PSYCHOSOCIAL STRESS, TYPE-I PERSONALITY TRAITS AND STIGMATIZATION AMONG HEPATITIS C PATIENTS

By

SHAZIA YUSUF

Dr. Muhammad Ajmal
National Institute of Psychology
Centre of Excellence
Quaid-i-Azam University
Islamabad-Pakistan

2009

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A dissertation submitted to the

Dr. Muhammad Ajmal
National Institute of Psychology
Centre of Excellence
Quaid-i-Azam University, Islamabad.

In partial fulfillment of the requirements for the

DEGREE OF MASTER OF PHILOSOPHY

IN

PSYCHOLOGY
2009

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By

SHAZIA YUSUF

Approved by

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Supervisor

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External Examiner

_____

Director, NIP

CERTIFICATE

Certified that M.Phil. Research Dissertation titled **Psychosocial Stress, Type-I Personality Traits and Stigmatization among Hepatitis C Patients** prepared by **Ms. Shazia Yusuf** has been approved for submission to Quaid-i-Azam University, Islamabad.

(Dr. Rubina Hanif)
Supervisor

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DEDICATED

TO

MY LOVING AND CARING

PARENTS

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ACKNOWLEDGMENTS

Thanks to Allah the most merciful and grateful. I consider myself extremely fortunate that Allah Almighty has blessed me to accomplish the task I started. I feel extremely lucky because Allah Almighty has given me the chance to achieve my goals in my life. I have no words to say thanks to Allah Almighty.

I acknowledge with thanks and feel much pleasure to express my deepest and sincere sense of gratitude and appreciation to my supervisor Dr. Rubina Hanif, whose skilled guidance, encouraging behavior and inspiring attitude made it possible for me to go through the great experience of this research. I am very thankful to her. She is simply the best.

I would like to thank Dr. Javed Aslam Butt, Dr. Noreen Haider and the whole staff of Gastroenterology (OPD) Department of Pakistan Institute of Medical Sciences Islamabad (PIMS) for their help in my data collection. Dr. Noreen Haider helped me to the great extent and it was only due to her guidance that I gained significant knowledge about hepatitis C. I would also like to thank the patients who were suffering from hepatitis C, for their cooperation and participation in my research. I owe my special gratitude to them for their trust and also for sharing of their painful experiences with me.

I would like to thank Dr. Jan Nagano for allowing me to translate and use “The Stress Inventory” in my thesis. I am very grateful to him for his valuable suggestions, guidance and help in my thesis. I would like to thank Dr. Betsy Fife for allowing me to translate and use “Social Impact Scale” in my thesis. I am very grateful to her for her valuable suggestions, guidance and help in my thesis.

I would like to thank my teachers Dr. Rukhsana Kausar and Dr. Susan for their support, guidance, encouraging and motivating attitude, who has always helped me. They are constant source of guidance for me.

I would like to thank my late grand parents whose best wishes make me to easily go through all the difficulties of my life. I would like to say thanks to my parents for their support, help and guidance in every step of my life. I am greatly obliged to my mother, who is a constant source of prayers for me. I would especially thank to my papa who has always helped me in every single step of my life from very minute things to very big decisions. He has helped me a lot in my whole academic career. He is like a candle that burns himself and lights the lives of others. I am very thankful to him who helped me with his valuable suggestions and moral support in my theses. I would like to thank my brother and my sisters for their support and help. Last but not the least I would like to thank all my friends and class fellows for their help and moral support through out my research work. From the depth of my heart I am saying thanks to all those people who helped me in completion of my thesis.

SHAZIA YUSUF

ABSTRACT

The present study was conducted to identify the level of psychosocial stress, type-I personality traits and stigmatization among hepatitis C patients. The study also explored the relationship between psychosocial stress and stigma among hepatitis C patients. The research was conducted in three parts. Part I was concerned with the translation and determination of psychometric properties of The Stress Inventory Nagano (2007) and Social Impact Scale (Fife, 1995). The Stress Inventory comprised of 12 subscales i.e. Low sense of control, Object dependence/loss, Object dependence/happiness, Object dependence/anger, Annoying barrier, Object dependence/ambivalence, Disclosure of negative experiences, Unfulfilled needs for acceptance, Altruism, Egoism, Rationalizing conflicts/frustrations and Lack of emotional experiences. Social Impact Scale has four subscales i.e. social isolation, social rejection, financial insecurity and internalized shame. For translation back translation procedure was adopted. After the finalization of the translation of scale and inventory, they were administered on sample of 90 hepatitis C patients taken from OPD of Gastroenterology department of PIMS in order to check the psychometric properties. The alpha reliability for the Social Impact Scale was .94. For subscales of Social Impact Scale it ranges from.67 to .89 and for the subscales of The Stress Inventory it ranges from .56 to .81. Item total correlation and item total correlation of subscales was determined which has indicated they are significantly positively correlated with each other. Part II comprised of pilot study (N = 30) which was carried out in order to check the flaws that may affects the results in the main study. Part III of the study comprised of Main Study. For the main study 200 hepatitis C patients were taken from the OPD of Gastroenterology department of PIMS. Results of the main study revealed that the level of psychosocial stress was high on object dependence anger. Results revealed that level of stigma is high on subscale of social rejection. Among the four type-I personality traits patients score highest on object dependence/loss and overall they scored high on object dependence anger, which indicate that they have the tendency to develop chronic illnesses like cancer or CHD. The significant positive relationship was found between psychosocial stress and stigma as dimensions of stigma were positively associated with the subscales of The Stress

Inventory. Another important objective of the study was to find out the relationship between the severity of disease and type-1 personality traits. It was partially supported by the data that there was positive relationship between the object dependence loss and severity of disease. Regarding gender there was no significant difference was found on level of stigma whereas regarding psychosocial stress the difference exists on Rationalizing conflicts /frustration. There was no significant difference between the level of psychosocial stress except on Egoism, where as regarding stigma significant difference exists on financial insecurity and social isolation among hepatitis C patients before and after receiving interferon therapy. Demographic variables like family system, number of family members, stage of hepatitis C, severity level, age, gender and level of education also have important impact on perception of stigma and level of psychosocial stress. The findings have very important implication for the provision of psychological support to the Hepatitis C patients.

Chapter –I

INTRODUCTION

The diagnosis of any chronic illness confronts an individual with the collection of tasks necessary for both physical and psychological adjustment. This adjustment may involve acceptance of many un desirable things like label of being ill or some times people consider them as an incompetent person. There has been increasing interest in and evidence of social determinants of health within the field of public health (Berkman & Kawachi, 2000; Evans, Barer, & Marmor, 1994; Leon & Walt, 2001; Majer & Saper, 2000; Marmot & Wilkinson, 1999).

There are many chronic diseases which badly affect the lives of patients and Hepatitis C is among one of them. Hepatitis C is declared as global public health problem (Wright, Millson, & Tompkins, 2005). "Hepatitis C Virus is a common condition in Pakistan" (Khokhar, Gill, & Yawar, 2005). Patients with hepatitis C often face significant social problems, ranging from social isolation to familial stress (Blasiole, Shinkunas, LaBrecque, Arnold, & Zickmund, 2006; Sutton, 2007). Now there is growing trend to find out the impact of chronic illness on the patient's life and numerous studies have been conducted in this regard, patient's quality of life also gets effected (Akobeng & Davidson, 2000; Goulding, Connell, & Murray, 2001; Hilsabeck, Hassanein, Carlson, Ziegler, & Perry, 2003). Mental health needs of patients with Hepatitis C (HCV) are increasingly being addressed in medical contexts. There is a need to address the issues which are directly effecting the hepatitis C patients and mental health clinicians have the opportunity to make a significant contribution in this regard and they can help patients in adjustment with their chronic medical illness, coping with stigma, management of side effects, and implementing healthy lifestyle changes (Silberbogen, Ulloa, Janke, & Mori, 2008).

Stern, Herman and Slavin (as cited in Caponecchia, 2005) explained that if the situation of crisis and vulnerabilities of chronic illness has been considered then there are certain individuals, who have certain personality types or certain personality style which make person vulnerable for certain diseases and disorders. Herbert and Cohen

(as cited in Caponecchia, 2005) mentioned that there are research evidences that stress affects the immune system. Stress has a negative impact n the cellular immunity of an individual.

Certain personality traits lead person to suffer from another chronic illness. Patients suffering from hepatitis C mostly develop liver cancer. Type C personality traits are related with the development of cancer. Type C behavior is characterized as being nice, cooperative, unassertive and conservative, having difficulty expressing emotion, or tendency to suppress negative emotions and a tendency towards Hopelessness / Helplessness (Greer & Watson, Temoshok, Temoshok as cited in Caponecchia, 2005). Eysenck (as cited in Caponecchia, 2005) mentioned that different aspects of type C behavior have been linked with aspects of Gossarth-Maticek's type 1 personality. Hepatitis C patients have certain personality traits due to which they have tendency to develop cancer (Nagano, Nagase, Sudo, & Kubo, 2004). Due to chronic diseases person suffer from stigma (Golden, O'Dwyer, Conroy, Golden, & Hardouin, 2006).

Hepatitis C

All types of hepatitis viruses are endemic in Pakistan (Malik & Tariq, 1995). Viral infections and exposure to toxic (contaminated) commonly cause liver damage sufficient to produce at least some disruption or interruption of function and that result in inflammation of liver called hepatitis (Nowak & Handford, 2004). There are many types of Hepatitis such as Hepatitis A virus (HAV) which causes a faecally spread self-limiting disease. Hepatitis B virus (HBV) causes a parentally transmitted disease that may become chronic. Hepatitis C virus (HCV) which is also termed as a non-A, non-B (NANB) hepatitis virus involved chiefly in transfusion-related hepatitis and Hepatitis delta virus (HDV), which is sometimes associated with the hepatitis B infection (Mohan, 1995).

Hepatitis C is a major health problem in many countries. It progresses in 10-40years and may lead to the serious liver problems like serious liver damage, cirrhosis (scarring), and liver cancer. Chronic hepatitis C infection can lead to liver damage, the

development of fibrous tissue in the liver (fibrosis), fat deposits in the liver (steatosis), liver scarring (cirrhosis), and liver cancer (Franciscus & Highleyman, 2008).

HCV was discovered in 1989 by investigators at Chiron, The investigators went on to show that the virus they identified was responsible for the majority of cases of non-A, non-B hepatitis. They called the new virus, hepatitis C virus (HCV). Subsequently, the complete genomes of various HCV isolates were cloned and sequenced by several groups (Worman, 2002).

As explained by Crawford (as cited in Kumar, Abbas, & Fausto, 2004) that the incubation period for HCV, hepatitis ranges from 2 to 26 weeks, with a mean between 6 and 12 weeks. Above 1 to 3 weeks HCV RNA is detectable in blood, coincident with elevations in serum transminases. In symptomatic acute HCV infection, anti HCV bodies are detected in only 50% to 70% of patient's in remaining patients, the anti- HCV antibodies emerge after 3 to 6 weeks. In chronic HCV infection, circulating HCV RNA persists in many patients despite of the presence of neutralizing antibodies, including more than 90% of patients with chronic disease (Kumar, Abbas, & Fausto, 2004).

Brown, Manolakopoulos and Dusheiko (as cited in Zuckerman & Thomas, 1998) identified that HCV may cause acute disease, which can be severe or asymptomatic and unnoticed. In the minority of the cases, the acute disease may resolve completely, but unfortunately hepatitis C has a disturbing tendency which lead to chronic hepatitis. In turn, chronic hepatitis C leads to mild illness, which may be asymptomatic and not progressive in nature. The disease will not be detected in these patients unless or only when screening of hepatitis C virus is undertaken, as majority of the time the patients get diagnosed with hepatitis C at blood screening while donating blood (Zuckerman & Thomas, 1998).

Globally, it's an estimate that about 170 million persons are chronically infected with hepatitis C virus (HCV) and 3 to 4 million persons are newly infected each year (WHO, 2006). According to the WHO report globally statistics which has revealed that prevalence of hepatitis C in Africa is 5.3%, 1.7% in Americans, 4.6% in

Eastern Mediterranean, 1.03% in Europe, 2.15% in South-East Asia and 3.9% in Western Pacific (WHO, 2008).

A numerous studies have been published regarding the prevalence of HCV in Pakistan. Various studies have shown that seroprevalence in Pakistan ranging from 0.7% to 20% (Shah & Shabbir, 2002). Total population of Pakistan is 149,911,000. Life expectancy at birth male\female is 61.1/61.6 where as the health life expectancy is 54.2/52.3 (Chotani, n.d). DR. Ali Razzaq (Provincial program manager HIV/AIDS Punjab) has mentioned that 6.3% in Baluchistan, 6% in Interior Sindh, 5.8% in Punjab, 2.7% in NWFP and 3.7% in Karachi (Sindh) are infected with Hepatitis C (Razzaq, n.d).

WHO (World Health Organization) country office in Pakistan reported high incidence of hepatitis C in Pakistan. On the basis of more than 200 studies on hepatitis, carried out in the country (Pakistan) the average prevalence of hepatitis C as ranging between 5% (7.5 million) in the general public and the prevalence of hepatitis C in the different groups are, among voluntary blood donors it's 3.6%, among pregnant women it's 5.2%, among health workers it's 5.4%, among community it's 5.3% and the 3.1 in recruits (WHO, 2005).

Ahmed et al., (as cited in Chotani, n.d) have found that patients some times have two chronic diseases at a time as studies in Pakistan have found that the HCV is 60% among liver cancer patients, 51% among beta thalassemia major patients, Mujeeb et al., (as cited in Chotani, n.d) have identified that 46% among chronic liver disease patients, 18% among cirrhotic patients and 20% among commercial blood donors (as cited in Chotani, n.d).

There are many risk factors associated with hepatitis C which includes lower level of education, the occupational exposure to the blood and infected syringes, history of blood transfusions, taking therapeutic injections and intravenous drips, and habit of getting shaved by barbers. These all are the main sources with which the people came in to contact with the hepatitis C virus (Shazi & Abbas, 2006). Level of awareness among barbers about hepatitis and awareness of risks of transmission of HCV is very low, and their practice of razor reuse is very common that may spread

hepatitis (Janjua & Nizamy, 2004). Safe blood transfusion is also a dilemma in Pakistan (Jafri, 2003). The prevalence of Hepatitis B and C can be attributed to the sub-optimal blood transfusion practices in Pakistan. Many blood screening facilities do not screen the blood donors properly (Khokhar, Gill, & Malik, 2004). Many blood banks have not had adequate screening facilities for HCV, HBV or even for HIV (Luby, Khanani, Vellani Ali, & Qureshi, 2000). There is a need for large epidemiological to explain the role of dentistry in transmitting Hepatitis C (Butt, Khan, Khan, & Sharea 2003).

A study conducted in Nawabshah (Pakistan) revealed that both illiterate and literate persons have lack of knowledge about risk factors related to hepatitis C. Both of them are following customs of community and relying on homeopathic or herbal medicines for their treatment of diseases like Hepatitis (Talpur, 2007). Doctors also use the used syringes without considering the consequences of reuse of syringes. Due to the reuse of the syringes many people suffer from the chronic diseases like AIDS, Hepatitis B & C and many more. People have a myth that with the use of used syringes they will get a quick relief in different areas of Sindh it is a common practice (Altaf, Fatmi, Ajmal, Hussain, Qahir, & Agboatwalla, 2004). A study conducted by the "World Health Organization revealed that 30% of the cases of hepatitis B and C are because of reuse of syringes by unqualified medical practitioners". According to WHO worldwide statistics for prevalence of hepatitis C, Pakistan's prevalence rate is 2.4 % (HCV advocate, 2005).

Health care workers also get infected with Hepatitis B and C with accidental needle stick injury that is very common and when they acquire HCV infection they also suffer from psychological problems like depression, anxiety, sense of isolation and interpersonal stress (Hamid, Ismail, & Jafri, 2007).

Due to the growing trend of hepatitis in general population the program for the prevention and control of hepatitis was launched in order to decrease the prevalence, morbidity and mortality. The program cost Rs.2.594 Billion. This program was launched by Prime Minister in 2005. The program aims at 50 percent reduction in new cases of hepatitis B and C by 2010 through advocacy and behavior change communication. 22,779 Hepatitis C and 2,931 Hepatitis B patients have been treated

through the program (Government of Pakistan, 2009). But still there are large numbers of patients who cannot afford the expensive treatment of hepatitis C.

Treatment of Hepatitis C

Hepatitis C is a disease, which is treatable. There are different treatment regimens for hepatitis C, the treatment of hepatitis C is constantly being improved. In 1986, a pilot study reported that therapy with interferon led to reduction in a proportion of patients with non-A, non-B hepatitis and this was confirmed in a series of randomized clinical trials. Foster, Main & Thomas identified (as cited in Zuckerman & Thomas, 1998) that 50% of the patients respond biochemically to the 6 months therapy but half of them subsequently suffer from the relapse so a sustained biochemical response of only 25%. Interferon Alpha (IFN- α) is now licensed for therapeutic treatment of chronic hepatitis C in most of the countries (Zuckerman & Thomas, 1998). From the results of these studies, a standard interferon regimen was defined. Three forms of interferon are currently approved in the US for the treatment of HCV infection, and a fourth interferon is approved for its use in other countries. The standard interferon regimen leads to the normalization of liver function studies and a loss or decrease in the amount of hepatitis C RNA in the blood at end of treatment for 50% of patients, and a sustained response for one year or more in 25% of patients. This means that only one quarter of patients given this regimen have long-term lessening of hepatitis C virus in their bodies or cure. Attempts to improve the sustained response rate have included increasing the dosage, the dose frequency, and the duration of treatment. Increased duration of therapy significantly increases the continued response rate, but the long-term results of increased dosage and dose frequency have been disappointing (Glauser, 2007).

There are other agents, which have been used for the treatment of hepatitis C infection, although none prove to be as successful as interferon. Amantadine and Rimantadine are both oral drugs that are used to treat influenza A. Trials using these drugs have had some success in producing sustained responses in patients infected with hepatitis C virus. Ribavirin is an oral drug that has been effective against a range of viruses. Ribavirin used alone for the treatment of hepatitis C virus infection decreases the amount of ALT in the blood and improves the liver cell structure in

30% to 50% of patients, but does not affect serum hepatitis C virus levels: that is, it helps the symptoms but doesn't cure the infection (Glauser, 2007). For chronic hepatitis C patients initial therapy with interferon and ribavirin was more effective than treatment with interferon alone (McHutchison et al., 1998). In Pakistan studies have proved that combination therapy is effective than treatment with interferon alone (Niaz, 2003). Standard interferon, pegylated interferon**,** and ribavirin are the only FDA-approved medications for treating hepatitis C (HCV advocate, 2006).

Foster, Main & Thomas identified (as cited in Zuckerman & Thomas, 1998) that most of the time acute hepatitis C is not diagnosed. There are no obvious signs with which acute hepatitis C can be diagnose but with some difficulties, interferon therapy at the time of acute hepatitis C can reduce the chances of chronoicity of the disease. Mostly like in chronic hepatitis C patients, the dosage of Interferon therapy for acute hepatitis C patients is 3 million units of interferon –α (IFN- α) three times a week for 6 to 12 months mostly for 6 months. The aim of antiviral therapy for hepatitis C treat the infection and reduce the chances of development of subsequent liver disease and risk of Hepatocellular carcinoma (HCC) (Zuckerman & Thomas, 1998).

People with acute (newly infected) hepatitis C tend to have mild infections. Most people have no symptoms at all, with only 25% developing jaundice. Unfortunately, 80% of the patients go on develop the chronic hepatitis C. Hepatitis C is associated with the liver cirrhosis and liver cancer. Before taking the decision to treat the patients with interferon therapy the most important steps are taken in to account by the doctors like LFT (liver function test), blood CP (Complete Picture), ultrasound and number of other tests (Glauser, 2000). These laboratory tests are very expensive people cannot effort these tests. According to the price list mentioned by clinical laboratories of "The Agha Khan University, Karachi, the cost of Hepatitis profile is Rs. 13,460, the cost of Hepatitis C is Rs.1, 450, the price of Liver Profile, Liver Function Test (LFT) is Rs. 970, the price of HCV RNA Genotyping is Rs. 12,760, HCV 1-6 Serotyping is Rs. 4,640, Qualitative HCV PCR is Rs. 5,220 and the Qualitative HCV PCR is Rs. 14,240 (The Agha Khan University, Karachi, 2008). There are number of tests which are considered as basic tests like Ultrasound, blood

complete picture and many more which patients can not effort and in many government hospitals clinical laboratories are not well establish to conduct these tests.

As every treatment has some side effect so does interferon has. Side effects of interferon therapy treatment include initial flu-like symptoms, fatigue, bone marrow suppression, and neuropsychiatric disorders including depression and psychosis. Side effects depend on the dosage of the interferon if the dose is reduced then it becomes very helpful, it can lead to withdrawal of therapy in 15% of patients (Glauser, 2007).

Gill, Atiq, Sattar and Khokhar (2005) concluded that the HCV diagnosed patients suffers from moderate to severe level of anxiety. According to them anxiety is associated with the hepatitis C related stress. Diagnosis of hepatitis C is more stressful then any other stressful event of patient's life (Gill et al., 2005). Hepatitis C patients have anxiety of being stigmatized and discriminated due to HCV (Conrad, 2006). Due to hepatitis C and interferon alpha cognition, mood, and personality also get effected (Dieperink, Willenbrin, & Samuel, 2000). Anxiety is common among chronically ill patients as many cancer patients also suffer from it (Stark, Kiely, Smith, Velikova, House, & Selby, 2002).

Hunt, Dominitz, Bute, Waters, Blasi and Williams (1997) evaluated the health-related quality of life and the prevalence of anxiety and depression in patients with chronic hepatitis C before, during, and following IFN-α therapy. Respondents confirmed an increase in the depression during the 6 months of interferon therapy as compared with their depression level before the treatment started. Anxiety scores improved significantly after one month of IFN-α in comparison to pretreatment results. IFN-α responders exhibited fewer emotional problems as well as a lower incidence of anxiety during and following therapy and health related quality of life was also affected due to hepatitis C (Hunt et al., 1997).

Hosoda, Takimura, Shibayama, Kanamura, Kenji and Kumada (2000) conducted a research in which 943 patients were treated with interferon therapy for chronic hepatitis C between 43 patients developed psychiatric symptoms during interferon treatment. 3 patients were excluded because they have pre existing psychiatric symptoms and they showed aggravated symptoms. 40 patients manifested

psychiatric symptoms induced by IFN (Interferon). Thirteen patients (1.4%) were diagnosed as anxiety disorder and 21 patients (2.2%) were revealed a mood disorder with depressive features. There were patients with mood disorders with psychotic symptoms. Women developed more psychiatric symptoms as compare to men (Hosoda et al., 2000).

