahead of print. PMID: 32320089.
9. Hu A-Q, Cai Q-Y, Zhang M, Liu H-Y, Wang T-L, Han W-H, et al. Overt and occult hepatitis B infection after neonatal vaccination: mother-to-infant transmission and HBV vaccine effectiveness. *Int J Infect Dis.* 2021;104:601–9.
10. Ahmed A, Anwar B, Qureshi M, Asim M, Nisar N. Assessment of Health literacy and its determinants in patients visiting tertiary care hospital, Rawalpindi, Pakistan. *Pakistan Journal of Public Health.* 2021;10(4):220-225.
11. Pirani SS, Allana S, Ali TS, Ismail FW. Association of Awareness about Hepatitis C Infection with Patterns of Health Seeking Behavior among Hepatitis C Patients in Karachi, Pakistan. *J Public Health Dev Ctries.* 2017; 3(2): 395-404.
12. Goto K, Roca Suarez AA, Wrensch F, Baumert TF, Lupberger J. Hepatitis C Virus and Hepatocellular Carcinoma: When the Host Loses Its Grip. *Int J Mol Sci.* 2020 Apr 26;21(9):3057. doi: 10.3390/ijms21093057. PMID: 32357520; PMCID: PMC7246584.
13. Irvine KM, Wockner LF, Shanker M, Fagan KJ, Horsfall LU, Fletcher LM, et al. The Enhanced liver fibrosis score is associated with clinical outcomes and disease progression in patients with chronic liver disease. *Liver International.* 2015 Aug 28;36(3):370–7.