P-ISSN: 2790-6795	Annals of Human and Social Sciences	Apr-June 2024,Vol. 5, No. 2
O-ISSN:2790-6809	*http://doi.org/10.35484/ahss.2024(5-II)46*	[499-513]

Annals of Human and Social Sciences
www.ahss.org.pk

RESEARCH PAPER

A Quality of Life Guide for a Rural Purview in District Larkana Expending the GIS Evaluation in Hepatitis Exploration

Naila Parveen Abbasi

Assistant Professor, Department of Geography,Shah Abdul Latif University Khairpur, Sindh, Pakistan

Corresponding Author proudtobeageographer@yahoo.com

ABSTRACT

Hepatitis is a serious health issue in rural areas of District Larkana, as socioeconomic and environmental conditions, of hepatitis sufferer's who significantly declined the quality of life. Main tasks covered the evaluation of wellbeing-associated social factors for way of life of hepatitis patients, also pinpointed the important symptoms. To evaluate HRQoL, a ground survey were carried out. The hospital registrants and interviewees were all approached through questionnaire for a study that is based on patient demographics and disease-related characteristics in the research area by the help of disease mapping using Geoinformatics techniques. The outcomes clearly shown, the lack of awareness and financial means are the reasons of poor quality of life of patients as most of belong to labor class who lived in villages under the joint family system were dissatisfied by way of their quality of life it came to know about the signs of a viral illness, such as hepatitis-related joint pain, exhaustion, fever, and anxiety, vomiting. Set the constant intensive care also monitoring system for disease related factors that can be helpful in supervision of situation in study area.

Keywords: GIS, Hepatitis, Quality of Life, Socioeconomic Factors

Introduction

The hepatitis C virus (HCV) continues to be a major global health concern in many areas of the world. (Taha et al, 2023). The World Health Organization (WHO) reports that 3.2 million cases of chronic hepatitis C infection in children and adolescents worldwide, out of 58 million cases overall, are still present (WHO,2023). Furthermore, according to WHO (2023) there are roughly 1.5 million new infections annually. According to WHO estimates, hepatitis C killed 290,000 individuals in 2019. (Taha et al, 2023).The World Health Organaization,s most recent study has demonstrated the significant worldwide effects of cronic hepatitis B infection. The disease, which affects over 240 million people, is now recognized as a crippling illness that accounts for 686,000 annual deaths (Li, 2019). In a similar vein, Hepatitis C has been linked to almost 300,000 annual fatalities (WHO, 2016). (Ali et al, 2023).

A high prevalence of hepatitis cause to convert into a severe ailment that be able to rise the illness plus death rate (Purwono et al, 2016). Quality of life is an individual's perception of general health, both positive and negative, based on their life experiences (Karacaer et al, 2016). As quality of life is really inclined through the state of wellbeing to each person (Xiulan et al, 2017). The concept of health-related quality of life (HRQOL) has been studied since the 1980s (Karacaer et al, 2016) and (Muhammad et al, 2020). So, that includes the whole spectrum of humanoid experiences, situations, views that belong to way of living life for specific or communal (Xiulan et al, 2017). Equally neutral plus personal standard of life consist on social, biological, emotional, relational, spiritual, economic, political, temporal and philosophical dimensions (Xie et al, 2015). Quality of life refers to the value of the experiences of communities, such as families or groups of individuals (Zhou et al, 2019).(Muhammad et al, 2020). It is the perception of an individual of his position in life in the context of culture and value system in relation to his goals, expectations, standards

and concerns (Skevington et al, 2004). In contrast, health-related quality of life (HRQoL) and its determinants include aspects of general quality of life that affect health (physical or mental) (Taylor, 2000) and (MChorney, 1999) and (Noman et al, 2012).

Furthermore, each person's quality of life will be accurately assessed and able to convey the patient's perspective, experience with preserving health and enjoying life, sense of well-being, and psychological readiness to deal with the disease (Jacobson et al., 2010). Globally, the most common cause of cirrhosis is infection with hepatitis C (Wadhawan et al, 2010). The quality of life connected to health is significantly impacted by a persistent infection with the hepatitis C virus (HCV) (Foster, 2009). Patients with hepatitis C have experienced depressive symptoms, anxiety, fatigue, fever, joint pain, low quality of life, vomiting, and abdominal pain (Bailey et al, 2009). Males with chronic HCV infection are extremely likely to experience sexual dysfunction (Danoff et al., 2006; Malhotra et al., 2016).

Treating patients for chronic conditions like hepatitis B frequently overlooks the concept of health-related quality of life (HRQoL) and developing nations. In light of this, more than 24% of people in Pakistan, one of the most populous nations on earth, live below the national poverty line (WHO, undated). One of the biggest barriers to providing the public with the best possible healthcare is the lack of health facilities and human resources in the medical field.Another significant worry is the doctors' lack of availability and their callous inhumane behavior. The healthcare system's inability to offer the necessary facilities in the presence of hostile entities has an impact on patients' health. To the best of our knowledge, not much is known regarding the (HRQoL) status of the hepatitis B-affected Pakistani community. While several research (Atiq et al., 2004; Awan et al., 2016) have reported health-related quality of life, or HRQoL, among Pakistani patients with numerous liver diseases, there is a dearth of information specifically pertaining to HRQoL among patients with hepatitis B. This study therefore attempts to assess the profile and predictors of health-related quality of life (HRQoL) (Noman et al, 2012) among hepatitis patients who visit public hospitals and conduct a ground survey in the district of Larkana.

Literature Review

A common phrase used to describe a state of general well-being, encompassing components of happiness and contentment with life as a whole, is "quality of life" (QOL). While health plays a significant role in overall quality of life, other domains also have a role, such as jobs, housing, schools, and community. The measuring of total quality of life is made more complex by factors related to culture, values, and spirituality (Taylor, et al., 2000). Since the 1980s, the idea of health-related quality of life (HRQOL) and its determinants have expanded to include those facets of total quality of life that have been demonstrated to have an impact on mental or physical health (McHorney 1999).

Individual impressions of one's physical and mental well-being, as well as the factors that influence them, such as socioeconomic status, functional status, social support, and health risks and conditions, are all included in this. Nevertheless, at the moment of assessment, several factors of health don't seem to directly affect quality of life. These include a condition for which the person has no symptoms, an exposure, or a hereditary predisposition.

HRQOL and self-reported chronic illness are associated. Measuring HRQOL can offer important new insights into the links between risk variables and HRQOL, as well as assist in estimating the incidence of avoidable illness, injury, and disability. Monitoring HRQOL will make it easier to track the country's progress toward meeting its health goals.(Taylor et al, 2000). The liver is significantly affected by the highly contagious viral illnesses hepatitis B and hepatitis C. These conditions are common, long-lasting, and impact a significant percentage of people worldwide. The World Health Organization's most recent study has demonstrated the significant worldwide effects of chronic hepatitis B infection. Viral

diseases known as hepatitis B and C mostly impact the liver, but they have effects that go beyond physical health (Ali et al, 2023). Hepatitis includes numerous extra-hepatic symptoms in addition to its effects on the liver. The virus affects hepatitis patients' quality of life by causing inflammation and cirrhosis of the liver. Personal assessment of the patient's condition has an impact on quality of life as well. Patients believe that they are unable to enjoy their regular lives and activities because of their inadequate health, which eventually results in bad psychological and social conduct. The virus has a negative impact on the patients' social, financial, sexual, and family lives in addition to their health (Malhotra et al., 2016).

