



HBV AND HCV PATIENTS; PSYCHIATRIC COMORBIDITY AND COPING STRATEGIES

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ABSTRACT...Objectives: The main purpose of this research was to compare the level of psychological distress between HBV and HCV patients and to determine the effect of gender and age on psychological distress. Determine the relationship between coping strategies and psychological distress. **Method:** For the present study 100 HBV patients (50 male and 50 female) and 100 HCV patients (50 male and 50 female) were selected. The sample was selected from Liver Centre, district headquarter hospital Faisalabad. This was a cross sectional study. MHI-38 was used to measure the psychological distress and CRI was used to measure the copying styles among HBV and HCV patients. **Result:** HCV patients have higher levels of psychological distress $t(198) = 6.54, p < .05$ compared to HBV patients. Female hepatitis patients were suffering from high levels of psychological distress $t(198) = 3.90, p < .05$ as compared to male hepatitis patients, with male, age is positively correlated with psychological distress, $r = .32, p < .01$ but with female age is negatively correlated with psychological distress $r = -.49, p < .01$. Approach coping is negatively correlated with psychological distress in male and female hepatitis patients, respectively, $r = -.45, p < .01$ and, $r = -.29, p < .01$. **Conclusion:** HCV and female patients have higher levels of psychological distress comparatively of HBV and male patients. Age is correlated with psychological distress. The approach coping styles play an important role in controlling the psychiatric comorbidity in HBV and HCV patients.

Key words: HBV, HCV, Psychological Distress, Anxiety, Depression, Loss of Behavioral/Emotional Control, Coping Strategies

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INTRODUCTION

Hepatitis illness is an important health dilemma causing a too large number of deaths internationally, particularly in the developing countries including Pakistan. It has been recognized for many years that in several mortal medical conditions up to 50 percent patients experience psychological distress.¹ The present study aims to observe the psychiatric comorbidity and coping strategies among HBV and HCV patient. Therefore The main purpose of this research was to compare the level of psychological distress (depression, anxiety & loss of behavioral / emotional control) between HBV and HCV patients. The second purpose of this research was to determine the effect of gender on psychological distress and third purpose of this research was to conclude the effect of age on psychological distress. The last and final purpose of this research was to determine the association

between coping strategies and psychological distress.

The global prevalence rate of HCV is about 170 million cases during the year 2013 with an addition of 3 to 4 million new infections every year.² In Pakistan the viral hepatitis illness, especially HBV & HCV are rising day by day due to poor health care services, poverty and lack of public awareness regarding prevention of disease transmission.³ In Pakistan the prevalence of HCV in health workers, pregnant women, voluntary blood donors and the general public is 5.4%, 5.2%, 3.6% and 5% respectively.⁴

HCV Patients getting treatment of Interferon alpha are at high risk of depression, though some people don't show symptoms of depression. It is important to realize that what are the specific reasons? Which make some persons more at risk

of depression than others? Effective medication of hepatitis C depends on exposing and controlling of depression before and during medication.⁵ Hepatitis C patients with other medical illnesses have high levels of psychiatric symptoms and low quality of life compared to the general population.⁶

The large numbers of studies advocate that persons suffering with a chronic somatic illness are comparatively more at chance of psychological distress than physically healthy persons. Psychological distress can be visible in many different modes. Medical model describes psychological distress is considered as a disease in the similar type as any other somatic diseases. In the medical model, it is considered that Psychological distress is a particular mode of neurological defect causing the abnormalities of thinking and behavior that may be normalized by the medication and maintenance.⁷

Verbrugge and Patrick's⁸ presented the model that explains the route from the biological level of pathology of quality of life disability through the conciliator of impairment symptom level. At each level, chronic medical disease have the effects on mental health. These effects can differ in quality and intensity. Psychological distress in somatic ill patients may occur as a psychological disease in itself or it might be a psychological effect to primary or secondary results of the medical disease, that act as stressors.⁹

The cognitive model describes psychological distress is caused by negatively influenced cognition. In cognitive model, it is considered that Psychological distress causes in an individual due to a negative vision of oneself, his/her environment and the future. Cognitive theorists believe that individual extreme affect and dis-functional behavior is caused by improper modes of inferring his experiences. The soul of the model is that emotional problems arise when the individual perceive incidents gets over stressed away from the existing evidence, this approach, bend a negative impact on thoughts and behavior in a ferocious cycle.¹⁰

Alavian et al¹¹ conducted the study to evaluate the depression and anxiety in chronic HCV patients, chronic HBV patients and healthy controls. It was observed that there was a significantly higher rate of depression and anxiety in chronic HCV patients as compared to chronic HBV patients and the healthy control group.

