



## Depression level among the prisoners of Hobigonj district jail of Bangladesh

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### ABSTRACT

Prison mental health initiative still has not emphasized around the world remarkably. Some of the advanced civilized countries which conform the human right critically has introduced prison mental health initiative. A cross-sectional study was conducted to assess the level of depression among the prisoners and examine the relationship between depression levels, Jail related events and substance abuse related life style patterns of the respondents. A total of 195 prisoners were selected through non-probability sampling technique using Beck Depression Inventory consisting of 21 questions with clinical diagnostic criteria of depression, Socio-demographic, Lifestyle, and Jail related events questionnaire. Beck Depression Inventory was scored within 0-3 rating scale. The respondents were in between 18 to 77 years age. The mean,  $\pm$ SD and median age of the respondents were  $36.13 \pm 12.5$  and 32 years respectively. This study demonstrated that highest proportion (30%) of the prisoners were living with Moderate Depression. One-fifth (20%) of them were living in prison with Mild Mood Disturbance and its nearest proportion was 18% of the prisoners who were living with Normal Mood. Among the prisoners, 16% had Borderline Clinical Depression and on the other hand 12% of the respondents were suffering from Severe Depression and few (4%) of them were found with Extreme Depression. Relationships between depression levels and some socio-demographic characteristics such as age, religion, and marital status, number of children, occupations, remaining earning members and monthly family income of the respondents were tested and found statistically significant. In addition, relationships between depression levels and substances abuse related lifestyle patterns of the respondents such as Smoking habit, presence or absence of chronic diseases of the respondents were tested and found statistically significant. Study has disclosed significant mood related mental health problems among the prisoners of Bangladesh. Current study findings imply that further prison mental health research should be emphasized and there after grow authority's attention for prisoners' mental health of Bangladesh.

### INTRODUCTION

Prison mental health initiative still has not emphasized around the world remarkably. Some of the advanced civilized countries which conform the human right critically has introduced prison mental health initiative. They are working for imprisoned population from humanitarian context. They also have introduced research on prison mental health. There was found no prison mental health research in Bangladesh. So, Bangladesh should initiate prison mental health programme.

Depressive disorders are amongst the most commonly prevalent illnesses among the prison

population. Considering that this is one of the most disabling yet easily manageable disorders, no efforts should be spared towards identifying and treating them. Depression causes a lot of suffering as well as long-term adverse consequences if left untreated. Prevalence rates of depressive disorders in the prison population are high globally, and the Bangalore Prison study also highlights this finding. Sadly, depression is hardly ever recognized and managed in prison settings. It is important to train prison staff in the early recognition and counseling for depression, as well as establish an efficient network with mental health professionals for its effective treatment (Bada et al., 2011).

As the prison population is a part of the population of a nation, they also have right to access health services of a country. Moreover, according to principles of medical science, a patient should not treat based on their religion, race, culture, color, occupation or their moral characteristics. After getting any illness a man should be treated only as a human. Western countries have been paying attention on prisoners' mental health as they do for the general people. Asian countries also have large number of prison population. Studies conducted on prisoners' mental health are not adequate all over the world. Criminals or prisoners also have human right. Human right in modern civilization cannot ignore their physical or mental health. Literatures indicate that in Turkey, prison studies are rare and the mental health status of prisoners has not received proper attention. Psychological support, together with stress and anger management programs, seems to be essential (Unver et al., 2013). To prevent mental illness among the prisoners mental health care is important. Study suggests that service provision for prison populations in Chile should acknowledge high rates of depression and illicit drug use (Mundt, 2013). As in our country mental health status of general people has not reach up to satisfactory level so, it can't imagine that the Prisoners' mental health can be a problem of priority. Even research or any investigation on prisoners' mental health has not emphasized. There is not available research literature on this problem. This study primarily will be helpful to determine the mental health status of the prisoners of Bangladesh. Secondly the collected data for this study will be helpful to potential research works in this field. Ultimately this study is expected to drawing attention of concerned authority regarding mental health status of the prisoners of Bangladesh. Therefore the authority will take necessary initiative for prisoners' mental health and thereby conserve the human right.

The objective of the study was to assess the depression level and examining the relationship between depression and socio-demographic characteristics, substance abuse related life style patterns and jail related events of the prisoners of Hobigonjdistrict jail of Bangladesh.

## **MATERIALS AND METHOD**

### **The study population**

A cross-sectional descriptive study was performed for six months (July to November, 2015) with the prisoners of Hobigonj District Jail of Sylhet division, Bangladesh. The calculated sample size of this study was 384 but ultimately due to various constraints, data were collected from 195 respondents through purposive convenient sampling technique.

The non-convicted and sentenced male prisoners who were physically sound and willing to take part in the study were included in this study. The respondents who were physically ill or ready to immediately release or living in prison for less than 15 days were excluded in this study.

All questions of this inventory were scored within 0-3rating scale. The cumulated scores of this instrument were 63. The scores ranging from 1-10 was defined as Normal, 11-16 scores were indicated Mild Mood disturbance and 17-20 scores were treated as Borderline Clinical Depression. On the other hand, 21-30 scores were considered as Moderate Depression, 31-40 scores accounted as Severe Depression and the respondents having >40 scores were considered with Extreme Depression [20].

### **Data collection**

A pre-tested questionnaire was used to collect data. At first the respondents were greeted properly and provided sitting arrangement in comfortable condition. At first the purpose of the study was explained to the respondents (prisoners) with written inform consent paper and all about the study then the respondents were interviewed face to face on the basis of interview questionnaire by researcher.

### **Data analysis**

Data were analyzed with the help of computer with the help of SPSS 16.0 version. At first the data were entered into the computer. After completion of data entry, all data were checked running on the SPSS and further clean on computer. Descriptive and statistical methods were used in analyzing the data. The variables were

computed, transformed and recoded according to specific objective of the study. The important variables were considered and analyzed to fulfill the objectives of the study. At last appropriate graphs and figures was drawn for data presentation. To determine the relationship between target variables, statistical tests were done by Pearson's Chi-square test.

## RESULTS AND DISCUSSION

### Socio-demographic characteristics

#### *Age, religion and marital status of the respondents*

The respondents were in between 18 to 77 years age. Most of the respondents (37.9%) of the study were 26-35 years followed by  $\leq 25$  and 36-49 years (Table 1). It is stated that early career aged respondents had more depression that later aged groups.