Material and Methods

The best approach to finish the study, identify the means of achieving the objectives, and satisfy the requirements is through methodology. The occurrence pattern of the illness remained explored by means of primary and secondary data. The number of hepatitis patients in each state and taluka was gathered from the Larkana civil hospital sectional site, which was also consulted for the data gathering section. The illness chronological disparity in talukas and deh was also associated, given the large differences between the talukas in the overall population regularization approach utilized to analyze disease pattern (Abbasi, 2018).

The ground truth is very important for determining the exact occurrence of events on Earth in geographic facts. Part of some research, as the primary information that is based on fact and therefore contributes to a resourceful expression. Designed for qualitative exploration questionnaire is an efficient appliance to acquire the prime data.For this, basic information was collected from hepatitis patients and health experts using a questionnaire. A total of 800 questionnaires were asked from the patients through a national survey in all the villages and dehs of Larkana where the incidence ratio was excessive. The patient study was put into a system that included personal, demographic, social impact, ecological, and infection-related characteristics using accessible pathways.

The first part of the questionnaire consisted of questions about age, sex, marital status, literacy, professional status, income, family size, the rest of the questionnaire with criteria related to the disease, awareness of the symptoms of the disease, the condition of the child . disease, sharing cutlery, then based on facts to patients resistance to disease and resistance to the spread of infection. The last part of the study includes studies evaluating the possibilities, amenities and availability of health care. During the investigation of the research area, material was collected from hospitals, hepatitis centers, deh health centers and clinics. (Abbasi, 2018). In 1998, a census was conducted in Pakistan. Taluka and deh secondary data of total population consisting of census data was used for this purpose. The aim is to assess general data on demographic and socio-cultural conditions and assess the course of the disease according to the demographic structure and related changes were obtained from the census reports of 1998, statistical annual reports, Pakistan Population Survey.

Data Analysis and Visualization

As noted earlier, existing research emphasizes examining disease patterns to also map disease, examine population, socioeconomic, disease-related aspects, and monitor health care distribution, services, and equity. Single primary and secondary records were adjusted to account for these estimates. Initially, patterns of problems were observed in all farms in Larkana district where the disease association was present. The taluka with the highest disease incidence was then identified using GIS techniques. Disease-related patterns were revealed on maps using ArcGIS methods. The follow-up was the evaluation of health services for hepatitis patients, during which it was based on the consideration of the researched and improved services offered there, as well as the availability and correctness

of the scope of the provision of health services. A detailed explanation of the various procedures and techniques has been adapted for this search. (Abbasi, 2018).

Results and Discussion

The standard of living is very important in our societies both in urban and rural areas, this research mainly evaluates hepatitis research in rural areas, here different population communities live in a rural environment. In most cases of hepatitis, actors were found to belong to the community related to Baloch, Jagiran, Chandio, Jatoi, Jagiran, Lashar, Gopang, Mughar, Shari, Khoso, all these actors are Balochi cast in Sindhi, these people are called . (Baroch)). These types of human communities have different standards of living. Most of the community belonging to this group are illiterate, they have a low standard of living due to the low income of the people living in the villages. The culture is different, they all basically speak Seraiki and also Sindhi. They do mixed marriages between family and (weehra) system.

It also shows the family system and family size. The structure of the hard household is very important in the study. Especially for the rural family system, two types of family structure were observed in the study area, as the yellow dots were shown to form a single family system. About 32.5% of the population of Larkana district lives in a single-family system, while 67.6% of the population of the district. joint family system shown by red dots on the map. Since the system of the villages where most people live (Weehra) means one main gate for entry above the dwellings with 15 or 20 joint families (within Weehra), in the study area it is mostly due to the combined kitchen system. . and arable land is the main cause of joint family system in the study area.

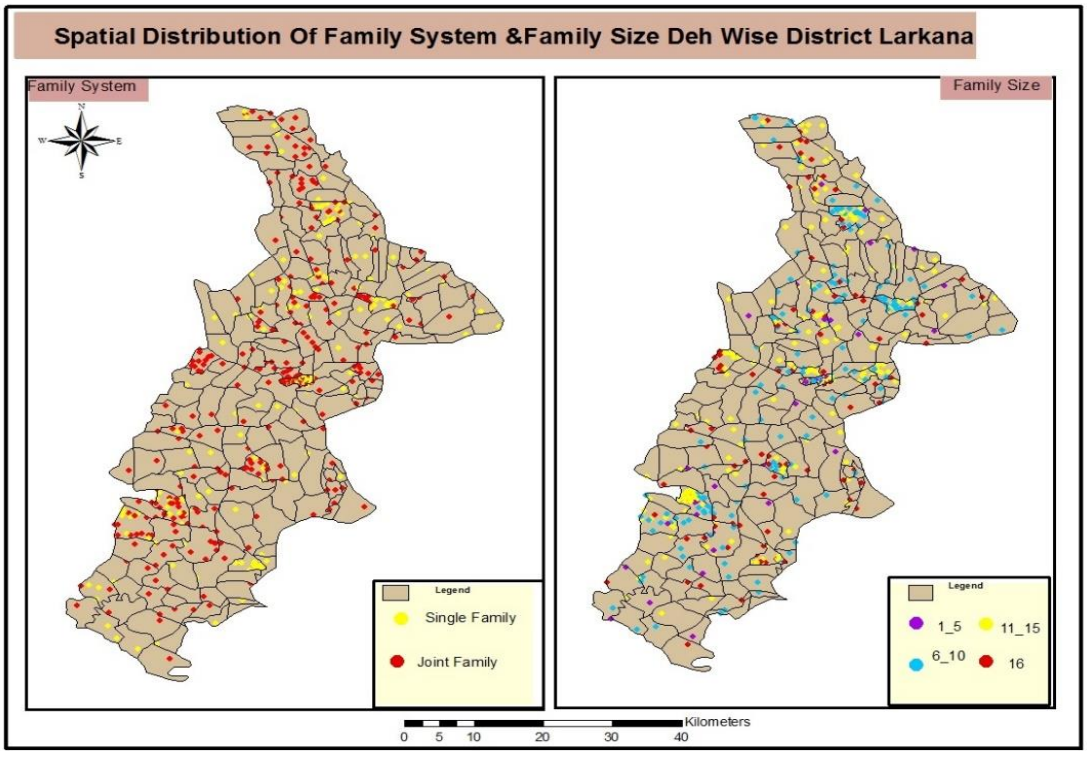

Figure 1: Spatial Distribution of Family, Size & Living Time Period of Patients

Figure 1, displayed the size of the family also has considerable value, because the head of the family bears the financial burden of the whole family. Thus, in the study area, it was found that purple dots represent family size 1-5, of which about 10.7% and 34.6% are 610 light blue dots, similarly family size 11-15, shown by yellow dots, is about 37.1% and in addition, about 17.6% in all the villages of Larkana district are shown by the above 16 red dots. Most households are based on 11-15 family members in the study area, in fact, it is a

family-sized group in most cases, especially in villages; In the biggest cities of Larkana, some families have the same family structure.