Kraus et al¹² compared the frequency, range, and degree of psychiatric symptoms in a group of patients receiving interferon treatment with the untreated group. In the treatment group anxiety, depression and anger are observed before the therapy. The level of anxiety, depression, and anger escalated after receiving the interferon treatment. Coping with the illness performed a very significant role in the recovery.

Fontana et al.¹³ conducted the study. The purpose of the present analysis was to conclude the type, incidence, and seriousness of emotional distress in chronic hepatitis C (CHC) patients not getting anti-viral treatment. Considerably high anxiety, depression, psychoticism, somatization and obsessive-compulsive disorder were observed in 28% to 40% of chronic hepatitis C patients. Considerable emotional distress was observed in 35% of chronic hepatitis C patients who were not getting antiviral treatment. Along with depression, a wide range of psychosomatic symptoms was assessed.

Barrett et al¹⁴ observed fatigue and arthralgia in hepatitis patients in their study. They concluded that 77% of female were diagnosed with psychological distress. While treating the hepatitis patients, in spite of positive effects, poor quality of life and higher levels of psychological distress were assessed.

Kraus et al¹⁵ conducted the research. The percentage of depression in patients was (22.4%) and anxiety was (15.2%). No significant effect was observed on previous drug abuse and histological status of liver impairment on coping strategies. There was the greater level of problem-solving attitude in freshly diagnosed chronic hepatitis patients and significantly more depression was

observed in aged patients. Significantly lower levels of depression and lower level of anxiety was observed in recently diagnosis patients (4 weeks to 6 months) compared to 5 years ago diagnosed patients. There was significantly higher level of depression and anxiety in patients who were recommended not to treat with interferon therapy.

Crockett et al.¹⁶ conducted the study. It has been observed that there was a strong positive association between avoidant coping and psychological distress. There was increased in symptoms of depression and anxiety when participants were involved in avoidant coping and decreased in symptoms of depression and anxiety when participants were involved in problem focused coping.

METHOD

For the present study 100 HBV patients (50 male and 50 female) and 100 HCV patients (50 male and 50 female) were selected and the written informed consent was obtained from the patients. The sample was selected from Liver Centre, District Headquarter Hospital Faisalabad, Pakistan. Only those patients were selected in the sample, having the age ranging from 17 years to 50 years. Those patients having the age more than 50 years or below 17 years and illiterates were not the part of the sample. The present study is based on cross sectional research design.

In this study Psychological distress means depression, anxiety and loss of behavioral/emotional control. Individuals scored higher on 24 items of psychological distress on (MHI-38) have been considered as higher psychological distress. On MHI-38, psychological distress contains 3 sub-scales, depression, anxiety, loss of behavioral / emotional control and further two items that are not included in sub-scales.

Depression is a mood state characterized by a sense of inadequacy, a decreased reactivity, pessimism, sadness and related symptoms.¹⁷ Individuals scored higher on 4 items of depression on (MHI-38) have been considered as higher depression.

Anxiety is an unpleasant emotional state with quality of apprehension, dread, distress and feeling of uneasiness.¹⁷ Individuals scored higher on 9 items of anxiety on (MHI-38) have been considered as higher anxiety.

Loss of control over behavior and emotions means, the person has lost the ability to control his behavior and ability to discriminate about when and how to express his feelings.¹⁷ Individuals scored higher on 9 items of loss of behavioral / emotional control on (MHI-38) have been considered as high loss of behavioral / emotional control.

Approach coping includes logical analysis, positive reappraisal, seeking guidance and support, and problem solving.¹⁸ Individuals scored higher on 24 items of approach coping on (CRI) have been considered as a higher approach coping.

Avoidance coping includes cognitive avoidance, acceptance or resignation, seeking alternative rewards, and emotional discharge.¹⁸ Individuals scored higher on 24 items of avoidance coping on (CRI) have been considered as higher avoidance coping.