**Table 1:** Distribution of the respondents based on age, religion and marital status (n=195)

	Age in Years	N (%)
Age	$\leq 25$	44(22.6)
	26-35	74(37.9)
	36-49	40(20.5)
	$\geq 50$	37(19.0)
Religion	Islam	181(92.8)
	Hindu	14(7.2)
Marital Status	Single	(N=46) 23.6%
	Married	(N=147) 75.4%

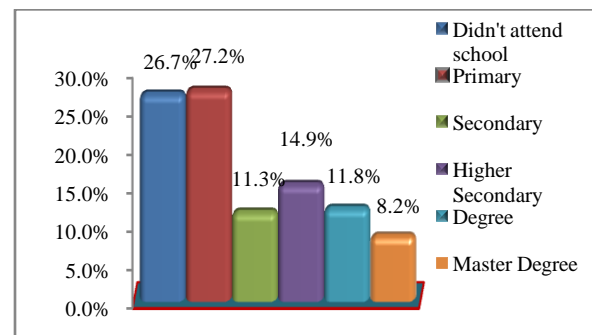
Though there are four religious groups are accounted in Bangladesh, the respondents of this study included from two religious groups. Almost (92.8%) of the respondents were Muslims and others believed on Hinduism. People of Bangladesh follow mainly four religions such as Islam, Hinduism, Buddhism and Christianity. There was found no religious group other than Muslim and Hindu (Table 1).

As the marital status of the people affects the human psychological state, respondents were asked for their marital status. There were found two categories of respondents in regard of marital

status. About one-fourth (24.6%) of the respondents were found single and others third-fourth (75.4%) of them were married (Table 1). A study conducted in Iranian prisoners accounted 50.4% married and 37.9% single in regards to marital status. This difference indicates that married people of Bangladesh are more trends to criminal activities in comparison to Iranian (Assadi et al., 2006).

#### *Educational status*

Respondents possessed highest Educational level up to Master degree. More than one-fourth (26.7%) of the respondents did not attend any educational institution. Highest proportion (27.2%) of them attended or completed primary school. About 11% prisoners reported that they attended or completed secondary education. Between secondary to master degree levels, highest proportion (14.9%) constituted by the respondents who attended or completed higher secondary education. The respondents who attended or completed Degree level education was almost equal to the respondents of secondary education level. They shared 11.8% of the sample population. More than 8% of the respondents attended master degree education (Figure 1). A study conducted in Durban of South Africa determined only 2.6% illiterate population in prison. This study shows 21.2% prisoners completed primary education. The prison population in Durban was 72% where as current study determined only 11% having secondary education. This indicates high proportion of secondary education in Durban in comparison to Bangladesh (Naidoo and Mkize, 2012).

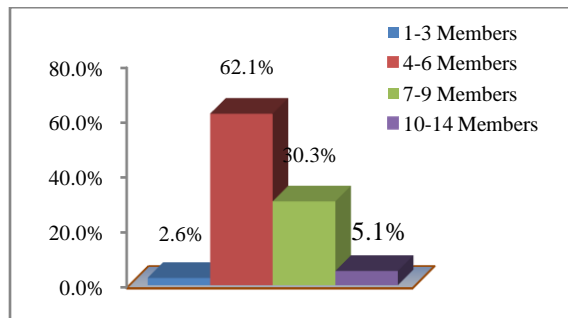


**Figure 1:** Distribution of the respondents based on educational status (n=195)

**Family members of the respondents**

In this study, the number of children of the respondents was thought to be an influencing factor of respondents’ depression levels. So the respondents were categorized into groups based on their number of children. About 30% of the respondents were found to have no children. Highest proportion about 46% of the respondents was found to have 1-3 children. The significant proportion about 18% of the respondents had 4-5 children. On the other hand least proportion (6.2%) of the respondents had 6-9 children respectively.

Sometimes large family size may influence the mental health of family head who earn and manage a family. Number of family member(s) may affect the mental health of family head based on the economic solvency which is influenced by the family size. So the respondents were asked about their number of family member and they were categorized into four groups. Only 2.6% of the respondents had 1-3 family members. Highest proportion more than 60% had 4-6 and 30% had 7-9 family members respectively. About 5% respondents were found to have 10-14 family members (Figure 2).

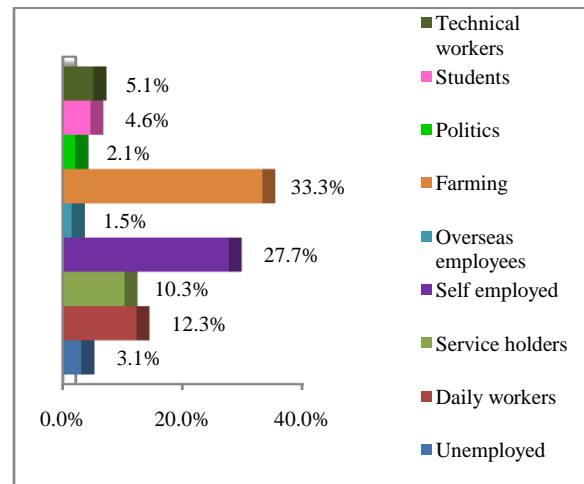


**Figure 2:** Distribution of the respondents based on Number of Family Members (n=195)

**Occupation of the respondents**

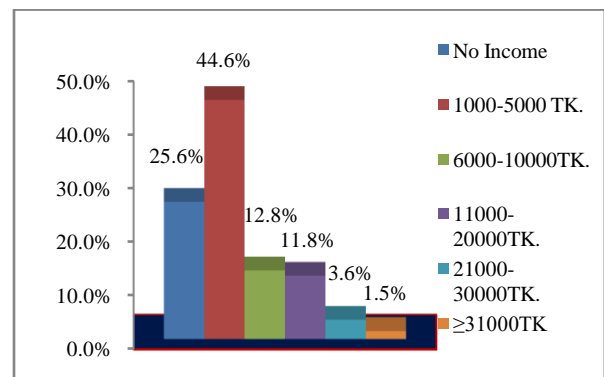
Occupation or employment status is one of the variables which may affect mental health of a man. Because some occupations are not enjoyable to the people are working with. There were found nine categories respondents based on their occupations. As our country still agriculture based the highest

proportion one-third (33.3%) of the respondents were farmer. Second highest proportion (27.7%) formed by the respondents who were self employed that means they were engaged with business. Daily workers constituted 12.3% which was greater than the proportion of service holders. They shared 10.3% of the sample population. There was found about 5.0% technical workers which were followed by 4.6% students included in the sample. There was also found unemployed prisoners. Among the respondents 3.1% respondent were unemployed. Others were engaged in politics and overseas job and their proportions were 2.1% and 1.5% respectively (Figure 3).