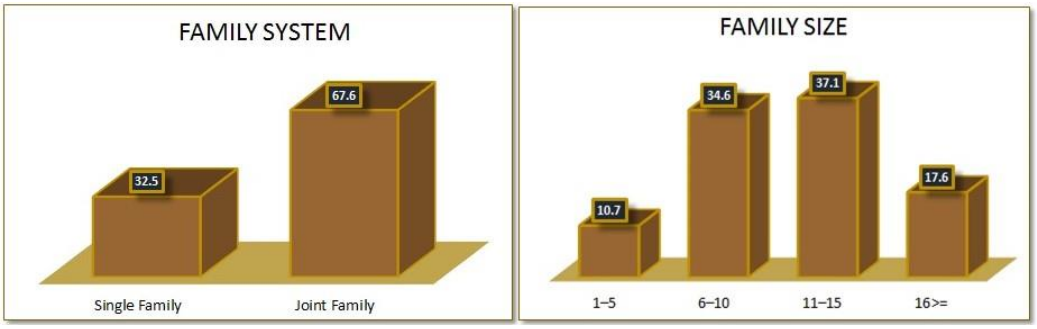

Figure 2: Family system and Family Size of Patients De wise

Spatial distribution of marital status of patients in figure 3, in deh/village has four categories dividing marital status of male and female patients. Green dots represent the single class, which was about 21.3%, married red dots were 72.2%, while 6.2% were blue dots indicating widows and 0.3% reflected purple for divorcees of both sexes. Because most of them are married because of their marital status. Because there is a strong concept of early marriages and families in the region, especially in the villages. Therefore, in family marriages, it was found that many couples contracted hepatitis, and a high incidence was found in marriages with either men or women. The highest number of married people is where the population remained high such as Larkana city, Ratodero, Bakrani and Dokri are the highest places in this category.

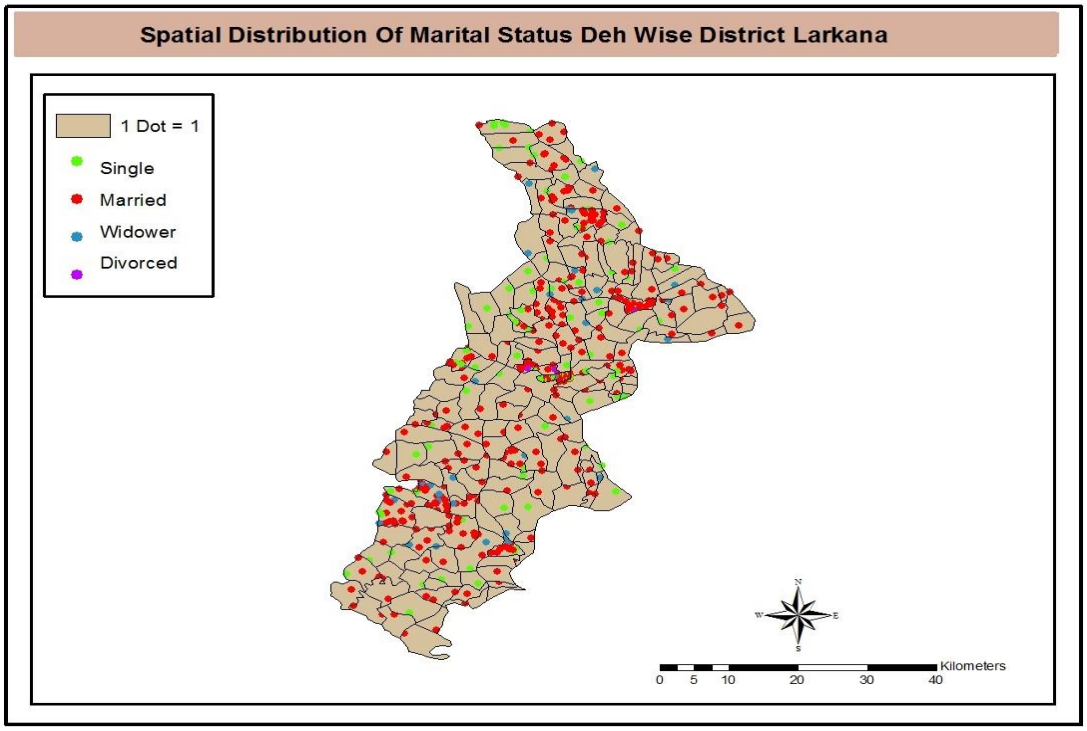

Figure 3: Spatial Distribution of of Martial Status of Patients

Spatial distribution of patient occupation and income for both sexes at the deh/village level is shown in figure 4 and 5, as one point equals one patient. The blue point, as seen in the figure, is the unemployment class, which is 18.1%, about 6.2% are professionals with green points. There are about 11.3% of people engaged in business. And red dots show 31.2% housewives same, 27.2% work with purple dots and 0.1% light green dots for others in Larkana district.