Kraus, Schafer, Faller, Csef, and Scheurlen (2004) checked the incidence, spectrum, and extent of psychiatric symptoms of patients receiving interferon alfa therapy as compared with an untreated reference group. 104 patients with chronic hepatitis C were consecutively enrolled in a longitudinal study. Before therapy, scores of those in the treatment group were above the respective cutoff values for clinically relevant symptoms of depression in 15.5% of the patients, anxiety in 13.1% of the patients, and anger in 11.3% of the patients. These proportions rose to 35.0% (depression), 25.6% (anxiety), and 24.5% (anger or hostility). The cumulative frequency of clinically relevant emotional distress (depression, anxiety, or anger/hostility) during interferon alfa therapy was 57.7%, as compared with 22.5% before therapy (Kraus et al., 2004).

A prospective study of 71 patients infected with chronic viral hepatitis C and treated with interferon alpha during one year. The study was conducted to assess the incidence and predictive factors of anxiety and depression symptoms during and after the interferon therapy. Each patient received psychiatric assessment before, during and after treatment. Results confirm the great incidence of depression and anxiety not only during interferon alpha therapy but also after treatment is discontinued (Gohier, Goeb, Rannou-Dubas, Fouchard, Cales, & Garre, 2003). The stress level tends to be higher among patients with low educational level, although that difference is not statistically significant. The stress level did not differ between the treated and untreated patients (Castera, Constant, Bernard, Ledinghen, & Couzigor, 2006).

Stress

There are different explanations and definitions of the stress. In contemporary times, the word stress has many connotations and definitions based on various perspectives of the human condition. In Eastern philosophies (as cited in Seward,

2002), stress is considered to be an absence of inner peace. In the Western culture, stress can be described as a loss of control. Healer Serge Kahili King (as cited in Seward, 2002) has defined stress as any change experienced by the individual. But if we consider the psychological perspective and then redefine the stress according to the Richard Lazarus (as cited in Seward, 2002) "Stress is a state of anxiety produced when events and responsibilities exceeds one's coping abilities". Stress is defined as the rate of wear and tear on the body. Selye (as cited in Seward, 2002) added to his definition that stress is nonspecific response of the body to any demand placed upon it to adapt, whether that demand produces pleasure or pain (Seward, 2002).

Theories of Stress

Stress is sometimes conceptualized as environmental stimuli or life events that impinge on the individual, sometimes as a particular type of response or reaction to stressful events, and sometimes as a mismatch between demands placed on the individual and the perceived ability to cope with these demands (Marks, Murray, Evans, Wiling, Woodall, & Sykes, 2008).

There are three kinds of stress: eustress, neustress and distress. Eustress is a good type of stress person usually experience it when finds something motivating or inspiring. It is enjoyable and quite great to experience it. Neustress is related to the sensory stimuli that have no consequential effect; it is considered neither good nor bad. The third type of the stress is called as a distress it is considered as a bad stress (Seward, 2002).

The third type of stress, distress is considered as a bad stress and is often abbreviated and considered simply as a stress. There are two kinds of the distress: acute and chronic. Acute is of short duration, not very intense and disappears quickly. Chronic stress is not as intense but their duration is unbearably long (Seward, 2002). Mulhall (as cited in Pradies, 2004) mentioned that literature conceptualizes the term stress as a stimulus, response or both. Perhaps the most interesting criticism on stress is that "stress in addition to being itself, and the result of itself, is also the cause of itself". This confusion takes place when all three models are combined uncertainly

such that stress is at once a stimulus (cause), response (the results) and the process (itself) (Pradies, 2004).

Definitions of stress definitions that implicitly utilize these models are shown below:

(i) As mentioned by Doublet (as cited in Pradies, 2004) that the sum of biological and psychological disturbances (stimuli) caused by any aggression on an organism: stimulus-based.

(ii) The response of an organism to a noxious or threatening condition: response-based.

(iii) Cohen, Kessler, and Gordon (1997) have mentioned that the process in which environmental demands tax or exceed the adaptive ability of an organism: interactional (Cohen, Kessler & Gordon, 1997).

The stimulus-based or 'objective stress' model considers stress as an independent variable, that is, in terms of a causative stimulus. Stress is defined in terms of the disturbing environment or external stressors, and the important questions concern which particular conditions are stressful. This model associates stress with engineering where stress can be measured, and even the point of collapse recorded objectively. It shares much with the original GAS model proposed by Selye (as cited in Mulhall, 1996). As explained by Mulhall (as cited in Pradies, 2004) that the response-based or 'subjective stress' model conceptualizes stress as a dependent variable realized by a person's response to adverse effects. Stress here is defined as the response, which an individual displays when, stimulated by a stressor.

The interactional model speculates that stress is a lack of fit between the environment and person. In these terms stress comes between its antecedent factors and its effects. "Stress is a dynamic system of interaction between person and environment that consists of an individual perceptual phenomenon stemming from the imbalance between demand on the individual and his/her ability to cope". Demand arises externally from the environment, and internally from natural psychological and physiological needs (as cited in Pradies, 2004).

The adoption of an interactional model of stress as a 'dynamic state of imbalance' has avoided many of the pitfalls associated with more reductionist thinking. It is explained by Quich et al., (as cited in Pradies, 2004) that the up to date example of an interactional model is the isomorphic theory of stress, which looks for a one-to-one correspondence between the person and environment along the three dimensions of control, uncertainty, and personal relationships.

Lazarus and Folkman (as cited in Caponecchia, 2005) define stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her recourses and endangering his or her well-being". Lazarus further work has concentrated on an individual's appraisal of the situation as the primary determinant of psychosocial stress, and attempted to illuminate factors that may influence appraisal (as cited in Caponecchia, 2005).

Appraisals are cognitions that shape the evaluation of an event and influence the decision making relevant to that event. Primary appraisal concerns an individual evaluating whether he or she is at risk in a particular situation, and evaluating the nature of this risk. A situation may be appraised as irrelevant; benign; or stressful. According to Lazarus and Folkman (as cited in Caponecchia, 2005), there are 3 types of stressful appraisals: harm or loss, where damage already occurred (e.g. illness); threat, where harm is yet to occur, but anticipatory responses may be generated; and challenge, a situation where there is potential for gain and individual feels confident and agar about participating in the situation. Secondary appraisal involves the individual evaluating what, if anything can be done to reduce or cope with the risk (e.g. assessing probability of success).

It has been explained by Lazarus & Folkman (as cited in Caponecchia, 2005) that the appraisal may be influenced by personal and situational factors. Person factors include individual's commitments, beliefs about world, attributes of situation may influence the appraisal may include novelty and unpredictability (as cited in Caponecchia, 2005).

Stress affects the immune system of the human beings. In early stages, stress may cause stomach problems, insomnia, weight loss or gain and other medical

conditions. Chronic stress may lead the person to suffer from high blood pressure, heart disease or substance abuse. Stress is a common problem among hepatitis C patients and managing stress is the most important part in managing treatment. The goal of treatment is eliminate HCV by boosting the immune system, and then it makes sense to help the immune system by reducing stress (Porter, 2007). During stress, natural killer cells (NKT) are expanded in the liver and, in some of these cases, contributed to liver cell death and worsening of liver disease (Franciscus, 2009).

"Psychosocial stress is broadly viewed to include interpersonal, social, familial, societal, social psychological and sociological factors that are causes or consequences of stress". Stress is viewed as a demand for action not only on the part of the person, but in relation to others (Catherall, 2004).

While considering different factors associated with the disease three broad traditions of assessing the role of stress in disease risk can be notable. These are given below (John & MacArthur, 2000).

1. The environmental tradition focuses on assessment of environmental events or experiences that are normatively (objectively) associated with substantial adaptive demands
2. The psychological tradition focuses on individuals' subjective evaluations of their abilities to cope with the demands posed by specific events or experiences and their affective response to that evaluation.
3. The biological tradition focuses on activation of specific physiological systems that have been repeatedly shown to be modulated by both psychologically and physically demanding conditions. These factors are the main essence of or reasons of psychosocial stress (John & MacArthur, 2000).

Cohen (2004) was the person who has introduced the effects of stress and social support system on health and behavior of an individual. In the mid-1980s, Cohen became interested in investigating the role of stress and social relationships in vulnerability to disease (Cohen, 2004).

During the past so many decades importance is given to the fact that psychological and social factors can influence physical health. This include evidences that enduring stressful life events and prolong negative moods like depression, anxiety, anger etc. can increase risk of physical illness and early deaths (reviews by Booth-Kewley & Friedman; Cohen & Williamson; Schneiderman et al., as cited in Koenig & Cohen, 2002).

The effects of psychological stress on immunity are generally though to be mediated by stress brings forth increase in a negative mood. In turn, negative mood might result in the release of immune- altering hormones, such as epinephrine, nor epinephrine, and corticoid or influence the behaviors and that mightily directly influence behaviors that might directly influence the immune tissue, such as increase the loss of sleep, drinking and smoking behavior which also effects physiological health of the person (Koenig & Cohen, 2002).

Invasion of body by a disease- causing agent is not sufficient cause for disease. The psychological variables that influence immunity have a potential to influence the onset and progression of the immune system- mediated disease. Early prospective work by Myer and Haggerty (as cited in Koenig & Cohen, 2002) indicated that both disruptive daily events and chronic family stress were associated with greater risk of infections. Graham et al., (as cited in Koenig & Cohen, 2002) have collected measures of life stress from members of 94 families before and during a six months period in which diary data on subjects respiratory symptoms also, were collected daily. Illness episodes were validated by nose and throat cultures. Although high and low stress groups were almost identical in nature. The high stress groups experienced more verified episodes of illness and more days with symptoms of respiratory illness. So the chronic stress effects the immune system of individuals (Koenig & Cohen, 2002).

People who participate in more different types of social networks live longer and healthier lives. In the dominion of immune responses, having more diverse networks (for example a spouse, children, friends, co workers and social group and religious group members) is associated with greater resistance to infectious agents.

Diverse social networks are healthier and four of them are given below (Koenig & Cohen, 2002).

1. Being subject to social controls and peer pressures may influence normative health behaviors. For example, people's network might influence whether they exercise or not, consume alcohol or not, eat low fat diets, or smoke.
2. Being integrated in a social network may provide a source of generalized positive affect, sense of predictability and stability, a sense of purpose, a sense of belongingness and security, and recognition of self worth. These positive psychological states are thought to be beneficial because they reduce psychological despair (Thoits, as cited in Koenig & Cohen, 2002) and results in the greater motivation to care for oneself (Cohan & Syme, as cited in Koenig & Cohen, 2002).
3. Having a wide range of networks ties provides multiple sources of information and thereby increases the probability of having access to an appropriate information source. Information could influence health- relevant behaviors or help one avoid or minimize stressful or other high-risk situations (Koenig & Cohen, 2002).
4. A social network may provide tangible and economic services that result in better health and better health care for network members. For example, network members provide different facilities to the other members and help them in all situations (Koenig & Cohen, 2002).

Social life has a great impact on the lives of people living in society. There are convincing and prominent links between the stress and disease onset and progression (Koenig & Cohen, 2002). As mentioned by Vere, Streba, Streba, Ionescu and Sima (2009) that studies performed in recent years on animal models and human population, all are linking stress mainly with the psychosocial nature and evolution of three very important liver related pathological entities that are viral hepatitis, cirrhosis and hepatocellular carcinomas (Vere et al., 2009).

Numerous researches have been conducted to understand the phenomenon of psychosocial stress as in the research conducted by Sehlen et al., (2003) in which they concluded that there was Significant increase in stress were observed for anxiety,

pain, and information at 6 weeks after the end of radiotherapy and Women showed significantly higher stress from before radiotherapy to 6 weeks after the end of radiotherapy, younger patients displayed a decrease in anxiety, whereas elderly patients demonstrated an increase. Breast cancer patients had the highest stress levels (Sehlen et al., 2004). Elevated psychosocial stress might favor the occurrence of cardiovascular disease chronic real-life stress in humans appears associated to increased arterial pressure and to impaired autonomic regulation of cardiovascular functions (Lucini, Fede, Parati, & Massimo, 2005).

Personality

Psychologists and psychiatrists are trying to find out the answer of the question that which personality type is stress prone and which is stress resistance. They are also trying to find out the personality traits related to the disease or specific disorder. Actually "personality is though to be comprised of several traits, characteristics, behaviors, expressions, moods and feelings perceived by others." Personality is considered to be a fix entity, changes take place in behavior of an individual (Seward, 2002). Personality can be defined as "the system of enduring, inner characteristics of individuals that contributes to consistency in their thoughts, feelings and behavior" (Derlega, Winstead, & Jones, 2005).

Theories of Personality

Personality theories can be classified roughly into eight general perspectives, which are different from one another in relation to their explanation about phenomena of personality. These approaches are not necessarily mutually exclusive but these approaches help us in understanding personality (Friedman & Schustack, 2004).
The eight basic aspects of personality.

Perspective	leading theorists	Key strength	Key Weakness
Psychoanalytic	Freud.	Attention to unconscious influences; importance of sexual drives even in nonsexual spheres.	Many ideas superseded by more modern research on the brain, speculation often unverified or unverifiable, influenced by sexist assumptions of the times.
Neo-Analytic/Ego	Jung, Adler, Horney, Erikson.	Emphasis on the self as it struggles to cope with emotions and drives on the inside and the demands of others on the outside.	Sometimes a hodgepodge of ideas from different traditions, difficult to test in rigorous manner.
Biological	Pavlov, Plomin, Eysenck, Scarr, Daly.	Focuses on tendencies and limits imposed by biological inheritance; can be easily combined with most other approaches.	Tends to minimize human potentials for growth and change, serious danger of misuse by politicians who oversimplify its findings.
Behaviorist	Skinner, Dollar, Miller.	Can force a more scientific analysis of the learning experiences that shape personality.	May dehumanize unique human potentials through comparisons to rats and pigeons, may ignore advances from cognitive and social psychology.
Cognitive	Kelly, Bandura.	Captures active nature of human thought; uses modern knowledge from cognitive psychology.	Often ignores unconscious and emotional aspects of personality.

Perspective	Some leading theorists	Key strength	Key Weakness
Trait	Allport, Cattell, Eysenck.	Good individual assessment techniques.	May reach too far in trying to capture individual in a few ways, may label people on the basis of test scores.
Humanistic	Maslow. Rogers, Fromm.	Appreciates the spiritual nature of a person; emphasizes struggles for self fulfillment and dignity.	May avoid quantification and scientific method needed for science of personality.
Interactionist	Murray, Sullivan, Mishel.	Understands that we are different selves in different situations.	No good ways to define situations or to study the many complexities of interactions.

Note. From "Personality: Classic Theories and Modern Research" by Friedman & Schustack, 2004, (2nd Ed).

There is something, which differentiates one individual's personality from other person and makes his or her personality a unique one, that thing is a trait. McCrae and Costa, (as cited in Derlega, Winstead, & Jones, 2005) defined trait as "dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings and actions" (as cited in Derlega, Winstead, & Jones, 2005).

Sontag (as cited in Marks et al., 2008) provides many European and North American examples explaining the same phenomenon. In England in the late Sixteenth and seventeenth centuries it was greatly believed that the happy man would not get plague. In 1871 the physician who treated Alexander Dumas (1871) for cancer wrote that among the principle causes of cancer, were 'deep and sedentary study and

pursuits, and feverish (marked by intense agitation or emotion) and anxious agitation (a mental state of extreme emotional disturbance) of public life, the cares of ambition, frequent paroxysms (a sudden uncontrollable attack) of rage, violence grief'. So behavioral patterns and emotional experiences or emotional states has a lot to do with the person's suffering from cancer or chronic illness (Marks et al., 2008).

Different types of traits combine and make a whole personality and with the help of different traits we differentiate one type of personality from other one. They include the Type-A personality, codependence personality, helpless- hopeless personality, hardy personality and sensation seeker or Type-R personality (Seward, 2002).

In the late 1950's many people died because of the coronary heart disease un like infectious diseases, which are initiated by the growth of viruses and bacteria, this disease was attributed to the factors associated with the life style of the people. Studies have been conducted at the Harvard University and the Framingham. Study in Massachusetts (as cited in Seward, 2002) revealed several factors that were believed to place an individual in a potential risk for the coronary heart disease which include cigarette smoking, hypertension, elevated level of cholesterol and triglycerides, inactivity, diabetes, obesity and family history of hart disease. Some heart patients have few factors in their lives which are responsible for their heart problem (as cited in Seward, 2002).

Meyer Friedman and Ray Rosenman (as cited in Seward, 2002) conducted a research in 1964 which added one more significant factor to the list that is Type- A behavior, or a rushed or hurried life style. They referred Type –A personality as a "Hurried Sickness." In several research studies, the behavioral traits of "tense" individuals were compared to others who were considered as a "laid back" and called as a Type- B individual. There are different characteristics, which are associated with the Type – A personality, and these characteristics are: time urgency (Type – A people were found to be preoccupied, if not obsessed, with the passage of time and appeared very impatient), polyphasia (polyphasia is engaging in more than one though or activity at one time), ultra competitiveness (people having Type – A personality use to compare themselves with other people), rapid speech patterns (they raise their

voice during normal conversation) and hyper aggressiveness and free floating hostility (they are dominating and are very hostile people) (as cited in Seward, 2002).

Seligman (as cited in Seward, 2002) was the first person who identified the helpless-hopeless personality. It develops as a result of repeated hits of failure over time, to the point where individuals no longer feel competent to try things they really do have control over. Low self esteem and outer locus of control is very common thing among these individuals (as cited in Seward, 2002).

Hardy personality is a concept introduced by Kobasa and Maddi (as cited in Seward, 2002). They explained that those people who have a strong sense of control, commitment and challenge are labeled as a hardy personality. Zukerman identified the sensation seeking personalities, these are seeking thrills and sensations but take calculated risks in their activities. The hardy personalities and sensation seekers are believed to be stress resistance personalities and people with these personalities have a high self esteem (as cited in Seward, 2002).

Grossarth - Maticek and Eysenck (as cited in Nagano & Sudo, 2001) have reported theories related to the personality and the relationship between the personality profiles and specific diseases. Longitudinal study has been conducted over a ten year period. Subjects in all three samples were diagnosed by means of inventories into different personality types. Basically they have explained a theory which possesses three primary models for disease prone personalities. The first model comprise of personality typology with 6 types. These are given below (as cited in Nagano, Sudo, Kaihara, Shumura, & Kudo, 2001):

1. Type 1 is characterized by dependence on an idealized object and feelings of hopelessness, and is prone to the cancer (similar to type C) (Nagano et al., 2001). There characteristics are explained as over cooperative, unassertive, unexpressive of negative emotions, avoiding conflicts, over- patient and defensive in response to stress (Eliasz, Hampson, & Raad, 2005).
2. Type 2 is characterized by fixation on a persecuting object and by aggression and hostility and these type of people are prone to the CHD (chronic heart

diseases) this type is similar to the type A personality) (Nagano et al., 2001). These type of people are CHD- prone and have characteristics like chronically irritated and angry, failing to establish stable emotional relations, showing aggression and hostility responses (Eliasz et al., 2005).

3. Type 3 is an ambivalent object dependent type characterized by a combination of those typical 1 and 2 (Nagano et al., 2001). These patients oscillate between inadequacy and anger (Eliasz et al., 2005).
4. Type 4 is an autonomous type with low object dependence (Nagano et al., 2001). They are considered as mentally healthy (Eliasz et al., 2005).
5. Type 5 reacts to frustration in an excessively rational way and by suppressing emotional behaviors, and is a disease prone personality type (Nagano et.al., 2001).
6. Type 6 is characterized by antisocial tendencies, and is non-prone to disease such as cancer and CHD (Nagano et al., 2001).

At the end of ten years time period the mortality and cause of death was recorded. The results indicated that in all three samples cancer mortality was highest in Type I and CHD mortalities in Type II. It was also shown that the group of subjects diagnosed by relatives and friends as being permanently stressed showed significantly higher mortality rates (cancer and CHD) as compared with the non-selected (normal) group. Further researches were conducted and they revealed that the Type IV reported significantly less rate of heart diseases as compared to the Type I and Type II (Eliasz et al., 2005).

Explained by Grossarth-Maticek and Eysenck (as cited in Nagano et.al, 2001) that the second model posits a theory of personality traits. This theory, which recognizes the seven personality traits of “chronic sense of hopelessness”, “chronic anger” rationality and anti-emotionality”, “suppressing personal needs”, “disregarding symptoms”, “lacking social supports”, and “lacking anxiety”, corresponds closely to the typology. Chronic sense of hopelessness, chronic anger, and rationality and anti-emotionality are core constructs of Type 1, Type 2, and Type 5 respectively, and show particularly strong relationships to diseases (as cited in Nagano et al., 2001).

Where as the third model involves "self-regulation" which constitutes the core construct of "healthy personality", and largely overlaps with Type 4 (Nagano et al., 2001).

Type-1 Personality Traits

Mentioned by Gossarth-Maticek, Eysenck, and Vitter (as cited in Caponecchia, 2005) Type -1 individuals tend to consider an emotionally valued object as most important for their own wellbeing. They are dependent on this object, and any withdrawal of the object, or failure to attain it is extremely stressful. Eysenck, and Gossarth-Maticek, (as cited in Caponecchia, 2005) have mentioned that Type 1s tend to react to their repeated attempts to gain nearness to the valued object with helplessness and hopelessness, and are characterized by unassertiveness, a tendency to be overly cooperative and to be rational and antiemotional.

Type- 1 personality traits are given below.

1. **Low sense of control:** Decreased sense of control over stressful situations leading to hardship, despair, or anger.
2. **Object dependence/loss:** Having an important person who causes persistent hopelessness and depression.
3. **Unfulfilled needs for acceptance:** Chronically having unfulfilled needs for acceptance by others.
4. **Altruism:** An altruistic tendency, accompanied by stress, in interpersonal and social relationships.

Based on the Grossarth – Maticek's theory of disease prone personality in which he has explained the traits and characteristics of different types of personalities. Grossarth – Maticek, Eysenck and Vetter (as cited in Nagano, Nagase, Sudo, & Kubo, 2004) have concluded that type –1 personality is positively associated with the cancer risk. Nagano et.al., (2004) has explained, "Chronic psychosocial stress may affect the severity and progression of chronic hepatitis C and since the severity of hepatitis is regarded as a crucial factor in the hepatocarcinogenesis related to hepatitis C virus, we hypothesized that the type 1 personality would be positively associated with the severity of chronic hepatitis C" (Nagano et al., 2004). Nagano and Sudo (2001) have developed The Stress Inventory which consists of 12 scales and 45 items

in it, which are grouped into five based on their developmental process as used (Nagano et al., 2004)**.**

Other stress related traits. Other stress related traits are given below.

1. **Object dependence/happiness:** Having a valued person on whom one's happiness is greatly dependent.
2. **Object dependence/anger:** Having a persecuting person who causes chronic irritation and anger.
3. **Annoying barrier:** Having a persecuting situation that causes chronic irritation and anger.
4. **Rationalizing conflicts/frustrations:** An extreme tendency to rationalize one's interpersonal situations accompanied by conflicts or frustrations (Nagano et al., 2008).