**Figure 3:** Distribution of the respondents based on Occupation (n=195)

**Family earning members and income**



**Figure 4:** Distribution of the respondents based on Monthly Family Income (n=195)

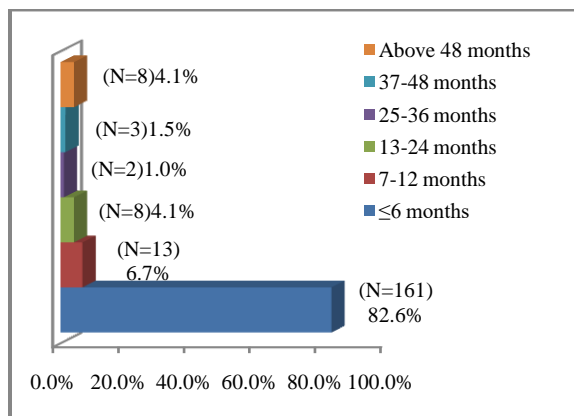
Sometimes some family may have more earning member. So the prisoners were asked whether they had other earning members in their family. Among the respondents 64% reported that they had earning members in the family and others 36% had no earning members other than themselves. However, the number of remaining earning member is an important variable, because it is involved with prisoners' familial economic condition that may influence their mental health.

As the economic condition of a family may affect the mental health status of the family members, the respondents were asked their monthly family income. More than one-fourth (25.6%) of the respondents had no family income due to their imprisonment. About 45% of the respondents had 1-5 thousands taka monthly family income. Approximately 13% of them had 6-10 thousands family income and about 12% had 11-20 thousands taka income per month. Other two groups had 21-30 and more than 30 thousands taka income. They constituted very little proportion of the respondents- 3.6% and 1.6% respectively (Figure 4).

**Jail related events of the respondents**

**Duration of imprisonment**

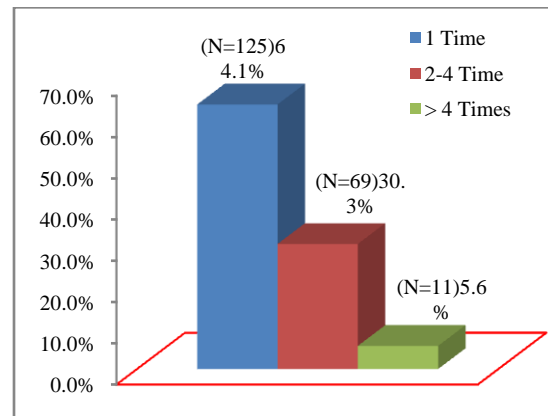
As the length of prison life may affect the prisoners' mental health, current study has considered the duration of imprisonment. Among the respondents, about 83% of the respondents had been living in jail for ≤6 months. About 7.0% respondents had been living in jail 7-12 months.



**Figure 5:** Distribution of respondents based on duration of imprisonment (n=195)

The respondents who had been living in jail for 13-24 months and >48 months formed equal proportion. Each of these two groups constituted about 4.0% in respective group. Only 1.0% of the respondents had been living in jail for 25-36 months. Rests 1.5% of the respondents were living in jail for 37-48 months (Figure 5).

**Frequency of imprisonment**



**Figure 6:** Distribution of respondents based on frequency of imprisonment (n=195)

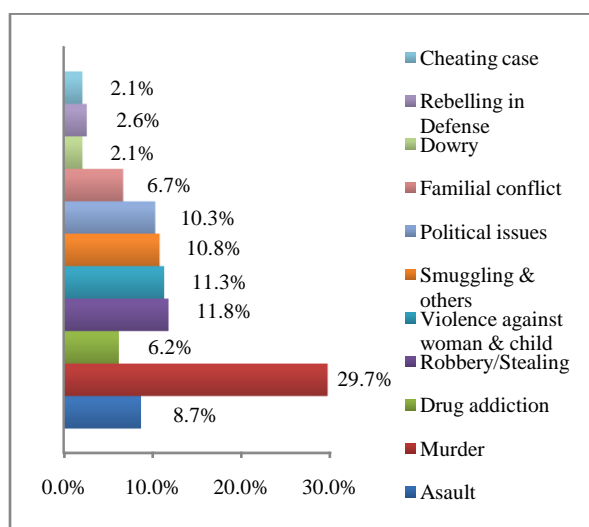
Frequency of imprisonment was supposed to have an important variable in current study. Sometimes some people are being frustrated for their first time imprisonment. Because they think that imprisonment is a significant life event for them. About two-third (64.1%) of the respondents entered into jail 1<sup>st</sup> time in their life time. About 30% of the respondents had entered into the jail 2-4 times. Only 5.6% respondents entered into the jail for >4 times in their life time (Figure 6).

**Criminological typology**

While the respondents were asked about the reasons of imprisonment, about 2.0% respondents reported that they were living in jail for cheating case. On the other hand same proportion of them was in jail for demanding dowry from wife. Some (2.6%) of the respondents were in jail for rebelling in defense. About 7.0% of the respondents had reported that they were living in jail for family conflict. More than 10% of the respondents were closed in jail for political issues. About 11.0% of them had got imprisonment due to smuggling and other reasons. The next higher proportion (11.3%)



of the respondents was living in jail for committing violence against women and child. About (12%) of the respondents was enclosed in prison for robbery or stealing. About 6% of the respondents were living in prison for drug addiction. The highest proportion about (30%) of the respondents was imprisoned for murder and about 9.0% were for assault (Figure 7).