MHI-38 (The Mental Health Inventory) by Viet and Ware in 1983. The inventory sub scales: anxiety, depression, behavioral / emotional control, emotional ties, general positive affect and life satisfaction. The inventory also furnishes the global mental health index. The National Multiple Sclerosis Society has shown up. 93 Cronbach alpha of the Mental Health Inventory. MHI-38 has revealed a high association with Multiple Sclerosis Quality of Life Inventory (MSQLI).

The Mental Health Inventory (MHI-38) has also been exercised in a large range of studies, especially in the medical disciplines, e.g., it has been employed to measure the mental health of patients with human immunodeficiency virus (HIV) and cancer.^{19,20,21,22,23}

Coping Response Inventory (CRI). The Coping

Response Inventory (CRI) developed by Moos in 1993. The Coping Response Inventory is a self-report inventory that finds behavioral and cognitive reactions of the individual which he exercised to cope with the problems or stressful conditions. The inventory having 2 scales: approach coping and avoidance coping with further eight sub scales, for approach coping: logical analysis, seeking guidance and support, positive reappraisal, and problem solving and for avoidance coping: cognitive avoidance, seeking alternative rewards, acceptance or resignation, and emotional discharge. The Cronbach alpha for the inventory is .67 for logical analysis, .61 for seeking guidance and support, .74 for positive reappraisal, .68 for problems solving, and .72 for cognitive avoidance, .62 for emotional discharge, .64 for acceptance and resignation.

The Coping Response Inventory (CRI) is appropriate for measuring the coping responses of healthy individuals, medical patients, psychiatric and addicted patients.¹⁸

STATISTICAL ANALYSIS

The statistical analysis, i.e. descriptive statistics, t tests and correlations was analyzed through the SPSS 16 version. Before conducting the analysis of data, the reliability of the Mental Health Inventory (MHI-38) and Coping Responses Inventory (CRI) with particular to the collected data for this study, were assessed. In the present study, the Mental Health Inventory (MHI-38) incorporating the Cronbach alpha .82 and the Coping Responses Inventory (CRI) .73.

RESULTS

	HCV (n = 100)		HBV (n = 100)		T	p
	M	SD	M	SD		
Psychological Distress	86.04	11.86	75.54	10.83	6.54	.000
Anxiety	32.94	5.63	28.22	5.19	6.16	.000
Depression	13.84	2.91	12.19	2.54	4.27	.000
Loss of Behavioural/ Emotional Control	31.61	4.86	28.51	4.46	4.70	.000

Table-I. The Difference in the Level of Psychological Distress (Depression, Anxiety and Loss of Behavioural/ Emotional Control) between HCV and HBV Patients on MHI-38

df = 198, *p < .05

As depicted in Table-I. it was observed that the level of psychological distress in HCV patients was significantly higher (M = 86.04, SD = 11.86) than the level of psychological distress in HBV patients (M = 75.54, SD = 10.83), t (198) = 6.54, p <.05. The level of anxiety in HCV patients was significantly higher (M = 32.94, SD = 5.63) than the level of anxiety in HBV patients (M = 28.22, SD = 5.19), t (198) = 6.16, p <.05. The level

of depression in HCV patients was significantly higher (M = 13.84, SD = 2.91) than the level of depression in HBV patients (M = 12.19, SD = 2.54), t (198) = 4.27, p <.05. The level of loss of behavioral/ emotional control in HCV patients was significantly higher (M = 31.61, SD = 4.86) than the level of loss of behavioral/ emotional in HBV patients (M = 28.51, SD = 4.46), t (198) = 4.70, p <.05

	Female (n = 100)		Male (n = 100)		t	p
	M	SD	M	SD		
Psychological Distress	84.12	12.80	77.46	11.29	3.90	.000
Anxiety	31.92	6.04	29.24	5.46	3.29	.000
Depression	13.56	2.82	12.47	2.78	2.75	.006
Loss of Behavioural/ Emotional Control	31.31	4.86	28.81	4.64	3.72	.000