Nagano et al., (2004) has concluded that low sense of control; object dependence of loss, unfulfilled need for acceptance, and altruism was significantly and positively associated with hepatitis C severity (Nagano et al., 2004).

> "The four type 1–related personality traits were each associated with the severity of chronic hepatitis C. There are several reports that link psychosocial variables thought to be closely related to these traits at the onset and progression of chronic viral infection. For example, a low sense of control is thought to lead to a chronic negative mood, and the negative mood status was shown to be related to more frequent recurrences of genital herpes. Unfulfilled need for acceptance shares a common concept with repression of emotion, the relevant constructs of which were reported to be associated with the progression of HIV infection. This trait may also relate to the concept of social support, more specifically a lack of emotional support, which is suggested to be potentially important in the progression of HIV infection. It should also be noted that the type 1 score, which was defined as the average of the type 1–

related Stress Inventory scales, seemed even more strongly associated with the severity of chronic hepatitis C than any single elemental trait. This suggests that a combination rather than any one of the traits may be more relevant in accounting for the contribution of psychosocial factors to immunological regulation in chronic viral infection." (Nagano et al., 2004).

These four traits are associated with the Hepatitis C and these traits combine and then they effect the progression of disease. These traits combine with the psychosocial variables and then effect the onset and progression of disease. Due to disease patients become unable to continue there social activities and it directly effect their psychological condition and social life (Nagano et al., 2004).

If we take the situation of crisis and vulnerabilities of chronic illness then there are certain individuals, which have certain personality types or certain personality style which make person vulnerable for certain diseases and disorders. So doctors should know about the personality type of his or her patients so that they can treat them accordingly and in proper way. The assessment of personality type is for the enhancement of better treatment of the chronically ill not to label them (Stern, Herman, & Slavin, 2003).

Models of the Relationship between Personality, Stress and Disease

There are a number of ways in which personality, stress and disease are related. Gossarth- Maticek and Eysenck, (as cited in Caponecchia, 2005) implicated stress as the mechanism for the effects of their personality types on disease (Gossarth – Maticek & Eysenck, as cited in Caponecchia, 2005).

Diathesis-Stress Models

The most generic type of model applied to stress, personality and disease relationship are diathesis stress models. Diathesis-stress can be modified to suit several different fields, specifying the diathesis and the outcome in each instance.

Zukerman (as cited in Caponecchia, 2005) has explained that diathesis was originally viewed as a constitutional disposition that represents a vulnerability to disease, according to Monroe and Simon, (as cited in Caponecchia, 2005) however, more recently proposed diatheses have taken the form of cognitive or social variables, including personality and psychological disorders rather than disease can constitute the outcome (as cited in Caponecchia, 2005).

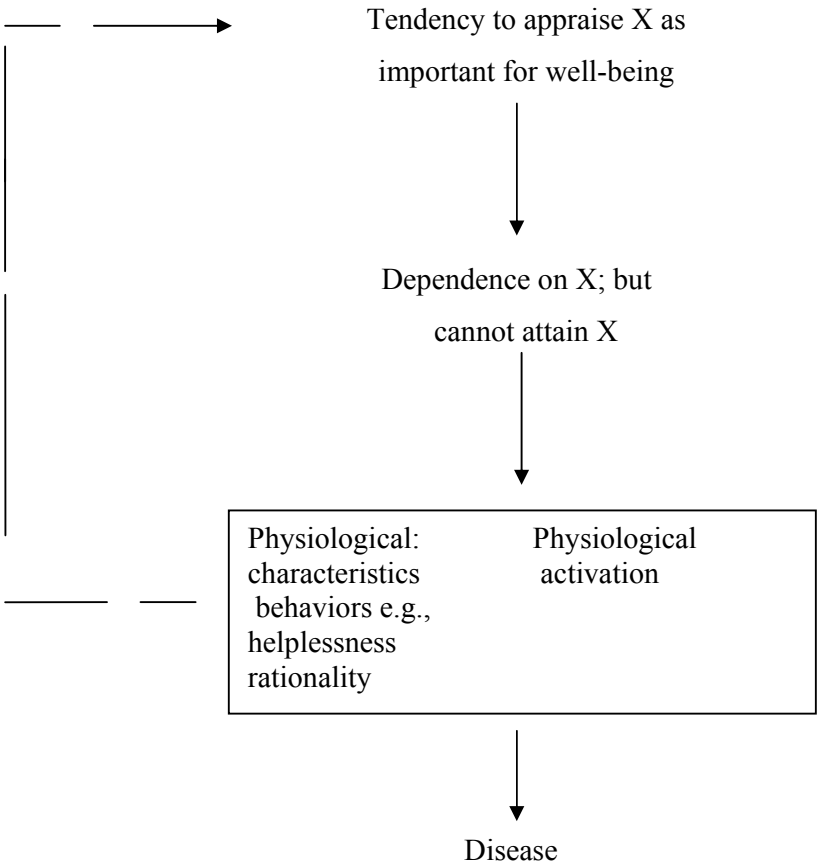
The idea of diathesis stress model is that the predispositing factors interact with the stress to produce some (usually negative) outcome like mental illness. In general, diathesis stress models are seen as heuristics for understanding how predispositional factors interact with the environment. Classification of types of stressors relevant to particular diathesis and outcomes, as well as clearer specification of the interaction between diathesis and stress are acquired (Monroe & Simons, as cited in Caponecchia, 2005).

Gossarth-Maticek, Eysenck and Boyle (as cited in Caponecchia, 2005) explicitly described the Gossarth-Maticek typology as a stress diathesis model of the form Diathesis x Stress = Malady. Gossarth considered personality type as part of the diathesis, along with genetic /biological factors and life style behaviors (as cited in Caponecchia, 2005).

The claim that personality affect stress is consistent with psychological (transitional) models of stress. Eysenck's study (as cited in Caponecchia, 2005) suggested causal pathway for the effects of the Gossarth-Maticek personality types on disease has also been conceptualized as personality influencing stress appraisal. Eysenck's (as cited in Caponecchia, 2005) model specific to the Gossarth-Maticek (as cited in Caponecchia, 2005) has mentioned types, proposed that personality and stress "combine", leading to feelings of hopelessness, helplessness and depression (as cited in Caponecchia, 2005).

Some models of the interaction between personality and stress have suggested that stressors act as triggers for an individual to engage in particular characteristics behaviors. This has been termed as a "mechanic" approach (Smith & Anderson, as cited in Caponecchia, 2005).

In the Gossarth-Maticek theory the relationship exists between the stress, disease and personality. According to the Gossarth- Maticek (1988) hypothesis, type Is have a tendency to regard valued objects, as important for their well-being. Type Is are though to become dependent on X, and experience stress after failed in an attempt or rather number of attempts to be close to X (Gossarth-Maticek, Eysenk, & Vetter, 1988). For type 2s appraise X is an important person and is a cause of dissatisfaction and frustration. They become stressed after being able to disengage from X, and respond with anger, frustrations and aggression (Gossarth-Maticek, Eysenk, & Vetter, as cited in Caponecchia, 2005).



Stress and disease, where "X" stands for highly objects, persons, situations or goals (Grossarth- Maticek, Eysenck & Vetter, as cited in Caponecchia, 2005).

Note. The influence of personality on response to stressors: An examination of the Gossarth–Maticek personality inventory by Caponecchia, 2005. Volume 1. Ph.D thesis.

This model shows that stress and disease is related with the personality traits. So personality plays a vital role in the development of any disease as in a case of

Type-I personality in which person has a tendency to develop cancer. Hepatitis C patients have a tendency to develop cancer (Nagano et al., 2001). Hepatitis C patients have anxiety of being stigmatized and discriminated due to HCV (Conrad, 2006).

Stigma

Sometimes when people get diagnosed with hepatitis C they do not go for its treatment. They mostly get depressed and use to avoid going to the doctors because hepatitis C is stigmatized (people use to negatively label hepatitis C). Acceptable standards of appearance, activities and roles are socially determined. Individuals who deviate from the societal expectations of what is acceptable are often labeled as different from the majority and thus often stigmatized. The degree of stigma varies from setting to setting, from disability to disability, from chronicity of disease to disease and its perception differs from individual to individual. Stigma results in discrimination, devaluation, disregard and it is also a threat to the safety and psychological well being of an individual. Stigma can have some profound impact on the ability to regain and maintain functional capacity and on acceptance of one's illness or disability. Stigma not only affects the self concept and self esteem of the chronically ill patients, but it also produces barriers that prohibit individuals from reaching their full potential.

The diagnosis of chronic illness always accompanies a burden of negative label. Patients start perceiving that they are being discriminated by others because of their disease, as mentioned by one of the patient suffering from Cancer and undergone a mastectomy.

> "Cancer is not a scarlet letter, but you are marked in some ways, and losing a piece of yourself marks you even more because in the eyes of the world there is something wrong with you" (Fife, 1994).

So the disease itself is not a big problem but how others take it is very important so social world and social life is much more important for patients then the disease. One of the breast Cancer patient commented that:

> "The loss of being able to dream for the future is the most significant effect of Cancer. This makes me feel like I'm left out and on a separate track from others" (Fife, 1994).

So the patients feel that they are different from others. They feel that they are no longer a sufficient part of society and are at a different track from others. They stop dreaming about their future and in a very stressful condition because of chronic illness.

Stigma effects the social acceptability and employment status of the patients (Lai, Hong, & Chee, 2000). Like other societies the diagnosis of hepatitis C is more stressful then other most important events of life (Gill, Atiq, Sattar, & Khokhar, 2005). Mentioned by Bethesda (2003) that, according to American Gastrointestinal Association (2003) "Americans' misunderstanding of the potential dangers of hepatitis C is causing many risk factors to forgo testing and treatment, according to a landmark survey commissioned by the American Gastroenterological Association (AGA). HCV, "a virus that attacks the liver, infects four times as many Americans as HIV and is expected to kill more Americans than HIV by the year 2010." There are different myths that 74 percent of the sufferer believes that the majority of the people think that the people suffer from hepatitis because of drug abuse or unhealthy life styles, only 30 percent of the people holds that belief and 20 percent believe that people like themselves don't get diseases like hepatitis (AGA, as cited in Bethesda, 2003).

"Stigma comes from the Greek and it refers to a mark made by a pointed instrument or brand" (The Oxford English Dictionary, as cited in Lindley, n.d). Erving Goffman (1963) was one of the most influential sociologists of the twentieth century. He defined Stigma as "The phenomenon whereby an individual with an attribute is deeply discredited by his/her society is rejected as a result of the attribute.

Stigma is a process by which the reaction of others spoils normal identity" (Goffman, 1963).

Gerhard Falk (2001), a German born sociologist and historian, Gerhard Falk has written over fifty scholarly works, including STIGMA: How We Treat Outsiders. About Stigma, he wrote: "All societies will always stigmatize some conditions and some behaviors because doing so provides for group solidarity by delineating "outsiders" from "insiders" (Falk, 2001).

So Stigma is a Greek word that in its origins referred to a kind of tattoo mark that was cut or burned into the skin of criminals, slaves, or traitors in order to visibly identify them as blemished or morally polluted persons. These individuals were to be avoided or shunned, particularly in public places (Healthline Network, 2007).

The Merriam Webster Dictionary On-Line (as cited in Lubkin & Larsen, 2006) defines stigma as a "mark of shame or discredit". The Merriam Webster thesaurus On-Line (as cited in Lubkin & Larsen, 2006) lists it's synonyms as blot, slur, spot or stain. The MSN Encarta Dictionary defines stigma as "a sign of social unacceptability: the shame or disgrace attached to something regarded as socially unacceptable" (Linda, 2007).

Goffman's work on stigma is very important in the study of chronic illness. His definition of stigma is based on a distinction between the 'virtual social identity'- that is, the stereotyped imputations we make in everyday life and 'actual social identity'- that is, those attributes that an individual does actually possess. Stigma occurs when there is a discrepancy between actual and virtual social identity. Stigma, according to Goffman, "is really a special kind of relationship between attributes and stereotype" (Goffman, as cited in Nettleton, 2006). Some diseases and disabilities are stigmatized. According to Goffman (Goffman, as cited in Nettleton, 2006) stigma varies according to some factors like:

Visibility

The extent to which signs or symptoms of a condition are recognized by others. It means that how much visible the disability or symptoms are. So stigma depends on visibility of the specific disability or symptom (Goffman, as cited in Nettleton, 2006).

Know-About-Ness

The extent to which others are aware of an illness. It means that may be a person is suffering from a chronic illness but if others are not aware of it then due to disease person will not get a negative label. For example, the fact that a person suffers from epilepsy may not be known to those people with whom he or she works (Goffman, as cited in Nettleton, 2006).

Degree of Obtrusiveness

The extent to which the flow of interaction is hinder\ slows down. For example a severe stammer may impede normal codes of communication (Goffman, as cited in Nettleton, 2006).

The Perceived Focus

The perception others have about an individual's ability to participate fully and normally. May be person has such disability which is visible to others then there are more chances of being labeled (Goffman, as cited in Nettleton, 2006).

Goffman (as cited in Nettleton, 2006) has further explained the phenomenon of stigma and identified the further distinction, which helps us appreciate the meaning of illness. This is between the 'discreditable' and 'discredited'. 'Discreditable' means attributes that are not visible and therefore are potentially stigmatizing. 'Discredited' are attributes, which are visible. The problem with discreditable is to restore their status and identity, while the problem with discredited to control the flow of information about these blemished aspects of self (Nettleton, 2006).

Types of Stigma

As mentioned by Mann and Stuenkel (as cited in Lubkin & Larsen, 2005) that stigma is a universal phenomenon and every society use this concept. Goffman (as cited in Lubkin & Larsen, 2005) has distinguished among three types of stigma.

The first type of stigma is "Stigma of physical deformity". The actual stigma is the deficit between the actual physical condition and the expected norm of perfect physical condition. Like many chronic conditions create changes in physical appearance or function which results in stigma (as cited in Lubkin & Larsen, 2005).

The second type of stigma is that of character blemishes. This type may occur in individuals with AIDS, alcoholism, mental illness, or homosexuality. As those people who have AIDS they are considered that they could have controlled the behavior that resulted in the infection (as cited in Lubkin & Larsen, 2005).

The third type of stigma is tribal in origin and is known as a prejudice. This type originates when one group perceives features of race, religion, or nationality of another group as deficient compared with their own socially constructed norm. However the prejudice against individuals with chronic illness exists surely as the racial and ethnic or religion prejudice exits. These type also overlap with one another but they exists in every society in one way or another (as cited in Lubkin & Larsen, 2005).

According to the US Department of Health and Human Services, "stigma is about disrespect." For some people the stigma of living with hepatitis C is more harmful and painful than the virus itself. There are different false beliefs and myths in different societies regarding the acquisition and transmission of hepatitis C. Medical advancements provided us the new and better methods to prevent and control hepatitis C. But there is a lot more effort required to change the public perception, opinion and attitude towards hepatitis C. There is a need to educate people and make them to feel good about themselves regardless of viral status. With effort and proper education hepatitis C can be removed from the category of socially unacceptable conditions (Linda, 2007).

There are several reasons that people get stigmatized because of HCV. First, HCV is potentially infectious. Although not easily transmitted, people are nevertheless fearful and reject those who have the disease. That fear and rejection of the patients have made the jobs, friendships and marriages very difficult. Sexual relationships stop or are never initiated. In the extreme cases even marriages have been challenged. Another problem is that people do not want to be around with an ill or sick person. Some people are afraid of illness and death. They may be uncomfortable around others who have a disease or illness. A third stigma connected to hepatitis C is from its association with injection drug use. Misinformed people sometimes assume that all hepatitis C patients have a history of injection drug use in spite of the many ways hepatitis C can be acquired. Our society lacks compassion and understanding about injection drug use. Those who never used injection drugs do not want to carry that label (Porter, 2006).

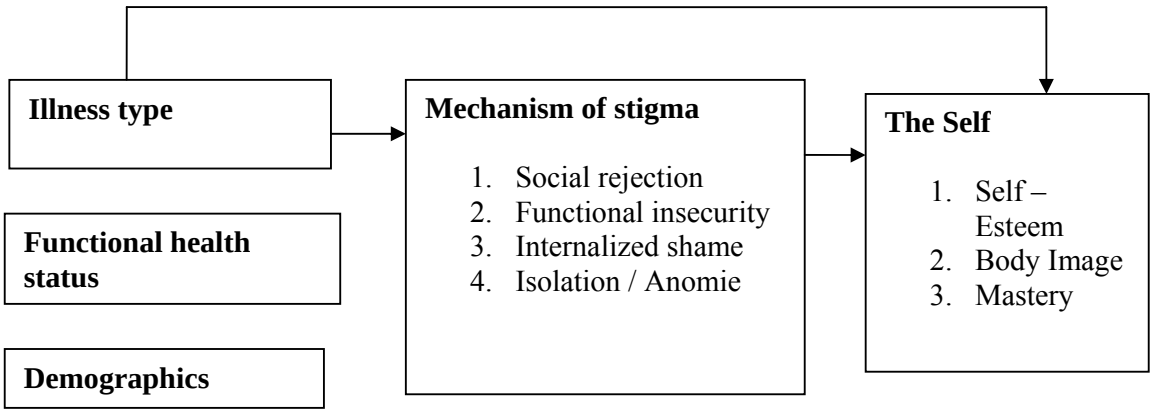
Theories of Stigma

Link, Cullen, Struening, Shrout and Dohrenwend (1989) have conducted several studies and the studies which took place in 1987, 1989, and 1997, Link advanced a “modified labelling theory” which indicate that the labeling has a drastic effects on the patients suffering from mental illness. Labeling make them to get withdraw themselves from the society and sometimes that rejection from the society seems very minor but it has a very drastic effects on the self concept and confidence of the patients (Link, et al., 1989).

Modified Labeling theory has been described as a "sophisticated social-psychological model of 'why labels matter'". In 2000, results from a prospective two-year study of patients discharged from a mental hospital (in the context of deinstitutionalization) showed that stigma was a powerful and persistent force in their lives, and that experience of social rejection were a persistent source of social stress. Efforts to cope with labels, such as not telling anyone, educating people about mental distress/disorder, withdrawing from stigmatizing situations, could result in further social isolation and reinforce negative self-concepts. Sometimes an identity as a low self-esteem minority in society would be accepted. The stigma was associated with diminished motivation and ability to "make it in mainstream society" and with "a state

of social and psychological vulnerability to prolonged & recurrent problems". There was an up and down pattern in self-esteem, however, and it was suggested that, rather than simply gradual erosion of self-worth and increasing self-deprecating tendencies, people were sometimes managing, but struggling, to maintain consistent feelings of self-worth (Wright, Gronfein, & Owens, 2000).

Based on the Link et.al theory (as cited in Fife & Wright, 2000) Fife and Wright (2000) explained the phenomenon of the stigma and they addressed the two most important questions with regard to the stigma of physical illness. They are "(1) does the subjective experience of stigma differ across illnesses and (2) does the impact of perceived stigma on the self differ by illness." Basically they were trying to find out that how socially HCV positive patients get affected and how psychologically they are suffering due to HCV. They developed the Social Impact Scale which is broadly divided in to two categories. (1) Experiences of rejection and stigma and (2) social psychological feelings regarding stigma. These categories are further divided in to two sub divisions each. (1) Experiences of rejection and stigma in to two categories (i) social rejection and (ii) financial insecurity. (2) Social psychological feelings regarding stigma into two categories (i) internalized shame and (ii) social isolation (Fife & Wright, 2000). They gave a model of stigma in which they addressed the very important aspects of the patient's lives. They have explained the phenomena of stigma in the form of following model.



Note. From The dimensionality of stigma: A comparison of its impact on the self of persons with HIV\AIDS and Cancer by B. L .Fife, & E. R. Wright, 2000, Journal of Health and Social Behavior, 41, p 55.

According to this model the important aspects of stigma include the type of illnesses, chronicity of the disease, dimensions of the stigmatization and the very important aspect is the self perception (Fife & Wright, 2000).

There present condition and there other demographic statuses are also very important. They get discriminated because of the chronicity of there illness and their discrimination is not specific to the one area of their life. The mechanism of stigma includes:

Social Rejection

Social rejection pertains to the individual's feeling discriminated against at work and in society, as these patients some times feel that they get less respect than usual, they are treated as less competent as they were before the diagnosis of the disease and also they feel that people are avoiding them (Fife & Wright, 2000).

Financial Insecurity

Financial Insecurity is a specific insecurity the person has because of that disease. Secondly their job security gets effected because of that illness (Fife & Wright, 2000). Chronic illness effects the career opporunities and future planning of an individual regarding his or her job even attitude of co-workers also get changed. As one of the patient suffering from chronic illness stated that his co-workers become very solicitous and interacted with him as if he became less competent than prior to his illness (Fife, 1994).

Internalized Shame

Internalized Shame is very obvious when person suffer from the social rejection and financial insecurity then it ultimately turns in to the internalized shame like person starts blaming him or herself (Fife & Wright, 2000). Non stigmatized individuals often believe that the person with the stigma is less human, less valuable, or undesired and also consider them as worthless or inferior (Lubkin & Larsen, 2005).

Social Isolation

Social isolation is also experienced by chronically ill patients. Lessened and impaired social contact and a sense of social isolation are among the more detrimental

consequences of chronic illness. Social isolation actually refers to "a negative state of aloneness or diminished participation in social relationships." Impaired social interactions relate to the state in which participation in social exchanges occurs but is dysfunctional or ineffective because of discomfort in social situations, unsuccessful social behaviors, or dysfunctional communication patters (Royer, 1998).Social isolation may occur as one effect of stigma. The chronically ill patients or their families grapple with how much information about the diagnosis they should share, with whom they should share and how much they can share, and most important when to share. If the illness is manageable or reasonably invisible, its presence may be hidden from all, but except few ones. Social isolation not only burdens the chronically ill, it also extends into family dynamics and requires the health professional to consider how the family manages the illness and the isolation (Lubkin & Larsen, 2005).

Stigma has a negative impact on the social, psychological and other areas of functioning of individuals, as stigma is associated with the poorer work and social adjustment. These patients also develop the low acceptance of the illness, higher subjective levels of symptoms and greater subjective impairment of memory and concentration. All in all it affects the psychological well being of the individuals so in short negative values attached with the chronic diseases has worst effects on patient's life (Fife & Wright, 2000). Stigma is associated with the poorer work and social adjustment of an individual. There social adjustment, psychological well being, level of concentration and acceptance of illness also get effected among hepatitis C patients (Golden et al., 2006). Patients experience, the experience of anger, depression and stigma because of the diagnosis of hepatitis C and they also experience feelings of being isolated from potential source of social support (Janke, McGraw, Garcia-Tsao, & Fraenkel, 2008).