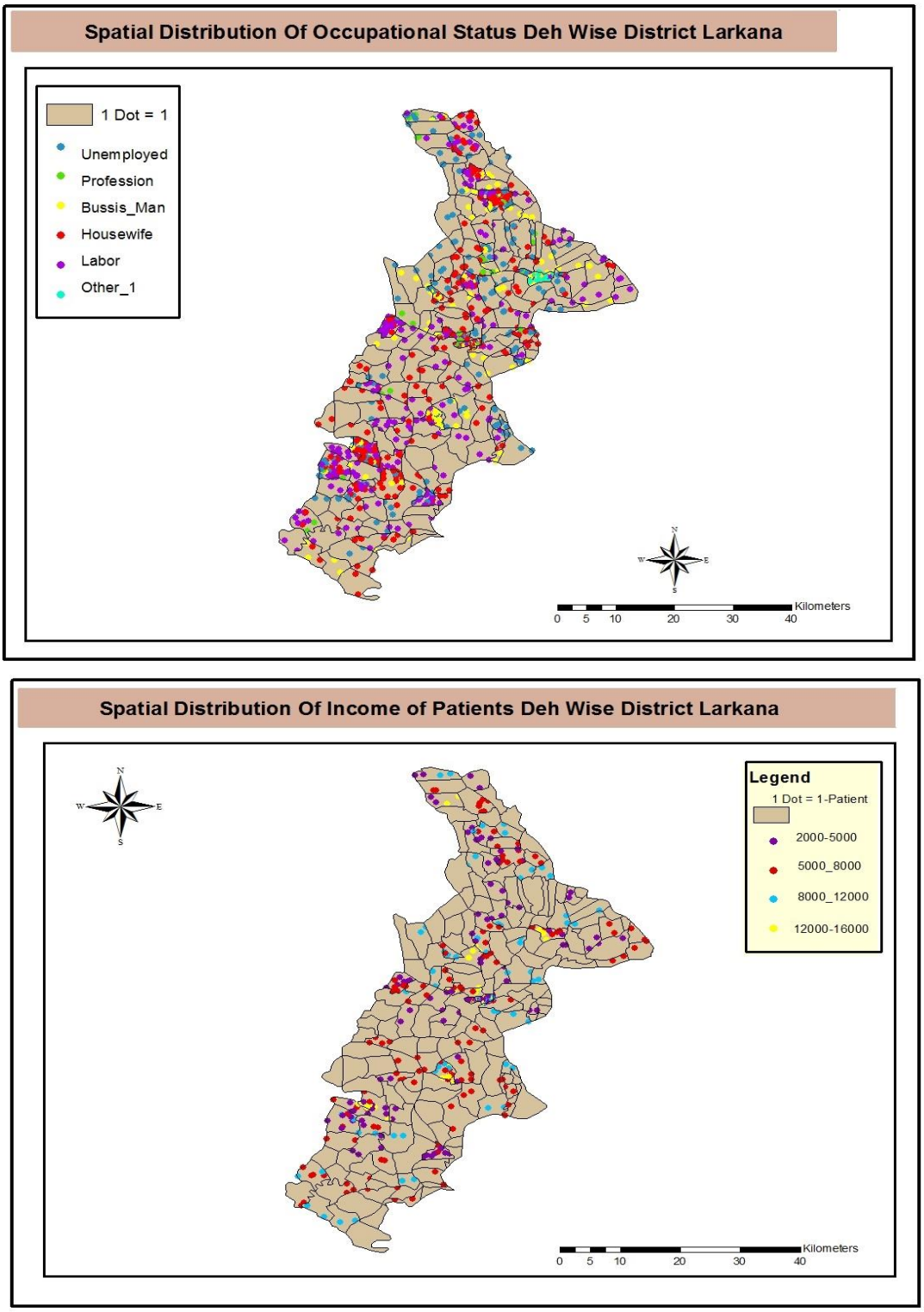

Figure 4,5: Spatial Distribution of Profession and Income of Patients

Spatial distribution of patient occupation and income for both sexes at the deh/village level is shown in figure 4 and 5, as one point equals one patient. The blue point, as seen in the figure, is the unemployment class, which is 18.1%, about 6.2% are professionals with green points. There are about 11.3% of people engaged in business. And red dots show 31.2% housewives same, 27.2% work with purple dots and 0.1% light green dots for others in Larkana district. The greatest contribution to the occupation, which is the workforce, is the majority of people dedicated to that occupational group in the study area for men and women. Similarly, about 12.7% of people earned 2000-5000, 10.6% of people earned 5001-

8000. About 7.5% were observed between 8001 and 12000, while 2% were observed between 12001 and 16000. Similarly, 5% of the people in the study area earned more than 160000 per month. The reason is that many people living in the capital Larkana and Ratodero, Dokri have jobs and earn more than 16000 per month doing heavy business.

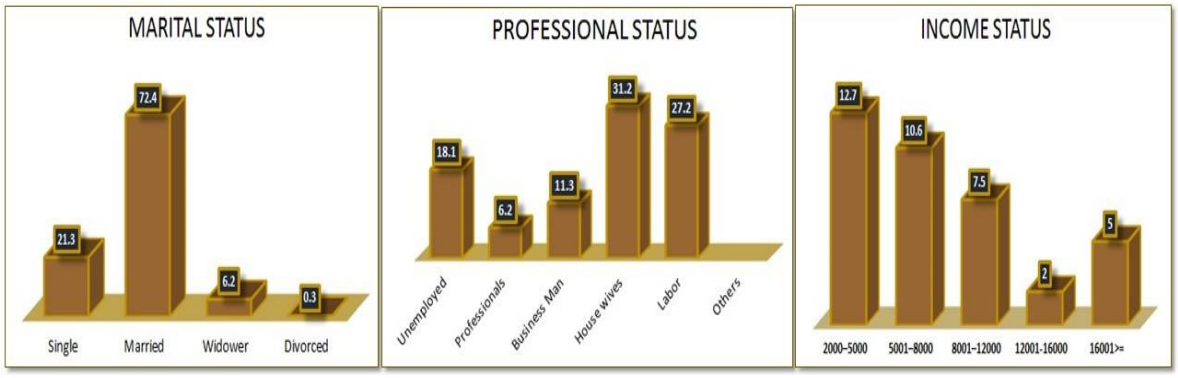

Figure 6: Status of Marital along occupation and income of patients Deh wise

And most of the people earned 2000-5000 for both sexes from working in Larkana district because the source of income for women is farming and different types of embroidery, epics, stretching and especially top covering work (Relhi).) Sindis, which is a domestic product, made entirely by women's handiwork. Infected women also practiced this activity at home, basically this work was done with (Needle) used in embroidery and (Relhi)making, so the needle often hit the fingers or hands, so they said that the blood that dripped got mixed. carrying other usable items and may be the cause of infecting others using such items. Basically, most women participated in these household activities in the study area due to financial problems.

The education level of patients in Larkana district in deh/village is shown. As shown in figure 7, about 69.2% are illiterate in the study area, although 20.4% have completed a high school certificate, while 7% of people have completed secondary level and 3.4% have graduated, also 0.6% of patients have graduated in the study area. The results shown as the figure of illiterate patients is greater than the figure of lliterate patients. This is mainly due to the financial problems of education or many other problems, such as the lack of teachers in schools or especially the distance when you refer to the girls in the villages and many families still do not have this concept. to education due to community discrimination. And many children did not receive education in villages due to economic purpose or playing age. In the map showing the green cluster, the really educated patients are observed in these areas, these areas are the main areas of the region where the level of education or educational awareness is better compared to other areas.

The color pink represents the highest number of highly educated patients in the district compared to the surrounding areas. In some villages, only a few patients became masters of various institutions after graduation. Disease was considered high due to illiteracy and ignorance, even educated hepatitis patients contracted the virus from ecological as well as societal aspects related towards the diffusion of disease in the region. The figure 9, reflects the picture of the regional distribution of the family history of hepatitis. Due to the large number of patients detected, about 73.2% were identified based on heredity in the study area, and 27.1% have no family history of hepatitis.

People who have a family history, who have almost a common family system, and the community also plays an important role in this, because the previously discussed low-income group, which has more patients, is diagnosed with hepatitis. Symptoms of hepatitis were observed in patients interviewed in the village survey and in the civil hospital of the

treatment facility, as approximately 47.5% and 52.5% of febrile patients do not have febrile symptoms.