**Figure 7:** Distribution of respondents based on criminological typology (n=195)

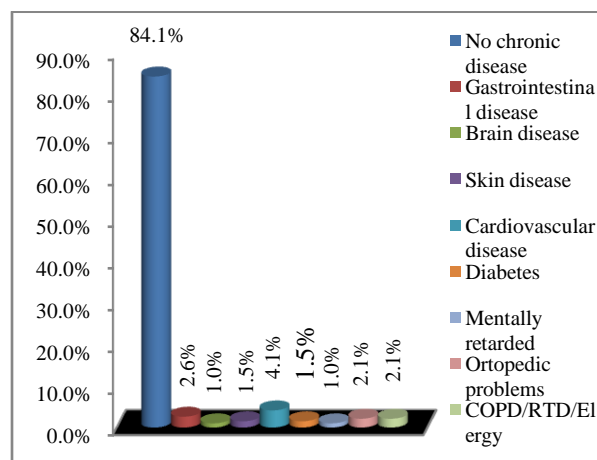
**Habit of the respondents in Jail**

About 10% of the respondents of them were smoking 1-5 cigarettes per day. 20% of the respondents used to smoke 6-10 cigarettes per day. Among the respondents 14.4% used drugs. Most (85.6%) of the respondents did not use any drug. Though almost (85.6%) respondents didn't use any drug but others used various kinds of drugs. About 9.0% of the respondents used cannabis (Ganja) and others 5.1% used Heroine, Pencilil and Yaba. Respondents were examined for alcoholism habit. About 11% of the respondents used to drink alcohol

**Illness of the respondents**

Most (84%) of the respondents had no chronic disease. Among the diseased respondents, 2.6% had gastrointestinal problem. The respondents who had brain diseases and mental retardation were equally distributed. Each group of them shared

only 1.0% in respective group. The respondents who had skin diseases and diabetes also were distributed equally. They formed 1.5% in each group respectively. Among the diseased prisoners highest (4.1%) had cardiovascular diseases. The respondents with orthopedic and COPD or RTD or allergy equally shared. They shared 2.1% in both group (Figure 8). An existing study found out problem with arms, legs, hands, feet, back or neck (including arthritis or rheumatism), skin conditions, allergies, Chest, breathing problem, asthma, bronchitis, Heart, blood pressure or blood circulation problems, stomach, liver, kidney or digestive problems, Diabetes (Cunniffe et al., 2012).



**Figure 8:** Distribution of the respondents based on the types of Chronic Illness (n=195)

**Mental characteristics of the respondents**

While the respondents were asked to tell about their sadness, about 20% told that they didn't feel sad. About half (49.2%) of them said that they feel sad much of the time. Others about (28%) of them felt sad all the time. Rests 3.6% were so sad or unhappy that they could not stand it. The respondents were asked to disclose their pessimism. About 37% of the respondents told that they were not discouraged about future. Highest proportion about 44% confessed that they felt more discouraged about their future that they used to be. About 10% among them didn't expect things to work out for them. Rests (8.7%) felt that they were hopeless about their future and future will get only worse (Table 2).

Among the respondents 43% didn't feel like a failure. Less than 20% of the respondents thought that they had failed more than they would have had. More than 34% told that when they look back they see a lot of failure. The prisoners were asked about pleasure. About 11% of them stated as "I get as much pleasure as I ever did from the things I enjoy". Highest proportion about 56% reported as "I do not enjoy things as much as I used". About 28% of the respondents told as "I get very little pleasure from the things I used to enjoy". Rests about 5% said as "I can't get any pleasure from the things I used to enjoy" (Table 2).

Most of the respondents (70%) reported as "I do not feel particularly guilty". About 20% of stated as "I feel guilty over many things I have done or should have done". About 10% of the prisoners felt quite guilty most of the time. Only about 2.0% was found who felt guilty all of the time (Table 2).

**Table 2:** Distribution of the respondents based on Beck Depression Inventory (n=195)

Mental Characteristics	N(%)
<b>1. Tell about sadness</b>	
I do not feel sad.	38 (19.5)
I feel sad much of the time.	96 (49.2)
I am sad all the time.	54 (27.7)
I am so sad or unhappy that I can't stand it.	07 (3.6)
<b>2. Tell about pessimism</b>	
I am not discouraged about future	73 (37.4)
I feel more discouraged about my future than I used to be.	86 (44.1)
I do not expect things to work out for me.	19 (9.7)
I feel my future is hopeless will only get worse.	17 (8.7)
<b>3. Tell about past failure</b>	
I do not feel like a failure.	84(43.0)
I have failed more than I should have.	35(18.0)
As I look back, I see a lot of failure.	67(34.4)
I feel I am a total failure as a person.	09(4.6)
<b>4. Tell about pleasure</b>	
I get as much pleasure as I ever did from the things I enjoy.	21(10.8)
I do not enjoy things as much as I used.	110(56.4)
I get very little pleasure from the	54(27.7)

things I used to enjoy.	
I can't get any pleasure from the things I used to enjoy.	10(5.1)
<b>5. Tell about feeling of guilt</b>	
I do not feel particularly guilty.	135(69.2)
I feel guilty over many things I have done or should have done.	37(19.0)
I feel quite guilty most of the time.	19(9.7)
I feel guilty all of the time.	04(2.1)

**Table 3:** Distribution of the respondents based on Beck Depression Inventory (continued) n=195

Mental Characteristics	N(%)
<b>6. Tell about feeling of punishment</b>	
I do not feel I am being punished.	77(39.4)
I feel I may be punished.	69(35.4)
I expect to be punished.	07(3.6)
I feel I am being punished.	42(21.5)
<b>7. Tell about self-dislike</b>	
I feel the same about myself as ever.	96(49.2)
I have lost confidence in myself.	58(29.7)
I am disappointed in myself.	26(13.3)
I dislike myself.	15(7.7)
<b>8. Tell about self-criticalness</b>	
I do not criticize or blame myself more than usual.	77(39.5)
I am more critical of myself than I used to be.	43(22.0)
I criticize myself for all of my faults.	58(29.8)
I blame myself for everything bad that happens.	17(8.7)
<b>9. Tell about suicidal thought or wishes</b>	
I do not have any thought of killing myself.	187(96.0)
I have thought of killing myself, but would not carry them out.	05(2.5)
I would like to kill myself.	00(00)
I would kill myself if I had the chance.	02(1.5)
<b>10. Tell about crying</b>	
I do not cry any more than I used to do more.	56(28.7)
I cry more than I used to do.	30(15.4)
I cry over every little thing.	35(17.9)
I feel like crying, but I can't.	74(37.9)

The respondents examined for their feeling of punishment. About 40% of them told as "I do not feel I am being punished". More than one-third

(35.4%) of them felt as “I feel I may be punished”. Few (3.6%) of the respondents thought as, “I expect to be punished”. Rests 21.5% felt that they were being punished (Table 3). Respondents were asked about self-dislike. About half (49.2%) of them stated as “I feel the same about myself as ever”. About 30% of them told as “I have lost confidence in myself”. About 13% reported as “I am disappointed in myself”. Rests (7.7%) of them said as “I dislike myself”. The respondents were asked to tell about self-criticalness. About 40% of the respondents told as “I do not criticize or blame myself more than usual”. Among them 22% stated as “I am more critical of myself than I used to be”. About 30% reported as “I criticize myself for all of my faults”. Rests 8.7% of the respondents’ thought was as “I blame myself for everything bad that happens”.