Sigma causes many hindrances in the social interactions; it causes feelings of rejection, internalized shame, and financial insecurity, and also effects the behavior of people with hepatitis C patients. The majorities of the HCV patients alter common behaviors and report financial insecurity, internalized shame, and social rejection, regardless of the method of HCV acquisition or socioeconomic status (Steven et al., 2006). Stigma also creates barriers to access of health services and undermined the

social supports required to address self-care needs and illness management (Butt, 2008).

Almost in every culture chronically ill patients have to suffer not only with physicals hardships but also the social stigmatization problem. Stigma is attached with many chronic diseases like leprosy, epilepsy, hepatitis, AIDS and many more. Due to that stigma the care givers of the patients don't disclose the disease of their relatives and avoid the medical treatment as much as they can. Patients also avoid the situations in which there is a danger that people come to know about their disease. In Pakistan because of lack of awareness and education first of all people don't get detected there disease at proper time. When they came to know about their disease because of the fear of stigma they go for different modes of treatment like Taveez, Dam Darood and Hakeems, which are other than proper medical treatment. Very few patients go for the medical treatment. Stigma limits their social lives and badly affects their psychological condition. Many suffer from stress, anxiety and depression etc (Naeem et al., 2007).

Serious chronic illness presents a crisis in people's lives that frequently goes beyond adjusting to the disease itself. For instance, chronic illness may produce financial hardships, change the way patients see themselves, and severely affect relationships with family members and friends (Brannon & Feist, 2000). There is a positive relationship between unemployment and level of stigma so if the patients are unemployed they experience high level of stigma (Golden et.al., 2006). Several studies have explored the impact of chronic illness on the lives of patients. Research has evaluated the functioning of a large group of patients with a variety of chronic illnesses (Steward et al., as cited in Brannon & Feist, 2000) found that the patients with chronic illnesses showed worse social and physical functioning, poorer mental health and greater pain than patients without chronic illnesses. Diagnosis of the chronic disease mostly changes the self-perception. Negative emotions are common among the chronically ill due to the uncertain course of chronic disease, and physicians often feel less adequately prepared to help patients deal with their emotional problems (Brannon & Feist, 2000).

Stigma is not a single entity and cannot be explained in any specific manner. It affects the whole life of the sufferers. It diminishes the self-esteem, self-concept and confidence of individuals. It is common notion that the person who is suffering from any chronic illness, he or she is not physically and mentally stable to do any task which he or she was doing before suffering from that disease. They are considered as inferior. The nature of the effects of the stigma is related to the fact that how disease was acquired, whether that person can be blamed or not for acquiring that disease or not. In case if he or she is considered to be responsible for the disease he is suffering from, then defiantly it is going to have an adverse and drastic effect on that person's life. The person internalizes that label and then that label becomes a part of his or her identity. This acceptance of a negative label results in "spoiled identity" which results in social isolation and internalized shame and guilt. The most important and ground breaking concept by Mead is that we assume that the self arises through the process of interaction with the other people as the individual become an object to himself and takes attitude of others towards himself. Cooley's (as cited in Fife & Wright, 2000) notion of "looking glass self," what ever others views are about you, you take them seriously then combine them and then make your image in front of yourself. The negative responses from others, the harsh attitude of others and the discriminating attitude of others shatters self-image of a person and results in a diminish self-concept, self-respect and confidence and ultimately results in a social isolation, social withdrawal and engage in self-deprecation (Fife & Wright, 2000).

Stress is associated with the perception of stigma. There are research that evidences high level of psychological stress among PLHIV (people living with HIV/AIDS) reflected in feelings of stigmatization, isolation, loneliness, depression and despair so psychosocial stress is related with feelings of stigmatization, isolation, loneliness, depression and despair among chronically ill patients like AIDS patients (Kabbash, El-Gueneidy, Sharaf, Hassan, & Al-Nawawy, 2008). Stigma increases stress associated with illness (Yebei, Fortenberry & Ayuku , 2008).

Researches have shown that because hepatitis C patients are unsure about the outcome of the interferon therapy and that is considered as one of the reason behind the different psychological disorders they are suffering from even after completion of interferon therapy. There is a need to study the nature and intensity of the stigma

attached with hepatitis C and then proper coaching can be provided to the common man about it. The assessment of personality type is for the enhancement of better treatment of the chronically ill patients not to label them, so present study will explore these important factors which seem very harmless but in actual they effect the course and progression of disease.

Rationale of the study

The present study addressed a very important issue of present time that hepatitis C is a very common disease accounting for about 90% of cases of post transmission and almost half of the sporadic hepatitis (Dienstag, 1983). Present study explored psychosocial stress, type –I personality traits and stigmatization among hepatitis C patients. Trends of Research into health-related stigma have increased over recent years as the impacts of stigma on health have become more obvious. Stigma is increasingly seen as additional burden for the patients who are mostly already facing stigma of poverty and some of them belong to a minority group status (Hopwood, 2007). Patients have a fear and anxiety of being stigmatized because of Hepatitis C (Conrad, 2006).

Many researches are conducted in order to find out the wretched psychological condition of the patients suffering from chronic illnesses like hepatitis, cancer and others (Castera et al., 2006; Hostoda et al., 1997; Kraus et al., 2004). Very few researches are conducted in Pakistan on psychological condition of Hepatitis C patients but no significant documented literature is present in Pakistan on psychological problems of hepatitis C patients related to their treatment effects. In Pakistan there are different false beliefs and myths in the society regarding the acquisition and transmission of hepatitis. Some people consider it something like a curse and they blame the patient for its acquisition. Patients and their care givers have a fear of stigma that's why they use to avoid the doctors as much as possible and go for different other modes of treatment which make their condition more worst (Naeem et al., 2007).

There are many researches on the epidemiology and prevalence of Hepatitis C in Pakistan (Jaffery et al., 2005; Khokhar et al., 2004) but very few on the stigma and

stress among hepatitis C patients. In order to get insight into the problem, unstructured interviews were conducted in which patients were asked about Hepatitis C, its effects on their lives and attitude of others towards them. Important findings of the unstructured interview are given below.

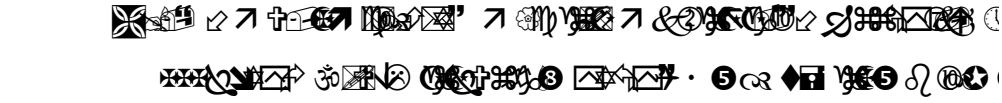
One patient said that

One male hepatitis C patient said that

One of the patient said that

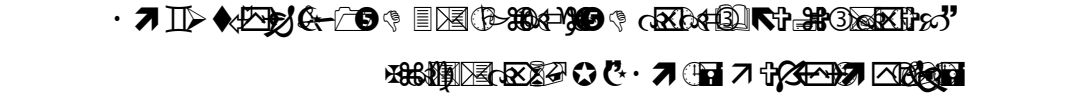
Most of the patients were repeatedly saying that

One female patient said that



One of the female patient who was 45 years old said that

Stigma effect working environment of patients. Their psychological condition gets affected because of stigma of HCV. As one of the patient said that



Majority of the patient said that every one should keep their disease a secret as one of the patient said that

[illegible]

There social life also get effected and one of the patient said that

[illegible]

Patients are not aware of the fact that from where they have acquired hepatitis C virus but they have to suffer from the negative label. This negative label or stigma seems not very harmful but it badly effects patients. From the unstructured interviews researcher concluded that these patients are discriminated, rejected and isolated by their society. It is also concluded that social life has great importance in patient's life. All these things are not obviously visible but they have a long lasting impact on patients literature also support this fact (Porter, 2006).In result of stigma they develop psychological problems. There is a need to address the psychological problems of the patients and present study addressed that issue. Present study identified the level of psychosocial stress among these patients. While treating patients doctors should also have the awareness of the psychological condition of the patients so that if they (patients) are suffering from any psychological problem then they get its treatment also. The present research will provide the knowledge regarding the level of stigmatization and the psychosocial stress related to disease. The present research will provide us the evidences that how normal \ healthy individuals discriminate them on the basis of their disease.

It has been mentioned by Nagano et al., (2004) that there is no previous study has identified the relationship between the psychosocial stress and severity of chronic hepatitis C (Nagano et al., 2004). So there is a need to explore this area of research and present research is an effort to add knowledge to this dimension.

It has been established in the literature that some people have stress prone personality type where as others have not, this stress proneness makes them to suffer from certain disease (Stern, Herman, & Slavin, as cited in Caponecchia, 2005). As researches have shown that very little percentage of the hepatitis C patients get there virus cured but huge number of the patients suffer from chronic liver diseases like liver cancer (Glause, 2007; WHO, 2008). Nagano et al., (2004) identified the type –

1-personality traits among hepatitis C patients (Nagano et al., 2004). The present research also addresses that issue and identifies the type – 1 personality traits (cancer prone) among hepatitis C patients. In Pakistan there is no documented research which the type- 1 personality traits among hepatitis C patients.

The diagnosis of hepatitis C is more stressful than any other stressful event even more stressful than divorce and loss of the source of income. Where as in the country like Pakistan divorce is a social taboo and loss of source of income is very important for some one's survival (Gill et al., 2005). In Pakistan no research has been found to assess the type- 1 personality traits and perception of stigma among hepatitis C patients. That how they are financially insecure, socially isolated, socially discriminated and how their self is damaged due to that negative label.

There are research evidences that perception of stigma is same among male and female hepatitis C patients (Golden et al., 2006). In our society male and female social roles and status are different so there is a need to explore this phenomenon. Present research also throws light on this important issue. There are many other factors i.e. family system, number of family members, age, education, treatment effects and duration of the disease which seems to be important not are mostly not addressed by doctors of our society. Present study considers all these important factors.

Chapter - II

METHOD

Objectives of the Study

Objectives of the present study are given below.

1. To identify the level of psychosocial stress and stigmatization among hepatitis C patients.
2. To identify the type-1 personality traits (i.e. low sense of control, object dependence of loss, unfulfilled need for acceptance and altruism) among hepatitis C patients.
3. To find out the relationship between psychosocial stress and stigmatization among hepatitis C patient.
4. To find out the relationship between severity of disease and four personality traits i.e. low sense of control, object dependence of loss, unfulfilled need for acceptance, and altruism.
5. To compare the level of psychosocial stress and stigmatization among male and female patients.
6. To compare the level of psychosocial stress and stigmatization among male and female hepatitis C patients those who have not yet received interferon and those who have receiving interferon therapy.
7. To find out the relationship of demographic variables with psychosocial stress, type-1 personality traits and stigmatization among Hepatitis C patients.

Hypotheses

In present study following hypotheses were formulated for Hepatitis C patients.

1. There is a positive relationship between the level of psychosocial stress and stigmatization among Hepatitis C patients.
2. Hepatitis C patients, score high on low sense of control, object dependence of loss, unfulfilled need for acceptance, and altruism (traits) as compared to other personality traits.

3. There is a positive relationship between the severity of disease and four personality traits i.e. low sense of control, object dependence of loss, unfulfilled need for acceptance, and altruism.
4. Level of psychosocial stress is higher among female hepatitis C patients as compared to male patients.
5. Level of psychosocial stress is higher among those female hepatitis C patients who have received interferon therapy as compared to those female patents who have not yet received it.

Operational Definitions

Psychosocial Stress

Psychosocial stress level is thought to be determined by the interaction between stressors and the individual's responding style to the stressors. It is considered as a product of stressor and the human response to it. A response that includes emotional reactions, cognitive appraisals, behavioral copings and use of social support. Person's response to any stressor is also dependent on his or her personality type. In the present study for the assessment of psychosocial stress "The Stress Inventory" was used. If the mean score of any subscale is high than other subscales it indicates that they have that sort of psychosocial stress.

Type-I Personality traits

In the present research the term personality is taken as the pattern of cognitive-behavioral response to the stressors. Type -1 individuals tend to consider an emotionally valued object as most important for their own wellbeing. They are dependent on this object, and any withdrawal of the object, or failure to attain it, is extremely stressful. Eysenck and Gossarth-Maticek (as cited in Caponecchia, 2005) have mentioned that Type 1s tend to react to their repeated attempts to gain nearness to the valued object with helplessness and hopelessness, and are characterized by unassertiveness, a tendency to be overly cooperative and to be rational and antiemotional. In the present study for the assessment of type-I personality traits "The

Stress Inventory" was used high score on any particular type-I personality trait indicates that they have that type of personality trait.

Stigmatization

Stigma means negative label attach with some thing. In the present research stigma is considered as a label given to the hepatitis C patients and how they perceive it. Stigmatization has negative consequences for hepatitis C patients, which include reduced self-esteem, diminished mental health, less access to medical care and fear of losing a positive status in society. To those who have viral hepatitis, it can mean discrimination, emotional exile and feelings of shame. The perception of dimension of stigma is different among different patients those who score high on financial insecurity they perceive more stigma in that dimension so in what ever dimension patient score high it means that they have high stigma perception in that dimension.

Research Design

The study was conducted in three parts. Part I was consisted of translation of the Social Impact Scale and The Stress Inventory, Part II deals with the pilot study and Part III is a main study.

Part I

This part of the study deal with the translation and determination of psychometric properties of "The Stress Inventory" and "Social Impact Scale". This part of the study was divided into two phases. Phase I consisted of the steps which involve the translation procedure of the scale and inventory whereas Phase II deal with the determination of psychometric properties of the measures.

Phase I

Phase I of this study was carried out to translate the "The Stress Inventory" and "Social Impact Scale". Phase I consisted of the following steps.

Step1. Translation of the English version of "The Stress Inventory" and "Social Impact Scale" in to Urdu.

Step2. Selection of Urdu translated items by judges in committee approach

Step3. Back translation of the Social Impact scale and The Stress Inventory.

Step4. Committee approach of back translation and Finalization of Urdu translated items of inventory and scale.

Phase II

The objective of this part was to check the psychometric properties of "Social Impact Scale" and "The Stress Inventory". So this phase of the study deals with the establishment of psychometric properties of these two measures.

Part II (Pilot Study)

The Part II of the study was consisted of pilot study. The purpose of the pilot study was to find out the level of psychosocial stress and stigma among hepatitis C patients. Another objective of this part of the study was to identify the Type-I personality traits among Hepatitis C patients. Another objective of the study was to find out the relationship between psychosocial stress and stigmatization among hepatitis C patients.

Part III (Main Study)

Part III of the study was consisted of main study. The purpose of the study was to identify the level of psychosocial stress and stigmatization among Hepatitis C patients. And the relationship between psychosocial stress and stigma among hepatitis C patients. Furthermore, relationship between these variables with demographic variables. For the main study data was collected from the 200 Hepatitis C patients from the Gastroenterology department of Pakistan Institute of Medical Sciences Islamabad G- 8\3 Islamabad. Two instruments were used "The Stress Inventory" and "Social Impact Scale".

Chapter- III

TRANSLATION AND DETERMINATION OF PSYCHOMETRIC PROPERTIES

This part of the study consisted of two parts.

Part I

Part I of the study deals with the translation and determination of psychometric properties of the Scale and Inventory. It is further divided into two phases. Phase I deal with the translation and Phase II deals with the determination of psychometric properties.

Instruments

The Stress Inventory

In order to measure the psychosocial stress and Type-I personality traits "The Stress Inventory" was used, which was originally developed by Nagano and Sudo (2001) and translated by Nagano in 2007 (see Appendix D). For the present research inventory was translated in to Urdu by researcher. It is a self-report questionnaire that was developed to assess disease prone personality type and chronic psychosocial stress. This inventory refers to the Grossarth Maticek theory of disease prone personality. The Cronbach's alpha reliability of the subscales of "The Stress Inventory" ranges from .60 to .90 (Nagano et al., 2001). The Stress Inventory consists of 12 scales and 45 items in it, these items are assemble into five groups based on their developmental process as used in research conducted by Nagano et al., (2004). Five groups are:

Group 1 which includes scale (1) low sense of control: decreased sense of control over stressful situations, leading to hardship, despair, or anger. It includes item no. 7, 18, 29 and 39.

Group 2 which include scales (2) object dependence of loss: having an important person in one's life who causes persistence hopelessness and depression. It includes item no. 8, 19, 30 and 40. (3) Object dependence of happiness: having highly valued person in one's life on whom one's happiness is greatly dependence. It includes item no. 15 and 37. (4) Object dependence of anger: having persecuting person who causes chronic irritation and anger. It includes item no. 9, 20, 31 and 43. (5) Annoying barriers: having persecuting situation that causes chronic irritation and anger. It includes item no. 3 and 26. And (6) Object dependence of ambivalence: repeatedly experiencing highly ambivalent interpersonal relationships. It includes item no. 4, 14, 25 and 36.

Group 3, which include scales (7) disclosure of negative experiences: a tendency to disclose one's experiences regarding negative feelings toward others. It includes item no. 2, 16, 24 and 38. And (8) unfulfilled need for acceptance: chronically having an unfulfilled need for acceptance by others. It includes item no 12, 17, 28 and 41.

Group 4, which include scales (9) Altruism: an altruistic tendency, accomplished by stress, in interpersonal and social relationships. It includes item no. 10, 22, 33 and 44. (10) Egoism: a self defensive, self- interest oriented attitude in interpersonal and social relationship. It includes item no. 1, 11, and 35. And (11) rationalizing conflicts and frustrations: an extreme tendency to rationalize one's interpersonal situations, accompanied by conflicts or frustrations. It includes item no. 5, 13, 27, 34 and 45.

Group 5, which include scale (12) lack of emotional experiences: lack of experience with strong emotions, such as grief, rage, or delight. It includes item no. 6, 21, 32 and 42.

Among these scales the disease prone personality scales are (1) low sense of control, (2) object dependence of loss, (3) Object dependence of happiness, (4) Object dependence of anger, (5) Annoying barriers (6) Unfulfilled need for acceptance, (7) Altruism and (8) rationalizing conflicts and frustrations. The high scores on these scales are also regarded as indication of chronic stress.

The non- disease prone personality traits measuring scales are (1) Object dependence of ambivalence and (2) Egoism. The remaining two scales are neutral to any chronic illness i.e. (1) disclosure of negative experiences and (2) lack of motional experiences.

There are six response options for each item and participants have to select one which they thought was suitable for them. These response options were: always (1), almost always (2), sometimes (3), often (4), very rarely (5) and never (6). If patients score high on disease prone personality traits then they can develop the chronic diseases like chronic heart disease or cancer and if they score high on non disease prone personality traits then they can not develop chronic diseases.

Social Impact Scale

Stigma was assessed by using the Social Impact Scale by Fife (1995) (see Appendix E).This measure is used in many researches for the assessment of perception of stigma among different patients. This measure has 24 items, and assesses experience of stigma. In the Social Impact Scale there are two main\ broad categories. 1. Experience of rejection and stigma (12 items). 2. Social psychological feelings regarding stigma (12 items). 1. Experience of rejection and stigma has further two sub dimensions or sub categories, which are social rejection (e.g. ‘‘some family members have rejected me because of my illness ’’) and financial stigma (e.g.’ My job security has been affected by my illness ’’) (Fife & Wright, 2000). 2. Social psychological feelings regarding stigma (12 items) and it have two sub dimensions or sub categories they are internalized shame (e.g. ‘‘I feel I need to keep my illness a secret ’’), and social isolation (e.g. “I feel set apart from others who are well ’’) (Fife & Wright, 2000).

There are four possible responses for each item: strongly agree (4), agree (3), disagree (2) and strongly disagree (1). Lower the scores less is the feeling of being stigmatized and the higher the score the greater the individual feels stigmatized.

The reliability and validity of the scale was examined on a sample of 422 persons with a variety of types of cancer at specified points in the illness trajectory.

The scale was found to have item-total correlations ranging from 0.50 to 0.73, all significant at $P < 0.01$, and a Cronbach's alpha of 0.81 (Fife, 1995). It has been used in many researches and its Cronbach's alpha was .70 (Fife & Wright, 2000) and it was .94 (Golden et al., 2006).

Phase I

Phase I deals with the translation of the "The Stress Inventory" and "Social Impact Scale" in to Urdu. "Social Impact Scale" consists of 24 items developed by Fife (1995) (as cited in Fife &Wright, 2000). "The Stress Inventory" which consists of 12 scales and is comprise of 45 items, originally developed by Nagano and Sudo (2001) and translated in to English by Nagano in 2007. The following steps were involved in the process of translation.

Step I

For the translation of the "Social Impact Scale" and scales the 7 bilinguals (M.Phil and PhD students from NIP (National Institute of Psychology), QAU) were selected, they have a profound knowledge of both languages (Urdu and English). They were approached individually.

For the translation bilinguals were approached and were requested to translate the inventory and scale in to Urdu language. The main purpose of this translation was to convey the exact meaning of original scale and inventory items. The scale and inventory were translated so that patients understand and respond easily.

Step II

In Step II Committee approach was done for selection of translated items. Through the committee approach, which consist of 5 experts (they are bilinguals and have profound knowledge and understanding of Urdu and English language) have selected the most accurately translated items and help in selecting the items that carry the exact meaning as the item in the actual scale in English. They have evaluated each and every item with reference to the context, meaning, grammar and wording and then selected them.

Step III

Step III deals with the back translation of the Social Impact scale and The Stress Inventory. Berkanovic (as cited in Batool, 2003) has shown that instrument translated through double procedures show high reliabilities than those are translated from source language only. In the present study for the back translation of the scale and the inventory the 5 bilinguals were selected. All of them have profound knowledge of both languages (Urdu and English). They have translated the Urdu version of scale and inventory in to English.

Step IV

Through Committee approach the back translation was assessed and then the items were compared and checked that whether they are conveying the same meaning what the original items have. Each and every item was assessed grammatically, meaning wise and language wise all in all these items are assessed from every aspect. Then the items of scale and inventory were finalized.

Phase II

In the Phase I of the Part I of the present study "Social Impact Scale" and "The Stress Inventory" was translated in this phase (Phase II) the reliability and validity of the scale and the inventory was determined by administration of The Stress Inventory and Social Impact Scale on 90 hepatitis C patients.

Sample

Sample was consisted of 90 Hepatitis C patients (45 male and 45 female patients), they were taken from the OPD of Gastroenterology department of Pakistan Institute of Medical Sciences (PIMS) Islamabad. Among these 90 patients 45 were those who have not yet started receiving interferon therapy and 45 those who have received interferon therapy. They were all married and their age ranges from 30 to 40 years (M = 38.68, SD = 8.18), 40 of them were employed and 50 were unemployed. They were all diagnosed Hepatitis C patients and were not suffering from any other disease. They were also able to understand Urdu.

Instruments

Urdu Translated versions of the following instruments were used.