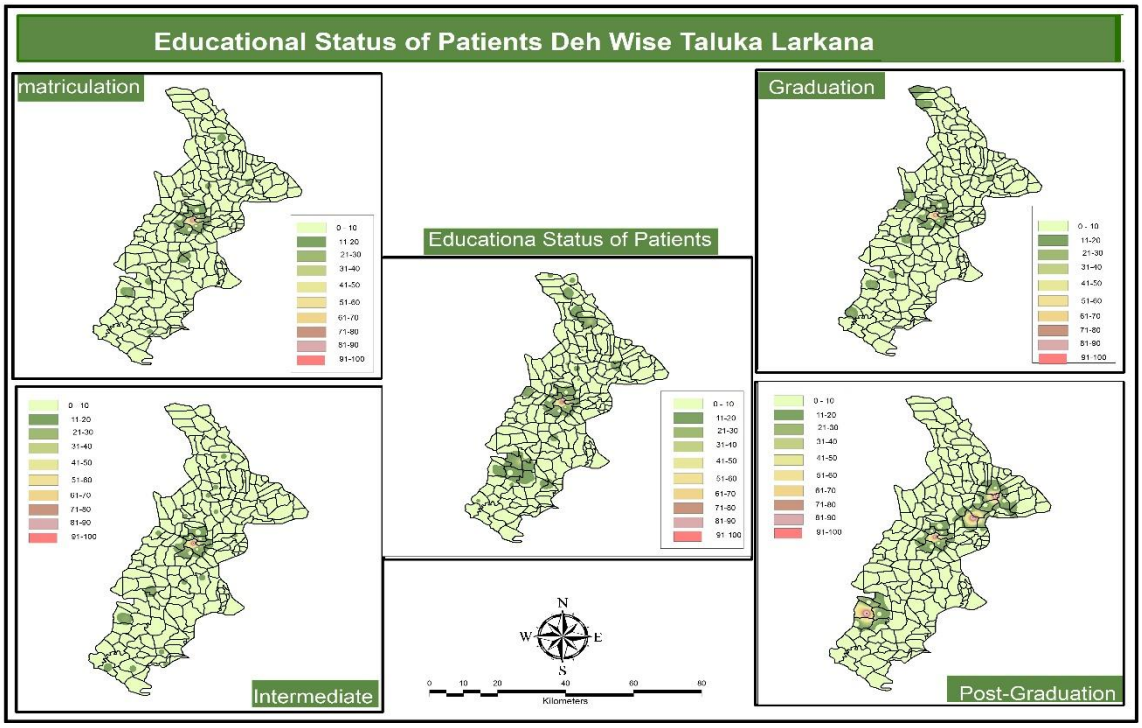

Figure 7: Spatial Distribution of Educational Status of Patients & Institutes Deh wise

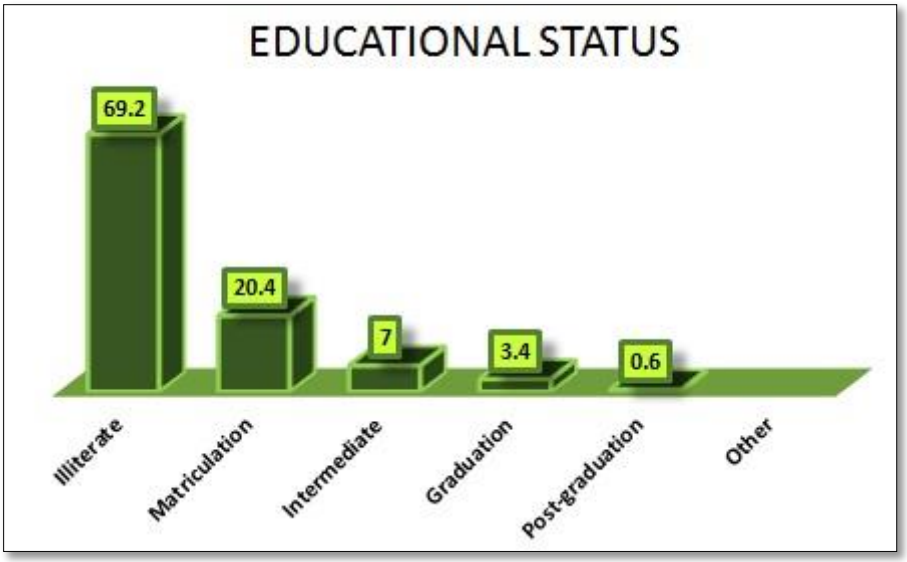

Figure 8: Educational status of Hepatitis Patients Deh wise

People who have a family history, who have almost a common family system, and the community also plays an important role in this, because the previously discussed low-income group, which has more patients, is diagnosed with hepatitis. Symptoms of hepatitis were observed in patients interviewed in the village survey and in the civil hospital of the treatment facility, as approximately 47.5% and 52.5% of febrile patients do not have febrile symptoms. Although approximately 63.2% of the observed patients felt tired even during light work, 35.4% did not. Similarly, 29.2% of patients complained of nausea, but 71.2% said they had no such health problem. Approximately 19.7% of patients reported vomiting as a problem, while 80.1% reported that they did not experience this problem. Patients complained of abdominal pain, of which approximately 55.4% and the remaining 44.9%

were non-abdominal pain. Similarly, there were very few patients who complained about the color of their urine, about 10.3%, but most of the patients, 89.2%, said that they did not see any change in the color of their urine. Symptoms of hepatitis also included joint pain, joint pain was found in approximately 43.3% of patients, joint pain was absent in 57%. Diarrhea is also a cause of hepatitis symptoms. About 19.7% of patients complained of diarrhea, while 80.1% said that they did not have this problem constantly.