The respondents were tested for suicidal thought or wishes. Almost (96%) of the respondents told as “I do not have any thought of killing myself”. Very few (2.5%) of them stated as “I have thought of killing myself, but would not carry them out”. Rests 1.5% thought as “I would kill myself if I had the chance”. As crying is one of the characteristic features of depression, respondents were asked about crying. About 29% of the respondents told as “I do not cry any more than I used to do more”. More than 15% said as “I cry more than I used to do”. About 18% stated as “I cry over every little thing”. About 40% of the respondents thought as “I feel like crying, but I can’t”.

The respondents were asked about their agitation. Among them 22.6% told as “I am no more restless or wound up than usual”. About half of them told as “I feel more restless or wound up than usual”. About one-fourth reported as “I am so restless that it is hard to stay still”. Only 2.6% respondents’ thought as “I am so restless that I have to keep moving or doing something. The respondents were questioned about their loss of interest. More than half (51.8%) of the respondents had confessed as “I have not loss interest in other people or activities”. About 28% of them told as “I am less interested in other people or things than before”. Significant proportion of the prisoners said as “I have lost most of my interest in other people or things”. Rests (4.1%) of the respondents reported as “I have trouble making any decision”.

Respondents were asked about for their indecisiveness. About 40% of the respondents stated as “I make decision about as well as ever”. Among them 38.5% told as “I find it difficult to make decision than usual”. Others about 14% reported as “I have much greater difficulty in making decisions than I used to”. Rest 3.6% of them said as “I have trouble making any decision”. The respondents were asked to tell about worthlessness. Highest proportion 56.4% of the respondents told as “I do not feel I am worthless”. More than 20% of them stated as “I do not consider myself as worthwhile and useful as I used to” and less than 20% said as “I feel more worthless as compared to other people”. Least proportion (4.6%) of them felt utterly worthless.

While the respondents asked about loss of energy, among them 41% told as “I have as much energy as ever” and about equal proportion (40.5%) of them said as I have less energy than I used to have”. About 13% of the respondents told as “I don’t have enough energy to do very much” and rests 5.6% stated as “I don’t have enough energy to anything’ (Table 3).

**Table 4:** Distribution of the respondents based on Beck Depression Inventory (continued) n=195

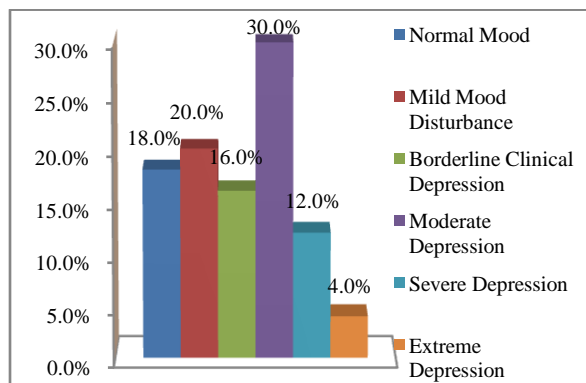
Mental Characteristics	N(%)
11. Tell about agitation	
I am no more restless or wound up than usual.	44(22.6)
I feel more restless or wound up than usual.	100(51.3)
I am so restless that it is hard to stay still.	46(23.6)
I am so restless that I have to keep moving or doing something.	05(2.6)
12. Tell about loss of interest	
I have not loss interest in other people or activities.	101(51.8)
I am less interested in other people or things than before.	55(28.2)
I have lost most of my interest in other people or things.	31(15.0)
It is hard to get interested in anything.	08(4.1)
13. Tell about indecisiveness	
I make decision about as well as ever.	86(41.1)
I find it difficult to make	75(38.5)



	decision than usual.	
	I have much greater difficulty in making decisions than I used to.	27(13.8)
	I have trouble making any decision.	07(3.6)
14.	Tell about worthlessness	
	I do not feel I am worthless.	110(56.4)
	I do not consider myself as worthwhile and useful as I used to.	42(21.5)
	I feel more worthless as compared to other people.	34(17.4)
	I feel utterly worthless.	09(4.6)
15.	Tell about loss of energy	
	I have as much energy as ever.	80(41.0)
	I have less energy than I used to have.	79(40.5)
	I don't have enough energy to do very much.	25(12.8)
	I don't have enough energy to anything.	11(5.6)

**Depression levels of the respondents**

This study demonstrated that highest proportion (30%) of the respondents was living with Moderate Depression. One-fifth (20%) of them were living in prison with Mild Mood Disturbance and its nearest proportion was 18% of the prisoners who were living with Normal Mood. Among the respondents 16% had Borderline Clinical Depression and on the other hand 12% of the respondents were suffering from Severe Depression and few (4%) of them were found with Extreme Depression in the context of mood (Figure 8).



**Figure 8:** Depression levels of the prisoners according to beck depression inventory (n=195)

**Relationship between depression and socio-demographic characteristics**

*Depression and age of the respondents*

The respondents were categorized as- ≤25 years, 26-35 years, 36-49 years and ≥50 years. Relationship between age and depression levels of the respondents was tested. Age group ≤25 years constituted highest proportion (36.5%) among the respondents who were found with normal mood. Next higher order age group 26-35 shared second highest proportion (16.2%) of the respondents. The age group 36-49 and ≥55 years shared equal proportions. Each of them formed 8.1% in respective group. The proportions of the respondents who had Moderate depression were distributed in ascending order with increasing age. Respondents with moderate depression shared 20.5%, 24.3%, 29.7% and 54.1% in respective age group. Other categories didn't show any significant differences. Pearson's chi-square test was done and it was found statistically very significant ( $X^2=32.365, p=0.006$ ).

*Depression and religion of the respondents*

Relationship between depression levels and religion of the respondents was tested. The proportions (18.2%) of the respondents who use to follow Islam were higher than the followers of Hinduism in normal mood. The Hindu respondents shared 14.3% of the respondents of normal mood. On the other hand higher proportions were observed in Muslims between all of the levels of depression except extreme depression. Pearson's chi-square test was done and it was found statistically significant ( $X^2=36.81, p<0.05$ ).