1. The Stress Inventory
2. Social Impact Scale

Procedure

For the assessment of psychosocial stress and type –1 personality The Stress Inventory by Nagano which was translated in to Urdu by researcher (see Appendix H) was used and for the assessment of stigmatization Social Impact Scale by Fife translated in to Urdu by researcher (see Appendix I) was used. 90 Hepatitis C patients (both male and female patients) were taken from the Gastroenterology OPD of Pakistan Institute of Medical Sciences Islamabad (PIMS). Patients were approached with the permission of the authorities of the hospital and with the inform consent of the patients (see Appendix F). Patients who agreed to participate in study and have fulfilled the required criteria were selected. The proper demographic sheet was attached at the top of the questionnaires includes the variables like age, gender, number of children, occupation, marital status, duration of illness and area of residence (see Appendix G).

Results

The reliability and validity of Social Impact Scale and The Stress Inventory was determined through following statistical analysis.

1. Cronbach's Alpha Coefficient
2. Inter scale correlation
3. Item total correlation of subscales
4. Item total correlation

The Stress Inventory

For the determination of reliability and validity of The Stress Inventory following statistical analysis was carried out.

Cronbach's Alpha Coefficient

Initial psychometric analysis, using Cronbach Alpha Coefficient yielded an internal consistency coefficient for subscales ranges from .56 to .81.

Table 1

Alpha reliability Coefficient of subscales of The Stress Inventory (N = 90).

S.No	Scales	No. of items	α
1	Low sense of control	4	.81
2	Object dependence / loss	4	.61
3	Object dependence / happiness	2	.68
4	Object dependence / anger	4	.63
5	Annoying barrier	2	.64
6	Object dependence / ambivalence	4	.61
7	Disclosure of negative experiences.	4	.80
8	Unfulfilled needs for acceptance	4	.72
9	Altruism	4	.62
10	Egoism	4	.56
11	Rationalizing conflicts / frustrations	5	.72
12	Lack of emotional experiences	4	.63

Table 1 show that all the subscales are internally consistent measures. For the subscales the alpha reliability ranges from .56 to .81. For all the subscales there is a significant reliability. The subscale Low sense of control the highest reliability (.81).

Item Total Correlation for Subscales

To determine the internal consistency of the scales of inventory, item total correlation for subscales was determined.

Table 2

Item total correlation for "Low sense of control" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	7	.86**
2	18	.79**
3	29	.82**
4	39	.71**

**$p < .01$

Table 2 demonstrates that all the items of scale "Low sense of control" are positively correlated with the total score of the Low sense of control (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 3

Item total correlation for "object dependence/loss" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	8	.64**
2	19	.59**
3	30	.72**
4	40	.76**

**$p < .01$

Table 3 demonstrates that all the items of scale "object dependence/loss" are positively correlated with the total score of the object dependence/loss (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 4

Item total correlation for "object dependence/happiness" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	15	.88**
2	37	.86**

**$p < .01$

Table 4 demonstrates that all the items of scale "object dependence/happiness" are positively correlated with the total score of the object dependence/happiness (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 5

Item total correlation for "object dependence/anger" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	9	.75**
2	20	.73**
3	31	.67**
4	43	.61**

**$p < .01$

Table 5 demonstrates that all the items of scale "object dependence/anger" are positively correlated with the total score of the object dependence/anger (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 6

Item total correlation for "annoying barrier" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	3	.87**
2	26	.85**

**$p < .01$

Table 6 demonstrates that all the items of scale "annoying barrier" are positively correlated with the total score of the annoying barrier (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 7

Item total correlation for "object dependence/ambivalence" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	4	.74**
2	14	.72**
3	25	.70**
4	36	.54**

**$p < .01$

Table 7 demonstrates that all the items of scale "object dependence/ambivalence" are positively correlated with the total score of the object dependence/ambivalence (p<.01) which indicates that all item are internally correlated with the total score of this scale.

Table 8

Item total correlation for "disclosure of negative experiences" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	2	.78**
2	16	.77**
3	24	.79**
4	38	.79**

**$p < .01$

Table 8 demonstrates that all the items of scale "disclosure of negative experiences" are positively correlated with the total score of the disclosure of negative experiences (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 9

Item total correlation for "unfulfilled needs for acceptance" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	12	.77**
2	17	.72**
3	28	.66**
4	41	.79**

**$p < .01$

Table 9 demonstrates that all the items of scale "unfulfilled needs for acceptance" are positively correlated with the total score of the unfulfilled needs for acceptance (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 10

Item total correlation for "Altruism" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	10	.49**
2	22	.55**
3	33	.66**
4	44	.63**

**$p < .01$

Table 10 demonstrates that all the items of scale "altruism" are positively correlated with the total score of the altruism (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 11

Item total correlation for "Egoism" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	1	.63**
2	11	.69**
3	23	.70**
4	35	.62**

**$p < .01$

Table 11 demonstrates that all the items of scale "egoism" are positively correlated with the total score of the egoism (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 12

Item total correlation for "rationalizing conflicts/frustrations" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	5	.71**
2	13	.68**
3	27	.70**
4	34	.70**
5	45	.62**

**$p < .01$

Table 12 demonstrates that all the items of scale "rationalizing conflicts/ frustrations" are positively correlated with the total score of the rationalizing conflicts/ frustrations (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 13

Item total correlation for "lack of emotional experiences" subscale of The Stress Inventory (N = 90).

S.No	Item No.	r
1	6	.61**
2	21	.71**
3	32	.59**
4	42	.74**

**$p < .01$

Table 13 demonstrates that all the items of scale "Lack of emotional experiences" are positively correlated with the total score of the lack of emotional experiences (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Inter Scale correlation

The internal consistency of the inventory was further determined by inter-correlations of the subscales of "The Stress Inventory".

Table 14 results indicate that low to moderate correlations exists between the subscales score. Disease prone personality traits are significantly positively correlated with each another.

Social Impact Scale

For the determination of reliability and validity of Social Impact Scale following statistical analysis were carried out.

Cronbach's Alpha Coefficient

Initial psychometric analysis, using Cronbach Alpha Coefficient yielded an internal consistency coefficient of .94 for the entire 24 items. For the subscales it ranges from .67 to .89.

Table 15

Alpha reliability Coefficient of total and subscales of Social Impact Scale (N = 90).

S.No	Subscales	No. of items	α
1	Social Rejection	9	.89
2	Financial Insecurity	3	.67
3	Internalized Shame	5	.81
4	Social Isolation	7	.83
	Total	24	.94

Table 15 shows that all the subscales are internally consistent. The alpha coefficient of the entire scale is .94. For the subscales the alpha reliability ranges from .67 to .89. For all the subscales there is a significant reliability. The subscale Social Rejection has the highest reliability (.89).

Item Total Correlation

To determine the internal consistency of the scale, item total correlation was calculated. Item total correlation was calculated because it is directly related with the reliability.

Table 16

Item total correlation of Social Impact Scale (N = 90).

Item. No	r	Item. No	r
1	.36**	13	.75**
2	.33**	14	.67**
3	.40**	15	.78**
4	.63**	16	.60**
5	.49**	17	.70**
6	.67**	18	.77**
7	.50**	19	.55**
8	.70**	20	.63**
9	.78**	21	.72**
10	.79**	22	.63**
11	.56**	23	.67**
12	.67**	24	.58**

**$p < .01$

Table 16 shows that all the items are significantly positively correlated with the total score of the scale, which indicates that this scale is internally consistent ($p<.01$).

Item Total Correlation for Subscales

To determine the internal consistency of the scales, item total correlation for subscales was determined.

Table 17

Item total correlation for social rejection subscale of Social Impact Scale (N= 90).

S.No	Item. No	r
1	3	.43**
2	6	.56**
3	7	.72**
4	9	.78**
5	10	.86**
6	11	.83**
7	17	.77**
8	23	.71**
9	24	.62**

**$p < .01$

Table 17 shows that there is a positive relationship between all the items of social rejection scale with its total score (p<.01).

Table 18

Item total correlation for financial insecurity subscale of Social Impact Scale (N= 90).

S.No	Item. No	r
1	1	.71**
2	2	.67**
3	4	.62**

**$p < .01$

Table 18 shows that there is a positive relationship between all the items of financial insecurity scale with its total score (p<.01).

Table 19

Item total correlation for internalized shame subscale of Social Impact Scale (N= 90).

S.No	Item. No	r
1	12	.64**
2	14	.73**
3	15	.86**
4	16	.85**
5	21	.69**

**$p < .01$

Table 19 shows that there is a positive relationship between all the items of internalized shame scale with its total score (p<.01).

Table 20

Item total correlation for social isolation subscale of Social Impact Scale (N= 90).

S.No	Item. No	r
1	8	.52**
2	18	.57**
3	19	.74**
4	20	.84**
5	22	.75**
6	27	.79**
7	29	.69**

**$p < .01$

Table 20 shows that there is a positive relationship between all the items of social isolation scale with its total score (p<.01).

Inter Scale Correlation

The internal consistency of the inventory was further determined by inter-correlations of the subscales as well as with that of the total score of "Social Impact Scale".

Table 21

Inter scale correlation of "The Social Impact Scale" (N= 90)

Sub scales of Social impact scale	*Social Rejection*	*Financial Insecurity*	*Internalized Shame*	*Social Isolation*
Social Rejection	-	.53**	.75**	.80**
Financial Insecurity	-	-	.36**	.56**
Internalized Shame	-	-	-	.68**
Social Isolation	-	-	-	-
Total	.95**	.62**	.85**	.91**

**$p < .01$

Table 21 presents the correlation among the subscales and total score of Social Impact Scale. The results indicate that there is a positive significant relationship exists between and among the subscales score ($p<.01$). Subscales are also significantly positively correlated with the total score of the scale.

Discussion

The Part-I of the study was divided into two phases, Phase I deals with the translation of the "Social Impact Scale" developed by Fife (1995) and "The Stress Inventory" (which was originally developed by Nagano and Sudo (2001) and translated in to English by Nagano in 2007) translated in to Urdu. The measures used in the present research are reliable as they have been used in different researches and gave a fruitful insight to the phenomena, which was explored. Urdu is national language in Pakistan and Pakistani people feel very easy in communicating in this language. So these measures were translated into Urdu. Phase I was carried out in four steps, which involves the translation and then Phase II determination of the psychometric properties of measures. The translation procedure involves steps like translation of scale and inventory into Urdu by experts, committee approach for the selection of an appropriate translation by team of experts, back translation of the scale and inventory and then the committee approach in order to get an experts opinion regarding the translated scales and inventory. In the Phase II the psychometric properties of the scale and inventory was determined. In order to check the reliability and validity of the scale and inventory inter item correlation, alpha coefficient and item total correlation of subscales of Social Impact Scale and The Stress Inventory was computed.

In the present research is The Stress Inventory was used to measure the psychosocial stress and type -1 personality traits among hepatitis C patients. The Cronbach's alpha of the subscales ranges from .56 to .81. In previous researches Cronbach's alpha of the scales of The Stress Inventory ranged from .60 to .90 (Nagano et.al, 2001) and 0.69 to 0.73 (Nagano et al., 2004). Internal consistency of the stress inventory was further explored through item total correlation of its subscales, which indicate that all the items are significantly correlated with each other and with the total score.

The Social Impact Scale is used in order to measure the level of stigma, which has been perceived by hepatitis C patient in different areas of their lives. In present research the Cronbach's alpha of the whole scale is .94, which is statistically an excellent reliability (George & Mallery, 2006). This scale is also used in various

researches and Cronbach's alpha was 0.81 (Fife, 1995), where as it was .70 when Social Impact Scale was administered on Cancer and HIV positive patients (Fife & Wright, 2000), it was .94 when Social Impact Scale was administered on Hepatitis C patients (Golden et al., 2006) and it was 0.99 when it was administered on individuals diagnosed with major depression, schizophrenia, or HIV/AIDS. (Pan, Chung, Fife & Hsiung, 2007). This scale has 4 sub scales which measures different dimensions of stigma i.e. social isolation, internalized shame, financial insecurity and social rejection, the Cronbach alpha coefficients for these scales ranged from .85 to .90 (Fife & Wright, 2000). In the present research the alpha reliability of these sub scales range from .67 to .89 which is statistically significant. To determine the internal consistency of the scale the item total correlation was determined which indicates that all the items are significantly correlated with the total score of the scale. Results of the item total correlation of the subscales of Social Impact Scale also revealed that all the items are significantly positively correlated with the total score of the respective subscale. So both the measures have sound psychometric properties.

Chapter- IV

PILOT STUDY

The part II of the present study was pilot study.

Objectives

The specific objectives of pilot study were:

1. To find out the level of psychosocial stress and stigma among hepatitis C patients.
2. To identify the type-1 personality traits among hepatitis C patients.
3. To find out the relationship between the psychosocial stress and stigmatization among hepatitis C patients.
4. To find out the relationship between severity of disease and four type-1 personality traits i.e. low sense of control, object dependence loss, unfulfilled needs for acceptance and altruism) among hepatitis C patients.
5. To find out the difference between the stigma among male and female Hepatitis C patients.
6. To find out the difference between the level of psychosocial stress, type-1 personality traits and stigmatization among Hepatitis C patients, those who have received interferon and those who have not yet received it.

Sample

Sample was taken from the OPD of Gastroenterology department of Pakistan Institute of Medical Sciences (PIMS) Islamabad. The sample was consisted of 30 Hepatitis C patients (15 male and 15 female patients). Among these 30 patients 15 were those who have not yet started receiving interferon therapy and 15 were those who have received interferon therapy. They were all married and their age ranges from 30 to 40 years (M = 38.3, SD = 6.69), 11 of these patients belong to joint family system and 19 were from nuclear family system. 10 of them were employed and 20 were unemployed. They were all diagnosed Hepatitis C patients and were not suffering from any other disease. They were also able to understand Urdu.

Instruments

For the assessment of psychosocial stress and type-1 personality traits, the Urdu version of The Stress Inventory was used (see Appendix H). For the assessment of stigma Urdu version of Social Impact Scale was used (see Appendix I).

Procedure

In the present study 30 Hepatitis C patients (both male and female patients) were taken from the Gastroenterology OPD of Pakistan Institute of Medical Sciences Islamabad (PIMS). The patients were approached with the permission of the authorities of the hospital and with the inform consent of the patients. Those patients who agreed to participate in study and have fulfilled the required criteria were selected. The proper demographic sheet was attached at the top of the questionnaires. That demographic sheet (See Appendix G) includes the variables like age, gender, number of children, occupation, marital status, duration of illness, area of residence and the report of symptoms were assessed through the unstructured interview.

Results

The mean scores ware taken as indicative of the level of psychosocial stress and presence of type-I personality trait. Mean scores on each subscale indicate the level of stigma in a specific dimension.

Table 22

Mean and Standard deviations of the subscales of "The Stress Inventory" (N= 30).

S.No		Total sample (*N*=30)		Not yet received interferon (*n* = 15)		Have received interferon (*n* = 15)	
		M	*SD*	*M*	*SD*	*M*	*SD*
	Type-I personality Scales						
1	Low sense of control	14.83	3.98	14.87	4.17	14.80	3.93
2	Object dependence / loss	15.90	4.34	15.93	5.06	15.87	3.66
3	Unfulfilled needs for acceptance	14.83	3.62	15.00	3.80	14.67	3.56
4	Altruism	15.30	4.28	14.87	3.87	15.73	4.47
	Other stress scales						
5	Object dependence / happiness	9.43	2.45	9.93	2.37	8.93	2.49
6	Object dependence / anger	17.03	4.14	17.73	4.10	16.33	4.20
7	Annoying barrier	8.27	2.72	8.13	2.83	8.40	2.69
8	Object dependence / ambivalence	18.20	3.40	17.73	3.37	18.67	3.48
9	Disclosure of negative experiences.	15.90	4.86	16.47	4.98	15.33	4.83
10	Egoism	18.93	2.95	18.60	3.70	19.27	2.02
11	Rationalizing conflicts / frustrations	17.53	4.81	18.93	5.66	16.13	3.42
12	Lack of emotional experiences	12.13	3.05	13.00	2.98	11.27	2.96

To find out the level of psychosocial stress and type-I personality traits Mean and Standard Deviations were calculated. Table 22 among the type-I personality traits patients score very high on object dependence loss and than on Altruism. Among Hepatitis C patients (N = 30) on Egoism patients score very high (M = 18.93, SD = 2.95), where as those who have not yet received interferon patients score high on Rationalizing conflicts / frustrations (M = 18.93, SD = 5.66) and those hepatitis C patients those who have received interferon scored high on Egoism (M = 19.27, SD =

2.02). Egoism is a non disease prone personality trait where as rationalizing conflicts / frustration is a disease prone personality trait. They score very low annoying barrier.

Table 23

Mean and Standard deviations of the subscales of "Social Impact Scale" (N= 30).

	Total sample (N = 30)		Not yet received interferon (n = 15)		Have received interferon (n = 15)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Social Rejection	27.85	5.42	29.02	3.10	26.68	6.47
Financial Insecurity	6.60	2.47	6.93	2.43	6.27	2.55
Internalized Shame	16.60	3.68	17.73	2.58	15.47	4.32
Social Isolation	16.33	4.96	17.67	4.91	15.00	4.80

Results in the table 23 indicate that mean scores for Social Rejection (M = 27.85, SD = 5.42) highest among all other dimensions of stigma. Then there is Internalized shame (M = 16.60, SD = 3.68), then social isolation (M = 16.33, SD = 4.96) and lowest scores are on the subscale of financial insecurity (M = 6.60, SD = 2.47). if the mean scores of not received interferon and not received patients are considered separately then again both groups have high scores on social rejection (not yet received interferon M = 29.02, SD = 3.10, received interferon M = 26.68, SD = 6.47), then on internalized shame (not yet received interferon M = 17.73, SD =2.58, received interferon M = 15.47, SD = 4.32) and then on social isolation (not yet received interferon M = 17.67, SD = 4.91, received interferon M = 15.00, SD = 4.80), whereas both group have low scores on financial insecurity (not yet received interferon M = 6.93, SD = 2.43, received interferon M = 6.27, SD =2.55). Results also indicate that those Hepatitis C patients who have not yet received interferon perceive high level of stigma as compared to those who have received it.

Table 24

Correlation of subscales of The Stress Inventory and Social Impact Scale (N = 30).

S.No		Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
1	Low sense of control	-.04	.12	.31*	.19
2	Object dependence / loss	-.19	.04	.13	-.09
3	Object dependence / happiness	.17	.10	.30	.32*
4	Object dependence / anger	-.00	.05	.31*	-.08
5	Annoying barrier	.31	.63**	.26	.48**
6	Object dependence / ambivalence	.03	.26	.11	-.09
7	Disclosure of negative experiences.	-.41*	-.16	-.33*	-.49**
8	Unfulfilled needs for acceptance	.07	.14	.42**	.26
9	Altruism	.14	.48**	.45**	.37*
10	Egoism	-.35*	-.25	-.17	-.45**
11	Rationalizing conflicts / frustrations	.35*	.46**	.11	.27
12	Lack of emotional experiences	.09	-.03	.13	.24

*$p < .05$, **$p < .01$

Table 24 shows that social rejection is significantly negatively correlated with disclosure of negative experiences and egoism where as it are positively correlated with the rationalizing conflicts / frustrations. Financial insecurity is significantly positively correlated with the Altruism, annoying barrier and Rationalizing conflicts/ frustrations. Internalized shame is significantly positively correlated with the object

dependence/ anger, unfulfilled needs for acceptance and Altruism whereas it is negatively correlated with the disclosure of negative experiences. Social isolation is significantly positively correlated with the object dependence/ happiness, Annoying barrier and Altruism. Whereas social isolation is significantly negatively correlated with the Disclosure of negative experiences and Egoism.

Table 25

Relationship between severity of disease and Type-1 personality traits (N = 30).

	Traits	Severity
1.	Low sense of control	.01
2.	Object dependence / loss	.01
3.	Object dependence / happiness	.21
4.	Object dependence / anger	.17
5.	Annoying barrier	-.05
6.	Object dependence / ambivalence	-.14
7.	Disclosure of negative experiences.	.12
8.	Unfulfilled needs for acceptance	.05
9.	Altruism	-.10
10.	Egoism	-.12
11.	Rationalizing conflicts / frustrations	.29
12.	Lack of emotional experiences	.29

p = n.s

Table 25 indicates that there is no significant relationship between type-I personality traits and severity of disease. Severity of hepatitis C is related with level of ALT. Normal range of ALT (alanine aminotransferase) is 4 – 40mg/dl and if it increase and exceeds the limit of 100mg/dl then it means that disease is becoming more chronic. The relationship between some of the Type-1 personality traits is positive with the severity of the disease but that is not statistically significant as there is positive relationship between the low sense of control and severity of the disease but that relationship is not statistically significant. There is also a positive relationship

between the severity of disease with Object dependence /loss and Unfulfilled needs for acceptance but not statistically significant. Whereas there is a negative relationship between the Altruism and severity of disease which is also not statistically significant.

Table 26

Means and standard deviation and t-value of male and female hepatitis C patients for Social Impact Scale (N = 30).

Social Impact Scale	Male (n = 15)		Female (n = 15)		
	M	*SD*	*M*	*SD*	*t*
Social Rejection	28.33	5.73	27.37	5.25	.482
Financial Insecurity	6.87	2.36	6.33	2.64	.584
Internalized Shame	16.53	3.25	16.67	4.19	.097
Social Isolation	16.40	5.07	16.27	5.02	.072

df = 28, *p* = n.s

Table 26 indicates that there is no significant difference among the perception of dimensions of stigma among male and female hepatitis C patients.

Table 27

Means and standard deviation and t-value of hepatitis C patients those who have received interferon and those who have not yet received it, for Social Impact Scale (N = 30).

Social Impact Scale	Not yet received Interferon (n = 15)		Have received Interferon (n = 15)		
	M	*SD*	*M*	*SD*	*t*
Social Rejection	29.02	3.10	26.68	6.47	1.194
Financial Insecurity	6.93	2.43	6.27	2.55	.733
Internalized Shame	17.73	2.58	15.47	4.32	1.744
Social Isolation	17.67	4.91	15.00	4.80	1.505

df = 28, p = n.s

Table 27 indicates that there is no significant difference on perception of social rejection, financial insecurity, internalized shame and social isolation among those patients who have received interferon and those who have not yet received it.

Table 28

Means and standard deviation and t-value of hepatitis C patients those who have received interferon and those who have not yet received it, for The Stress Inventory (N = 30).

S.No	The Stress Inventory	Not yet received interferon (n = 15)		Have received interferon (n = 15)		
		M	*SD*	*M*	*SD*	*t*
1	Low sense of control	14.87	4.17	14.80	3.93	.045
2	Object dependence / loss	15.93	5.06	15.87	3.66	.041
3	Object dependence / happiness	9.93	2.37	8.93	2.49	1.125
4	Object dependence / anger	17.73	4.10	16.33	4.20	.924
5	Annoying barrier	8.13	2.83	8.40	2.69	.265
6	Object dependence / ambivalence	17.73	3.37	18.67	3.48	.747
7	Disclosure of negative experiences.	16.47	4.98	15.33	4.83	.632
8	Unfulfilled needs for acceptance	15.00	3.80	14.67	3.56	.248
9	Altruism	14.87	3.87	15.73	4.74	.548
10	Egoism	18.60	3.70	19.27	2.02	.613
11	Rationalizing conflicts / frustrations	18.93	5.66	16.13	3.42	1.639
12	Lack of emotional experiences	13.00	2.98	11.27	2.96	1.598

df = 28 , *p* = n .s

Results in table 28 indicate that statistically there is no significant difference among different type – I personality traits among two groups of hepatitis C patients.