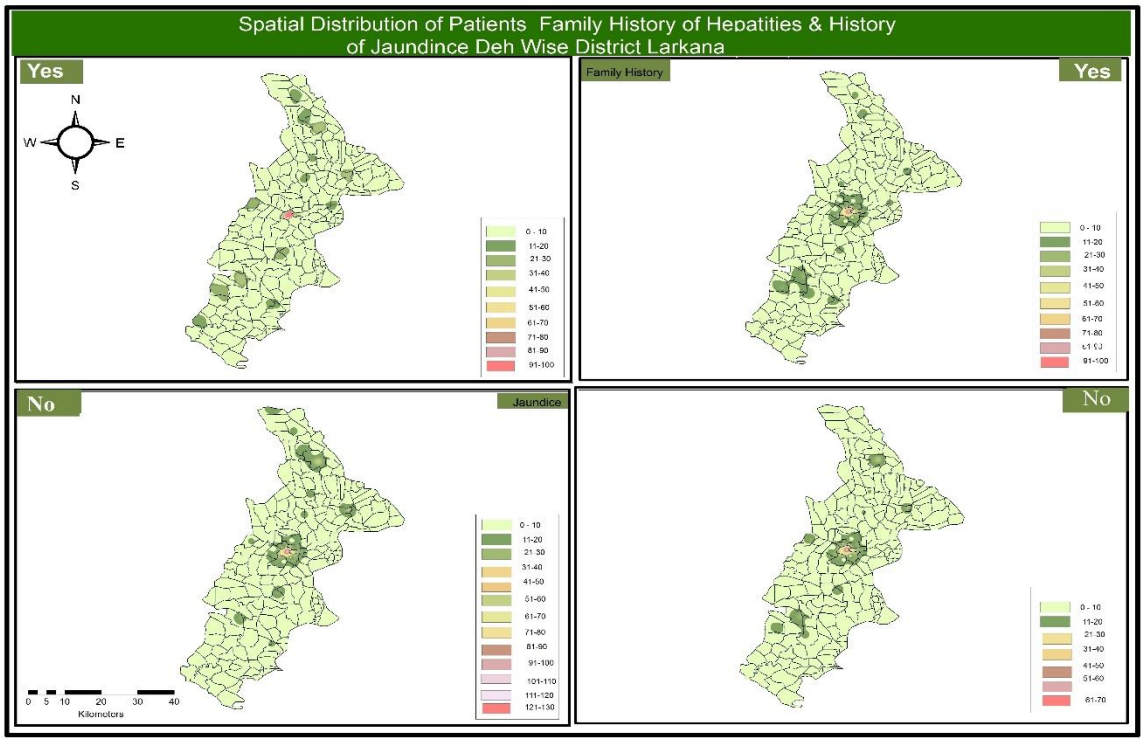

Figure 9: Spatial Distribution of Family History of Hepatitis Patients Deh wise

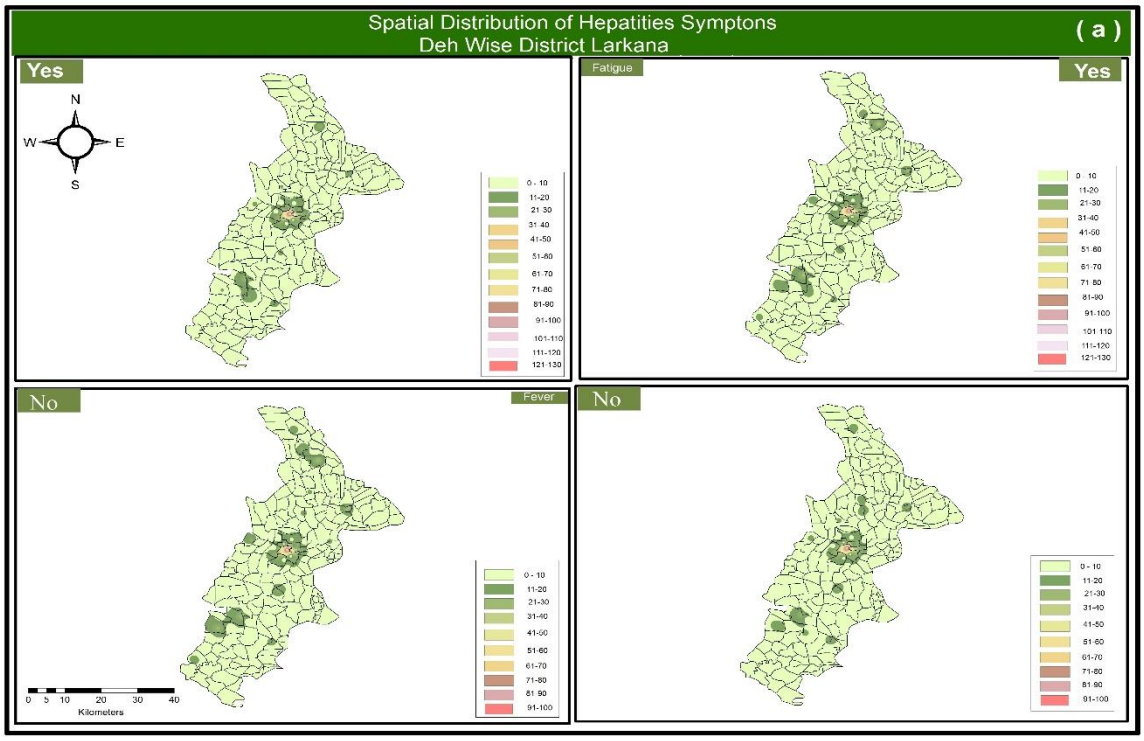

Figure 10: Spatial Distribution of Hepatitis Symptoms Deh wise

Figures 10, 11 and 12 shows many patients around these villages suffering from all such symptoms of hepatitis, almost in Taluka Larkana and Dokri villages, some patients complained of fever and nausea from Taluka Ratodero villages. Dark urine, diarrhea and joint pain were observed in Larkana, Dokri and some villages of Taluka Ratodero. The quality of water in Taluka Ratodero and Dokri is not good, it can also be the cause of diarrhea and vomiting, especially in patients belonging to Dokri. Fatigue and joint pains were due to both sexes due to exertion in the field during the seasons and female patients complained of ill health, hepatitis and many childbirths and other health causes, tired and suffering from joint pains in many villages. Larkana District..

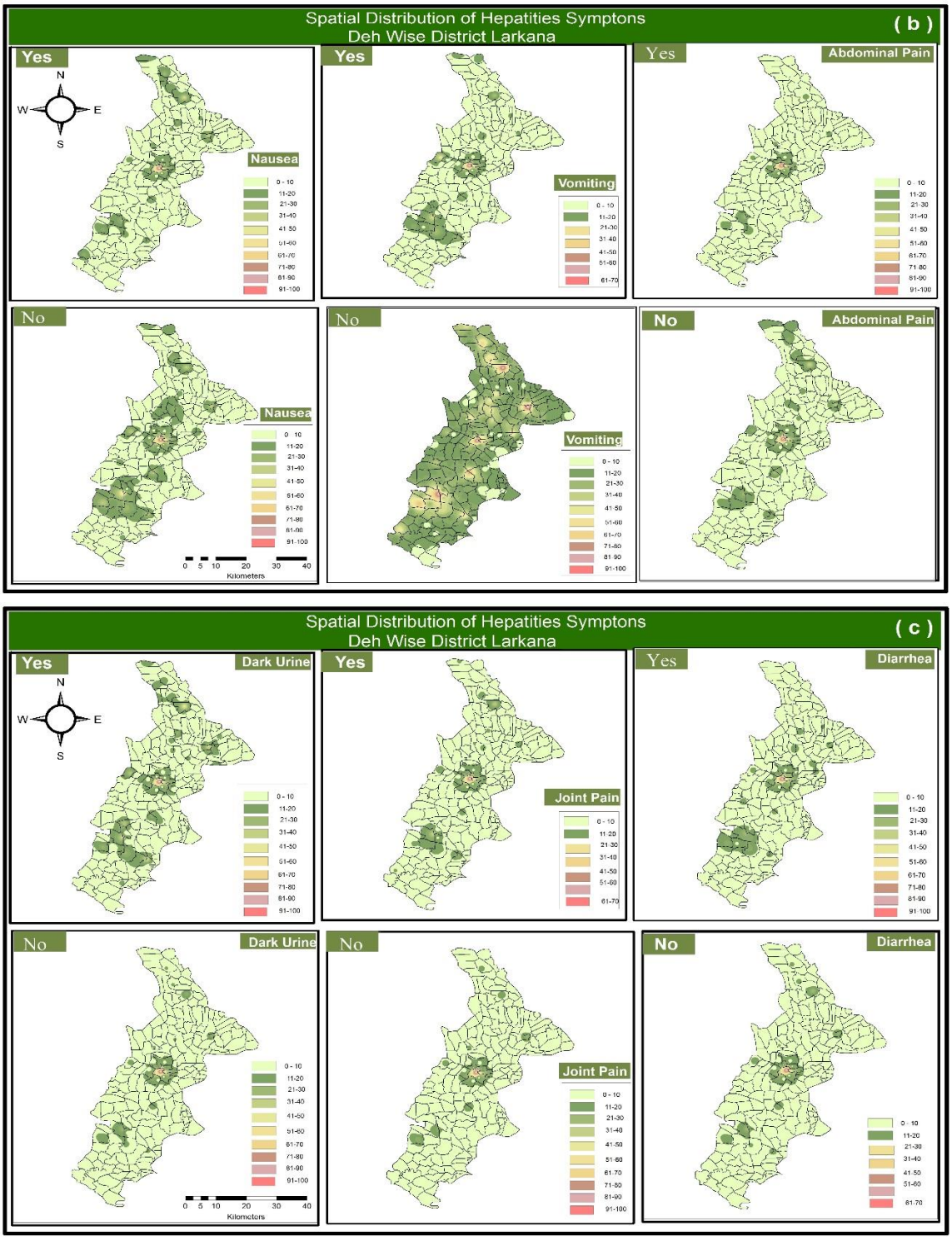

Figure 11,12: Spatial Distribution of Hepatitis Symptoms Deh wise

The village women are strong in clean food, but due to the lack of treatment facilities and hepatitis work, they often get tired