Table-II. The Difference in the Level of Psychological Distress (Depression, Anxiety and Loss of Behavioural/ Emotional Control) between Female and Male Patients on MHI-38

df = 198, *p < .05

As depicted in Table-II, it was observed that the level of psychological distress in female patients was significantly higher (M = 84.12, SD = 12.80) than the level of psychological distress in male patients (M = 77.46, SD = 11.29), $t(198) = 3.90$, $p < .05$. The level of anxiety in female patients was significantly higher (M = 31.92, SD = 6.04) than the level of anxiety in male patients (M = 29.24, SD = 5.46), $t(198) = 3.29$, $p < .05$. The level of depression in female patients was significantly higher (M = 13.56, SD = 2.82) than the level of depression in male patients (M = 12.47, SD = 2.78), $t(198) = 2.75$, $p < .05$. The level of loss of behavioral/ emotional control in female patients was significantly higher (M = 31.31, SD = 4.86) than the level of loss of behavioral/ emotional control in male patients (M = 28.81, SD = 4.64), $t(198) = 3.72$, $p < .05$

	Age (N = 200)
Psychological Distress	
Male	$r = .32^{**}$
Female	$r = -.49^{**}$
Anxiety	
Male	$r = .24^*$
Female	$r = -.41^{**}$
Depression	
Male	$r = .21^*$
Female	$r = -.29^{**}$
Loss of Behavioural/ Emotional Control	
Male	$r = .29^{**}$
Female	$r = -.45^{**}$

Table-III. Association between Age and Psychological Distress (Anxiety, Depression and Loss of Behavioural/Emotional Control) in HBV and HCV Patients on MHI-38
* $p < .05$, ** $p < .01$

As depicted in Table-III, it was observed that age was significantly positively associated with psychological distress (depicted in Table-III), anxiety, depression and loss of behavioral/ emotional control in male $r = .32$, $p < .01$, $r = .24$, $p < .05$, $r = .21$, $p < .05$ and $r = .29$, $p < .01$ respectively but in, the female age was significantly negatively associated with psychological distress (depicted in Table-III),

anxiety, depression and loss of behavioral/ emotional control $r = -.49$, $p < .01$, $r = -.41$, $p < .01$, $r = -.29$, $p < .01$ and $r = -.45$, $p < .01$ respectively.

	Approach Coping (N = 200)
Psychological Distress	
Male	$r = -.45^{**}$
Female	$r = -.29^{**}$
Anxiety	
Male	$r = -.38^{**}$
Female	$r = -.25^*$
Depression	
Male	$r = -.36^{**}$
Female	$r = -.27^{**}$
Loss of Behavioural/ Emotional Control	
Male	$r = -.31^{**}$
Female	$r = -.22^*$

Table-IV. Association between Approach Coping and Psychological Distress (Anxiety, Depression and Loss of Behavioural/Emotional Control) in HBV and HCV Patients on MHI-38 and CRI
* $p < .05$, ** $p < .01$

As depicted in Table-IV, it was observed that approach coping was significantly negatively associated with psychological distress (depicted in Table-IV), anxiety, depression and loss of behavioral/ emotional control in both types of hepatitis patients in the male $r = -.45$, $p < .01$, $r = -.38$, $p < .01$, $r = -.36$, $p < .01$ and $r = -.31$, $p < .01$ respectively, and in the female $r = -.29$, $p < .01$, $r = -.25$, $p < .05$, $r = -.27$, $p < .01$ and $r = -.22$, $p < .05$ respectively.

It was also observed that avoidant coping was not significant either positively or negatively associated with psychological distress, anxiety, depression and loss of behavioral/ emotional control in both types of hepatitis patients.

DISCUSSIONS

The first objective of this study was to compare the level of psychological distress (depression, anxiety & loss of behavioral / emotional control) between the HBV patients and HCV patients. It was concluded that the psychological distress

(depression, anxiety & loss of behavioral / emotional control) were higher in HCV patients compared to HBV patients as depicted in Figure-1.

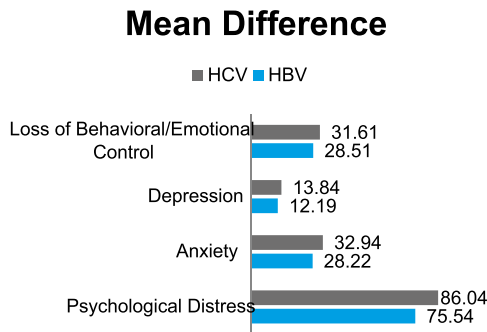


Figure-1. The Mean Difference in the Level of Psychological Distress, Anxiety, Depression and Loss of Behavioral/Emotional Control between HBV and HCV Patients on MHI-38

As the previous study that has been conducted by Alavian et al¹¹ to evaluate the depression and anxiety in chronic HCV patients, chronic HBV patients and healthy controls. Significantly higher rates of depression and anxiety were observed in chronic HCV patients as compared to chronic HBV patients and healthy control groups in Alavian study. Qureshi et al.²⁴ also observed that chronic HCV patient has a high rate of depression compared to chronic HBV patients.