*Depression and marital status of the respondents*

Depression and marital status of the respondents was examined. The respondents with normal mode were distributed in both categories- single and married which formed 45.8% and 8.8%. These proportions implied that single or unmarried people had decreased tendency to depression. The respondents of both categories distributed in all of the levels of depression showed inverse scenario. Proportions of married were greater than the single or unmarried respondents distributed in the levels of depression from Mild Mood Disturbance to

Extreme Depression. The pattern of distribution implied significant relationship (p=0.00) between marital status and depression levels of the prisoners (Table 5).

**Depression and educational qualification of the respondents**

Though the uneducated prisoners constituted 11.5% with the Normal Mood discretely, but

others distributed in different educational status from primary education to master level showed proportions in ascending order with Normal Mood (Table 5). These distributions implied relationship between depression and level of education. Respondents with severe depression were distributed from illiterate to master education in descending order which indicated that more the education lesser the depression.

**Table 5:** Relationship between depression and socio-demographic characteristics of the respondents

Characteristic	Normal Mood	Mild Mood Disturbance	Borderline Clinical Depression	Moderate Depression	Severe Depression	Extreme Depression	Total	Test Statistics
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	
<b>Depression and age of the Respondents</b>								
≤25	17 (36.6)	09 (20.5)	06 (13.6)	09 (20.5)	02 (4.5)	01 (2.3)	44 (22.6)	X <sup>2</sup> =32.36 p=0.006
26-35	12 (16.2)	16 (21.6)	13 (17.6)	18 (24.3)	12 (16.2)	03 (4.1)	74 (37.9)	
36-49	03 (8.1)	14 (29.7)	07 (16.2)	12 (29.7)	05 (13.5)	02 (2.7)	40 (20.5)	
≥50	03 (8.1)	03 (8.1)	05 (13.5)	20 (54.1)	04 (10.8)	02 (5.4)	37 (19.0)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100.0)	
<b>Depression and Religion of the Respondents</b>								
Islam	33 (18.2)	37 (20.4)	29 (16.0)	55 (30.4)	22 (12.2)	05 (2.8)	181 (92.8)	X <sup>2</sup> =11.71 P=0.03
Hinduism	02 (14.3)	02 (14.3)	02 (14.3)	04 (28.6)	01 (7.1)	03 (21.4)	14 (7.2)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100.0)	
<b>Depression and Marital Status of the Respondents</b>								
Single	22 (45.8)	08 (16.7)	05 (10.4)	07 (14.6)	04 (8.3)	02 (4.2)	48 (24.5)	X <sup>2</sup> =51.73 P=0.00
Married	13 (8.8)	31 (21.1)	26 (17.7)	52 (35.4)	19 (12.9)	06 (4.1)	147 (75.5)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100.0)	
<b>Depression and Educational Status of the Respondents</b>								
No School	06 (11.5)	05 (9.6)	09 (17.3)	20 (38.5)	10 (19.2)	02 (3.8)	52 (26.7)	X <sup>2</sup> =37.15 P=0.05
Primary	03 (5.7)	17 (32.0)	09 (17.0)	14 (26.4)	08 (15.0)	02 (3.8)	53 (27.2)	
Secondary	06 (27.3)	05 (22.7)	02 (9.1)	09 (40.9)	00 (0.0)	00 (0.0)	22 (13.3)	
HSC	08 (27.6)	04 (13.8)	02 (6.9)	09 (31.0)	04 (13.8)	02 (6.9)	29 (14.9)	
Master Degree	07 (30.4)	05 (21.7)	05 (21.7)	04 (17.4)	01 (4.3)	01 (4.3)	23 (11.8)	
Degree	05 (31.2)	03 (18.8)	04 (25.0)	03 (18.8)	00 (0.0)	01 (6.2)	16 (8.2)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100.0)	

**Depression and number of children of the respondents**

Among the respondents with Normal Mood, highest proportion (38.6%) had no children. The prisoners with severe depression showed significance in distribution. The respondents having no children 8.8%, 1-3 children 11.1%, 4-5 children 16.7% and 6-9 children 16.7% were distributed with severe depression. These distributions denoted significant (p=0.00)

relationship between depression and increased number of children.

**Depression, number of family member and occupation**

Distribution of the respondents with varied number of family member between the levels of depression didn't imply any association. Similarly the distribution of the prisoners between depression levels and varied occupations didn't show any relationship (p<0.131).

**Table 6:** Relationship between depression and socio-demographic characteristics of the respondents (continued) n=195

Characteristics	Normal Mood N (%)	Mild Mood Disturbance N (%)	Borderline Clinical Depression N (%)	Moderate Depression N (%)	Severe Depression N (%)	Extreme Depression N (%)	Total N (%)	Test Statistics
<b>Depression and Number of Children of the Respondents</b>								
No Children	22 (38.6)	11 (19.3)	07 (12.3)	09 (15.8)	05 (8.8)	03 (5.3)	57 (29.2)	$X^2=36.1$ P=0.00
1-3 Children	08 (8.9)	17 (18.9)	18 (20.0)	33 (36.7)	10 (11.1)	04 (4.4)	90 (46.2)	
4-5 Children	05 (13.9)	10 (27.8)	05 (13.9)	10 (27.8)	06 (16.7)	00 (0.0)	36 (18.5)	
6-9 Children	00 (0.0)	01 (8.3)	01 (8.3)	07 (58.3)	02 (16.7)	01 (8.3)	12 (6.2)	
<b>Total</b>	<b>35 (17.9)</b>	<b>39 (20.0)</b>	<b>31 (15.9)</b>	<b>59 (30.3)</b>	<b>23 (11.8)</b>	<b>08 (4.1)</b>	<b>195 (100)</b>	
<b>Depression and Number of the Family Members of the Respondents</b>								
1-3 embers	01 (20.0)	01 (20.0)	01 (20.0)	02 (40.0)	00 (0.0)	00 (0.0)	05 (2.6)	$X^2=5.76$ P=0.98
4-6 embers	21(17.4)	22 (18.2)	20 (16.5)	39 (32.2)	14 (11.6)	05 (4.1)	121 (62.1)	
7-9 embers	11 (18.6)	14 (23.7)	10 (16.9)	14 (23.7)	08 (34.8)	02 (25.0)	59 (30.3)	
10-14Members	02 (20.0)	02 20.0	00 (0.0)	04 (40.0)	01 (10.0)	01 (10.0)	10 (5.1)	
<b>Total</b>	<b>35 17.9</b>	<b>39 (20.0)</b>	<b>31 (15.9)</b>	<b>59 (30.3)</b>	<b>23 (11.8)</b>	<b>08 (4.1)</b>	<b>195 (100)</b>	
<b>Depression and Occupation of the Respondents</b>								
Daily Workers	02 (8.3)	03 (12.5)	04 (16.7)	06 (25.0)	06 (25.0)	03 (12.5)	24 (12.3)	$X^2=32.9$ 9 P=0.131 F≤0.000
Service & Overseas jobs	07 (30.4)	04 (17.4)	02 (8.7)	06 (26.1)	02 (8.7)	02 (8.7)	23 (11.8)	
Self employed Farming	07 (13.0)	14 (25.9)	09 (16.7)	17 (31.5)	04 (7.4)	03 (5.6)	54 (27.7)	
Unemployed & Students	09 (13.8)	13 (20.0)	11 (16.9)	22 (33.8)	10 (15.4)	00 (0.0)	65 (65.0)	
Technical Workers	08 (42.1)	02 (10.5)	04 (21.1)	05 (26.3)	00 (0.0)	00 (0.0)	19 (9.7)	
<b>Total</b>	<b>02 (20.0)</b>	<b>03 (30.0)</b>	<b>01 (10.0)</b>	<b>03 (30.0)</b>	<b>01 (10.0)</b>	<b>00 (0.0)</b>	<b>10 (5.1)</b>	
<b>Total</b>	<b>35 (17.9)</b>	<b>39 (20.0)</b>	<b>31 (15.9)</b>	<b>59 (30.3)</b>	<b>23 (11.8)</b>	<b>08 (4.1)</b>	<b>195 (100)</b>	