Table 29

Correlation of subscales of Social Impact Scale (N = 30).

Sub scales of Social impact scale	Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
Social Rejection	-	.54**	.34*	.54**
Financial Insecurity	-	-	.37*	.64**
Internalized Shame	-	-	-	.49**
Social Isolation	-	-	-	-

*$p < .05$, **$p < .01$

Table 29 indicates that there is a strong positive relationship between different dimensions of stigma. There is statistically significant positive relationship of internalized shame with social rejection and financial insecurity ($p<.05$). Where as there is significant positive relationship of social isolation with social rejection, financial insecurity and internalized shame ($p<.01$). There is a positive relationship between financial insecurity and social rejection ($p<.01$).

Table 30

Correlation of subscales of Social Impact Scale of those patients who have not yet received interferon therapy (n = 15).

Sub scales of Social impact scale	Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
Social Rejection	-	.56*	.01	.36
Financial Insecurity	-	-	.41	.73**
Internalized Shame	-	-	-	.55*
Social Isolation	-	-	-	-

*$p < .05$, **$p < .01$

Table 30 shows that there is a positive significant relationship between financial insecurity and social rejection ($p<.05$) and there is also a positive relationship between social isolation and financial insecurity ($p<.01$). There is also a positive relationship between internalized shame and social isolation ($p<.05$) among those hepatitis C patients who are waiting to receive interferon therapy.

Table 31

Correlation of sub scales of Social Impact Scale among those patients who have received the Interferon Therapy (n = 15).

Sub scales of Social impact scale	Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
Social Rejection	-	.53*	.40	.64**
Financial Insecurity	-	-	.33	.54*
Internalized Shame	-	-	-	.40
Social Isolation	-	-	-	-

*$p < .05$, **$p < .01$

Table 31 shows that there is statistically positive relationship between social rejection and financial insecurity and social isolation ($p<.05$) so if the social rejection increases than financial insecurity and social isolation also increases. There is also a positive relationship between financial insecurity and social isolation.

Discussion

In the present research pilot study results reveal that patients score high on egoism and object dependence ambivalence which are non disease prone personality traits which indicate that they do not have a tendency to develop the chronic illness where as in the previous research (Nagano et al., 2004) hepatitis C patients scored high on low sense of control, object dependence of loss, unfulfilled needs for acceptance and altruism which were positively associated with the severity of the disease (Nagano et al., 2004). Patients perceive high level of social rejection, as compared to other dimensions of stigma. Then after social rejection they perceive internalized shame, then social isolation and then lastly they perceives financial insecurity. As our society is a collectivistic society in which values, traditions and

social life is considered more important then other things. So in the result same tradition is observed that patients feel more social rejection, internalized shame and social isolation as compared to financial insecurity. Financial security is important but in collectivistic society social aspects are more important then it.

There are research evidences that the high level of psychological stress among people living with HIV/AIDS reflected in feelings of stigmatization, isolation, loneliness, depression and despair so psychosocial stress is related with feelings of stigmatization, isolation, loneliness, depression and despair among chronically ill patients like AIDS patients (Kabbash et al., 2008). Stigma increases stress associated with illness (Yebei et al., 2008). In the results of pilot study, social rejection is significantly negatively correlated with disclosure of negative experiences and egoism where as it is positively correlated with the rationalizing conflicts / frustrations. Financial insecurity is significantly positively correlated with the Altruism, annoying barrier and Rationalizing conflicts/ frustrations. Internalized shame is significantly positively correlated with the object dependence/ anger, unfulfilled needs for acceptance and Altruism whereas it is negatively correlated with the disclosure of negative experiences. Social isolation is significantly positively correlated with the object dependence/ happiness, Annoying barrier and Altruism. Whereas social isolation is significantly negatively correlated with the Disclosure of negative experiences and Egoism. Few of the stress scales are positively associated with the level of stigma.

In the previous research Type –I personality traits low sense of control, object dependence of loss, unfulfilled needs for acceptance and altruism were positively associated with the severity of the disease (Nagano et al., 2004). In the pilot study of present research the relationship between some of the Type-1 personality traits is positive with the severity but that is not statistically significant as there is positive relationship between the low sense of control and severity of the disease but that relationship is not statistically significant. There is also a positive relationship between the severity of disease with Object dependence / loss and Unfulfilled needs for acceptance but not statistically significant. Whereas there is a negative relationship between the Altruism and severity of disease which is also not statistically significant.

Results reveal that there is no significant difference among the perception of level of stigma among male and female hepatitis C patients these findings are consistent with the findings of Golden et al., (2006).

Results indicate that statistically there is no significant difference among different personality traits among two groups of hepatitis C patients, those who have received interferon and those who have not yet received it. Results also indicate that the severity of disease is not related with the personality traits.

Results of the pilot study reveals that patients perceive more social rejection as compared to internalized shame, social isolation and financial insecurity. They scored high on egoism and object dependence ambivalence which are non disease prone personality traits so they do not have the tendency to develop chronic disease like Cancer or CHD. There is a statistically significant positive relationship between the psychosocial stress and stigma. There is also a positive relationship between severity of disease and type-I personality traits which is statistically not significant. There is no significant difference among the perception of level of stigma among male and female hepatitis C patients. Statistically, there is no significant difference among different personality traits among two groups of hepatitis C patients, those who have received interferon and those who have not yet received it.

Chapter- V

MAIN STUDY

The part III of the study comprised of main study.

Sample

Sample was taken from the OPD of Gastroenterology department of Pakistan Institute of Medical Sciences (PIMS) Islamabad. Sample comprised of 200 Hepatitis C patients (94 male and 106 female patients). Among these 200 patients 100 were those who have not yet started receiving interferon therapy and 100 were those who have received interferon therapy. They were all married and their age ranges from 25 to 60 years (M = 36.61, SD = 7.71), 99 of them were employed and 101 were unemployed. They were all diagnosed Hepatitis C patients and were not suffering from any other disease. They were also able to understand Urdu.

Instruments

For the assessment of psychosocial stress and type-1 personality traits, Urdu translated version of The Stress Inventory was used. For the assessment of stigma Urdu translated version of "Social Impact Scale' was used.

Procedure

In the present study 200 Hepatitis C patients (male and female patients) were taken from the Gastroenterology OPD of Pakistan Institute of Medical Sciences Islamabad (PIMS). Patients were approached with the permission of the authorities of the hospital and with the inform consent of the patients. Those patients who agreed to participate in study and have fulfilled the required criteria, participated in the study. The proper demographic sheet was made and attached at the top of the questionnaires. That demographic sheet includes the variables like age, gender, number of children, occupation, marital status duration of illness, stage of disease and area of residence (See Apendix G).

Results

Present study comprised of three parts. Part I deals with the translation, establishment of psychometric properties and pilot study. Part II deal with the pilot study and Part III comprised of the main study. This part of the study deals with the main objectives of the study. This study was carried out with 200 Hepatitis C patients. The psychometric properties of the scale and inventory, which were used in main study were determined in pilot study, to strengthen the results reliability was again computed for the main study sample.

The reliability of the scale and inventory was determined through following statistical analysis.

1. Cronbach Alpha Coefficient
2. Item total correlation
3. Item total correlation for subscale
4. Inter scale correlation

The Stress Inventory

For the determination of reliability and validity of "The Stress Inventory", following statistical analysis were carried out.

Cronbach's Alpha Coefficient

Internal psychometric analysis, using Cronbach Alpha Coefficient yielded an internal consistency coefficient for the subscales ranges from .61 to .86.

Table 32

Alpha reliability Coefficient of subscales of The Stress Inventory (N = 200).

S.No	Scales	No. of items	α
1	Low sense of control	4	.76
2	Object dependence / loss	4	.61
3	Object dependence / happiness	2	.69
4	Object dependence / anger	4	.61
5	Annoying barrier	2	.62
6	Object dependence / ambivalence	4	.75
7	Disclosure of negative experiences.	4	.86
8	Unfulfilled needs for acceptance	4	.68
9	Altruism	4	.63
10	Egoism	4	.61
11	Rationalizing conflicts / frustrations	5	.78
12	Lack of emotional experiences	4	.63

Table 32 shows that all the subscales are internally consistent. For the subscales the alpha reliability ranges from .61 to .86.

Item Total Correlation for Subscales of The Stress Inventory

In order to check the internal consistency of the inventory, item total correlation for subscale was determined.

Table 33

Item total correlation for "Low sense of control" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	7	.83**
2	18	.75**
3	29	.76**
4	39	.71**

**$p < .01$

Result in Table 33 shows that all the items of scale "Low sense of control" are positively correlated with the total score of the Low sense of control (p<.01) which indicates that all the item are internally correlated with the total score of this subscale.

Table 34

Item total correlation for "object dependence/loss" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	8	.66**
2	19	.69**
3	30	.65**
4	40	.73**

**$p < .01$

Result in Table 34 shows that all the items of scale "object dependence/loss" are positively correlated with the total score of the object dependence/loss (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 35

Item total correlation for "object dependence/happiness" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	15	.87**
2	37	.87**

**$p < .01$

Result in Table 35 shows that all the items of scale "object dependence/happiness" are positively correlated with the total score of the object dependence/happiness ($p<.01$) which indicates that all the item are internally correlated with the total score of this subscale.

Table 36

Item total correlation for "object dependence/anger" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	9	.67**
2	20	.72**
3	31	.66**
4	43	.66**

**$p < .01$

Result in Table 36 shows that all the items of scale "object dependence/anger" are positively correlated with the total score of the object dependence/anger ($p<.01$) which indicates that all the item are internally correlated with the total score of this subscale.

Table 37

Item total correlation for "annoying barrier" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	3	.85**
2	26	.85**

**$p < .01$

Result in Table 37 shows that all the items of scale "annoying barrier" are positively correlated with the total score of the annoying barrier (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 38

Item total correlation for "object dependence/ambivalence" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	4	.76**
2	14	.78**
3	25	.78**
4	36	.70**

**$p < .01$

Result in Table 38 shows that all the items of scale "object dependence/ambivalence" are positively correlated with the total score of the object dependence/ambivalence (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 39

Item total correlation for "disclosure of negative experiences" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	2	.83**
2	16	.81**
3	24	.88**
4	38	.83**

**$p < .01$

Result in Table 39 shows that all the items of scale "disclosure of negative experiences" are positively correlated with the total score of the disclosure of negative experiences (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 40

Item total correlation for "unfulfilled needs for acceptance" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	12	.75**
2	17	.69**
3	28	.65**
4	41	.75**

**$p < .01$

Result in Table 40 shows that all the items of scale "unfulfilled needs for acceptance" are positively correlated with the total score of the unfulfilled needs for acceptance (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 41

Item total correlation for "Altruism" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	10	.67**
2	22	.62**
3	33	.75**
4	44	.71**

**$p < .01$

Result in Table 41 shows that all the items of scale "altruism" are positively correlated with the total score of the altruism (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 42

Item total correlation for "Egoism" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	1	.55**
2	11	.71**
3	23	.76**
4	35	.67**

**p<.01

Result in Table 42 shows that all the items of scale "egoism" are positively correlated with the total score of the egoism (p<.01)which indicates that all the item are internally correlated with the total score of this scale.

Table 43

Item total correlation for "rationalizing conflicts/frustrations" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	5	.75**
2	13	.74**
3	27	.59**
4	34	.74**
5	45	.73**

**$p < .01$

Result in Table 43 shows that all the items of scale "rationalizing conflicts/ frustrations" are positively correlated with the total score of the rationalizing conflicts/ frustrations (p<.01) which indicates that all the item are internally correlated with the total score of this scale.

Table 44

Item total correlation for "lack of emotional experiences" subscale of The Stress Inventory (N = 200).

S.No	Item. No	r
1	6	.70**
2	21	.73**
3	32	.63**
4	42	.70**

**$p < .01$

Result in Table 44 shows that all the items of scale "Lack of emotional experiences" are positively correlated with the total score of the lack of emotional experiences (p<.01) which indicates that all the item are internally correlated with the total score of this subscale.

Inter Scale correlation

The internal consistency of the inventory was further determined by inter-correlations of the subscales of "The Stress Inventory".

Table 45 results indicate that low to moderate correlations exists between the subscales score. Disease prone personality traits are significantly positively correlated with each another.

Social Impact Scale

For the determination of reliability and validity of "Social Impact Scale", following statistical analysis was carried out.

Cronbach's Alpha Coefficient

Initial psychometric analysis, using Cronbach Alpha Coefficient yielded an internal consistency coefficient of .93 for the entire 24 items. For the subscales it ranges from .75 to .90.

Table 46

Alpha reliability Coefficient of total and subscales of Social Impact Scale (N = 200).

S.No	Subscales	No. of items	α
1	Social Rejection	9	.90
2	Financial Insecurity	3	.75
3	Internalized Shame	5	.79
4	Social Isolation	7	.84
	Total	24	.93

Table 46 shows that all the subscales are internally consistent measures. The alpha coefficient of the entire scale is .93. For the subscales the alpha reliability ranges from .75 to .90.For all the subscales there is a significant reliability. The subscale Social Rejection has the highest reliability (.90).

Item Total Correlation

To determine the internal consistency of the scale, item total correlation was calculated. Item total correlation was calculated because it is directly related with the reliability.

Table 47

Item total correlation of Social Impact Scale (N = 200).

Item. No	r	Item. No	r
1	.36**	13	.69**
2	.40**	14	.54**
3	.44**	15	.65**
4	.59**	16	.61**
5	.51**	17	.61**
6	.67**	18	.72**
7	.44**	19	.49**
8	.65**	20	.50**
9	.71**	21	.72**
10	.69**	22	.65**
11	.61**	23	.59**
12	.62**	24	.49**

**$p < .01$

To determine the internal consistency of the scale item total correlation was determined. Table 47 shows that all the items are significantly correlated with the total score of the scale (p<.01).

Table 48

Item total correlation for social rejection subscale of Social Impact Scale (N= 200).

S.No	Item. No	r
1	3	.45**
2	6	.45**
3	7	.74**
4	9	.80**
5	10	.87**
6	11	.85**
7	17	.77**
8	23	.73**
9	24	.63**

**$p < .01$

Table 48 shows that there is a positive relationship between all the items of social rejection scale with its total score (p<.01).

Table 49

Item total correlation for financial insecurity subscale of Social Impact Scale (N= 200).

S.No	Item. No	r
1	1	.73**
2	2	.69**
3	4	.80**

**$p < .01$

Table 49 shows that there is a positive relationship between all the items of financial insecurity scale with its total score.

Table 50

Item total correlation for internalized shame subscale of Social Impact Scale (N= 200).

S.No	Item. No	r
1	12	.67**
2	14	.67**
3	15	.87**
4	16	.79**
5	21	.67**

**$p < .01$

Table 50 shows that there is a positive relationship between all the items of internalized shame scale with its total score.

Table 51

Item total correlation for social isolation subscale of Social Impact Scale (N= 200).

S.No	Item. No	r
1	8	.67**
2	18	.55**
3	19	.74**
4	20	.70**
5	22	.79**
6	27	.79**
7	29	.75**

**$p < .01$

Table 51 shows that there is a positive relationship between all the items of social isolation scale with its total score.

Inter Scale Correlation

The internal consistency of the inventory was further determined by inter-correlations of the subscales as well as with that of the total score of "Social Impact Scale".

Table 52

Inter scale correlation of "The Social Impact Scale" (N = 200).

Sub scales of Social impact scale	Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
Social Rejection	-	.40**	.75**	.52**
Financial Insecurity	-	-	.25**	.58**
Internalized Shame	-	-	-	.43**
Social Isolation	-	-	-	-
Total	.90**	.60**	.80**	.79**

**$p < .01$

Table 52 presents the correlation among the subscales and total score for the sample. The results indicate that there is a positive significant relationship exists between and among the subscales score ($p<.01$). Subscales are also significantly positively correlated with the total score of the scale.

Table 53

Mean and Standard Deviation of The Stress Inventory (N = 200).

The Stress Inventory	M	SD
Type –I related Scales.		
Low sense of control	13.91	4.65
Object dependence / loss	15.27	4.48
Unfulfilled needs for acceptance	14.14	4.20
Altruism	13.64	4.08
Other scales		
Object dependence / happiness	8.07	3.25
Object dependence / anger	15.99	4.25
Annoying barrier	7.32	2.89
Object dependence / ambivalence	13.84	4.84
Disclosure of negative experiences.	14.91	5.49
Egoism	12.49	5.05
Rationalizing conflicts / frustrations	13.21	4.45
Lack of emotional experiences	11.96	4.41

Table 53 demonstrates that among disease prone personality traits hepatitis C patients scored on "Object dependence / anger" (*M* = 15.99, *SD* = 4.25), "Object dependence / loss" (*M* = 15.27, *SD* = 4.48), "Disclosure of negative experiences" (*M* = 14.91, *SD* = 5.49) and then on other traits. Among these scales "Object dependence loss" (*M* = 15.27, *SD* = 4.48) is a type-I personality scale and patients have high scores on it as compared to other type – I personality traits.

Table 54

Mean and Standard Deviation of Social Impact Scale (N = 200).

Subscales of Social Impact Scale	*M*	*SD*
Social Rejection	24.16	8.04
Financial Insecurity	6.85	2.55
Internalized Shame	13.44	4.75
Social Isolation	16.63	6.18

Table 54 explains the level of stigma through mean and standard deviation values. As per according to the scoring criteria of Social Impact Scale higher the score on any specific scale indicates high level of stigma on that specific dimension. High scores on social rejection indicate that patients face high social rejection (M = 24.16, SD = 8.04) as compared to the other dimensions of stigma. Lowest scores on financial insecurity (M = 6.85, SD = 2.55) indicate that they face less financial insecurity as compared to the other dimensions of stigma.

Table 55

Relationship between subscales of The Stress Inventory and Social Impact Scale among patients (N = 200).

		Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
1	Low sense of control	.10	-.03	.13*	.07
2	Object dependence / loss	.10	-.06	.09	.00
3	Object dependence / happiness	.21**	.01	.17**	.02
4	Object dependence / anger	.19**	-.07	.21**	.16*
5	Annoying barrier	.16*	.06	.26**	.24**
6	Object dependence / ambivalence	.08	-.01	.09	-.01
7	Disclosure of negative experiences.	-.04	.08	-.06	.02
8	Unfulfilled needs for acceptance	.17**	.02	.22**	.12*
9	Altruism	.13*	.10	.14*	.16*
10	Egoism	.06	.07	-.00	.01
11	Rationalizing conflicts /frustrations	.00	.07	-.02	-.01
12	Lack of emotional experiences	.01	.07	.01	.12*

**$p < .01$, *$p < .05$

Table shows that there is asocial rejection is positively related with the "Object dependence/ happiness", "object dependence/ anger", "Annoying barrier", "Unfulfilled needs for acceptance" and "Altruism". Internalized shame is positively correlated with the "Low sense of control", "object dependence/ happiness", "object dependence/ anger", "Annoying barrier", "Unfulfilled needs for acceptance" and

"Altruism". Social isolation is positively correlated with the "object dependence/ anger", "Annoying barrier", "Unfulfilled needs for acceptance" and "Altruism".

Table 56

Relationship between Type-I personality traits and severity of the disease (N =200).

S.No	Traits	Severity
1.	Low sense of control	-.04
2.	Object dependence / loss	.13*
3.	Object dependence / happiness	.04
4.	Object dependence /anger	.06
5.	Annoying barrier	-.06
6.	Object dependence / ambivalence	.11
7.	Disclosure of negative experiences.	.15*
8.	Unfulfilled needs for acceptance	.06
9.	Altruism	-.05
10.	Egoism	.28**
11.	Rationalizing conflicts / frustrations	-.13*
12.	Lack of emotional experiences	.06

**$p < .01$, *$p < .05$

Table 56 indicates that there is a significant positive correlation of severity of disease with object dependence / loss ($p<.05$), disclosure of negative experiences ($p<.05$) and egoism ($p<.01$). It also indicates that there is a negative relationship between severity of disease and Rationalizing conflicts / frustrations ($p<.05$). Severity of hepatitis C is related with the level of ALT. Normal range of ALT (alanine aminotransferase) is 4 – 40mg/dl and if it increase and exceeds the limit of 100mg/dl then it means that disease is becoming more chronic or severe.

Table 57

Relationship between sub scales of Social Impact Scale (N = 200).

Sub scales of Social impact scale	Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
Social Rejection	-	.39**	.75**	.52**
Financial Insecurity	-	-	.25**	.58**
Internalized Shame	-	-	-	.43**
Social Isolation	-	-	-	-

**$p < .01$

Results of table 57 show that statistically there is a positive relationship between social rejection, financial insecurity, internalized shame and social isolation ($p<.01$). So if any one of them increases the other also increases.

Table 58

Relationship between sub scales of Social Impact Scale among those patients who have not yet started receiving Interferon Therapy (N = 100).

Sub scales of Social impact scale	Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
Social Rejection	-	.56**	.79**	.69**
Financial Insecurity	-	-	.40**	.50**
Internalized Shame	-	-	-	.66**
Social Isolation	-	-	-	-

**$p < .01$

Table 58 indicates that the results of those patients who have not yet received interferon therapy treatment also show that there perception of social stigma, financial insecurity, internalized shame and social isolation ($p<.01$) they are positively associated with one another.

Table 59

Relationship between sub scales of Social Impact Scale among those patients who have received the Interferon Therapy (N = 100).

Sub scales of Social impact scale	Social Rejection	Financial Insecurity	Internalized Shame	Social Isolation
Social Rejection	-	.30**	.70**	.43**
Financial Insecurity	-	-	.17*	.61**
Internalized Shame	-	-	-	.29**
Social Isolation	-	-	-	-

**$p < .01$

Table 59 indicates that those patients who have received interferon therapy treatment also show that there perception of social stigma, financial insecurity, internalized shame and social isolation they are positively associated with one another.

Table 60

Means and standard deviation and t-value of hepatitis C patients (those who have received interferon and those who have not yet received it) for The Stress Inventory (N = 200).