The second objective of this study was to determine the effect of gender on psychological distress (depression, anxiety & loss of behavioral / emotional control) among HBV and HCV patients. It was observed that in female hepatitis patient, the psychological distress (depression, anxiety & loss of behavioral / emotional control) was higher comparatively for male hepatitis patients as depicted in Figure-2.

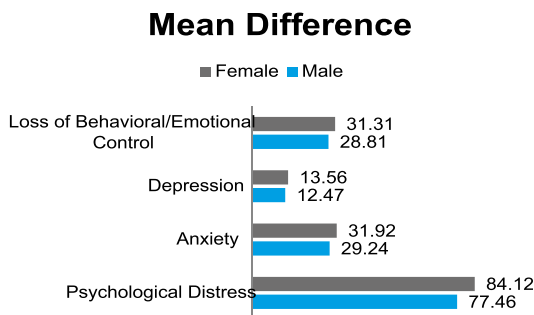


Figure-II. The Mean Difference in the Level of Psychological Distress, Anxiety, Depression and Loss of Behavioral/Emotional Control between Male and Female Hepatitis Patients on MHI-38

The third objective of this study was to determine the effect of age on psychological distress (depression, anxiety & loss of behavioral / emotional control) among HBV and HCV patients. It was observed that age was significantly positively associated with psychological distress (anxiety, depression and loss of behavioral/ emotional control) in males.

In female, the age was significantly negatively associated with psychological distress (anxiety, depression and loss of behavioral/ emotional control). It is surprising that in male there was a positive correlation between age and psychological distress (anxiety, depression & loss of behavioral / emotional control) but in females, there was a negative correlation between age and psychological distress (anxiety, depression & loss of behavioral / emotional control) as depicted in Figure-3.

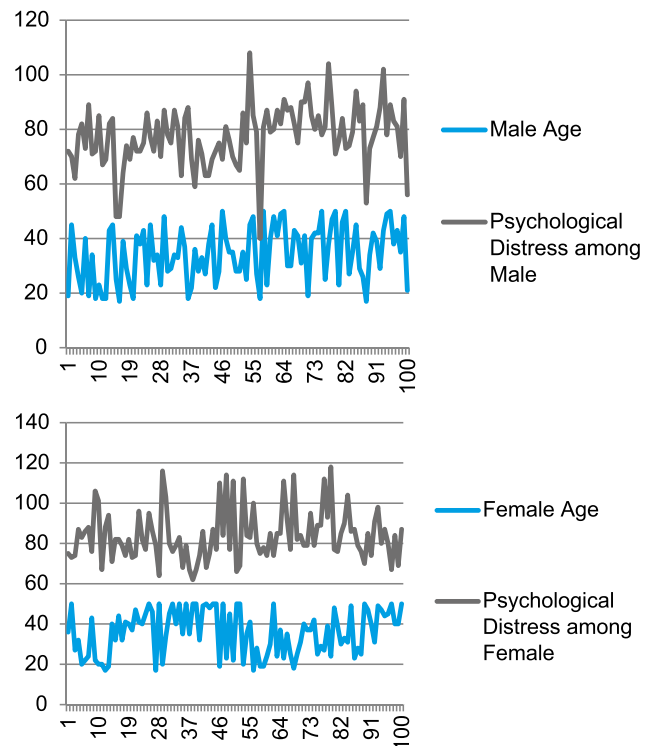


Figure-3. Association between Age (Male & Female) and Psychological Distress in HBV and HCV Patients on MHI-38

The fourth objective of this study was to examine the association between coping strategies and psychological distress. It was observed that approach coping was significantly negatively associated with psychological distress (anxiety, depression and loss of

behavioral/ emotional control) among HBV and HCV patients as depicted in Figure-4.