### ***Depression and availability of remaining earning member(s) in the family***

The respondents who had remaining earning member in the family shared higher proportion (20.8%) than the respondents having no earning member which constituted 13.0%. Respondents with Mild Mood Disturbance were distributed between two groups. Major proportion (31.4%) was constituted by the respondents who had no earning member in the family. The respondents having earning members formed 13.6% among the respondents with Mild Mood Disturbance. Similarly the respondents with Borderline Clinical Depression revealed the relationship between depression and earning member. These respondents were distributed between two groups sharing 24.2% having no earning member and 11.2% having remaining earning member in the

family. Distribution pattern implied significant relationship ( $p=0.001$ ) between these two variables.

### ***Depression and family income***

There was significant relationship ( $p<0.05$ ) between depression and family income. The respondents with having No Income formed 20% among the respondents with Normal Mood. Others were distributed between varied family incomes in ascending order that indicated more the family income lesser the depression. The respondents with Normal Mood having varied family incomes shared 1-5 thousands BDT 11.5%, 6-10 thousands BDT 20%, 11-20 thousands BDT 21.7%, 21-30 thousands BDT 42.9% and  $\geq 31$  thousands BDT 66.7% of the respondents respectively.

**Table 7:** Relationship between depression and socio-demographic characteristics of the respondents (continued) n=195

Characteristics	Normal Mood	Mild Mood Disturbance	Borderline Clinical Depression	Moderate Depression	Severe Depression	Extreme Depression	Total	Test Statistics
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	
<b>Depression and Availability of Remaining Earning Member(s) in the Family</b>								
No	09 (13.0)	22 (31.4)	17 (24.2)	16 (23.0)	06 (8.6)	00 (0.0)	70 (36.0)	$X^2=20.96$ P=0.001
Yes	26 (20.8)	17 (13.6)	14 (11.2)	43 (34.4)	17 (13.6)	08 (6.4)	125 (64.0)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100)	
<b>Depression and Family Income (BDT)</b>								
No Income	10 (20.0)	09 (18.0)	15 (30.0)	10 (20.0)	05 (10.0)	01 (2.0)	50 (25.6)	$X^2=40.31$ P=0.027
1000-5000	10 (11.5)	16 (18.4)	07 (8.0)	34 (39.0)	16 (18.4)	04 (4.6)	87 (44.6)	
6000-10000	05 (20.0)	04 (16.0)	06 (24.0)	07 (28.0)	02 (8.0)	01 (4.0)	25 (12.8)	
11000-20000	05 (21.7)	09 (39.1)	02 (8.7)	05 (21.7)	00 (0.0)	02 (8.7)	23 (11.8)	
21000-30000	03 (42.9)	01 (14.3)	01 (14.3)	02 (28.6)	00 (0.0)	00 (0.0)	07 (3.6)	
≥310000	02 (66.7)	00 (0.0)	00 (0.0)	01 (33.3)	00 (0.0)	00 (0.0)	03 (1.5)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100)	

**Table 8:** Relationship between Depression and Jail related Events of the respondents (n=195)

Jail related Events	Normal Mood	Mild Mood Disturbance	Borderline Clinical Depression	Moderate Depression	Severe Depression	Extreme Depression	Total	Test Statistics
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	
<b>Depression and Duration of Imprisonment</b>								
≤6 Months	29 (18.0)	38 (23.6)	25 (15.5)	47 (29.2)	19 (11.8)	03 (1.9)	161 (82.6)	$X^2=33.33$ P=0.123
7-12 Months	02 (15.4)	01 (7.7)	01 (7.7)	04 (30.8)	02 (15.4)	03 (23.1)	13 (6.7)	
13-24 Months	01 (12.5)	00 (0.0)	01 (12.5)	03 (37.5)	02 (25.0)	01 (12.5)	08 (4.1)	
25-36 months	00 (0.0)	00 (0.0)	01 (50.0)	01 (50.0)	00 (0.0)	00 (0.0)	02 (1.0)	
37-48 Months	01 (33.3)	00 (0.0)	00 (0.0)	02 (66.6)	00 (0.0)	00 (0.0)	03 (1.5)	
≥49 Months	02 (25.0)	00 (0.0)	03 (37.5)	02 (25.0)	00 (0.0)	01 (12.5)	08 (4.1)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100)	
<b>Depression and Frequency of Jail Entry</b>								
1 time	29 (23.2)	22 (17.6)	21 (16.8)	35 (28.0)	13 (10.4)	05 (4.0)	125 (64.1)	$X^2=10.65$ P=0.385
2-4 times	05 (8.5)	13 (22.0)	08 (13.6)	22(37.3)	08 (13.6)	03 (5.1)	59 (30.3)	
≥5 times	01 (9.1)	04 (36.4)	02 (18.2)	02 (18.2)	02 (18.2)	00 (0.0)	11 (5.6)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100)	
<b>Depression and types of Punishment</b>								
Rigorous	04 (17.4)	03 (13.0)	04 (17.4)	06 (26.0)	04 (17.4)	02 (8.7)	23 (11.8)	$X^2=2.85$ P=0.722
Simple	31 (18.0)	36 (2.9)	27 (15.7)	53 (30.8)	19 (11.0)	06 93.5)	172 (88.2)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100)	
<b>Depression and types of Imprisonment</b>								
Convicted	04 (14.3)	05 (17.9)	04 (14.3)	08 (28.6)	05 (17.9)	02(7.1)	28(14.4)	$X^2=2.159$ P=0.827
Non-convicted	31 (18.6)	34 (20.4)	27 (16.2)	51 (30.5)	18 (10.8)	06(3.6)	167(85.6)	
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100)	