S.No	The Stress Inventory	Not yet received interferon (n = 100)		Have received interferon (n = 100)		
		M	*SD*	*M*	*SD*	*t*
1	Low sense of control	13.72	4.23	14.10	5.05	5.77
2	Object dependence / loss	15.86	4.58	14.68	4.33	1.873
3	Object dependence / happiness	8.19	3.34	7.95	3.18	.521
4	Object dependence / anger	16.24	4.26	15.73	4.25	.848
5	Annoying barrier	7.15	2.63	7.48	3.14	.807
6	Object dependence / ambivalence	14.39	4.60	13.29	5.03	1.613
7	Disclosure of negative experiences.	15.73	5.26	14.09	5.61	2.133*
8	Unfulfilled needs for acceptance	14.37	4.47	13.90	3.91	.791
9	Altruism	13.42	3.69	13.85	4.44	.745
10	Egoism	13.88	4.54	11.09	5.16	4.060***
11	Rationalizing conflicts / frustrations	12.63	4.11	13.79	4.70	1.857
12	Lack of emotional experiences	12.24	4.149	11.68	4.669	.897

df = 198, ***p < .001, *p < .05

Results in table 60 reveal that there is a significant difference on disclosure of negative experiences (t = 2.133, p < .05) and egoism (t = 4.060, p < .001) scale among hepatitis C patients.

Table 61

Means and standard deviation and t-value of hepatitis C patients (those who have received interferon and those who have not yet received it) for Social Impact Scale (N = 200).

Social Impact Scale	Not yet received Interferon (n = 100)		Have received Interferon (n =100)		
	M	*SD*	*M*	*SD*	*t*
Social Rejection	24.89	7.94	23.43	8.12	1.291
Financial Insecurity	6.26	2.33	7.43	2.65	3.300**
Internalized Shame	13.87	4.85	13.01	4.64	1.281
Social Isolation	15.49	5.57	17.76	6.57	2.635*

df = 198, **p < .01, *p < .05

Table 61 indicates that there is significant different on financial insecurity (t = 3.300, p <.01) and social isolation (t = 2.635, p <.05) among hepatitis C patients those who have received interferon and those who have not yet received it. Perception of financial insecurity is higher among those who have received interferon (M = 7.43, SD = 2.65) as compared to those who have not yet received it (M = 6.26, SD = 2.33). Perception of social isolation is higher among those who have received interferon (M = 17.76, SD = 6.57) as compared to those who have not yet received it (M = 15.49, SD = 5.57).

Table 62

Means and standard deviation and t-value of male and female hepatitis C patients for The Stress Inventory (N = 200).

S.No	The Stress Inventory	Females (n = 94)		Males (n =106)		t
		M	*SD*	*M*	*SD*	
	Type –I related Scales.					
1	Low sense of control	14.05	4.50	13.78	4.80	.409
2	Object dependence / loss	15.14	4.65	15.39	4.35	.391
3	Unfulfilled needs for acceptance	13.97	4.20	14.28	4.21	.529
4	Altruism	13.83	3.77	13.46	4.34	.635
	Other scales					
5	Object dependence / happiness	7.98	3.21	8.15	3.30	.373
6	Object dependence /anger	15.89	4.38	16.07	4.15	.286
7	Annoying barrier	7.10	2.93	7.51	2.85	1.011
8	Object dependence / ambivalence	13.30	4.45	14.32	5.13	1.496
9	Disclosure of negative experiences.	14.83	5.30	14.98	5.67	.194
10	Egoism	12.34	5.21	12.61	4.92	.381
11	Rationalizing conflicts / frustrations	14.23	4.44	12.30	4.27	3.136*
12	Lack of emotional experiences	12.34	4.77	11.62	4.07	1.149

df = 198, *p < .05

Table 62 indicates that there is not statistically significant different among male and female patients on the level of psychosocial stress except on “rationalizing conflicts/ frustrations scale among male and female hepatitis C patients (t = 3.136, p <.05). Females score high on it as compared to males.

Table 63

Means and standard deviation and t-value of male and female hepatitis C patients for Social Impact Scale (N = 200).

Social Impact Scale	Female (n = 94)		Male (n =106)		
	M	*SD*	*M*	*SD*	*t*
Social Rejection	24.67	8.70	23.71	7.42	.845
Financial Insecurity	6.84	2.96	6.85	2.15	.038
Internalized Shame	13.76	4.81	13.16	4.71	.883
Social Isolation	16.65	6.87	16.60	5.53	.051

df = 198, p = n.s

Table 63 indicates that there is no significant difference among the perception of dimensions of stigma among male and female hepatitis C patients. Perception of social rejection is greater in female patients (M = 26.67, SD = 8.70) as compared to the male patients (M = 23.71, SD = 7.42) but the difference is not significant. Financial Insecurity is higher among male patients (M = 6.85, SD = 2.15) as compared to female patients (M = 6.84, SD = 2.96) but difference is not significant. Internalized shame is also more perceived by female patients (M = 13.76, SD = 4.81) as compared to male patients (M = 13.16, SD = 4.71) but the difference is not statistically significant. Social isolation is also more perceived by female patients (M = 16.65, SD = 6.87) as compared to male patients (M = 16.60, SD = 5.53) but the difference is not statistically significant.

Table 64

Means and standard deviation and t-value of males hepatitis C patients those who have received interferon and those males who have not yet received it, of Social Impact Scale (N = 200).

Social Impact Scale	Males who have Not yet received Interferon (*n* =52)		Males those who Have received Interferon (*n* =54)		
	M	*SD*	*M*	*SD*	*t*
Social Rejection	25.46	6.73	22.02	7.72	4.443*
Financial Insecurity	6.35	1.76	7.34	2.38	2.420*
Internalized Shame	14.12	4.49	12.24	4.48	2.080*
Social Isolation	15.12	4.91	18.04	5.76	2.806**

df = 92, **p < .01, *p < .05

Table 64 shows that there is a significant difference in the perception of all the dimensions of stigma i.e. social isolation (t = 4.443, p< .05), financial Insecurity (t = 2.420, p < .05), internalized shame (t = 2.080, p < .05) and social isolation (t = 2.806, p < .01) among male patients those who have received and those who are waiting to receive interferon therapy.

Table 65

Means and standard deviation and t-value of female hepatitis C patients those who have received interferon and those females who have not yet received it, of Social Impact Scale (N = 200).

Social Impact Scale	Females who have yet received Interferon (*n* = 48)		Not Females those who Have received Interferon (*n* = 46)		
	M	*SD*	*M*	*SD*	*t*
Social Rejection	24.28	9.10	25.08	8.34	.445
Financial Insecurity	6.17	2.84	7.53	2.95	2.283*
Internalized Shame	13.60	5.24	13.91	4.36	.310
Social Isolation	15.90	6.23	17.43	7.46	1.087

df = 92, *$p < .05$

Table 65 shows that there is a significant difference in the perception of all the financial insecurity ($t = 2.283$, $p < .05$) among female patients those who have received and those who are waiting to receive interferon therapy.

Table 66

Two way Analysis of Variance (ANOVA) for gender x treatment status for social rejection (N = 200).

	SS	*df*	*MS*	*F*
Gender	43.971	1	43.971	1.360
Respondent's treatment status	86.694	1	86.694	1.360
Gender x Respondent's treatment status	224.351	1	224.351	3.520
Error	12491.646	196	63.733	

R^2 = .029 (Adjusted R^2 = .014), *p* = n.s

Table 66 indicates that the results of Two Way Analysis of Variance for gender of participants x treatment status. Results indicate that there is no significant effect of interaction between gender of the participants and treatment status on their perception of social rejection. This result implies that gender of participant and treatment status has no interactive effect on social rejection of men and women.

Table 67

Two way Analysis of Variance (ANOVA) for gender x treatment status for financial insecurity (N = 200).

	SS	*df*	*MS*	*F*
Gender	.005	1	.005	.001
Respondent's treatment status	68.707	1	68.707	10.964**
Gender x Respondent's treatment status	1.777	1	1.777	.283
Error	1228.226	196	6.266	

R^2= .053 (Adjusted R^2= .039), ***p* < .01

Results in the table 67 shows that there is no effect of gender on the financial insecurity (p = n.s). There is a significant effect of treatment and non treatment effects on the perception of financial insecurity (p < .01). The combine effect of gender and employment is also non significant (p = n.s).

Table 68

Two way Analysis of Variance (ANOVA) for gender x treatment status for internalized shame (N = 200).

	SS	*df*	*MS*	*F*
Gender	16.784	1	30.523	.750
Respondent's treatment status	30.523	1	59.358	1.365
Gender x Respondent's treatment status	59.358	1	59.358	2.654
Error	4384.309	196	22.369	

R Square = .025 (Adjusted R Square = .010), *p* = n.s

Results in the table 68 shows that there is no effect of gender and treatment status on the internalized shame (p = n.s). The combine effect of gender and the treatment is also non significant (p = n.s).

Table 69

Two way Analysis of Variance (ANOVA) for gender x treatment status for social isolation (N = 200).

	SS	*df*	*MS*	*F*
Gender	.395	1	.395	.011
Respondent's treatment status	247.716	1	247.716	6.632*
Gender x Respondent's treatment status	23.803	1	23.803	.637
Error	7321.017	196	37.352	

R^2= .037 (Adjusted R^2= .022), **p* < .05

Results in the table 69 shows that there is significant effect of treatment status on the social isolation (p <.05). Where as gender does not have any effect on perception of social isolation. The combine effect of gender and treatment is also non significant (p = n.s).

Table 70

Means and standard deviation and One Way Analysis of Variance (ANOVA) of hepatitis C patients on educational level for Social Impact Scale (N = 200).

Social Impact Scale	Under matric (n=139)		Matric (n=41)		Above Matric (n=20)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*
Social Rejection	23.83	7.49	24.33	8.88	26.10	9.98	.705
Financial Insecurity	6.71	2.41	6.88	2.64	7.73	3.23	1.418
Internalized Shame	13.35	4.61	14.02	4.99	12.85	5.36	.485
Social Isolation	16.22	5.97	16.59	6.06	19.50	7.38	2.495

df = 199, p = n.s

Results in table 70 indicate that there is no significant difference among hepatitis C patients in the perception of stigma.

Table 71

Means and standard deviation and One Way Analysis of Variance (ANOVA) of hepatitis C patients of different age groups for Social Impact Scale (N = 200).

Social Impact Scale	25-36 years (*n* = 78)		37-48 years (*n* = 93)		49-60 years (*n* = 29)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*
Social Rejection	23.53	8.16	25.49	7.51	21.58	8.80	3.066*
Financial Insecurity	7.04	2.71	6.79	2.44	6.49	2.52	.537
Internalized Shame	13.04	4.96	14.00	4.43	12.72	5.16	1.256
Social Isolation	17.35	6.89	16.53	5.66	15.00	5.62	1.553

df = 199, *$p < .05$

Result in table 71 indicates that there is a significant difference exists in the perception of social rejection (f = 3.066, p <.05) among patients those who belong to age group 37-48 years they perceive high level of social rejection as compared to other two groups.

Table 72

Means and standard deviation and One Way Analysis of Variance (ANOVA) of hepatitis C patients of different age groups for The Stress Inventory (N = 200).

S.No	The Stress Inventory	25-36 years (n = 78)		37-48 years (n = 93)		49-60 years (n = 29)		
		M	*SD*	*M*	*SD*	*M*	*SD*	*F*
	Type –I related Scales.							
1	Low sense of control	13.91	5.10	14.05	4.49	13.45	3.70	.186
2	Object dependence / loss	14.54	4.02	16.02	4.78	14.83	4.43	2.526
3	Unfulfilled needs for acceptance	14.06	4.34	14.15	4.07	14.28	4.34	.028
4	Altruism	13.22	3.95	14.17	4.24	13.03	3.80	1.537
	Other scales							
5	Object dependence / happiness	7.53	3.31	8.27	3.08	8.90	2.86	2.228
6	Object dependence / anger	15.54	4.75	16.39	3.85	15.90	4.08	.852
7	Annoying barrier	7.56	3.09	7.18	2.71	7.07	2.94	.490
8	Object dependence / ambivalence	13.31	4.87	14.28	4.79	13.86	4.98	.854
9	Disclosure of negative experiences.	15.29	5.28	14.89	5.78	13.93	5.10	.652
10	Egoism	12.46	4.99	12.69	4.93	11.90	5.68	.272
11	Rationalizing conflicts / frustrations	13.64	4.43	13.29	4.40	11.79	4.52	1.872
12	Lack of emotional experiences	13.09	4.80	11.13	4.10	11.59	3.72	4.456*

df = 199, * $p < .05$

Table 72 shows that there is a significant difference among the "lack of emotional experiences" ($f = 4.456$, $p < .05$) among age groups patients belonging to 25-36 years age group experience it more then other two groups.

Table 73

Means and standard deviation and One Way Analysis of Variance (ANOVA) of hepatitis C patients of different salary groups for Social Impact Scale (N = 200).

Social Impact Scale	2000-8000(Rs) (n = 88)		9000-15000(Rs) (n = 93)		16000-22000(Rs) (n =19)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*
Social Rejection	23.59	8.12	24.84	7.97	23.51	8.21	.617
Financial Insecurity	6.42	2.33	7.14	2.69	7.37	2.68	2.235
Internalized Shame	13.07	4.91	13.96	4.54	12.63	5.04	1.095
Social Isolation	16.16	6.51	16.82	6.14	17.84	4.72	.661

df = 199, *p* = n.s

Result in table 73 indicates that there is no significant difference exists in the perception of stigma among patients.

Table 74

Means and standard deviation and One Way Analysis of Variance (ANOVA) of hepatitis C patients of different salary groups for The Stress Inventory (N = 200).

The Stress Inventory	2000-8000(Rs) (n = 88)		9000-15000(Rs) (n = 93)		16000-22000(Rs) (n =19)		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*
Type –I related Scales.							
Low sense of control	13.40	4.21	14.66	4.80	12.63	5.45	2.483
Object dependence / loss	14.89	4.20	15.56	4.77	15.63	4.41	.575
Unfulfilled needs for acceptance	13.89	3.96	14.43	4.33	13.84	4.71	.428
Altruism	13.34	3.92	14.37	4.21	11.42	3.31	4.688**
Other scales							
Object dependence / happiness	7.77	3.24	8.75	3.11	6.11	3.16	6.184*
Object dependence / anger	15.98	4.13	15.86	4.28	16.63	4.83	.258
Annoying barrier	7.36	2.91	7.04	2.83	8.42	2.95	1.832
Object dependence / ambivalence	13.88	4.84	13.68	4.90	14.47	4.73	.216
Disclosure of negative experiences.	16.03	5.03	13.77	5.49	15.26	5.77	3.997*
Egoism	12.90	4.86	12.09	5.20	12.53	5.25	.584
Rationalizing conflicts / frustrations	12.84	3.80	13.62	4.78	12.89	5.47	.752
Lack of emotional experiences	12.30	4.22	11.39	4.41	13.21	5.09	1.814

df = 199, $^{**}p < .01$, $^{*}p < .05$

Table 74 shows that there is a significant difference among the "Altruism" (f = 4.688, p < .01), Object dependence / happiness (f = 6.184, p <.05) and Disclosure of negative experiences (f = 3.997, p < .05) among patients from different salary group. Altruism is higher among patients belonging to 9000 – 15000 Rs salary group as its *M* = 14.37. Where as Object dependence / happiness is also higher among patients belonging to 9000 – 15000 Rs salary group as its *M* = 8.75. Disclosure of negative experiences is higher among patients belonging to 2000 – 8000 Rs salary group as its *M* = 16.03.

Table 75

Correlation of duration of illness and Social Impact Scale (N = 200).

	Hepatitis C patients (N= 200)	Not yet received interferon therapy (n= 100)	Have received interferon therapy (n= 100)
Social Rejection	.08	.08	.18*
Financial Insecurity	.16*	.13	.03
Internalized Shame	.06	.05	.17
Social Isolation	.06	-.08	.03

*$p < .05$

Table 75 shows that Duration of illness is statistical significant positive relationship between financial insecurity and duration (p<.05) of illness among hepatitis C patients. Duration of illness is positively correlated with social rejection (p<.05) among those patients who have received interferon therapy.

Table 76

Means and standard deviation and t-value of hepatitis C patients belonging from nuclear and join family system of The Stress Inventory (N = 200).

The Stress Inventory	Nuclear family system (n = 143)		Joint family system (n = 57)		
	M	SD	M	SD	t
Type –I related Scales.					
Low sense of control	14.16	4.52	13.28	4.95	1.209
Object dependence / loss	15.53	4.70	14.61	3.85	1.309
Unfulfilled needs for acceptance	14.39	4.18	13.49	4.20	1.373
Altruism	13.86	4.16	13.07	3.84	1.238
Other scales					
Object dependence / happiness	8.35	3.19	7.37	3.34	1.938
Object dependence / anger	16.19	3.97	15.47	4.89	1.075
Annoying barrier	7.30	2.85	7.35	3.01	.111
Object dependence / ambivalence	13.88	4.80	13.74	4.98	.190
Disclosure of negative experiences.	14.62	5.68	15.63	4.95	1.176
Egoism	12.62	5.13	12.16	4.85	.578
Rationalizing conflicts / frustrations	13.05	4.57	13.61	4.14	.811
Lack of emotional experiences	11.52	4.38	13.07	4.35	2.269*

df = 198, *$p < .05$

In table 76 results reveal that there is a significant difference on "lack of emotional experiences" ($t = 2.269$, $p < .05$) are more experienced by the patients who belong to nuclear family system ($M = 11.52$, $SD = 4.38$, $M = 13.07$, $SD = 4.35$) and this difference is statistically significant.

Table77

Means and standard deviation and t-value of hepatitis C patients belonging from nuclear and join family system of Social Impact Scale (N = 200).

Social Impact Scale	Nuclear family system (n= 143)		Joint family system (n =57)		
	M	SD	M	SD	t
Social Rejection	24.31	7.95	23.79	8.33	.415
Financial Insecurity	6.76	2.42	7.07	2.87	.789
Internalized Shame	13.62	4.62	13.00	5.10	.826
Social Isolation	15.96	6.05	18.30	6.25	2.447*

df = 198, *$p < .05$

Table 77 indicates that there is a significant difference among the perception of social isolation ($t = 2.447$, $p < .05$) among hepatitis C patients. It is perceived highly by those patients who belong to the joint family system as compared to those who are from the nuclear family system.

Table 78

Correlation of age and Social Impact Scale (N = 200).

Dimensions of Stigma	Hepatitis C patients (N = 200)	Female patients (n = 94)	Male patients (n = 106)
Social Rejection	-.00	-.10	.11
Financial Insecurity	-.06	-.15	.04
Internalized Shame	.05	-.12	.19*
Social Isolation	-.14*	-.25**	-.01

**$p < .01$, *$p < .05$

Results in table 78 reveal that there is a positive relationship between growing age and internalized shame among male patients so with the growing age internalized shame increases in male patients. In female patients social isolation has a negative relationship between growing age and social isolation so with the growing age social isolation decreases among female hepatitis C patients.

Chapter -VI

DISCUSSION

The present study addressed a very important issue of present's time that is psychosocial stress, type –I personality traits and stigmatization among hepatitis C patients. Trends of Research into health-related stigma have increased over recent years as the impacts of stigma on health have become more evident. Stigma is increasingly seen as an added burden on the health of affected individuals who are often already dealing with stigma associated with poverty and minority group status (Hopwood, 2007). Patients have a fear and anxiety of being stigmatized because of Hepatitis C (Conrad, 2006).

The present study was carried out in order to explore the psychosocial stress, type-I personality traits and stigmatization among Hepatitis C patients. The study also focuses on level of stigma and psychosocial stress among hepatitis C patients and also focuses on relationship between the psychosocial stress and stigma among hepatitis C patients.

The research was conducted in three parts. The Part-I of the study was further divided into two phases i.e. Phase I deal with the translation of the Social Impact Scale (Fife, 1995) and The Stress Inventory (originally developed by Nagano and Sudo (2001) and translated in to English by Nagano in 2007) and Phase II deal with the determination of psychometric properties. Phase I was further divided in to four stages. These stages deal with the translation, committee approach, back translation, then again committee approach of back translation and then the finalization of the items. In order to determine the psychometric properties of the scale and inventory, the scale and inventory was administered on 90 hepatitis C patients. Results of the reliability indicate that both measures have sound psychometric properties. Part II was the pilot study. The pilot study was conducted on relatively small sample (N= 30).

Part III comprised of main study. This part of the study deals with the main objectives of the study. This study was carried out with relatively large sample (N= 200). The reliability of The Stress Inventory was determined in the Part-I, Phase-II of

the study and also in the main study. In the main study the reliability and validity of The Stress Inventory was again checked through alpha coefficient, item total correlation, inter scale and item total correlation for subscales. In the Phase- II of Part-I of the present study the range of the Cronbach's alpha for the subscales of the stress inventory was .56 to .81, where as its .61 to .86 for the main study. The Cronbach's alpha value of the subscales increased in the main study (N = 200). In the previous researches its range of reliability for subscales was from .60 to .90 (Nagano et al., 2001).

In the first part of the study, in the phase II reliability and validity of the scale and Inventory was determined at that time the alpha coefficient of the Social Impact Scale was .94 and the alpha coefficient of the subscales was .67 to .89 where as in the main study the alpha coefficient of the "Social Impact Scale" is .93 for over all scale and for subscales it ranges from .75 to .90, which is statistically an excellent reliability (George & Mallery, 2006). This scale is also used in various researches and its reliability was Cronbach's alpha of 0.81 (Fife, 1995), where as it was .70 (Fife & Wright, 2000) and it was .94 (Golden et al., 2006). This scale has 4 sub scales which measures different dimensions of stigma i.e. social isolation, internalized shame, financial insecurity and social rejection, the Cronbach alpha coefficients for these scales ranged from .85 to .90 (Fife & Wright, 2000).

The main objective of the study was to the identification of level of stigma, psychosocial stress and type-1 personality traits among hepatitis C patients. As compared to the other Type-1 personality traits patients score high on "Object dependence loss" which is a type-I personality (see table 53). Object dependence loss means that having an important person who causes persistent hopelessness and depression. Object dependence / loss and object dependence /happiness are the scales related to the loss- hopelessness. Loss- hopelessness is 'traditional' cancer prone personality trait (Dalton, Bosen, Ross, Schapiro & Johansen, 2002; Garssen, 2004; Nagano et al., 2008; Shan, 1959).

Another important objective of the study was to determine the level of stigma among patients. Social impact Scale has four dimensions which include social rejection, financial insecurity, social isolation and internalized shame. Results of the

present study (see table 54) indicate that patients perceived high level of social rejection as compared to the other dimensions of stigma. It indicates that our society has a collectivistic culture and people are attach with one another so people are more and more concerned about their each other. Patients are also concern about their social life that's why they have high scores on social rejection and lowest score on financial insecurity this reflects culture of Pakistani society. Chronically ill patients suffer from high level of stigma it is largely dependent on the type of disease as the patients suffering from AIDS they have greater feelings of social rejection, financial insecurity, internalized shame and social isolation (Fife & Wright, 2000). Hepatitis C is also stigmatized disease as AIDS is. Majorities of the HCV patients alter common behavior and report financial insecurity, internalized shame, and social isolation regardless of the method of HCV acquisition or socio economic status (Steven et al., 2006).