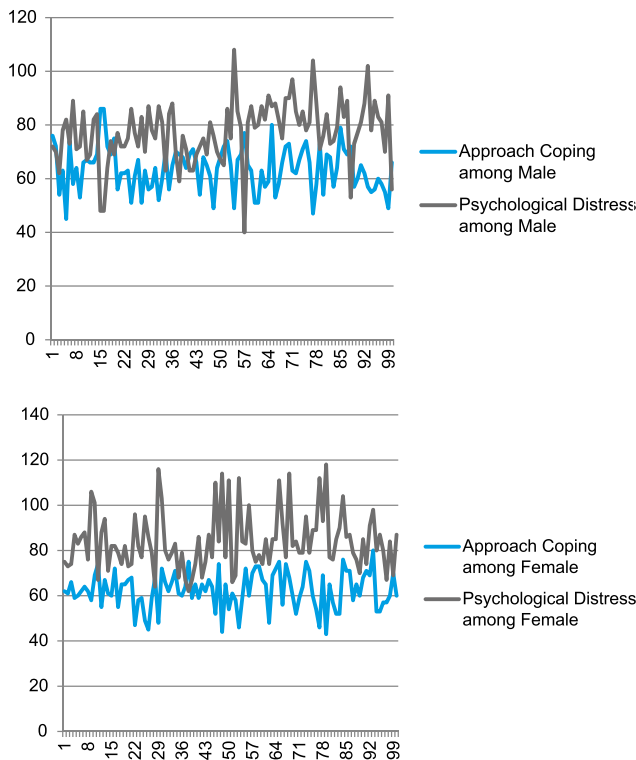


Figure-4. Association between Approach Coping (Male & Female) and Psychological Distress in HBV and HCV Patients on MHI-38 and CRI

However, avoidance coping was not significant either positively or negatively associated with psychological distress (anxiety, depression and loss of behavioral/ emotional control) among HBV and HCV patients.

In the previous, Wijndaele et al²⁵ observed that problem-focused coping is helpful in dropping psychological distress (anxiety, depression and stress) compared to other coping strategies.

In the present study the fact has been established that hepatitis illness has significant effects on patient's psychological and emotional health.

CONCLUSIONS

HCV patients have higher levels of psychological distress comparatively to HBV patients. Female hepatitis patients were suffering higher levels of psychological distress as compared to male hepatitis patients. For male, age was positively correlated with psychological distress, but for female age was

negatively correlated with psychological distress. Approach coping was negatively correlated with psychological distress while avoidance coping has no either positive or negative significant correlation.

Recommendations

The effect of age on psychological distress (depression, anxiety & loss of behavioral / emotional control) was also observed and found that for male hepatitis patients age was significantly positively correlated with psychological distress (depression, anxiety & loss of behavioral / emotional control), but for female age was significantly negatively correlated with psychological distress (depression, anxiety & loss of behavioral / emotional control). A comprehensive study is required for exploring the factors that are causing positive correlation between age and psychological distress (depression, anxiety & loss of behavioral / emotional control) for male and negative correlation between age and psychological distress (depression, anxiety & loss of behavioral / emotional control) for females.

Clinical Implications

- The present study has established the fact that there is an association between psychological distress and HBV and HCV morbidity.
- For controlling the morbidity and mortality among hepatitis patients, the present study demands to first control the psychological distress.
- For controlling the depression and anxiety among HBV and HCV patients, psychotherapies of the patients must be initiated.

Limitations

- In the present study data were collected from the Liver Centre DHQ, Hospital Faisalabad, it may be possible the patients that were taken in the sample were more critical stage with HBV and HCV infection than the patients who were not moved towards the treatment centers.
- The duration of HBV and HCV illness was not recorded, the duration of illness, itself is an important variable that influences on patient mental health.

Abbreviations

- HBV Hepatitis B Virus
- HCV Hepatitis C Virus
- CHC Chronic Hepatitis C
- MHI Mental Health Inventory
- CRI Coping Response Inventory
- MSQLI Multiple Sclerosis Quality of Life Inventory
- HIV Human Immunodeficiency Virus

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PREVIOUS RELATED STUDY

Muhammad Ayub Khan, Abdul Rehman, Muhammad Ashraf, Muhammad Ashraf, Azam Ali, Allah Ditta. PREVALENCE OF HBV, HCV AND HIV IN BLOOD DONORS AT LIAQUETPUR (Original) Prof Med Jour 13(1) 23-26 Jan, Feb, Mar, 2006.



“When injustice becomes law.
Resistance becomes duty.”

Che Guevara



AUTHORSHIP AND CONTRIBUTION DECLARATION

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