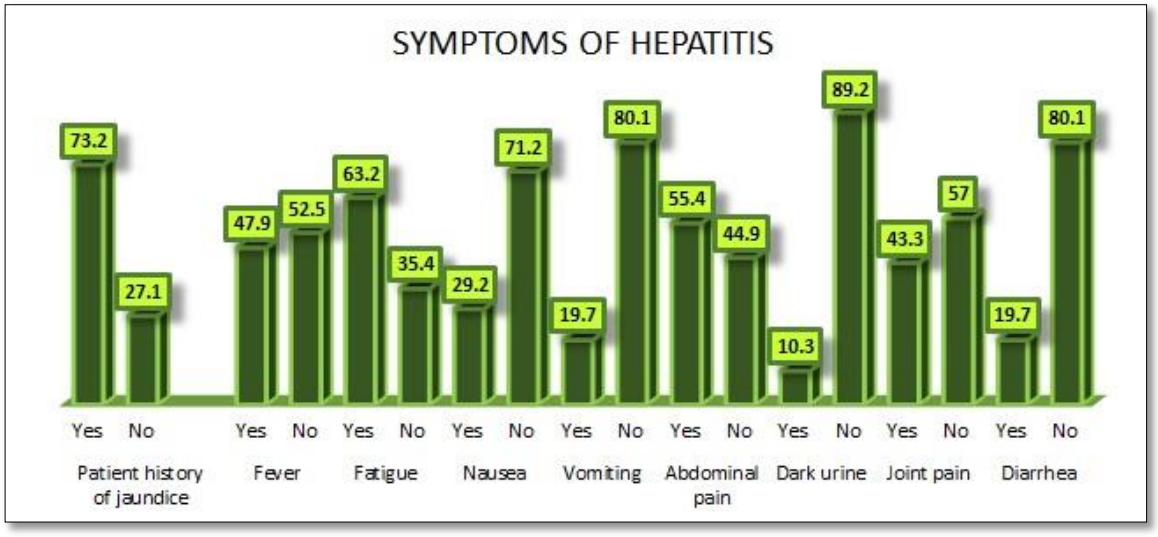

Figure 13: Symptoms of Disease among Hepatitis Patients Deh wise

The questionnaire was used to collect information about hepatitis, because the keys reflect the clear perception of male and female patients at home about the symptoms they feel or have been diagnosed by a doctor. Even among the visited patients who live (Jhugges) in the cloth hut type building shown in the picture, several HBV, HCV and HDV patients were found in different villages during the survey. data collected through questionnaire from patients at Larkana Civil Hospital Hepatitis Central Location. Every day several patients visit the hospital for treatment. Environmental conditions were observed during the research, as polluted water flows through the fields and green water near the fields is contaminated with fungal growth. And the children swam in the water with the animals; villagers use water from that body water, from which both animals and people take water for various purposes, for example for washcloths, also for drinking.

At home, the pots are washed with black water as you can see in the picture, the females do not have proper water supply in their homes, so they were taken to one pot and the rest of the pots are washed with that water. In summer (thadhal) is drunk to reduce the temperature of eating due to its cooling effect, while mud pots full of water were seen on the bypass or roads, but those mud pots were seen covered with some green fungus and around. . a green layer was observed inside that large water tank,. and many workers or other people drink this water from it. However, the hand-washing practices observed during the study differed because the community belonging to the low income group and lack of education and clean water, patients commented differently, lack regular hand care. wash or prepare food before eating, especially in villages and even in larger urban areas of Larkana region. The deh/village status of hotel visits in Larkana district is presented. About 33.7% of patients visit, while 22.4% do not visit a hotel, although hotel visits are divided into days, weeks and months. Daily visiting patients showed red spots, they were about 12.3%, similarly, weekly patients with green spots were about 14.9% and purple spots showed, monthly hotel visitors were about 6% in Larkana.

In the villages, most of the poor people showed great interest in sitting in the village hotels and local road hotels along the bypass sown in figure 14. The share of those who spent 1-2 hours was around 18.1%, while the share of those who spent 2-4 hours was around 14.4%. However, the environment and food were not clean and healthy. But there were about 15.5% of patients who were satisfied with the atmosphere/environment of the hotel and 17.9% of the patients were not satisfied with the atmosphere and environment of the hotels. However, when asked about the cleanliness of the hotels, the patients were satisfied,

of which approx. 14.8%, while 18.6% of the patients did not feel comfortable with the cleanliness of the hotel. A very important question is what they think, whether they eat or drink healthily in hotels or not. About 15.1% of patients in the study area were satisfied with the food, and about 18.2% were dissatisfied with the hotel food.

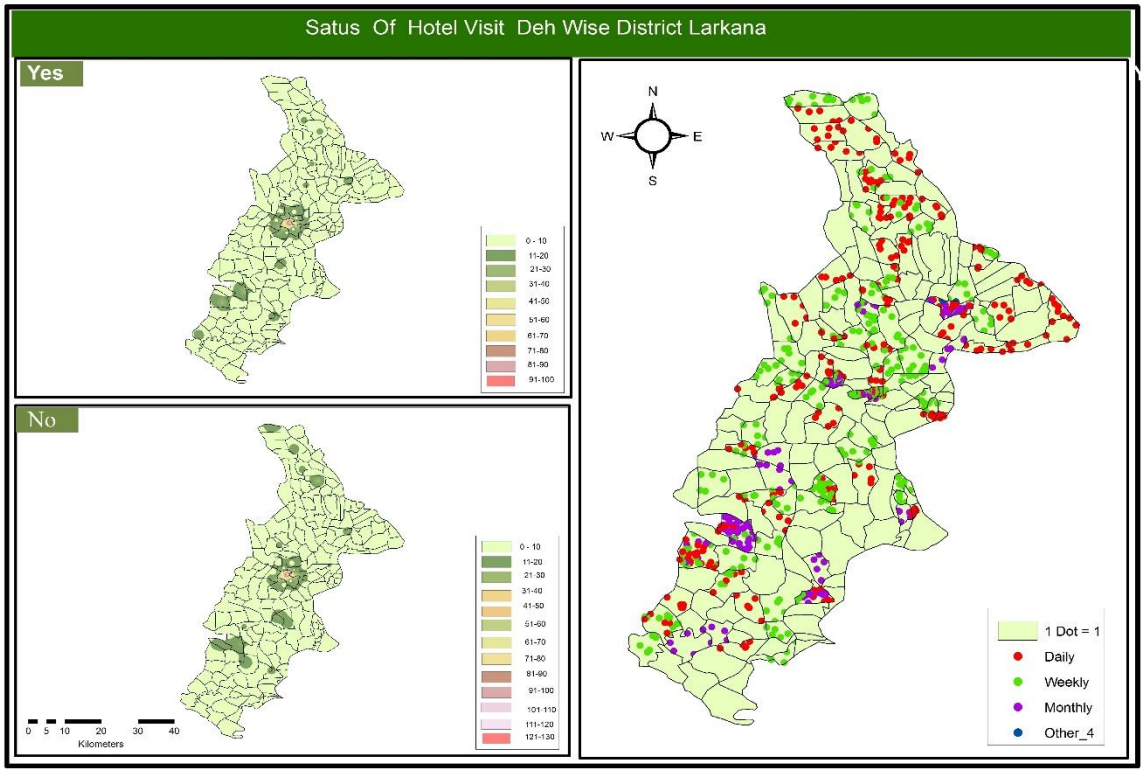

Figure 14: Spatial Distribution of Hotel Visits Status of Patients Deh wise

Figure 15: Series of time for Hotel visit of patients Deh wise

Conclusion

The quality of life of patients with hepatitis B and C is significantly influenced by cultural dynamics. The sociological weight of ailment stands higher, in addition to increasing flexibility, societal upkeep, gender plus wellbeing also standard of living aspects can progress the results (Ali et al, 2023). This study argues about way of lifecycle of hepatitis patients is closely related to the diversity of occupation and environment. Patients who were not employed, such as housewives, had a good quality of life compared toward the employed

