



SUICIDE AND DEPRESSION; FREQUENCY OF SUICIDE AND DEPRESSION AMONG PATIENTS WITH ORGANOPHOSPHORUS POISONING

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ABSTRACT... Objectives: In this study we will assess the risk factor of suicide in those patients who have attempted suicide with OPP. **Design:** Descriptive and Retrospective. **Setting:** Department of Medicine PUMHS Nawabshah. **Period:** June 2016 to November 2017. **Methods:** Study was done using questionnaire on Performa. Patients admitted with history of suicidal OPP poisoning. Exclusion criteria were poisoning by other methods, not interested to participate for the study. Psychiatric assessment was made by using BDI Scale criteria. Statistical analysis was analysed by software SPSS 15 version. **Results:** 116 patients were enrolled for this study. Male were 43 and females were 73. Age range 14 years to 45 years mean age=22+4. Education level. Depression Level: 94 patients were in severe depression, 7 patients were in extreme depression and 15 patients were in moderate depression. **Conclusion:** Patient of Suicide with opp should be screened for psychiatric disorder. Majority of the patients and their relatives after treatment think that now patient is normal. Education about risk of suicide should be explained to patient and relatives. Psychiatric detailed history and treatment is compulsory to prevent reattempt.

Key words: Suicide, Organophosphorus Poisoning.

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INTRODUCTION

Suicide is the act of intentionally causing his or her own death. Risk Factors include psychiatric disorders such as personality disorder, depression, schizophrenia, bipolar disorder, alcoholism, substance abuse and use of benzodiazepine.¹ Depression in youth is major health problem, according to national Institute of Mental Health recent brief about 11% of young adult aged 18 years experience depressive disorder. Depression is mood disorder patient feels persistent sadness, loss of interest in the things with emotional and physical problems.² In depression patient feels suicidal thoughts, risk factor in young include sexual orientation disturbed personal relationships, anxiety and bulimia, obesity, bullying academic achievement, abusing nicotine (in powder for cigarettes) alcohol, victim of violence, family history of depression or recent stress.³ In several studies there is a strong association between major depression and complete suicide. Major depression and other mood disorders are reported in approximately

60% of suicide patients. In the developing World poisoning is common method.⁴ Suicidal poisoning is from 20.6%-56.3%, organophosphate ratio is (10.3% to 43.8%).⁵ OPP available in farmer's house and used as most common poison. Mortality rates associated with OPP is about 50 to 70%. Ratio is increased in females compared to males.⁶ Easy availability of OPP in the fields of mental health because these are not only for suicide attempt but directly associated with mental disorder suicidal rates are high in areas where pesticides are used in greater quantities⁷ and exposure is possible risk factor for depression and anxiety disorder,⁸ mortality due to mental disorder pesticides have been introduced in agriculture since 1950. In rural areas suicide rates are high 2-5 times as compares to urban areas Mental disorder depression associated with suicide.⁹ Suicide and mental disorder may be invade in china. Neuropsychiatric effects of organophosphate poisoning include impaired memory, irritability, lethargy, confusion, psychosis, extra pyramidal effects are dystonia parkinsonism, cog wheel

rigidity ; GB syndrome like optic neuropathy, defective vision, ototoxicity, bronchorea, bronchospasm, laryngeal spasm, respiratory failure, paralysis of oropharyngeal muscles. Cardiac arrhythmias, hypertension, hypotension and non-cardiogenic pulmonary edema. Abdominal pain vomiting nausea diarrhea urinary incontinence hypoglycemia or hyperglycemia. Treatment of OPP with atropine, pralidoxamine (2-PAM) and diazepam. Optimizing oxygenation prior to the use of atropine is recommended for dysrhythmias.

METHODOLOGY

This retrospective descriptive study was conducted in the department of medicine PUMHS Nawabshah, from July 2016 to November 2017. Consent was taken from all the patients after taking permission, Questionnaires was given to all the patients or their relatives, study was done using preformed proforma. All the patients were from rural areas, depressed patients with suicidal intention were included in this study. Main reason suicide with Opp was easy availability of poison. Depression was assessed by BDI scale. Detailed history was taken along with general and systemic examination.

Inclusion Criteria

Age 18-60years
Willing to participate
History of OPP

Exclusion Criteria

Age below 12 and above 60 years
Not willing to participate
Suicide with other poisoning not OPP
Accidental OPP

RESULTS

OPP is for agricultural purpose but unfortunately used as a suicidal poison mostly by patients with psychiatric disorders in rural community. 116 patients were enrolled for this study. Male were 43 and females were 73. Age range 14 years to 45 years mean age=22-+4. Education level. Uneducated =83, primary =17, middle =7, matric =9. Marital status: Unmarried =58, married = 41, Divorce = 7. Occupation: unemployed = 58, Farmers = 37, Housewife = 21. Depression Level: 94 patients were in severe depression, 7 patients were in extreme depression and 15 patients were in moderate depression. In stactical analysis uneducated denoted by 1, primary by 2, middle by 3, matric by 4, unmarried by 1, married by 2, divorce by 3, unemployed by 1, farmers by 2, house wife by 3.