**Relationship between depression and jail related characteristics of the respondents**

There is no association between Levels of depression and imprisonment duration. The prisoners who had entered first time into the jail constituted highest proportion (23.2%) among the respondents with Normal Mood. Respondents with Mild Mood Disturbance showed gradual increasing in proportion with increasing duration of imprisonment. Respondents of first time imprisonment 17.6%, 2-4 times imprisonment 22.0% and ≥5 time imprisonment 36.4% with Normal Mood. The prisoners with severe depression also revealed a gradual increasing in proportions. Within this group, the respondents of first time imprisonment shared 10.4%, 2-4 times 13.6% and ≥5 times 18.2% respectively. Relationship between depression and punishment type was not significant. Similarly, relationship between depression and types of imprisonment was not significant (Table 8).

**Relationship between depression and substance abuse related life style pattern of the respondents**

Relationship between depression and Smoking habit was highly significant. ( $X^2=23.64$ ,  $P=0.000$ ) tested. The respondents who used to smoke were found higher proportion than the non-smokers. They formed 35.8% while the non-smokers formed 11.3%. Similar trend was observed among the respondents with Mild Mood Disturbance. Among this group, Smokers and Non-smokers shared 26.4% and 17.6% respectively. On the other hand, among the respondents with Borderline Clinical Depression, Smokers and Non-smokers formed 9.4% and 18.3% respectively. Among the respondents with Moderate depression, same trend was observed. Smokers formed about half (17%) of about 35% Non-smokers. There also found slight difference between Smokers and Non-smokers with Severe Depression. They constituted 11.3% and 12% respectively. The respondents with Extreme Depression were non-smokers (Table 9).

**Table 9:** Relationship between Depression and Substance abuse related Life Style Patterns of the Respondents (n=195)

Life Style Patterns	Normal Mood	Mild Mood Disturbance	Borderline Clinical Depression	Moderate Depression	Severe Depression	Extreme Depression	Total	Test Statistics
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	
<b>Depression and Smoking Habit</b>								
Yes	19 (35.8)	14 (26.4)	05 (9.4)	09 (17.0)	06 (11.3)	00 (0.0)	53(27.2)	$X^2=23.64$
No	16 (11.3)	25 (17.6)	26 (18.3)	50 (35.2)	17 (12.0)	08(5.6)	142 (72.8)	$P=0.000$
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100.0)	
<b>Depression and Habit of Drug Abuse</b>								
Yes	32 (19.2)	36 (21.6)	27 (16.2)	48 (28.7)	18 (10.8)	06 (3.6)	167 (85.6)	$X^2=5.053$
No	03 (10.7)	03 (10.7)	04 (14.3)	11 (39.3)	05 (17.9)	02 (7.1)	28 (14.4)	$P=0.409$
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100)	
<b>Depression and Alcoholism</b>								
Yes	02 (9.1)	04 (18.2)	03 (13.6)	08 (36.4)	04 (18.2)	01 (4.5)	22 (11.3)	$X^2=2.380$
No	33 (19.1)	35 (20.2)	28 (16.2)	51 (29.5)	19 (11.0)	07 (4.0)	173 (88.7)	$P=0.794$
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100.0)	
<b>Depression and Chronic Diseases</b>								
Yes	06 (19.4)	03 (9.7)	04 (12.9)	07 (22.6)	08 (25.8)	03 (9.7)	31 (15.9)	$X^2=11.85$
No	29 (17.7)	36 (22.0)	27 (16.5)	52 (31.7)	15 (9.1)	05 (3.0)	164 (84.1)	$P=0.037$
Total	35 (17.9)	39 (20.0)	31 (15.9)	59 (30.3)	23 (11.8)	08 (4.1)	195 (100.0)	



Though, the drug abuser respondents formed higher proportion than Non-drug users with Normal Mood, the distributions were revealed no significant discrepancy between levels of depression.

Relationship between depression and alcoholism was not significant. Though the difference between prisoners who had chronic diseases and no chronic diseases with normal Mood was not significant, but differences between the groups with varied depression levels were significant ( $P < 0.05$ ). Respondents with severe depression made differences. Respondents with chronic diseases shared 25.8% against the 9.1% respondents with no chronic diseases (Table 9).

## CONCLUSION

This study provides important information about mood related even over all mental health problems in the prison population of Bangladesh. Current study has determined extent and severity levels of depression in the prison population of Bangladesh. Prevalence and Severity of mood related mental health problems were considerably high. This study demonstrated that about four of every five of the prisoners were living with Mild Mood Disturbance to Extreme Depression.

Relationship between depression levels and some socio-demographic characteristics such as age, religion, and marital status, number of children, occupations, remaining earning members and monthly family income of the respondents was found statistically significant.

In addition, relationship between depression levels and some lifestyle patterns of the respondents such as Smoking habit, presence or absence of chronic diseases of the respondents was found statistically significant. Experience of current study may be helpful for further rigorous mental health research on prison population of Bangladesh and beyond.

## Recommendations

Further extensive and well-designed study should be under taken to bridge the gap of knowledge regarding mental health problems of those

populations. Valid and reliable research tool should be developed in the context of Bangladesh situation. Other factors which are left in current study should be examined in further study to confirm more accuracy in the knowledge in this regard. Authority should take initiative for further extensive mental health study on prison population of Bangladesh. In addition authority should initiate mental health service for the prisoners including mental state screening, preventive and curative mental health care.

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