patients. The standerd of linving improves if it is possible to be aware of the disease in the study area. A high level of education is closely related to patients' willingness to accept the disease. People with higher education have more knowledge than people with no formal education. However, in this study, rural patients found a large number of iltra people. Time of diagnosis, environmental support, routine treatment and follow-up in health facilities, complications and severity of the disease affect the quality of life of patients. Financial elements like domestic earnings, working past, financial bases, initial investigative report, patients follow-up routine, duration of treatment plus emotional reaction were meaningfully associated to the quality of life in hepatitis patients. (Muhammad et al, 2020).

Recommodations

For assess the over-all way of living standards of patients also support and catch the useful approaches for improvement the way of living of patients with viral disease. So, wellbeing professionals can use it to measure value the way of living style in practice also prescribe involvements for the formulate a quality of life that is suitable for each patient.

References

Abbasi, Parveen. Naila. (2018). *Dissertation: Geospatial Assessment of Hepatitis in Sindh: Towards the Establishment of an Ecological Model*. Department of Geography, University of Karachi.

Atiq Muslim, Gill M, and Khokhar Nasir (2004) Quality of Life assessment in pakistani patients with chronic liver disease .*Journal of Pakistan Medical Association.* 54, 113-115.

Awan Masood, Sarwar Masood, Waqas Muhammad, Aslam Muhammad Amir, and Abbas Faisal (2011).Health related quality of Life assesment in patients with hepatitis. A case of Pakistan. *Munich personal RePEC Archive* 3. 1259-1268.

Bailey Donald E, Landerman Lawrence, Barroso Julie, Bixby Patricia and Misel Merle H (2009). Uncertinity, Symptoms and quality of life in persons with chrnoic hepatitis C. *Psychosomatics*, 50 (2), 138-146.

Danoff, Ann, Khan Oona, Wan, David W, Hurst Lainie and Cohen Daniel (2006). Sexual Dysfunction is higly prevalent among men with chronic hepatitis C virus infection negatively impacts health related quality of life. American *Journal Gastroenterol, 101* (6), 1235-1243.

Federal Bureau of Statistics, (1998). *District Census Reports*. Population Census Organization Government of Pakistan.

Foster GR (2009). Quality of Life considerations for patients with chronic hepatitis C. *Journal of Viral Hepatitis* Vol, 16 (9), 605-611.

Gadeer Taha , Levy Ezra and Naim Abu-Freha (2023) Hepatitis C Elimination: Opportunities and Challenges in 2023.*Viruses,* 15, 1-15.

Jacobson Ira M, Cacoub Patrice, Dal Maso Luigino, Harrison Stephen A and Younossi Zobair M (2010). Manifestations of chronic hepatitis C virus infection beyond the liver. *Clinic Gastroenterol Hepatology, 8* (12), 1017-1029.

Karacaer Zehra, Cakir Banu, Erdem Hakan, Ugurlu Kenan, Durmus Gul,and Ince Nevin Koc, (2016). Quality of life and related factors among chronic hepatitis B-infected patients: a multi-center study, Turkey. *Health Quality Life Outcomes* 14(153), 1–10

Li Tian Yang, Yang Yang, Zhou Guo, and Tu Zheng Kun (2019). Immune suppression in chronic hepatitis B infection associated liver disease: *A review World Journal of Gastroenterology* , 25, (27) 3527. doi: 10. 3748/wjg.v25.i27.3527.

Malhotra Parveen, Naveen Malhotra, Vani Malhotra, Ajay Chugh, Ishita Singh, Abhishek Chaturvedi and Parul Chandrika (2016). Impact of Hepatitis C on quality of Life. *Advanced Research in Gastroenterology and Hepatology*. 1 (4), 1-3.

MCHorney Colleen A (1999). Health assessment methods for adults: Past Accomplishments and future Challenges. *Annual Review of Public health*.20, 309-335.

Muhammad Miftahussurur, Diah Priyantini, Isna Mahmudah, Ricky Indra Alfaray, Amie Vidyani, Maria Lucia Inge Lusida, Langgeng Agung Waskito, and Yudith Annisa Ayu Rezkitha.(2020). Quality of Life and Related Factors Among Hepatitis B Virus Infected Individuals. *Systematic Reviews in Pharmacy, 11,* (3), 960-964.

Noman ul haq, Mohamed Azmi Hassali, Asrul A Shafie, Fahad Saleem and Hisham Aljadhey (2012). A cross sectional assessment of health related quality of life among patients with hepatitis B in Pakistan. *Health and Quality of Life Outcomes.* 10, 1-7.

Purwono Priyo Budi, Amin Mochamad, Bramanthi Rendra, Resi Erika Maria, Wahyuni Rury Mega, and Yano Yoshihiko (2016). Hepatitis B Virus Infection in Indonesia 15 Years after Adoption of a Universal Infant Vaccination Program: Possible Impacts of Low Birth Dose Coverage and a Vaccine-Escape Mutant. *American Journal of Tropical Medicine Hygene* 95(3), 674–9.

Skevington SM, Lotfy M, and O Connell KA (2004). The world Health Organaization,s WHOQOL-BREF quality assessment: Psychomertic propertiesand results of the international field trial. A report WHOQOL group. *Qual Life Res* 13, 299-310.

Syed Messum Ali and Rabia Iftikhar (2023). Biopsychosocial Determinants of Quality of Life in Patients with Hepatitis B and C. *Pakistan Journal of Health Sciences,* 4(10), 85-92.

Taylor, Virginia Ross (2000). *Measuring healthy days : population assessment of health-related quality of life*. Centers for Disease Control Preventation

Wadhawan Manav, Rastogi, Mukul, Gupta Subash and Kumar Ajay (2010). Peritransplant management of chronic hepatitis C. *Tropical Gastroenterology*, 31 (2), 75-81.

World Health Organization. (2016) *Guidelines for the screening care and treatment of persons with thchronic hepatitis C infection*. WHO.

WHO, (2022).*Country Profile*: http//www.emro.who.int/emrinfo/index.asp?ctry.pak.

Xie ZR, Luo YL, Xiao FM, Liu Q, Ma Y. (2015). HealthRelated Quality of Life of Patients with Intermediate Hepatocellular Carcinoma after Liver Resection or Transcatheter Arterial Chemoembolization. *Asian Pacific Journal of Cancer Prevention 16,* 4451–6.

Xiulan, Xue SC, Zheng HOC, Wu X. (2017). Health-related quality oflife in patientswith chronichepatitis B during antiviral treatment and off-treatment. *Patient Prefer Adherence.* 11, 85–93

Zhou Kehua, & Fountzilas Christos. (2019). Outcomes and Quality of Life of Systemic Therapy in Advanced Hepatocellular Carcinoma*, Cancers* 5, 1-7.