Depression Level	Frequency	Percent	Valid Percent	Cumulative Percent
24	1	0.9	0.9	0.9
26	1	0.9	0.9	1.7
27	2	1.7	1.7	3.4
28	6	5.2	5.2	8.6
29	3	2.6	2.6	11.2
30	2	1.7	1.7	12.2
31	4	3.4	3.4	16.4
32	3	2.6	2.6	19.0
34	4	3.4	3.4	22.4
35	7	6.0	6.0	28.4
36	6	5.2	5.2	33.6
37	14	12.1	12.1	45.5
38	18	15.5	15.5	61.2
39	25	21.6	21.6	82.8
40	13	11.2	11.2	94.0
41	1	0.9	0.9	94.8
42	1	0.9	0.9	95.7
43	5	4.3	4.3	100.0
Total	116	100.0	100.0	

Table-I. Depression level by BDI scale

Variable	N	Mean	F	P Value
Age	116	22.00+-4.5	3.188	0.027
Sex	116	1.629+-0.48	9.343	0.000
M.Status	116	1.646+-0.72	6.085	0.001
Occupation	116	1.836+-0.84	2.873	0.039
D.level	116	36.47+-4.1	0.603	0.614

Table-II. Statical analysis

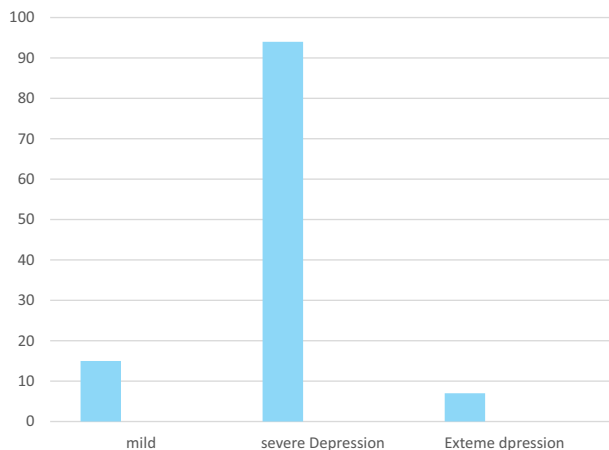


Figure-1. Depression level

DISCUSSION

In this study all patients with organophosphoru poisoning after taking detailed history were in different levels of depression. Depression increased suicidal behavior.¹⁰ It has been found that martial isolation and unemployment increased risk of suicide.¹⁰ Increased incidence of suicide in India are below the age 30 years is 37.8%.¹¹ Indian Women dies by suicide as compared to western countries women in a study.¹² Ratio of poisoning is 36.6%. suicide due to mental disorder is due to family conflicts and social maladjustment.¹³ Divorced, Dowry, love affairs, amiability and cancellation of marriage, illegal pregnancy. Conflicts in marriage issue play primary role in suicide. Domestic violence is associated with suicidal behavior.¹⁴ The effects of modernization with especially in developing countries cause stressful life which increases the suicide.

Role of diagnosis and treatment of depression in primary health care is essential measure to prevent suicide.¹⁵ Aggressive behavior is neglected by majority of the patients. Poor recognition of psychiatric symptoms especially of

mild depression is main problem in the initial stage of treatment.¹⁶ Suicide risk was more in untreated depressive patients.¹⁶ Suicide attempters were with moderate to severe depression, psychiatric comorbidity, with personality disorders and on psychiatric treatment. Most of the patients were on antidepressant treatment but suicide symptoms were not clear or unrecognized. A cohort study of 5 years the substance abuse was a factor with suicide attempters.¹⁷ In a study education and training of primary care doctors was successful in reducing the suicide rate.¹⁸ Other risk factors in suicide attempters are early onset, family history of suicide, rapid cycling, presence of mixed affective disorders, comorbid Axis I disorders and abuse of drugs or alcohol. Cyclothymiacs, depressive, anxious and irritable mood are associated with suicide in retrospective and cross sectional studies.¹⁹

In a study it was found that factor ratio of suicide due to OPP in male to female was 1.4:1 studies done in India. Reason increase ratio in males is easy approach to OPP poison, some are farmers.²⁰ Severity of OPP is main problem for medical psychiatric treatment. Increased dose of OPP was associated with suicidal behavior.²¹ 22% of suicide attempters were 20 years or less than 20 years. From this it proved that majority of patients are young age. Major risk patients of suicide attempt are adolescents.²² Percentage of pseudocholinesterase was less in those patients who expired as compared to those with survivors. There are controversies about organophosphorus poisoning plasma cholinesterase activity. Banning of extremely high toxic organophosphorus and restricting their use by WHO,²³ suicide can be prevented by restriction of availability methods.²⁴ Legislation on drug availability, involving farmers in purchase, proper use and proper disposal of the remaining quantity of OPP may help reducing

the suicidal act. Education of the public to reduce the period of ingestion of poison, transportation and proper treatment in tertiary care hospital.

CONCLUSION

All patients who attempted suicide with organophosphorus poisoning after treatment with antidote should be referred to psychiatry consultant for management of suicide. Education of the patient and their relatives is necessary about suicide reattempt. Few patients treatment from psychiatric feel stigmata of mental disorder. So complete education about depression and treatment of depression is necessary. It was noted that few patients in past reattempted suicide with lethal dose of poison. Poison is available everywhere without any restriction, there should be restriction on sale, sale with license and should not be given to under age and suspected person. Management of suicide along with psychotherapy and solving of problems faced patient in his life, quality life is improved and mortality can be reduced.

Word OPP= Organophosphorus Poisoning.

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
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Twenty years from now you will be more disappointed by the things that you didn't do than by the ones you did do.

– Mark Twain – ”

AUTHORSHIP AND CONTRIBUTION DECLARATION

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