Another important objective of the study was to find out the relationship between the level of stigma and psychosocial stress. In the present research it was hypothesized that there is a positive relationship between psychosocial stress and stigmatization (see table 55) so result have supported our hypothesis that there is a positive relationship between psychosocial stress and stigma. The results of present study reveals that social rejection is positively related with the "Object dependence/ happiness", "object dependence/ anger", "Annoying barrier", "Unfulfilled needs for acceptance" and "Altruism". It means that when the object dependence happiness increases than social rejection also increases. Due to disease person's social life get affected and people use to ignore him or her. If the person having a valued person in he or her life whom his or her happiness is greatly dependent increases than he or she has a greater perception of socially discriminated, if there past relationships get effected due to that disease. Because when patient is discriminated by that person (who is most important person for him or her) then his perception of being discriminated increases. As per according to patients their family members started discriminating them because of HCV. Similarly if the object dependence anger increases the perception of social rejection also increases. It means that if the person has some one who always irritates him or her and secondly he or she is also suffering from a chronic disease than he greatly feels the social rejection or discrimination. According to patients they are already stressed because of their disease and when

people also irritate them because of disease they feel themselves as very low or degraded by others. They perceive greatest threat to their social status and feel that they are being discriminated by others. Serious illness reduces the social status and also threats the interpersonal relationships of an individual (Fife, 1994).There is also a positive relationship between annoying barrier and social rejection. It means that if the patient is persistently encountering a situation that is causing a chronic irritation and anger for him may be due to his or her disease than he or she considers that he or she is socially rejected or others feelings about them has been changed because of that chronic illness.

Results also reveal that there is a positive relationship between unfulfilled needs for acceptance and social rejection. It means that if a person's chronic need for acceptance is not fulfilled by others than person has a greater perception of social rejection. It is a common phenomenon that when person is not accepted by other then he developed the feeling that he is rejected by other due to some attribute and this feeling is higher in patients. Results also indicate the same situation. In the present study results also reveal that there is a positive relationship between the Altruism and social rejection. As social rejection is related to the social life of patients so if they have the altruistic tendency, accompanied by stress, in interpersonal and social relationships then the social rejection is perceived with greater intensity. This finding is consistent with the finding that serious illness reduces the social status and also threats the interpersonal relationships of an individual (Fife, 1994). Stigma increases stress associated with illness (Yebei et al., 2008). As the level of stigma increases interpersonal state of patients get worse (Zickmund, Ho, Masuda, Ippolito, LaBrecque, 2003). Results direct our attention to the fact that Pakistani society is a society where social values, traditions and relationships are very important and present research results also indicate the same situation.

Internalized shame is positively correlated with the "Low sense of control", "object dependence/ happiness", "object dependence/ anger", "Annoying barrier", "Unfulfilled needs for acceptance" and "Altruism". Internalized shame means internalizing the disease and blaming one self for the situation or present condition. Those patients who perceives that the person on whom their happiness greatly relay is not treating him or her with the same respect as he or she use to pay him before the

disease than person internalize that thing and started blaming himself or herself for his or her disease. Social rejection is related with the internalized shame and then internalized shame is positively related with object dependence happiness. As many patients have mentioned that not only the attitude of others has been changed with them, after the diagnosis of HCV but their family members have also rejected them. Internalized shame is also positively associated with the object dependence anger which means that if the person is socially rejected and then he also has some one who is a constant source of chronic anger and tension for him then his or her internalized shame increases. Because when a person is continuously irritated by some one then he internalizes it. If the person's strong need for acceptance by others is not fulfilled then he or she feels discriminated and he or she internalized it and develop internalized shame. Social life is very important for every one and when it gets effected due to disease, patients feel it greatly and use to blame himself or herself for all that.

Social isolation is positively correlated with the "object dependence/ anger", "Annoying barrier", "Unfulfilled needs for acceptance" and "Altruism". Social isolation means that getting impaired or very limited social interactions. Due to HCV patients mostly get socially rejected and discriminated in a result they get isolated. In the present study results are also indicating the same thing that if the patients have some one who is a chronic source of irritation or anger for them (annoying barrier), need of being accepted by other is not fulfilled (Unfulfilled need for acceptance) and their social interactions and interpersonal relationships are accompanied by stress then they use to isolate themselves from the society. So as object dependence/ anger, annoying barrier, unfulfilled needs for acceptance and altruism increases social isolation also increases. Stigma increases stress associated with illness (Yebei et al., 2008). There are research evidences high level of psychological stress among people living with HIV/AIDS reflected in feelings of stigmatization, isolation, loneliness, depression and despair so psychosocial stress is related with feelings of stigmatization, isolation, loneliness, depression and despair among chronically ill patients like AIDS patients (Kabbash et al., 2008).

Another important objective of the study was to find out the relationship between the severity of disease and type-1 personality traits. It is partially supported by the data that there is a positive relationship between the object dependence loss

(Object dependence loss means that having an important person who causes persistent hopelessness and depression) and severity of disease (see table 56). This finding is consistent with the findings of Nagano et al., (2004) in which they have concluded that four traits (object dependence loss, unfulfilled need for acceptance, low sense of control and Altruism) are associated with the Hepatitis C and these traits combine and then they effect the progression of disease. These traits combine with the psychosocial variables and then effect the onset and progression of disease. Due to disease patients become unable to continue there social activities and it directly effect their psychological condition and social life (Nagano et al., 2004). In the present study results reveal that there is a positive relationship between severity of disease with object dependence loss, discloser of negative experiences and egoism where as negative relationship between rationalizing conflicts and frustrations. Because of the cultural differences results are different from the previous researches. Results indicate that as the severity increases egoism (self-defensive attitude in a social relationships) increases, they also develop the tendency to disclose their negative experiences and at the same time their tendency to rationalize their interpersonal situations (which accompany conflicts and frustrations) decrease when the severity of the disease increases. As results indicate that object dependence loss increases with the severity of the disease it means that as the severity increases person became more sensitive with his or her relationship with others and that's why he or she may perceives the others negative attitude with greater tendency.

Results also reveal that there is a positive relationship between different dimensions of stigma (social isolation, social rejection, internalized shame and financial insecurity) among Hepatitis C patients whether they have received interferon or not (See Table 57, 58 and 59). If stigma in one dimension increases the other also increases or if stigma in one dimension decreases the other also decreases.

Result reveal that there is a significant difference on disclosure of negative experiences and egoism scale among hepatitis C patients those who have received interferon and those who have not yet received interferon (See Table 60). There are research evidences that stress level increases among patient after receiving a treatment (Sehlen et. al, 2004). If level of stigma is considered then there is a significant difference among hepatitis C patients those who have received interferon and those

who have not yet received it. There is a significant difference on financial insecurity and social isolation among hepatitis C patients (See Table 61). Financial insecurity and social isolation is more perceived by those patients who have received interferon as compared to those who are waiting to receive it. As fatigue and other physical problems are associated with interferon treatment (Glauser, 2007) so patients social life get limited and their physical activities also get limited and so they can easily fatigued and that's why they do not properly do their duties and that's why suffer from financial problems and their job security also get effected so they perceives high level of financial insecurity.

Another important objective of the present study was to compare the level of stigma among male and female hepatitis C patients. Results of present study reveal that there is no significant difference among male and female hepatitis C patients (see table 63) on the perception of stigma this finding is consistent with the findings of Golden et al., (2006). There are research evidences that females suffering from chronic illness like cancer or AIDS have greater feelings of social isolation as compared to the male patients (Fife & Wright, 2000). Women experience more stigma than men (Zickmund et al., 2003). Results of the present study indicate that there is no significant difference among the male and female patients in the perception of social rejection, financial insecurity, internalized shame and social isolation. Mean scores indicate that females perceive high level of social rejection, internalized shame and social isolation as compared to male hepatitis C patients. Whereas male hepatitis C patients perceives more of a financial insecurity as compared to the female patients. In our culture mostly females are housewives so they perceives less level of financial insecurity as compared to males because males are the breadwinners of the family so they perceive more financial insecurity as compared to females.

There are very few patients who get accesses to the medical facilities. One most important fact is that in the under developed countries like Pakistan, because of poverty and lack of facilities, women have a poor access to the hospitals, so screening for hepatitis C were mostly carried out at their antenatal visits as this might be their only visit to health care facility center. Among the pregnant women prevalence rate of HCV was 32.7% (Jaffery et al., 2005).

In chronic illness mostly patients get more stressed after receiving the treatment in the present study results also reveal that patients get more stressed after receiving treatment as female patients score high as compared to male patients on "rationalizing conflicts/ frustrations" (See table 62) scale of the stress inventory these findings are consistent with the findings of Sehlen et al., (2003) in which they concluded that there was Significant increase in stress were observed for anxiety, pain, and information at 6 weeks after the end of radiotherapy and Women showed significantly higher stress from before radiotherapy to 6 weeks after the end of radiotherapy, younger patients displayed a decrease in anxiety, whereas elderly patients demonstrated an increase. Breast cancer patients had the highest stress levels (Sehlen et al., 2004).

Another important objective of the study was to find out the difference between the level of psychosocial stress among hepatitis C patients before and after receiving interferon therapy. In the present research there is no significant difference exists among hepatitis C patients, those who have received interferon and those who have not yet received it. These findings are consistent with the findings of Castera, et al., (2006) that the stress level did not differ between the treated and un treated group (Castera, et al., 2006).

In the present study results also indicate that there is a significant difference exists among male and female treated and non-treated group. In the present study significant difference exists on social rejection, financial insecurity, social isolation and internalized shame among treated and non treated males (see Table 64). Treated males those who have received and those who have not yet received interferon significantly differs at the level of stigma from each other. Social isolation and financial insecurity is higher among those male patients who have received interferon therapy. Interferon therapy does not totally destroy the hepatitis C virus, before receiving interferon they have a hope of cure and a hope for their future. But because of the progression of disease and uncertainty about future even after receiving interferon they develop social isolation and also have a great sense of financial insecurity. Among those male patients who have not yet received interferon there is still a ray of hope related with the outcome of treatment but as they are newly get diagnosed so they perceive high level of social rejection and internalized shame.

Among the females all the dimensions of stigma were more perceived by those females who have received interferon (see Table 65). Mean values indicate that social rejection, financial insecurity, internalized shame and social isolation is higher among those female hepatitis C patients who have received interferon therapy but that difference is not statistically significant. But the significant difference exists in the dimension of financial insecurity.

While considering combine effects of gender and treatment status (received and not received interferon) it was indicated by the results that they did not have any effect on social rejection (see Table 66), whereas treatment status effects financial insecurity but did not have combine effects of gender and treatment status was found for the financial insecurity (see Table 67). No combine effects of gender and treatment status was found in case of social isolation and internalized shame (see Table 68 and 69).

One of the objective of the study was to find out the relationship between the demographic variables and the perception of stigma among patients. There is no significant difference on perception of stigma among hepatitis C patients belong to different educational background like under matric, matric and above matric (See Table 70).

Social rejection is higher among 37-48 years old patients as compared to patients belong to 25-36 years old and 49-60 years old patients (see Table 71). Lack of emotional experiences is higher among patients belong to 25-36 years old patients (see Table 72). There is no difference among patients belong to different salary group on perception of stigma among hepatitis C patients may be because patients in a 16000 – 22000 Rs group are very few in number (see Table 73). Whereas there is a significant difference among on “Altruism”, “Object dependence / happiness” and Disclosure of negative experiences among patients from different salary group. Altruism is higher among patients belonging to 9000 - 15000Rs salary group. Where as Object dependence / happiness is also higher among patients belonging to 9000-15000 Rs salary group. Disclosure of negative experiences is higher among patients belonging to 2000 – 8000 Rs salary group (see Table 74).

Chronic illness affects the relationship with family and friends (Brannon & Feist, 2000). Family system is the most important factor, with the support of family members patients can fight with their problems. In the present research along with other demographic information family system of the patients was also considered. Commonly there are two types of family systems i.e. nuclear family system and joint family system. Social isolation is higher among patients who belong to joint family system (see Table 77). Lack of emotional experiences is higher among patients those who belong to joint class family (see Table 76). Demographic variables have great effects on the perception of stigma and level of stress. In case of psychosocial stress no association was found in previous literature (Nagano et al., 2004).

Duration of an illness play a vital role in the perception of stigma and results of the present study shows that duration of the illness is statistically significantly positively correlated with financial insecurity and duration of illness among hepatitis C patients (see Table 75) this indicates that as the duration increases their financial insecurity get effected, their job security get effected because of the illness. Secondly as mentioned in the literature that during treatment patients suffers from certain physical and psychological problems (Glauser, 2007). Due to physical hardships of the disease and then treatment it effects the physical activities due to which patients are unable to continue their jobs as during the interview, many patients have mentioned that they feel that they are "internally empty". Duration of illness is positively correlated with social rejection among those patients who have received interferon therapy (see Table 75). As with the time patients feel that they are not treated same as they were before the treatment so they feel socially rejected.

Results reveal that with the growing age internalized shame increases in male patients (see Table 78). In female patients social isolation has a negative relationship among growing age and social isolation (see Table 78). In the present research internalized shame is positively associated with the growing age but it is not significantly positively correlated with it. There are research evidences that older age is associated with stronger reports of internalized shame among chronically ill patients like AIDS patients (Fife & Wright, 2000).

So, the findings elucidate that our first hypothesis was supported which indicates that there is a positive relationship between the psychosocial stress and stigma. Our second hypothesis was partially supported indicating that among other type –I personality traits patients score high on "Object dependence/loss". Third hypothesis was also partially supported and it was inferred that among other type – 1 personality traits only object dependence loss was positively associated with the severity of disease among patients. Our fourth hypothesis was supported and inferred that females have high level of psychosocial stress even after receiving interferon therapy as compared to before receiving interferon therapy. Further more no difference exists between male and female patients regarding the perception of stigma but difference of perception of social rejection, financial insecurity, social isolation and internalized shame exists among male patients, who have received interferon and those male patients who have not yet received it where as among female patients those who have received interferon and those who have not yet received difference exists only in one dimension that is financial insecurity. Few of the demographic variables like family system, age, educational level and duration of illness are also associated with the Hepatitis C.

Conclusion

In the present research psychosocial stress, Type-I personality traits and stigmatization among Hepatitis C patients was assessed. Results of the present research reveal that among type-I personality traits patients score high on "Object dependence loss". Object dependence loss means that having an important person who causes persistent hopelessness and depression. They also scored high on object dependence anger which is also a disease prone personality trait. So they have the tendency to develop chronic illnesses like CHD (chronic heart disease) or cancer.

Stigma is a common problem faced by chronically ill patients and stigma has many dimensions. As far as level of stigma is concerned high scores on social rejection indicate that patients face high social rejection as compared to the other dimensions of stigma. Lowest scores on financial insecurity indicate that they face less financial insecurity as compared to the other dimensions of stigma. Among hepatitis C patients social limitation and social isolation were more significant and

had greater impact than clinical markers of disease process (Rebecca & Carla, 2007). There is a significant positive relationship between stress and stigma. Results of the present study also reveal that many social setup, family system, educational level and duration of illness all these effects the onset and progression of the disease.

Implications of the study

Hepatitis C is considered as a silent epidemic. In Pakistan there are different misperceptions in the society regarding the acquisition and transmission of hepatitis. Hepatitis C is manageable and treatable disease. Combination therapy of interferon and ribavirin has become well established. Management starts with the counseling, proper treatment assessment of patients and ascertainment of genotype of virus along with virus load. They should be monitored properly and time-to-time before, during and after treatment (Iqbal, 2003).

Some people consider it something like a curse and they blame patients for its acquisition. As our society is a collectivistic society so social setup have a great influence on people, present research also directs the attention of health experts and general public that patients are also part of the society they should not be discriminated. The present research provide the evidences that how normal / healthy individuals discriminate patients on the basis of their disease. The most important aspect of this research is that how stigmatization is affecting the psychological condition of the patients and its linkage with the successful outcomes of the treatment. Among hepatitis C patients social limitation and social isolation were more significant and had greater impact than clinical markers of disease process (Rebecca & Carla, 2007). It also throws light on the importance of the awareness programs about acquisition and transmission of hepatitis C.

The findings of the study are helpful and important for the Gastroenterologists and other concern doctors in understanding the needs of hepatitis C patients with respect to their condition before and after receiving interferon therapy. The assessment of personality type is for the enhancement of better treatment of the chronically ill not to label them. The present research helps gastroenterologists in devising the medical assistance program with the assistance of psychologists. The

findings have very important implication for provision of psychological support to hepatitis patients even after completion of interferon therapy. There psychological condition can improve and they will also become a useful part of society with proper medical assistance. Patients should be evaluated for their psychological condition time to time and if they have any psychological disorder they should be referred to corresponding specialist. The present study is helpful in understanding the significant role of social environment in the successful outcomes of the treatment.

Limitations

Only type-1 personality traits and some other traits are assessed in the present study but in future it is recommended that other personality traits should be measured. May be patients have some other traits due to which they may suffer from some other diseases. In the present research only two groups of the patients (those who have received interferon and those who have not yet received interferon) were included but it is recommended that other hepatitis C patients should be included in order to compare the difference of perception of level of stigma, psychosocial stress and presence of type-I personality traits.

There are many factors which effects the perception of stigma among patients. In the present research few factors like family system, number of family members, number of children and stage of disease were explored but there is a need to explore other factors which effects the perception of the disease.

Suggestions

The sample has been taken from one hospital in future the sample should be taken from different hospitals of private and government sector. By taking patients from government and private hospitals the difference between the level of psychosocial stress and stigma of patients belonging from government hospital and private hospital can be assessed.

The sample should be taken from the rural areas as well in order to see how stigma is perceived among these patients. Longitudinal studies should be conducted in

order to check the effects of personality traits and long term effects of stigma. Sample size should be increased for gernalizability purpose. Some intervention plan should be developed to assist Hepatitis C patients so that they can cope with stress and stigmatization.

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The Stress Inventory

S.No	The SI scales	Brief description	Disease proneness	
Group 1:	sense of control over stressful situations		Cancer	CHD
1	Low sense of control.	Decreased sense of control over stressful situations leading to hardship, despair, or anger.	✓	✓
Group 2:	Emotional well-being dependent on other person and situations.			
2	Object dependence / loss.	Having an important person who causes persistent hopelessness and depression.	✓	
3	Object dependence / happiness.	Having a valued person on whom one's happiness is greatly dependent.	✓	
4	Object dependence / anger.	Having a persecuting person who causes chronic irritation and anger.		✓
5	Annoying barrier	Having a persecuting situation that causes chronic irritation and anger.		✓
6	Object dependence / ambivalence.	Repeatedly experiencing ambivalent interpersonal relationship.		
Group 3:	Telling problems to others and unfulfilled needs for acceptance by others.			
7	Disclosure of negative experiences.	A tendency to disclose one's experiences with negative feelings to others.		
8	Unfulfilled needs for acceptance.	Chronically having unfulfilled needs for acceptance by others.	✓	
Group 4:	Self defensiveness in conflicting interpersonal situations.			
9	Altruism	An altruistic tendency, accompanied by stress, in interpersonal and social relationships.	✓	
10	Egoism	A self-defensive, self-interest-oriented attitude in interpersonal and social relationships.		
11	Rationalizing conflicts/ frustrations.	An extreme tendency to rationalize one's interpersonal situations accompanied by conflicts or frustrations.	✓	✓
Group 5:	Lacking experiences with strong positive and negative emotions.			
12	Lack of emotional experiences	Lack of experiences with strong emotions such as grief, rage or delight.		

(Nagano et al, 2008)

Appendix E

SOCIAL IMPACT SCALE

DIRECTIONS: Serious illness can affect many areas of a person's life. Please circle the number for each item that best describes your ***recent*** experiences (within the past 3 to 4 weeks).

	STRONGLY DISAGREE	**DISAGREE**	**AGREE**	**STRONGLY AGREE**
1. I have experienced financial hardship that has affected how I feel about myself.	1	2	3	4
2. My job security has been affected by my illness.	1	2	3	4
3. My employer/co-workers have discriminated against me.	1	2	3	4
4. I have experienced financial hardship that has affected my relationships with others.	1	2	3	4
5. Some people act as though I am less competent than usual.	1	2	3	4
6. I feel I have been treated with less respect than usual by others.	1	2	3	4
7. I feel set apart from others who are well.	1	2	3	4
8. I feel others are concerned they could "catch" my illness through contact like a handshake or eating food I prepared	1	2	3	4
9. I feel others avoid me because of my illness.	1	2	3	4
10. Some ***family members*** have rejected me because of my illness.	1	2	3	4
11. I feel others think I am to blame for my illness.	1	2	3	4
12. I do not feel I can be open with others about my illness.	1	2	3	4
13. I fear someone telling others about my illness without my permission	1	2	3	4
14. I feel a need to keep my illness a secret.	1	2	3	4

	STRONGLY DISAGREE	**DISAGREE**	**AGREE**	**STRONGLY AGREE**
15. I feel some ***friends*** have rejected me because of my illness.	1	2	3	4
16. I have a greater need than usual for reassurance that others care about me.	1	2	3	4
17. I feel lonely more often than usual.	1	2	3	4
18. Due to my illness I have a sense of being unequal in my relationships with others.	1	2	3	4
19. I feel I am at least partially to blame for my illness.	1	2	3	4
20. I feel less competent than I did before my illness.	1	2	3	4
21. I encounter embarrassing situations as a result of my illness.	1	2	3	4
22. Due to my illness others seem to feel awkward and tense when they are around me.	1	2	3	4
23. Due to my illness I sometimes feel useless.	1	2	3	4
24. Changes in my appearance have affected my social life.	1	2	3	4

Explanation of Scale

1. **Experience of rejection and stigma**

Social rejection

My employer/co-workers have discriminated against me.

Some people act as though I am less competent than usual.

I feel I have been treated with less respect than usual by others.

I feel others are concerned they could "catch" my illness through contact like a handshake or eating food I prepared.

I feel others avoid me because of my illness.

Some family members have rejected me because of my illness.

I feel some friends have rejected me because of my illness.

I encounter embarrassing situations as a result of my illness.

Due to my illness others seem to feel awkward and tense when they are around me.

Financial insecurity

I have experienced financial hardship that has affected how I feel about myself.

My job security has been affected by my illness.

I have experienced financial hardship that has affected my relationships with others.

2. **Social psychological feelings regarding stigma**

Internalized shame

I feel others think I am to blame for my illness.

I do not feel I can be open with others about my illness.

I fear someone telling others about my illness without my permission

I feel a need to keep my illness a secret.

I feel I am at least partially to blame for my illness.

Social isolation

I feel set apart from others who are well.

I have a greater need than usual for reassurance that others care about me.

I feel lonely more often than usual.

Due to my illness I have a sense of being unequal in my relationships with others.

I feel less competent than I did before my illness.

Due to my illness others seem to feel awkward and tense when they are around me.

Changes in my appearance have affected my social life.